

DAVIDE DERIU

The Photogenic City:  
Aerial Photography and Urban Visions  
in Europe, 1914-1945.

Ph.D. Research Degree  
Architectural History and Theory

The Bartlett  
Faculty of the Built Environment  
University College London

March 2004

ILLUSTRATIONS AT THE  
BACK OF THE BOOK  
HAVE NOT BEEN  
DIGITISED ON  
INSTRUCTION FROM THE  
UNIVERSITY

# Abstract of Thesis

The thesis investigates the relationship between photography and urban visions in Europe in the period 1914-1945. It focuses in particular on the impact of the aerial gaze upon the ways in which the modern city was perceived and represented. The theoretical background for this inquiry is provided by contemporary debates on photography and visual culture, which are brought to bear on the study of urban representations. The main body of the argument is divided into three parts: 'Aerial Inspections', 'Aerial Imaginations', and 'Aerial Illustrations'. The first part discusses the urban imagery produced within the field of air reconnaissance photography, with particular regard to World War II. The second part charts the rise of an aerial imagination in avant-garde photography, which reconfigured the city as the site and subject of a modern way of seeing. The third part looks at how 'applied' aerial photography was instrumental to illustrate urban visions across various discursive fields, namely tourism, journalism, and urbanism; this section concludes with a case study on the aerial imagery of interwar London, based on the production of a leading air survey company. Besides pinpointing the modes of representation specific to each of these practices, the thesis also describes the traffic of images and the flow of meanings that occurred across their boundaries. It is finally argued that a new urban visuality was the result of the procedures introduced by aerial photography; the *photogenic city* emerged as a contested field of representation marked out by an underlying tension between spectacle and surveillance.

# Contents

Abstract of Thesis

List of Illustrations

Preface and Acknowledgments

Introduction

## Theories

### **I. The city in the field of photographic vision.**

1. Visuality: the modern city as a field of perception.
2. Photography: theoretical and critical perspectives.

## Histories

### **II. Aerial inspections**

1. Landscapes of reconnaissance: war, photography, and the city.
2. Imaging ruination: aerial photography and the scenery of urban destruction.
3. Between veiling and unveiling: camouflage and the city in disguise.

### **III. Aerial imaginations**

1. *Camera ludica*: modern photography and the city as a laboratory of perceptions.
2. Shifting perspectives: urban views on the path to abstraction.
3. Flights from the everyday: the aerial gaze and the pursuit of visual vertigo.

### **IV. Aerial illustrations**

1. Sightseeing from above: illustrated travelogues and urban panoramas.
2. Reporting construction: photo-journalism and the iconography of progress.
3. Picturing tomorrow: projects and projections for the modern city.
4. Surveying a metropolis: inter-war London in the photographs of 'Aerofilms Ltd'.

Conclusion

Archives and Libraries

Bibliography

Illustrations

# List of Illustrations

## Tables:

Table 1: The dual model of the city according to de Certeau (1984). My elaboration.

## Figures:

1. "Puzzle Pictures" (n.d.). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C:4857).
2. "Puzzle Pictures" (n.d.). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C:4065).
3. Great Britain, Air Ministry, "Zone Maps: Typical Examples of City Zones." Source: The British Library, Maps Collection, M.o.D. Section.
4. Aerial view of the Nikolaivorstadt district in Breslau. Photograph by Robert Petschow. Source: Diesel (1931:210).
5. "Damage Plotting by Air Photography" (July 1943). R.A.F. reconnaissance photograph of air raid over Hamburg." Source: Imperial War Museum (C.3832).
6. "Berlin" (n.d.). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C.3044.A).
7. Cover page, *The Illustrated London News*, 17<sup>th</sup> July, 1943.
8. "Hohenzollern Bridge, Cologne" (1945). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C.5048).
9. "Cologne: Before and After Photographs" (n.d.). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C.5028).
10. "Cologne: Before and After Photographs" (spring 1944). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C.5027).
11. Camouflage plan for a "faux Paris". Published in *L'illustration*, 2 Oct. 1920, p. 246.
12. "Modern camouflage: pattern painting on a small factory located in an urban area". Source: Breckenridge (1942:132).
13. "R.A.F. Spots Camouflage in Hamburg" (n.d.). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C.1931).
14. The Binnen Alster in Hamburg after camouflage (April 1941). R.A.F. reconnaissance photograph. Source: Imperial War Museum (C.1932).

15. André Kertész, "Meudon, Paris" (1928).
16. Alvin Langdon Coburn, "The Octopus, New York" (1909).
17. André Kertész, "Eiffel Tower, Paris" (1928).
18. André Kertész, "Intersection, Blois, France" (1930).
19. Umbo [Otto Umbehr], "Mystery of the Street" (1928).
20. Umbo [Otto Umbehr], "Uncanny Street" (1928).
21. Cover page of *Es kommt der neue Fotograf!* Image credited to the 'Presse-Photo' agency, Berlin. Source: Gräff (1929).
22. László Moholy-Nagy, "Radio Tower, Berlin" (1925).
23. László Moholy-Nagy, "*Vieux Port*, Marseille" (1929).
24. Aleksandr Rodchenko, "Assembling for a Demonstration" (1928).
25. Boris Ignatovich, "Monument to F. Lassalle, Leningrad" (1931).
26. Aleksandr Rodchenko, "Okhotnyi Row, Moscow" (1932).
27. Nadar [Gaspard-Félix Tournachon], "Premier Résultat de Photographie Aérostatique" (1858).
28. Filippo Masoero, "Dynamised View of the Roman Forum" (1934).
29. Man Ray, "Dust Breeding" (1920).
30. Kasimir Malevich, "The environment that stimulates the Suprematist artist" (1927).
31. Robert Petschow, "The Giant Toy." Pages from an article published in *Berliner Illustrierte Zeitung*, n. 2, 11<sup>th</sup> Jan. 1925, pp. 36-7.
32. "Europe from the Air. A morning mist creeps over Edinburgh". Photograph by Capt. Alfred Buckham. Source: Thomas (1928:2).
33. "Holland looks Dutch from the sky". Source: Thomas (1928:48).
34. "The Louvre". Source: Thomas (1928:102).
35. "The ghost-like domes of Sacré Coeur". Source: Thomas (1928:321).
36. "Looking down upon the Acropolis at Athens". Photograph by Sir Alan J. Cobham. Source: Cobham (1928:357).
37. "Australia's new capital is rising in the raw and open country". Photograph by Royal Australian Air Force. Source: Cobham (1928:380).
38. "An aerial view showing Rio de Janeiro's Avenida Rio Branco, cut through the heart of the city". Photograph by Capt. Albert W. Stevens. Source: de Pinedo (1928:265).
39. Cover page, *U.S.S.R. in Construction*, n. 9, 1931. Photomontage by John Heartfield.
40. "Towns are rising." Photograph published in *U.S.S.R. in Construction*, n. 9, 1931.

41. Yearly parade in the Red Square, Moscow. Photograph published in *U.S.S.R. in Construction*, n. 9, 1931.
42. Yearly parade in the Red Square, Moscow. Photograph published in *U.S.S.R. in Construction*, n. 9, 1931.
43. "New Baths, Leningrad". Photographs published in *U.S.S.R. in Construction*, n. 11, 1931.
44. "The 120<sup>th</sup> school in the Volodarsky district, Leningrad." Paired photographs published in *U.S.S.R. in Construction*, n. 11, 1931.
45. "Winter Palace, Leningrad." Photograph published in *U.S.S.R. in Construction*, n. 11, 1931.
46. "Le realizzazioni dell'Opera Nazionale Combattenti nell'Agro Pontino" (46a), and details of "Littoria seen from above" and "Aerial view of Sabaudia" (46b). Photographs published in *La Rivista Illustrata del Popolo d'Italia* (Special Issue), Vol. XIV, 1936, n.p.
47. "Sabaudia from the aeroplane" (n.d.). Postcard produced by Nalin Olga, from a photograph by U. Piazzesi. Source: Carfagna *et al.* (1998:205).
48. "View of Bengazi" (top), "Asmara seen from the aeroplane" (centre), "Panorama of Mogadishu" (bottom). Photographs published in *La Rivista Illustrata del Popolo d'Italia* (Special Issue), Vol. XIV, 1936.
49. "Pont Transbordeur and Harbor of Marseilles". Source: Giedion (1928:90).
50. "Eiffel Tower". Source: Giedion (1928:91).
51. "Eiffel Tower. View from the second platform to the first". Source: Giedion (1928:144).
52. "Suspended stairs within the Eiffel Tower". Source: Giedion (1928:145).
53. "Pont Transbordeur. View from the elevated gangway". Source: Giedion (1928:147).
54. "View of Houses from Pont Transbordeur, Marseilles". Source: Giedion (1928:148).
55. "Roof of the Rue Marbeuf garage, Paris". Source: Giedion (1928: 204).
56. "The platform of an airplane carrier at sea". Source: Le Corbusier (1929/1971:156).
57. "View from the top of the Eiffel Tower". Source: Le Corbusier (1929/1971:187).
58. Vertical photograph of Paris. Source: Le Corbusier (1929/1971:284).
59. Plan Voisin, photo-montage. Source: Le Corbusier (1929/1971:289).
60. Cover page, *Das Neue Frankfurt*, n. 1, 1926.
61. Picture postcard of Rio de Janeiro. Source: Le Corbusier (1933/1967:223).
62. Aerial photograph of Algiers (above) and view of model for 'Project A' (below). Source: Le Corbusier and Jeanneret (1946:143).



63. "Aerofilms Ltd. and National Aviation Day" (1933). Advertising leaflet. Source: Aerofilms archives.
64. "Central London from the Air" (1927). London Underground poster, based on a photograph by Aerofilms. Source: Aerofilms archives.
65. "Tower of London". Photograph by Aerofilms. Source: Morton (1926).
66. "The new head offices of the Underground Railway, London." Aerial view published in *The Architectural Review*, vol. LXVI, n. 396, Nov. 1929, p. 225. Photograph by Aerofilms.
67. "A London suburb". Photograph by Aerofilms. Source: Le Corbusier (1929/1971:ii).
68. "Typical London houses". Photograph by Aerofilms. Source: Rasmussen (1960:42).
69. "A typical London suburb". Photograph by Aerofilms. Source: Le Corbusier (1929/1971:n.p.).
70. "Typical London houses". Photograph by Aerofilms. Source: Rasmussen (1937:303).

## Preface and Acknowledgments

The research that has led to this thesis has been anything but linear. To misquote Le Corbusier, it followed a meandering 'donkey's path' rather than a straight line. The subject matter itself has spiralled out of its initial definition, which stemmed from my interest in street photography. My early research proposal focused on the work of André Kertész, Humphrey Spender and Bill Brandt. As it turned out, my enduring fascination with Kertész's well-known photograph of 'Meudon' (discussed in § III.1) led me to investigate the forms of *vertigo* induced by aerial views of cities. The serendipitous discovery that Meudon was also the site of the first Aeronaut Company in the eighteenth century kindled my growing interest in the field of aerial photography. By another coincidence, instead of researching Humphrey Spender's street photographs I ended up dealing with the institutions in which his brother Michael worked as a photogrammetric expert (at the Aircraft Operating Company, of which Aerofilms Ltd. was a division, and later at the R.A.F. Central Interpretation Unit in Medmenham). The realisation that the archives of the Imperial War Museum have the largest collection of photographs in Great Britain also made me wonder if there may be anything of interest in that place for architectural history.

On a more personal note, the research bears the trace of my relationship with several cities, whether it be based on my direct experience or on a distant and imaginary grasp of them. London, in particular, is the city where most of the thesis has been conceived and written. Although the research stubbornly avoids the monographic 'one-city' approach, it does include a final section dedicated to London. To end a dissertation that is heavily shaped by the tension between panoramic and the panoptical vision, I felt it appropriate to focus on the city that was the birthplace of both visual models - which, coincidentally, emerged around the same time in the late 18<sup>th</sup> century. The haunting presence of Jeremy Bentham through the corridors of University College could only strengthen my desire to get to grips with some of the consequences of his architectural model – the Panopticon. My critical discussion of theories of spectacle and surveillance starts with Michel de Certeau's oft-quoted description of Manhattan seen from the top of the World Trade Centre. I have kept my theory chapter, which I drafted in my early years of research, largely unchanged notwithstanding the events of September 2001, with the conviction that the relevance of de Certeau's argument has not diminished since the twin towers were destroyed.

A number of inputs from people, places, and situations have shaped the trajectory of this thesis. The first motivation for research came from a seminar I presented during the M.Sc. in History of Modern Architecture at the Bartlett in 1997.

Discussions with friends and colleagues at the Bartlett have helped me to develop my line of inquiry. The cross-disciplinary research approach was helped by a year's training at the Department of Geography, UCL, where I gained insights into the theories and methods of historical-cultural geography.

I wish to express my personal thanks to all those who helped me in many different ways during the research. First of all I would like to thank my supervisor, Adrian Forty, who was extremely supportive throughout the five years of research. At various stages, I received useful suggestions from a number of people from different academic fields. I would like to thank, in particular, Iain Borden, Roger Chickering, Leonardo Ciacci, Barry Curtis, Richard Dennis, Jessica Evans, Antonello Frongia, Matthew Gandy, David Gilbert, Jonathan Hill, Derek Keene, Sergio Pace, Barbara Penner, Eleni Porphiriou, Jane Rendell, Michael Renov, Jenny Robinson, Philip Steadman, Divya Tolia-Kelly. The development of my research benefited by many inspiring discussions with graduate students at the Bartlett and at the Kent Institute of Arts and Design. Many friends also contributed precious ideas and conversations, in particular Ipek Akpınar, Karine Chevalier, Luis Diaz, François Dufaux, Joseph Jenkins, Kostis Kornetis, Maximo Martinez, Michela Meschini, and Scott Palmer. I am also indebted to Mari Paz Balibrea Enriquez, Aren Kurtgozu, Efi Markou, Matteo Modé, and Asmus Trautsch, who helped me to find precious material for the thesis. Chris Mawson was of great help at the Aerofilms archives and Simon Williams advised me on language. Finally, my warmest thanks go to Didem Kılıckıran, whose help and encouragement during these years have been invaluable.

*Research for this thesis has benefited by grants from the U.C.L. Graduate School, the Arts and Humanities Research Board, and the Regione Autonoma della Sardegna.*

# Introduction

The thesis proposes a cross-disciplinary inquiry into the relationship between photography and the modern city. The term 'photogenic city' has been chosen to define a visual construction that emerged, as a specifically modern phenomenon, from the encounter between photographic practices and urban visions. The aim of the thesis is to examine the specific impact of photography upon the representation of cities at a moment of intense transformation in the visual cultures of Europe. The underlying purpose of this research is therefore less to write a visual history of particular places through photographic documents than to investigate the changes that were brought about by photography on the ways in which cities were represented at a specific historical juncture. The thesis focuses on a range of 'urban visions' that emerged in Europe in the period between the World Wars. While this definition has the obvious limitations of any research bound by historical dates and geographic-cultural areas, it helps to set the ground for the comparative study of a specific phenomenon across a broad range of places and cultural practices.

The thesis aims to give a contribution to the growing field of research that regards the modern city as a subject of imaginations, perceptions, and representations (Boyer 1994; Colomina 1994; Donald 1999; Balshaw and Kennedy 2000). Since this research area is essentially interdisciplinary, it has been imperative to take into account ideas and approaches from different academic fields outside the architectural discourse, including philosophy, sociology, cultural studies, art history, military history, and in particular the history and theory of photography. While the history of architecture and urbanism have been increasingly enriched by imports from other disciplines, not least from the fields of visual and cultural studies, the relationship between photography and the urban has only partly been investigated. On the one hand, a growing number of scholars have been concerned with issues of urban representation from the perspective of the humanities (art history, visual studies, literary criticism, etc.); on the other hand, few attempts have been made so far to develop a critical approach to photographic cultures from within the field of architectural and urban studies. Some of the most interesting contributions to the field have concentrated on single cities (Nesbit 1992; Rice 1997; Rose 1997) and the only extensive history of urban photography available deals with American cities (Bacon-Hale 1984). The subject of 'urban photography' is generally subsumed under the specific fields of 'street photography' and 'architectural photography'. The fact that a photography of 'the city' is often treated as a distinct genre in the general histories of the medium - alongside 'the

body', 'landscape', 'portrait', etc. – raises questions about the specific relationship between the photographic and the urban than have only partly been addressed.

The thesis considers photography as a broad set of practices, techniques, and ideas in an attempt to understand its specific role in constructing an urban imagery. A double process of reduction is involved in the photographic representation of cities: first, the space of the city is reduced to a visual image, or cityscape; second, the perception of cityscapes is framed and recorded by photographic procedures. The progressive abstraction of a physical, social, and symbolic environment through the photographic apparatus is the starting point of this investigation. The thesis' historical approach hinges on the emergence of a photographic space within which the image of the modern city was reconfigured.

While it would be impossible to encompass the whole spectrum of techniques, practices, and aesthetics of photography that were harnessed to this process, the research focuses on a specific mode of representation. This is defined by the appearance of a new regime of *aerial vision* in the wake of World War I. How the dissemination of an aerial imagery of cities contributed to disseminate a new set of urban visions is therefore the main concern of the thesis, which addresses in particular the question of how aerial photography was instrumental to the cognitive representation of cities in the period under scrutiny. Theories of photography will therefore be reassessed in order to examine the status of the city-as-subject within the history of aerial imagery. The aim is to explore how new optical relations between the camera and the city were culturally constructed through aerial photography, and what consequences came out of this new urban visibility in interwar Europe.

The 'European' focus of the research imposes obvious limitations, not least the risk of reproducing a historical narrative based on a 'eurocentric' perspective. The objective of the thesis is to explore how a certain urban visibility came about – significantly, but not exclusively, in Europe, as a result of a new body of theories, practices, and technologies of photography in the period between the world wars. This approach does not aim to support a notion of cultural insularity, but rather to explore the historical specificity of a phenomenon that crystallized primarily in interwar Europe. In order to delineate this specificity, some connections are made with the developments that occurred in America in the same period. The thesis therefore refers to several cases in which the development of 'photographic' urban visions was marked by a circulation of ideas, images, and imaginations across the Atlantic. If the title of the thesis avoids referring to a notion of 'European city', it is precisely because the urban visions that were produced in places such as Moscow, Paris, or Berlin, had wider implications that affected the representation of non-European cities as well. The production and circulation of 'urban views' has historically been part of the procedures

of self-representation of a given society, but it has also functioned as a means to exert control over *other* places and cultures. Hence, although most of the cities that feature in the research are, indeed, European, there are some cases in which images of other cities are taken into account insofar as they entered a cultural discourse that originated in Europe. Further research will be needed to explore some of the issues raised by the thesis, namely the uses of urban photography to support colonial practices.

The research has followed a cross-disciplinary approach to the study of urban representations. This is not to say that the disciplinary interests of architectural and urban history have been discarded, but that they have been situated within a broader spectrum of practices and discourses in which the image of cities played a significant role. Some of the classic texts of architectural modernism have therefore been reassessed against the background of the cultures of public representation of the time. However, their importance in the economy of the thesis does not exceed that of other discourses – such as travel literature or illustrated press – in which the aerial imagery of cities emerged in significant forms around the same period. Rather than establishing a hierarchy between different practices, the thesis examines the production and circulation of urban views in and across discursive fields, which are never considered as watertight compartments. On the contrary, the thesis aims to identify the fragile boundaries of specific disciplines by investigating specific cases of “traffic in photographs” (Sekula 1989). The mobility of photographic images, along with the fluidity of their cultural meanings, is a prerequisite for a comparative history of urban representations. The ultimate purpose of this ‘nomadology’ of photography is to reassess the role of the medium in the construction of a multilayered idea of the modern city.

The structure of the thesis is divided into a section on ‘theories’ (Part I) and three analytical sections on ‘histories’ (Parts II-IV). Part I discusses a range of contemporary theories of photography and attempts to graft some of their insights onto the debate on urban visibility. This theoretical framework informs the definition of the *photogenic city* as an object of historical research. The focus on aerial vision provides a specific angle of investigation for historical research. The three following sections comprise ten chapters in total, which vary in content and approach.

Part II explores the emergence of a regime of aerial surveillance in the age of the World Wars, with an emphasis on the practices of photo reconnaissance and interpretation carried out by the British military in World War II. The research material selected for empirical investigation is mostly based on archival photographs from the Imperial War Museum. The first chapter examines air reconnaissance photography as a practice that reconfigured the city as a military target. The threefold relationship between war, photography, and the city is considered in its discursive and applied

forms. The aestheticised readings of war photographs signals a tension between forces of surveillance and spectacle, which was manifest in the case of a transfer of images from the field of surveying to that of surveillance. The second chapter is an enquiry into the use of aerial photography for 'damage assessment'. The role played by photographic records of urban destruction in World War II is discussed not only within the sphere of reconnaissance but also in relation to the public discourse. The tension between presence and absence emerges as a defining characteristic of the photographic 'ruinscape': a space of negative representation that was further magnified by the before-and-after effect produced by sequential narratives of destruction. The third chapter explores the origins and applications of modern camouflage in an urban context. Here, the focus is on how the development of a discourse of civil defence brought about specific forms of concealment between the World Wars. The 'art of disguise' emerged as a counter-photographic practice aimed at opposing the strategies of aerial surveillance. As the research demonstrates, the ambivalent efficacy of this method confirmed the increasingly pervasive power of military panopticism.

Part III examines the advent of an aerial imagination within avant-garde photography. Three chapters chart the rise of an aerial observer and discuss how the cityscape became the laboratory of 'new vision'. The photographs examined in Part III are mostly well-known images drawn from the modernist canon. Rather than searching for new material, the aim of this section is to weave together a set of images and ideas that contributed to produce an aerial aesthetic of urban representation. The first chapter introduces, through the analysis of a single photograph, a series of themes that map the relationship between city and photography onto the field avant-garde culture. This is corroborated by an analogy between the practice of photography and the anthropology of play, which supplies the argument with the critical category of *vertigo*. The second chapter charts different manifestations of the 'aesthetic from above' that emerged in interwar photography, with particular regard to the aesthetics of surrealism and constructivism. The notions of estrangement and abstraction are central to the chapter, which argues that an aerial dimension was present in the work of avant-garde photographers who pursued a flight from the familiarity of earthly perspectives. The third chapter spans across different avant-garde practices and discourses in order to understand how the advent of the airborne camera contributed to reconfigure the image of the city, with particular regard to the photographic experiments carried out by Italian Futurist artists.

Part IV draws elements from the two previous Parts to explore a range of uses of aerial images of cities in interwar publications. The 'applied' use of aerial photographs to illustrate different urban visions is linked, on the one hand, with the order of

instrumentality inaugurated by military reconnaissance, and on the other hand with the aerial imagination opened up by avant-garde experiments with the aerial image. The 'raw material' for this part of the thesis consists exclusively of published pictures. The first chapter examines the formation of an aerial imagery of cities within the discourse of modern travel. The role of photography is investigated with regard to the panoramic quality of 'city views'. How the experience of flight, in particular, brought about a new perception of cities from the air is explored through a sample of travelogues in which aerial photographs played a significant role. The second chapter deals with the production of an aerial iconography of cities in the illustrated press. The emerging practice of 'aerial reporting' is situated within a larger phenomenon in which cities became the sites of new print cultures in the interwar years. The chapter focuses on the ways in which aerial photographs were adopted to convey an image of revolutionary progress in propaganda magazines published in Italy and the U.S.S.R. in the thirties. The third chapter examines how photographs were used to conjure up a vision of the 'city of tomorrow' in some of the key publications of the Modern Movement. It investigates, in particular, the types of aerial imagination that informed the visual rhetoric of these foundational books. The last chapter is a case study on aerial photographs of London that were produced by Aerofilms Ltd., the leading survey company operating in Britain in the interwar years. The analysis of a range of pictures that were issued in publications on tourism and architecture suggests the formation of a photographic repertoire of city images that circulated across different discursive spaces. By taking into account a wide-ranging body of images, the thesis explores the symptoms of a new urban visuality that emerged within the scopic regime of the aerial gaze.



# I The city in the field of photographic vision

## I.1. Visuality: the city as a field of perception.

The role of visual practices in the experience of cities has been the subject of a growing debate, particularly over the past two decades. While numerous studies have reappraised the “hegemony of vision” in western culture (Crary 1990; Jay 1993), which is often referred to as “ocularcentrism”, urban theorists have also engaged in a sustained critique of the privilege of the eye in spatial practices. A yardstick in this debate was set by Michel de Certeau in his book *The Practice of Everyday Life* (1984/1980). De Certeau’s dual model of the city provides us with a starting point for the analysis of a recurrent opposition whereby city views ‘from above’ and ‘from below’ have been associated with different sets of power relations. This section discusses the usefulness and limits of de Certeau’s model for the study of the relationship between photography and urban visions.

De Certeau’s oft-quoted description of Manhattan seen from on high, which opens a chapter entitled “Walking in the City”, sparked off an intense debate about the modern city as a field of visual experience, knowledge and control. The perspective ‘from above’ situates the viewer in a privileged and empowering position. For de Certeau, this mode of vision embodied a quintessentially modernist desire to embrace the city within a totalising gaze. As an introduction to his study of *spatial practices*, de Certeau chose Manhattan to characterise at the same time the agitated dynamism of urban life, whose incessant ebb and flow is staged on the level of the street, and the site of a spectacular viewing experience that afforded the observer a vertical and unifying glimpse of the city. De Certeau interpreted this duality in terms of an irreconcilable contrast between two models: *the concept city* and *the textured city* (see Table 1). The fundamental overtones underlying this interpretation are contained in embryo in de Certeau’s opening passage:

Seeing Manhattan from the 110th floor of the World Trade Center [...] A wave of verticals. Its agitation is momentarily arrested by vision. The gigantic mass is immobilized before the eyes. It is transformed into a texturology in which extremes coincide. (de Certeau 1984/1980:91)

By visualising the multi-textured waves of human traffic from top down, the observer's gaze has significant implications in terms of power and knowledge. In a quasi-photographic gesture, the gaze from above is said by the author to enable its bearer to arrest the agitation of the scene in a visual image. The immobile and legible text (or, "texturology") to which the urban field is thereby reduced seems to lose its internal differentiation. Extremes tend to coincide in a confused 'whole' in which sameness prevails over difference. The implications of the subject's position vis-à-vis the urban field are presented by de Certeau through the contrasting figures of the "voyeur" and the "walker". While the passive and detached perspective from above is based on a process of visual abstraction, the active and inclusive experience of the street takes place in the realm of the "everyday", where urban space is constantly lived and negotiated. According to de Certeau, The voyeuristic impulse that drives the observer to turn the city into a legible (and, therefore, supposedly intelligible) space is bound up to a promethean ambition of total knowledge. De Certeau questions the visual pleasure gained from the distant sight as the result of a process of estrangement from reality whereby the observing subject ('I') is reduced to a mere gaze ('eye'):

To what erotics of knowledge does the ecstasy of reading such a cosmos belong? Having taken a voluptuous pleasure in it, I wonder what is the source of this pleasure of 'seeing the whole', of looking down on, totalizing the most immoderate of human texts. To be lifted to the summit of the World Trade Center is to be lifted out of the city's grasp. One's body is no longer clasped by the streets that turn it according to an anonymous law (de Certeau 1984/1980:92)

This elevated viewing experience is then described as a distanced and voyeuristic mode of vision:

When one goes up there, he leaves behind the mass that carries off and mixes up in itself any identity of authors or spectators. An Icarus flying above these waters, he can ignore the devices of Daedalus in mobile and endless labyrinths far below. His elevation transfigures him into a voyeur. It puts him at a distance. It transforms the bewitching world by which one was 'possessed' into a text that lies before one's eyes. It allows one to read it, to be a solar Eye, looking down like a god. (ibid.)

By denouncing the drive to omniscience inherent in the voyeuristic contemplation 'from above', de Certeau implied that the physical ascent to a high viewing platform would determine the moral transcendence of the downward gaze. Accordingly, the viewer's all-encompassing and indifferentiating perspective transformed 'him' into a voyeur, driven by the will to

read an urban text that was written by others before his eyes. De Certeau therefore criticised this as a misunderstanding of “real” practices reflecting a deep sense of alienation from everyday life:

The panorama-city is a theoretical (that is, visual) simulacrum, in short a picture, whose conditions of possibility is an oblivion and a misunderstanding of practices. The voyeur-god created by this fiction [...], must disentangle himself from the murky intertwining daily behaviours and make himself alien to them. The ordinary practitioners of the lives ‘down below’, below the thresholds at which visibility begins [...] are walkers [...] whose bodies follow the thicks and thins of an urban ‘text’ they write without being able to read it. (ibid.)

The scene witnessed by the viewer-voyeur does not seem to belong to the realm of authentic life, but rather to that of optical representation - so much so that the urban panorama is equated to a mere picture of itself. Within this logic, the textured city is posited on the axis of ‘reality’, while the concept city on that of ‘fiction’.

De Certeau’s dual model of the city has attracted an intense theoretical debate across a broad spectrum of disciplines. In the introduction of *The Urban Experience*, David Harvey (1989) explained his approach to the study of “ways of seeing the city” by describing the thrill of ascending to the highest point in a contemporary metropolis previously foreign to him, and looking down on what he believed to be “the city as a whole”. Not unlike a contemporary Robinson climbing on the highest peak of an unknown urban island, Harvey decided to reach the top of a high-rise building to cognitively map his surroundings. He called this elevated vantage point “the perspective of the voyeur” and contrasted it, as de Certeau had done, with the condition of being immersed in the maze of a city’s streets:

The relation between this ‘God-like’ vision of the city and the turbulence of street life is interesting to contemplate [...] No matter what the associations and aspirations, a specific satisfaction attaches to contemplating the view from on high, for we have seen the city as a whole, taken it into our minds as a totality. Afterwards, the experience of street life cannot help acquiring new meaning. (Harvey 1989:1)

The spectacle of a sweeping sight is here combined with the importance of an elevated viewpoint for the comprehension of the city as a whole. Like a chess player who has to continuously bear in mind the tactic shifts of position on the chessboard and the overall picture at the same time, the urban geographer - Harvey suggests - ought to take advantage of the strategic view from above in order to enhance an understanding of what happens at the level

of everyday experience on the street. Both perspectives, from above and from below, are meant to be “real enough”, although fundamentally unequal. As Harvey points out, the voyeuristic perspective offers a “total” view of urban space which affords a superior perception of social reality. This approach resonates with a classic sociological definition of “the stranger”. According to Georg Simmel, strangers enjoy a peculiar degree of freedom in the city on account of their ability to perceive reality “as though from a bird’s eye view”. Accordingly, the condition of relative alienation typical of the stranger’s experience allows him/her an understanding of reality that is based on “standards that are more general and more objective” (Simmel 1971:146).

Similarly to de Certeau, Harvey too employs the metaphor of the city as text in search of “a theoretical apparatus through which we might understand the city as a whole while appreciating the multiple confusions to which daily urban experience is always prone” (Harvey 1989:1-2). Such elevated form of vision is compared by Harvey to his favourite intellectual practice, “meta-theory”. He likens this theoretical approach to the panoramic way of seeing the city and, by extension, the entire body of society:

By [meta-theory] I mean a theoretical framework that has the potential to put all [...] partial views together not simply as a composite vision but as a cognitive map that shows how each view can itself be explained and integrated into some grander conception of what the city as a whole, what the urban process in general, is all about. (ibid.)

According to Harvey, the more complex, multiple, and fragmented the urban process becomes, the more we need to recompose its fragments within a comprehensive framework. He suggests that a meta-view holding together the global and the local dimensions of urban experience, and which in his opinion should coincide with Marxist theory, can be useful to develop a more informed and complex strategy of analysis and intervention in the city. Harvey’s reference to “cognitive mapping” echoes the category that was revived by Fredric Jameson (1991) as a model for a postmodern form of cultural politics. Similarly to Jameson, Harvey urges us to adopt a theoretical viewpoint that may include a global perspective in an attempt to fight the forces of postmodern capitalism on their same terrain. It is hardly surprising that this vision should have attracted the criticism of several commentators, especially from the ranks of postmodern feminist discourse.

In an essay provocatively entitled “Boys Town”, Rosalyn Deutsche raised the stakes of the discussion by introducing a feminist, anti-essentialist perspective. In particular, she openly criticised Harvey for his advocacy of a

disembodied gaze liable to engender a totalising, and hence dominating, mode of vision. According to Deutsche, by characterising the visual effort to “possess the city in imagination” as heroic and innocent, Harvey would have twisted the meaning of de Certeau’s text, which decried the complete and coherent image of the city as a mere intellectual illusion. In Deutsche’s opinion, “de Certeau draws sharply different distinctions from Harvey. He does not really compare two ‘views’ of the city - aerial and street-level. He socialises vision itself” (Deutsche 1996:210). By way of a close reading of de Certeau, Deutsche explained that his true opposition concerned instead two separate kinds of spatial activities: *visualising* the city (i.e., arranging things into an image) versus *inhabiting* the city (i.e., creating ground-level practices through ‘tactics of everyday life’). In fact, de Certeau’s inclination to explore the potential practice of resistance in the latter was explicitly meant to elude what he called “the cancerous growth of vision”. Could Harvey have missed the fundamentally anti-ocularcentric stance contained in this approach? Deutsche blamed this flawed interpretation on Harvey’s allegiance to a modernist way of thinking:

[Harvey’s] is a specifically modernist model of vision, a social visibility, with a function: establishing a binary opposition between subject and object, it makes the subject transcendent and the object inert, thus underpinning an entire regime of knowledge as mastery. (Deutsche 1996:211)

Deutsche went on to suggest that, by reasserting the mastery of a totalising view in symbolic and gendered terms, Harvey proposed an urban critique that missed the implications of de Certeau’s text. By addressing the “erotics of knowledge” involved in the act of gazing from above, de Certeau began to question the pleasure of seeing the city in its perceived totality as an act of *voyeurism*. His use of this term suggests to Deutsche a critique of the very way of seeing that Harvey would later advocate on the basis of its supposed ability to afford an objective knowledge of the city. The designation of looking as knowledge (but also looking *for* knowledge) under the category of voyeurism implies that the gaze is always gendered, and therefore inseparable from the domain of sexuality - a recurrent motif in feminist critiques of visual culture:

Voyeurism denotes a scopophilia or pleasure in looking; specifically, it designates an act in which sexual gratification is obtained without proximity, through the secret observation of others as objects. Distancing, mastering, objectifying - the voyeuristic look exercises control through a visualization that merges with a victimization of its object. (Deutsche 1996:213)

Harvey's position is therefore rejected not only for carrying an empiricist bias, but especially for misinterpreting the most obvious implications of de Certeau's reference to "totalizing knowledge" as neutral or even desirable. In de Certeau's premise, such totalizing knowledge is dismissed as a purely fictional construct. Harvey, on the contrary, supports a hierarchical structure of differentiation (subject/object) that legitimises the claim of an all-seeing subject to some kind of objective and even total knowledge. By erecting rigid boundaries with its objects, the subject 'Harvey-voyeur' finally reveals, according to Deutsche, "the phallic pretensions of his visualising epistemology" (Deutsche 1996:215).

Harvey's admission of the satisfying voyeurism allowed by a total view of the city lent its flank to critiques of ocularcentrism. However, what remains unclear from Deutsche's account is whether the problem lay on the totalising claim of a specific kind of vision ('from above'), or in visuality as such - that is, in the claim to knowledge of reality based on its visualisation. In the latter case, it would seem that vision and voyeurism are too easily equated, to the detriment of a useful critical discourse. Deutsche's defence of the validity of de Certeau's dual model against Harvey's interpretation may fall prey to yet another form of essentialist thinking. The radical interpretation of de Certeau that privileges his indictment of vision as a "cancerous growth" seems to fail to admit the fundamental role of different ways of seeing in the construction of urban identities, meanings, memories. Here the denigration of vision takes the form of an absolute denial of any positive implication in cognitive processes, let alone practices of cultural resistance.

In his book *Imagining the Modern City*, James Donald (1999) emphasised the tension between panoramic and mythical knowledge embedded in de Certeau's text, while also trying to overcome the limits of this dual opposition. In his analysis of various narrative forms of urban representation - literature, photography, film, etc. - Donald has searched for signs of a "textured city" that may be produced above and below the threshold of visibility. In Donald's book, the visual is therefore a crucial dimension of the urban experience. He argues that the modern city may be better understood as "a historically specific mode of seeing" (Donald 1999:92). This phrase designates a structure of visibility that incorporates various and contradictory factors, ranging from the primitive fantasies of de Certeau's textured city to the space of imagination opened up by cinema, whose unique ability to stimulate an "optical unconscious" was first intuited by Walter Benjamin in the mid-1930s. Going beyond de Certeau's dual

opposition, Donald suggests that the city has to be regarded as an “imaginary environment”: that is, a state of mind that admits a high degree of ambivalence (Donald 1999:92).

My reading of de Certeau’s text shall explore the tension between the elements of spectacle and surveillance that underlies his dual model. The coexistence of these two modes of vision in the gaze from above indicates a fertile avenue of investigation. In de Certeau’s description, the panoramic contemplation of the city as a whole coincides with a will to transparent knowledge. These two implications are seemingly interconnected, and yet they respond to different visual strategies that have been theorized in separate and even antagonistic ways. The opposition between spectacle and surveillance was explicitly advanced by Michel Foucault in *Discipline and Punish* (1975/1977), where he stated that a disciplinary regime of surveillance based on the model of Jeremy Bentham’s ‘Panopticon’ had taken over the modern structures of power/knowledge. A culture of surveillance, Foucault explained, took the place of a culture of spectacle as the main form of visual interaction whereby power was exerted. This assertion has been read as a critique of Guy Debord’s (1967/1983) theorization of a “Society of the Spectacle”. According to Debord, the modern logic of the spectacle had accomplished the “affirmation of social life as mere appearance”, therefore forcing society into a world of perpetual representation. Although surveillance and spectacle have been conceptualised in separate and even contrasting fashions, various authors have pointed out that these are not mutually exclusive phenomena (Crary 1990; Bennett 1994; Boyer 1994); indeed, they are in many cases closely intertwined in modern visual practices.

Tony Bennett (1994) has called into question Foucault’s reductive explanation of the modern “political economy of power” through the exclusive terms of surveillance and disciplinary mechanisms. In an attempt to re-introduce the issue of spectacle into a Foucauldian critique of modernity, he has discussed the nineteenth-century explosion of mass exhibitions as spaces of display in which technologies of surveillance were inextricably linked with new forms of spectacle. Jonathan Crary (1990) has remarked that the notion of spectacle elaborated by Debord should not be seen in contrast with the Foucauldian notion of surveillance - despite what Foucault himself suggested in his study of carceral systems. Rather than being in opposition, these two regimes of vision expose different facets of a complex process whereby the subject is reconfigured as the modern *observer*. In another context, Crary (1989) has also investigated the origins of the modern spectacle, which Debord

(1990) situated in the late 1920s. While Crary has underlined the emergence of the technologies of television around 1927, this thesis will research other transformations in the field of modern vision that took place in the same period.

The factors of spectacle and surveillance evoked by de Certeau's text have in common the element of abstraction. The reduction of a multi-dimensional space to a bi-dimensional image of it seems to be the procedure decried by de Certeau for being equally voyeuristic and panoptical. The modern "logic of visualization" that underlies the production of abstract space has been discussed by Henri Lefebvre, whose research on everyday life inspired de Certeau. For Lefebvre, this logic is instrumental to the production of a "visual-spatial realm" (Lefebvre 1991/1974:312), in which representations of space exert their "reductive power" by flattening reality. This denigration of vision resonates through Lefebvre's analysis of the production of space, wherein the texture of experience is affirmed over its textual interpretation. The city "seen from the window" will therefore reveal its innermost mechanisms only to those who are able to listen to its temporal and spatial rhythms and go beyond the visual appearance of things:

What this window which opens onto one of the most lively streets of Paris shows, what appears *spectacular*, would it be this *feeling* of spectacle? To attribute this rather derogatory character to this *vision* (as dominant feature) would be unjust and would bypass the *real*, that is, of meaning. The characteristic features are really temporal and rhythmical, not visual. (Lefebvre 1996:223. Italics in original)

What is at stake here is not an opposition between above and below, but rather between haptic and optical experiences of the city. This oppositional mode of thinking was rooted in the desire to counter-balance the hegemony of vision that was shared by a number of twentieth-century French philosophers. Although neither Lefebvre nor de Certeau received much attention in *Downcast Eyes*, Martin Jay's book on the denigration of vision in twentieth-century French thought (Jay 1993), their spatial theories signal a strongly anti-ocularcentric position.

There is another aspect of de Certeau's text that commands further attention. In his mythical evocation of the flight of Icarus, de Certeau seemed to suggest a leap into the air as a condition to see the city 'as a whole'. While the modern perception of the city was affected by the construction of ever higher viewing platforms (skyscrapers, towers, bridges, etc.), it may be asked what type of visuality came about when the observing subject became airborne, and what were the implications in terms of spectacle and surveillance that were



brought about by this *flight*. This project requires questioning the ambiguous notion of 'aerial view'. Despite the different and often confusing uses of this term, there exists a significant epistemological difference between a mode of vision that is based on the city and a gaze projected from the air. The former originated an endless variety of cityscapes, ranging from street views to urban panoramas. The latter depended on the combination of human flight and technological vision, which has brought about a new regime of vision full of potential applications oriented towards abstraction, objectification, and the control of urban space.

The specificity of this urban visuality will be discussed with regard to the combination of photography and aviation. The 'photographic' effect of the view from above described by de Certeau, with its arresting and abstracting force, provides the starting point for the study of aerial photography. By focusing on the historical emergence of a new mode of vision made possible by powered flight, the thesis will examine the role of photography in the formation of a new viewing subject which, paraphrasing Crary (1990), may be defined as 'aerial observer'. The main questions that are going to be addressed are: What was the role of aerial vision, coupled with the possibilities offered by camera technologies, in reconfiguring the image of the city? And through which strategies, practices, and discourses did this mode of vision operate? The next section reviews a set of ideas on photography in order to corroborate the study of these issues with a stronger theoretical background on the specificity of the medium.

## I.2. Photography: theoretical and critical perspectives.

This section examines a range of theories of photography that provide useful insights for the research. A number of critical ideas on photography have been scrutinised in the course of the research, but it is out of the thesis' scope to give an account of all of them. Specific books and articles have provided insights into some of the themes discussed in the historical investigation, in which case they will be referred to directly in the appropriate sections. Other texts, which have informed more substantially the theoretical framework of the research, are discussed here.

A classic contribution to the realist approach to photography was proposed by Siegfried Kracauer in the introduction to his *Theory of Film* (1960). Kracauer's self-styled "material aesthetics" was concerned with the content of the image rather than its form. His general assumption was the principle that the camera records visible phenomena in a 'realist' manner. The search for photography's "basic aesthetic principle" led Kracauer to investigate the medium's "truth to reality". However, he recognised that complete realist objectivity was unattainable. If the camera worked as a mirror of nature, Kracauer thought, its working was always determined by the photographer's subjective act of seeing. "The way in which we take cognizance of visible reality" (Kracauer 1960:15), as he put it, was structured by the photographer's impressions and perceptions. "Actually there is no mirror at all. Photographs do not just copy nature but metamorphose it by transferring three-dimensional phenomena to the plane, severing their ties with the surroundings, and substituting black, grey, and white for the given color schemes" (ibid.). The photographer's selectivity was ascribed by Kracauer to "empathy" for the visible world.

Kracauer lamented that the controversial meaning of photography, at the time of his writing, was still debated between experimental (formative, or creative) photography and straight (realist, or candid) photography. "The formative tendency, then, does not have to conflict with the realistic tendency. Quite the contrary, it may help substantiate and fulfill it [...]" (Kracauer 1960:16). He observed that varying balances were possible between formalist and realistic tendencies in photography, and went on to define a "truly photographic spirit" that would bridge the gap between creative and straight photography (art versus documentary debate). Kracauer called for an

extended, loose usage of the term "art" with reference to photographic pictures. He left out from his revised definition of photography the techniques that move away from photography's characteristic *recording* faculty (such as photograms, rayographs, photomontage, etc.), which belong to "a sort of no man's land somewhere between reproduction and expression" (Kracauer 1960:18). For Kracauer, only those images that somehow responded to photography's intrinsic qualities earned the name of photographs. The characteristic of the medium, beyond disputes over its artistic or creative nature, was best expressed by "the photographer's peculiar and truly formative effort to represent significant aspects of physical reality without trying to overwhelm that reality - so that the raw material focused upon is both left intact and made transparent" (Kracauer 1960:23).

The phenomenological approach to photography has enjoyed particular success in France, thanks primarily to the writings of André Bazin and Roland Barthes. In *Camera Lucida*, Barthes (1980/1993) revived Bazin's classic argument on the "Ontology of the Photographic Image" to propose an intimate and subjective approach based on the irreducible realism of the photographs. Barthes famously described the photograph as reality's "certificate of presence" (Barthes 1980/1993:87): its evidential force, he wrote, is predicated on the perceptual faith of the spectator, who is led to believe that the subject of the photograph "has been there". The photographer (the "operator" of the mechanism) was therefore designated by Barthes as a "mediator of a truth" (Barthes 1980/1993:70). Photography's unique ability to produce a visual "revelation of the real" was the underlying theme of Barthes' argument. For him, the realism of the photograph lay in its power of authentication. This attestation of a past reality, he believed, was at the same time what guaranteed its absence. The photograph's authenticating power would therefore depend not on the object but "on time itself"; so much so that this temporal dimension is the distinctive property that distinguishes the photo from the entire realm of pictures. As Barthes remarked, "What I see is not a memory, an imagination, a reconstitution [...], but reality in a past state: at once the past and the real" (Barthes 1980/1993:82).

In recent years, Edouard Pontremoli has revived this French tradition with a fresh approach to the phenomenology of photography in *L'excès du visible* (1996). The photograph, Pontremoli argues, opens up an exceptional visual experience that reveals the mystery of the visible in new ways. The original amazement that was produced by the advent of photography is recovered through a series of considerations that bring phenomenological theories of the

visible developed by Husserl, Sartre, and Merleau-Ponty's (who, incidentally, were all surprisingly reluctant to engage with photography), to bear on the ways we look at photographic images. The fact that the photographic phenomenon regards vision, and *only* vision, sheds light onto the commanding authority of the visible in human perception. The categories of 'photographic', 'photographed', and 'photogenic' are here mobilised in support of an argument that reveals the original (phenomenological) presence of the visible in the irreducible space-time of the photograph. Watching a photograph means, for Pontremoli, engaging in a uniquely perceptual experience in which our gaze meets the presence of a (purely) visible Other. Pontremoli defines *photogénie* precisely this "natural" power of the photograph to bring visible things in contact with our present gaze. The attitude of the visible world to come, "in person", to photographic light is a distinctive property of the photograph that makes it different from all other types of pictures - iconic representations of any kind.

Pontremoli has also explored photography's peculiar capacity to produce a "visible history" of events. With its promise of an objective memory, the photograph has always appealed to historical narratives. As Pontremoli put it, "the image presents yesterday's truth" (Pontremoli 1996:85). The status of the photograph as an historical document is crucial, for "the photographic document gives access to a living reality of past time" (Pontremoli 1996:67). This is what differentiates radically the photograph from all other "ordinary" images: it has the same bodily texture characteristic of the visible things in their worldly environment. In a photograph, Pontremoli writes, "we meet abruptly the sensible truth of History". The singular event that appears in a photograph is somehow brought back to its primitive phenomenal dimension. And yet, Pontremoli observes, the photo does not eternalise its subject. By fixing the movement of an event, it restores its "*élan vitale*" to its singular time. The photograph, therefore, can only work as a historical document as long as it is not intended to provide a panoramic view over a linear and uniform continuum of time, but in the respect of its "essential monadic division" that breaks down the temporal flux. According to Pontremoli, the "instant of the world" that comes to the surface of the photograph is never bygone; it inexorably affirms its presence.

In the mid-1980s, Vilém Flusser proposed a different philosophical approach to photography combining elements of phenomenology with an ideological critique of the medium – its properties, characteristics, and uses. *Towards a Philosophy of Photography* (1984) contains the critique of photography as an ongoing process of social engineering: a manipulation of

consciousness which found in the photographic medium a crucial agent. Flusser's approach is indebted to structuralism and his argument often verges on technological determinism. For Flusser, photography imposes a set of mechanisms through which meanings are produced and disseminated on the surface of technical images. Reading a photograph becomes a deciphering act aimed at recognising how the visible world has been transcoded into an image. The main task of the critic should therefore be to expose the hidden workings of photography and unveil the symbolic world it constructs.

Flusser's analysis hinges upon four key concepts: image, apparatus, program, information. Photography is regarded as a process that produces technical images - indeed, "the first of all technical image processes". The author describes the "technical image" as the product of a ground-breaking human innovation that determined a third degree of abstraction from reality. The first degree was, accordingly, marked by the pre-historic world of images (idolatry), and the second one by the invention of linear writing in the second millennium B.C. (textolatry). For Flusser, the endlessly reproducible image exert a "centripetal attraction" whereby all events and actions long to be reduced to a photograph or film. The implications on collective memory are described in apocalyptic terms: "technical images thus suck all of history into their surfaces, and they come to constitute an eternally rotating memory of society" (Flusser 1984:14). The camera's interface between the operator and the image introduces a key factor in the production of technical images, which Flusser calls *apparatus*. As he points out, the predatory character of the camera - considered as the prototype, but certainly not the only type, of apparatus - is derived from the etymology of the Latin word *apparāre* ('to prepare'): "The camera makes itself ready to take pictures, tries to ambush them, is on the lurk for them" (Flusser 1984:15).

How do the photographer and the apparatus interact so as to define the codifying intentions that hold indissolubly together the operator's act and the apparatus? In Flusser's theory, this occurs through a movement of convergence/divergence between human intention and mechanical program: "Each single photograph displays the results of both the collaborations and the struggles. The task of deciphering, then, is to show how the collaborations and struggles relate to one another. Once this has been done, the photograph can be considered 'deciphered'" (Flusser 1984:33). The task of photography criticism, therefore, ought to be the constant untangling of this double intention contained in every technical image: on the one hand, the photographer's attempt to subdue the apparatus; on the other, the apparatus' own programmed

“virtualities”. Yet, a criticism based on single images would ignore their channels of distribution, which constitute in turn a complex and programmed apparatus. Aware of the flow of images circulating across discourses and media (or, “channels”, in Flusser's terms), the critic of photography is therefore confronted with the primary task of reconstructing “the struggle between the photographer and the channel of distribution” (Flusser 1984:39). Failure to do so would result in effacing the decisive role of these channels in the inscription of meanings on the photograph.

A more recent attempt to develop a theorised approach to photography is Patrick Maynard's book *The Engine of Visualization* (1997). For Maynard, photographic technology is characterised by a dual property which other visual arts lack. This consists of the unique combination of two functions that photographs perform: detection and depiction. These are the main qualities that make photography's amplifying powers radically different from any other means of representation: (a) photographic images of things “amplify our perceptual access” to the visual world; (b) “photo images can be so managed as to make our *extraction* and *interpretation* of their information content relatively easy” (Maynard 1997:218). Whereas the former refers to *detection*, that is the recording function proper to the photographic medium, the latter suggests the role of *depiction* in assisting the recovery of recorded information. Although photographic technology shares a number of features with other imaging technologies, it differs crucially from all the others by virtue of its unique ability to combine these two effects: “In this, the family of photography and allied technologies is cognitively distinct from the family of drawing and painting, with which it has rich and ongoing interactions. It is distinct in the kind of information it contains and in the way we gain access to that information” (Maynard 1997:221). This specificity is defined by Maynard as photography's “distinct dimension of fidelity”.

For Maynard, the visual detective use is what accounts for “photography's reputation for fidelity”. This function is based on the physical and chemical properties of the photographic process, which register in the image the marks of an external reality: “From its beginning, photography has been valued as such a detection and recording device, as an extension of our own organic surface-to-surface powers of detection by means of light” (Maynard 1997:122). This function rests on the “channel conditions” for the production of photographs: camera position and movement, lighting conditions, type of film, use of a lens or filter, and any other detectable “causal factors”. They work independently from what the picture actually depicts, which we normally name

the "subject" of the photograph. Depiction is the other fundamental property of photographs that, not unlike other means of pictorial representation such as drawing, film, etc., also function as "imagining enhancers". Pictures of things "convert" our visual inspection of surfaces into an object of the imagining: that is, photographs are "marked surfaces that mandate [...] that we imagine *seeing* things" (Maynard 1997:104). By looking at marked surfaces we are incited to some *imagining seeing*, an act whereby we not only imagine the subject represented, but also that our look is seeing what is depicted. Moreover, Maynard argues, seeing an image pictorially entails imagining about ourselves too - that is, about our own visual activity: "We look at the surface in order to imagine, and immediately imagine about that very looking as well" (Maynard 1997:106). Depictive perception therefore involves a kind of complicity: that is, "participation through reflexive imagining about our own perceptual activities" (Maynard 1997:109).

Although the two functions of detection and depiction constitute distinct elements, they most commonly interact in a variety of combinations. "Indeed", Maynard writes, "'photography' might be most simply characterized as *the site of historically the most spectacular interaction of depictive and detective functions*" (Maynard 1997:120. Italics in original). Nonetheless, given the wide currency gained by the photograph as a predominant vehicle of knowledge and information in modern culture, depictive use often tends to overwhelm detective use. To understand the specificity of the medium we need to learn to appreciate the fundamental distinction between these functions: "the very gap between what was photographed and what we are prescribed to imagine by the resulting image" (Maynard 1997:133). It reminds us that the threshold of legibility of a photographic image does not depend on its (intrinsic) detective quality, but on its (perceptual) depictive one. The balance between these two distinct, and yet always co-existing, functions is an important factor in determining the limits of a photograph's veracity and the range of uses that an image may perform in and across discursive spaces.

Maynard's theory presents a particularly interesting set of categories for the study of aerial photography, which shares in the fundamental characteristics that determine the photographic medium in all its manifestations. The way we imagine seeing things in aerial photographs therefore bears an ontological difference from other types of depictions – whether they be obtained from real or imaginary viewpoints (Maynard 1997). This analogic value, derived from the photograph's indexical nature, has consequences that inform all possible uses and discourses (aesthetic,

instrumental, political, etc.) insofar as they rest on the veridical properties of the photographic image.

Another critical strand has explored the implications of photography in modern politics of representation. This approach has emerged in direct confrontation with the 'realist' paradigm. In the 1970s and 1980s, a new critical approach developed in particular in North America led to a post-structuralist evaluation of photography. In the writings of such critics as John Tagg, Alan Sekula, and Rosalind Krauss, Foucault's emphasis on the discursive production of knowledge and his critique of power/knowledge relations have often been brought to bear on the study of photographic practices, with particular regard to the uses of the medium as an instrument of disciplinary power. The empirical role acquired by the photographic image in procedures of scientific investigation, which invested a number of fields during the nineteenth century, has been discussed in terms of its significance for the "politics of the body". Indeed, the critique of disciplinary society provided a continuous source of insight to historians concerned with the implications of power and knowledge in the politics of photographic representation (Tagg 1988; Sekula 1986; Green 1997). As David Green put it, "photography [...] was contingent to other methods used in the observation and classification of individuals, forming a part of the mechanisms of surveillance and the exercise of a normalising, disciplinary power" (Green 1997:128). Frequent analogies have been made between the disciplinary effects exerted by the physical incarceration of bodies and their domestication through photographic records, which became integral to the positivist discourse in such fields as anthropology, criminology, medicine, etc. On the whole, these analogies seem to rest on a common act of seeing based on horizontal vision: the frontality of scientific and police photography, in this respect, reproduced the overseer's view of inmates in Bentham's model prison. To what extent can this model be valid to explain the practice of aerial vision and aerial photography, which predicates its visual power on a vertical gaze? Beside intuitive analogies between aerial surveillance and panopticism, this equivalence has seldom been discussed in critical fashion.

John Tagg (1988; 1990) has proposed a radical approach to the study of documentary photography based on its ideological values. He has described the famous interwar campaigns carried out by the Farm Security Administration (F.S.A.) in the United States as the critical moment in the emergence of this new genre. For Tagg, "documentary came to denote a discursive formation which was wider by far than photography alone, but which appropriated photographic technology to a central and privileged place within its rhetoric of



immediacy and truth” (Tagg 1988:8). This position is explicitly informed by French theories, namely Althusser’s critique of ideology and Foucault’s analysis of disciplinary practices. According to Tagg, the crisis of representation that invested interwar America placed photography at the service of a new “rhetoric of truth”, which largely rested on the recording function of the medium that had been employed – before the term “documentary” came in use – up until then. The transformation that occurred between the World Wars consisted in the application of new technical instruments and aesthetic criteria to the representation of reality. The novelty of these strategies of representation, which were largely used in scientific discourse in the nineteenth century (Green 1997), was linked with their presence in the public domain, as books, albums, and magazines provided a new arena for the public display of photographic images. Tagg’s view of photography as an instrument of power relations rejected any appraisal of the democratising potential of the medium, which in the interwar period saw a widespread diffusion as an amateur practice. In fact, for him the diffusion of “popular photography” only served to sanction its position of “cultural subordination” to commercial or artistic practices (Tagg 1988:17).

Tagg's historical materialism was formulated in direct opposition to Barthes' phenomenological realism. These two distinct approaches have laid emphasis on different aspects of the photographic image: namely, *what* the photograph is; and *how* it has been used. The former emphasises the need for interpretation (the production of meanings relating to specific uses, techniques, procedures, institutions - all of these implying power relations), while the latter stresses the authenticity and the irreducible realism of the photograph (predicated upon its evidence, truth, and “magic emanation”). The attempts made in more recent years to overcome this duality suggest that there is room for a critical thinking on photography that incorporates elements from both approaches (Price 1997; Rose 1997).

The method followed in the thesis incorporates the realist concerns of phenomenology in the study of the production and reproduction of images. The focus on aerial imagery will attempt to redress the emphasis that theories on photography have often placed on the temporal qualities of photography by reassessing its spatial dimensions. The thesis therefore proposes a combined approach based on the intersection between three orders of *photographic space*:

1. The *referential space* of the image ( i.e., the subject photographed).
2. The *visual space* of the image (or “pictorial space”, following the terminology of film theory).
3. The *discursive space* in which the image operates (i.e., the social, cultural, and political context within which the photograph is produced and/or reproduced).

The complex web of relations that can be drawn from these coexisting elements may allow for a multilayered interpretation of ‘the modern city’ as an object of representation. In order to test the validity of this theoretical approach, the thesis will investigate how these three orders of space coexisted, in ever changing and unstable ways, across different practices in the chosen period. The argument is based on discursive spaces in which aerial images were produced and disseminated. Each study, however, examines specific images in order to discuss how the image’s visual space was instrumental to the production of meanings. The identity of the cities depicted in the photographs will also be discussed insofar as it played a role for the signification of the image - whether a photograph designate a specific cityscape or a “placeless” (or, “typical”) urban view. This approach aims to respond to Tagg’s call for a “history of photographic evidence” within the field of urban representations.

The thesis take up the notion of *photogénie* in order to explore the ambivalent status of the represented cityscape. Recent studies into the phenomenology of photography have revived the original meaning of this word, which was initially adopted by the French *Académie des sciences* in 1839 to describe the optical and chemical processes whereby an image is fixed on a surface by effect of light (Maynard 1997; Mormorio 1997). The meaning of *photogenic* connoting a supposedly ‘good’ photographic subject was first introduced in English in 1929, which coincides with the pivotal moment, in the late 1920s, when the aerial imagery of cities fully emerged in Europe. Contemporary thinkers such as Pontremoli (1996) have further attempted to recover the meaning of *photogénie* as the essential property of photography. Along these lines, it seems to be possible to refer to a *photogenic city* as the product of a reduction of three-dimensional city spaces into two-dimensional city-scapes through the specific agency of the photographic medium. While any landscape or cityscape generated through photography may be said, in merely technical terms, to be *photogenic*, the conditions of production and dissemination will provide a criterion for the choice of material to be researched.

## II Aerial Inspections

### Introduction

The aim of Part II is to investigate the implications of air reconnaissance photography upon the visualization of urban space in the period of the World Wars. Military reconnaissance is the alpha and omega of aerial photography, being responsible not only for the industrialised production of airborne images but also for most of the civil applications of the medium. From its beginning, the military occupation of airspace was primarily a conquest of a space for the sake of seeing. The core of this practice was a mechanism of distant and covert inspection that allowed the bearers of the “eye of power” (Foucault 1980) to exert military supremacy over an *other* space. Photography, the chief instrument of objective visual recording, translated this procedure in mechanical images. As a direct consequence, new forms of counter-photographic defence were worked out to withstand the apparatus of military surveillance.

While it is widely documented how camera technologies emerged, particularly during World War I, as instruments of modern warfare, this enquiry deals with the specific role played by the apparatus of aerial perception in representing landscapes – and cityscapes in particular. The type of imagery that was produced when modern armies took aerial photography into their service will be considered as a discursive field, which was characterised not only by its own internal mechanisms of image production and circulation, but also by a significant traffic of images in and out of its boundaries. An implication of this process was that air reconnaissance photography also invited aestheticised readings beyond the limits of the military discourse. Conversely, photographs that were initially circulated in interwar publications became instrumental to the practice of reconnaissance in World War II. Aerial photography therefore produced a contested visual space, within which the imagery of places constituted a “battlefield of perception” in its own right; its control became an imperative of the modern military strategies based on airpower.

Two of the conceptual strands discussed in Part I are particularly relevant to this study. First, photography’s dual function, based on detection and depiction, is taken up to question the shifting value of a class of images that, despite being a ‘detective’ practice by definition, acquired further layers of signification in different and unexpected contexts. The analysis of camouflage as a counter-photographic technique suggests that a third dimension of photography, that of *deception*, was

exploited in response to the panoptic threat of aerial vision. Second, the tension between procedures of surveillance and the allure of spectacle was central to the production of images of cities within the field of aerial reconnaissance. This tension was played out across the boundary that separated the military discourse from the public domain. The argument presented here considers aerial photography as a mode of representation that turned urban landscapes into problematic *photogenic* artefacts. The present three chapters therefore discuss how the strictly functional role of air reconnaissance photographs co-existed with their perceived aesthetic values, turning this class of images into an ambivalent instrument of both surveillance and spectacle. The aim is to investigate the visual and discursive spaces through which urban landscapes, in particular, were depicted under the agency of the aerial gaze.

## II.1. Landscapes of reconnaissance: war, photography, and the city.

Since the battlefield has always been a field of perception, the war machine appears to the military commander as an instrument of representation, comparable to the painter's palette and brush. (Virilio 1989:20)

Aerial photographs are symptoms of and at the same time forces in the process of changing the mode of perception by fusing pure aesthetic effects and highly functional military information. Their space is emptied of experience and moral content. (Hüppauf 1993:59)

The present section discusses various ways in which the practice of aerial reconnaissance brought about a specific mode of urban representation in the age of the World Wars. The point of departure lies in the historical shift that occurred when technologies of warfare and instruments of perception became entwined, in new and far-reaching ways, as a result of the introduction of aviation to combat. After the first military applications of aerostatic photography in the nineteenth century, and with the new visual possibilities opened up by the advent of powered flight in the early 1900s, the first World War marked a threshold in this combination of technologies. The instrumental photographs produced by the military for the transient purposes of war took on further layers of meanings as they entered the public realm. How urban landscapes, in particular, were caught in this tension between surveillance and spectacle is discussed through a study of reconnaissance photographs produced by the Royal Air Force in World War II. The analysis of selected images will show how the events of the early 1940s revealed the problematic tension between the operational and the aesthetic functions of aerial photography in all its force. The final section shows how aerial photographs initially published within a documentary discourse in one country were also appropriated by another country's intelligence and harnessed to military goals.

## World War I: industrial warfare and aerial visions

The modern practice of reconnaissance, codified during the Napoleonic wars, acquired renewed importance after the first military applications of aerostatic photography in the second half of the nineteenth century.<sup>1</sup> In the 1910s, as rural and urban landscapes alike became subjects of aerial photography, this practice was responsible for some of the earliest photographic images of cities from aeroplanes. The aerial views of Tripoli obtained by the Italian army in 1911 during the war over Libya were among the earliest examples of this practice (Alvisi 1969; Garcia Espuche 1994b).<sup>2</sup> While the military value of aerial observation from lighter-than-air carriers had been recognised in the nineteenth century, this colonial enterprise sanctioned the instrumental alliance of photography and aviation.<sup>3</sup> The ability to visualise the enemy territory from the air involved the practice of keeping the space of the *other* under close scrutiny by mapping its territory, so that a procedure of ‘visual colonisation’ could be enforced as an integral component of military occupation. As Max Kozloff put it, “produced as a first-hand witness in real space, the [war] image verifies the act of conquest” (Kozloff 1987:210). The authenticating function of photography, reinforced by the all-seeing aerial perspective, would prove instrumental to the events of war in the first half of the twentieth century, when the “forensic” status of the photographic image became the instrument of a military practice based on panoptic principles. After World War II, this early development would lead towards the continuous flow of electronic images that has transformed the regime of military inspection into a state of permanent surveillance (Virilio 1994).

Paul Virilio has written extensively about the gradual assimilation of techniques of visual perception into the procedures of modern warfare. The core of his argument is the gradual transformation of conflict into a “war of light” throughout the twentieth-century, which he sees as the catalyst of a wider process of acceleration and dematerialization taking over industrial society (Virilio 1989; 1994). While Virilio concedes that the centrality of vision to the development of warfare is by no means an exclusive prerogative of modernity, he emphasises the implications of the advent of powered flight in the early 1900s upon the enlargement of the field of vision. “By 1914”, he writes, “aviation was ceasing to be strictly a means of flying and breaking records [...]; it was becoming one way, or perhaps even the ultimate way, of *seeing*” (Virilio 1989:17. Italics in original). According to Virilio, the advancement of

---

<sup>1</sup> On the history of military reconnaissance prior to World War I, see D. Henderson, *The Art of Reconnaissance*, 3<sup>rd</sup> edition, (London: John Murray, 1914).

<sup>2</sup> Interestingly, the Italo-Turkish conflict also saw the first bombs being thrown from aircraft. See G. Alvisi et al., *Fotografia aerea: Cenni storici e applicazione allo studio degli interventi dell'uomo nel territorio*, (Roma, 1968), p. 23.

<sup>3</sup> On the historical differences between technologies of aerostation and aviation, see Gibbs-Smith (1970).

technologies of warfare contributed to disengage the mechanical apparatus from embodied vision, leading to what he calls an “automatic of perception”. This split was accelerated by the recognition of the “predictive capability” of aerial reconnaissance in World War I, when powered flight was applied to military observation. Thereafter, aeroplane photography began to be used to record the theatres of operations before, during, and after military campaigns (Babington Smith 1957; Brookes 1975; Sekula 1975; Virilio 1989).<sup>4</sup> The conflict marked a shift towards a visual regime characterised by the progressive separation of functions between direct human sight and the work of ever more sophisticated “seeing machines” (Newhall 1969; Martin 1983). While the military apparatus began to take on the characteristics of an instrument of representation, aerial photographs remapped the image of the territory into a source of strategic information.<sup>5</sup>

As assembly-line manufacture took over a broad spectrum of war production, ranging from aircraft and weaponry to film and photography, aerial reconnaissance was fully organised on an industrial basis during the first World War. Since the airborne camera proved instrumental to the tasks of “careful observation” and “recognition” of enemy territory (the original meanings of the Latin term *re-cognōscere*), the conflict was also marked by a sharp increase in the dissemination of photographs. Not only was the airborne image, with its detached views of the battlefield, an important agency of the de-materialisation of combat, it also became the source of an unprecedented record of war. For Virilio, this was not only the first industrialised conflict on a large scale, but also the first mediated war: “it was not a matter of images now, but of an uninterrupted stream of images, millions of negatives madly trying to embrace on a daily basis the statistical trends of the first great military-industrial conflict” (Virilio 1994:48).<sup>6</sup> This vast documentary coverage contributed to transfigure war experience into a form of visual display, highlighting a tension between the functions of spectacle and surveillance in war photography. On the one hand, the aerial gaze of the military established its authority as an all-pervasive technological eye; on the other hand, the transition of images to non-instrumental discursive spaces exposed them to new forms of aesthetic consumption.

As Virilio has also pointed out, this oscillation is well exemplified by the vicissitudes of Edward Steichen’s work as a commander of the U.S. aerial photography operations in wartime France. The American photographer was responsible for the output of reconnaissance images on an industrial basis, leading to

---

<sup>4</sup> The first cameras expressly designed for aerial photography were produced in 1915 (Wills and Winchester 1928:6).

<sup>5</sup> Chapter II.3 shows that measures taken to prevent the potential destructiveness of aerial warfare were often hesitant as to what should be cheated – the human gaze or the camera.

<sup>6</sup> Sekula has pointed out that this industrialised mode of production came about shortly after the first assembly line was introduced at Ford’s car factories in 1914 (Sekula 1975:28).

the production of tens of thousands of photographs of French landscapes during World War I (Virilio 1994). In his critical account of Steichen's work, Alan Sekula (1975) showed how the status of this imagery changed after the end of the conflict from the military sphere to the art world.<sup>7</sup> Although the case of Steichen remains rather exceptional, the fate of "his" photographs epitomizes the transfer of meanings that occurred from the regime of surveillance to that of spectacle when the military authority of reconnaissance images was superseded by their artistic authorial status. Sekula warned of the implications arising whenever military aerial photographs, which he described as the "triumph of applied realism", were subjected to voyeuristic forms of appreciation disregarding the images' primary function. Accordingly, the different "orders of instrumentality" implicated in the transition from a discursive space to another are dependent on the ways in which photographs relate to conventions of representation. In particular, Sekula has pointed out that the significance of aerial photographs may take on different nuances according to the visual construction of the image, which varies greatly between high-vertical and low-oblique views. While the former lead to higher levels of abstraction in the picture, often requiring special skills to be interpreted, the latter reproduce a perspectival space that is more readily accessible to the lay viewer. "Each of the two types", Sekula explains, "gravitates toward a different kind of estheticized reading; one tends to deny the other to acknowledge the referential properties of the image" (Sekula 1975:29).

By depicting the spatial properties of war battlefields according to the laws of perspective, low-oblique images brought aerial photographs close to the conventions of landscape photography, which in the 1910s was widely influenced by pictorialist aesthetics – Steichen himself being one the masters of this style. Vertical photographs, on the other hand, tended to deny the customary perception of landscapes by reducing space to the abstraction of a planar image. Such photographs therefore appealed to another aesthetic sensibility, which was akin to the visual language experimented with by avant-garde artists in the interwar years (see § III.2 and III.3). The fact that reconnaissance photographs began to be sought after in the art world for aesthetic qualities that had little to do with the instrumental context of their production has been portrayed by Sekula as an "unqualified beautification of warfare" (Sekula 1975:33). This case illustrates how, in the interwar years, the aerial imagery of war landscapes came to occupy a contentious discursive space in which the political and aesthetic sides of representation often intersected.

The space of aerial representation inaugurated in World War I had a profound effect in normalising the image of war. As Karen Frome has observed, "The aerial

---

<sup>7</sup> On Steichen's work as a commander of the U.S. aerial photography operations in France during World War I, see also Virilio (1989:20-1) and C. Phillips, *Steichen at War* (New York: Harry N. Abrams, 1981).



perspective, like that of the cartographer, objectifies the target, making mass destruction psychologically viable” (Frome 1993:77). Before addressing the question of how this intersection manifested itself in World War II, the next section discusses some of the ideological views on photography which emerged in the interwar period, and how they reflected an aestheticized reception of the spaces of war.

### **Of shock and danger: photography as ‘second consciousness’**

The decisive importance acquired by photography during World War I and its implications for modern consciousness were discussed by several writers and philosophers, particularly in interwar Germany. Ernst Jünger is regarded as the first author who explored the nexus between technologies of warfare and mechanisms of optical perception. His ideas on photography have recently been reassessed by several critics, who have discussed the influence of his work on contemporary developments in visual culture (Virilio 1989, Werneburg 1992, Buck-Morss 1992, Kaes 1993, Huyssen 1995). Most of Jünger's early writings celebrated the experience of war as a fortifying moment in modern civilization. As Kaes (1993) has noted, Jünger's approach to war was not based on a political or critical argument, but on an aesthetic one. A war veteran himself, Jünger had intuited the connections between technologies of warfare and photography that emerged from the industrialised conflict - a point that has been reiterated by various authors ever since. In the much-quoted opening passage of his essay, “War and Photography”, Jünger traced a parallel between the precision of technological warfare and the accuracy of documentary coverage introduced in wartime:

A war that is distinguished by the high level of technical precision required to wage it, is bound to leave behind documents more numerous and varied than battles waged in earlier times, less present to consciousness. It is the same intelligence, whose weapons of annihilation can locate the enemy to the exact second and meter, that labors to preserve the great historical event in fine detail. (Jünger 1930/1993:24)

In an implicit reference to air reconnaissance, here Jünger noted an important consequence of aerial photography: namely, that the medium responsible for the accurate record of war events was coterminous with the apparatus of destruction. While Jünger's intoxication with the cathartic power of technology blinded him to the deeper implications of this concurrence, his words were inadvertently suggesting the possibility of a critical interpretation of what he called “the great historical event”, since

the visual documents produced by the war machine documented the perpetration of often contentious acts of violence. Indeed, a characteristic of early reconnaissance photography was that it was produced by a technological apparatus that was coterminous with that which caused physical destruction. As Virilio has pointed out, “the pilot’s hand automatically trips the camera shutter with the same gesture that releases his weapon. *For men at war, the function of the weapon is the function of the eye*” (Virilio 1989:20. Italics in original).

With specific regard to World War I, Merewether has observed that aerial photography produced “a new aesthetic of surveillance and domination” (Merewether 1997:31) that was fraught with ideological overtones:

During the war aerial photographs were used to pinpoint strategic bombing sites as well as record the destruction of cities. Such photographs are both an instrument of war and a witness to its effects. The illusion of veridical documentation and the ideological function of instrumental and aesthetic realism create a blind spot, obscuring the complicity of technologies of representation in technologies of destruction. (Merewether 1997:29)

The main channel for the diffusion of the “veridical documentation” of war was the illustrated press. Not only did the First World War bring about the novelty of air reconnaissance photography, it also sparked off the “media conflagration” (Virilio 1989) that led to a massive dissemination of images in public life.

Jünger saw in this process the origins of a specifically modern form of perception: a “technological consciousness” based on the experience of shock and danger. In his writings of the early 1930s, he described the emergence of an enhanced sense of awareness mediated by camera technology. In a short piece entitled “On Danger” (1931), Jünger laid out the argument for an aesthetic appreciation of danger based on photographs of violent events.<sup>8</sup> In his generic description of danger, Jünger did not distinguish between natural and human catastrophes but referred in the same terms to images of such events as riots and hurricanes, earthquakes and bomb explosions - the cause of the violence being reduced to a mere anecdote. Photography was supposed to achieve a therapeutic effect by freezing the perilous instant on a still image, thus lifting the shock of a traumatic event to the level of consciousness. On account of photography’s unique ability to capture any unspecified image of danger, “the artificial eye of civilization” was deemed by Jünger to be the most appropriate vehicle to express the nature of modern experience (Jünger 1931/1993:31). Jünger maintained that the contemporary “zone of

---

<sup>8</sup> The essay “Über die Gefahr” was published in the photo-book *Der gefährliche Augenblick*, ed. by F. Bucholtz (Berlin: Junker and Dunhaupt, 1931). The photographs published in the book depicted a broad range of events, including war explosions, earthquakes, scenes of public unrest, and the aftermath of train and car crashes.

danger” opened up by industrialised warfare had been extended beyond the boundaries of the battlefield to encompass the technological sphere in its entirety. To the bourgeois ideology of progress, based on ideals of comfort and security, he therefore opposed the omnipresence of danger as a condition of urban modernity.

The definition of modernity as a zone of danger led Jünger to set up a parallel between the experience of industrial warfare and that of everyday life in a big city, which were both characterised by a mode of perception dictated by elements of shock and danger. This argument, which resonates with Georg Simmel’s classic account of the psychological over-stimulation of life in the metropolis (Simmel 1903/1969), posited the modern city as the locus of a new technological consciousness. As Huyssen has noted, the connection between war and the metropolis had first been advanced by Jünger in his early essay “Großstadt und Land”, published in 1926 (Huyssen 1995:30). Interestingly, Jünger found inspiration not so much in the busy streets of a German city as in the war battlefields, whose materiality and dynamism had been marked – in his view - by an essentially urban character. Jünger described the World War as “a good example of the way in which the essence of the city has begun to take possession of the whole range of modern life.”<sup>9</sup> The pervasive role of technology was the key to this analogy: “Just as the landscape of this battlefield proved to be no natural landscape but a technological landscape”, he wrote, “so was the spirit that animated it an urban spirit.”<sup>10</sup> Werneburg has suggested that, for Jünger, “what the war disclosed was precisely the possibility of blending a strict order and a wild anarchy: the mixture of precision and explosion found in both the great battles and the daily life of modern cities” (Werneburg 1992:48). Photography therefore allowed Jünger to triangulate the discursive relationship between war and city.

Jünger expounded the implications of photography on human perception in his essay “On Pain” (1934), where he famously formulated the notion of “second consciousness”. Accordingly, the objectifying power of the medium marked the emergence of an instrumental and detached order of consciousness that, while neutralizing the image of danger, was capable of toughening the human responses to the experience of pain. As Christopher Phillips noted, “[Jünger] praised the camera eye as an instrument devoid of feelings and therefore able to contemplate the horrors of the modern world with an almost aesthetic detachment.” (Phillips 1989:207). The camera was understood to be a synthetic organ of perception that contributed to an increasing objectification of the world’s image. For Jünger, people had been growing increasingly inured to the shock presented in photographs, especially in the wake of the World War. “As the process of objectification progresses,” he stated, “the amount

---

<sup>9</sup> E. Jünger, “Großstadt und Land”, quoted in Werneburg (1992:47).

<sup>10</sup> Ibid.

of pain that can be endured grows as well. It almost seems as if man had an urge to create a space where [...] pain can be regarded as an illusion” (Jünger 1934/1989:209-10). The ideal pursuit of an armoured consciousness situated “outside the sphere of pain” therefore aimed to raise the threshold of tolerance for harrowing pictures.

As Brigitte Werneburg has pointed out, the investment in the aesthetic value of traumatic photographs harnessed the medium’s capacity for entertainment and surprise towards an insensitive viewing experience:

Ultimately, for Jünger, the unfolding of this second, colder, photographic consciousness has two moments, or two sides. On the one hand, there is a dramatizing moment, when the placid surface of everyday life is shattered by the sudden eruption of violence and horror, a shock that is registered by the photograph. On the other hand, there is the “normalization” of this horror [...] (Werneburg 1992:54)

This passage captures the crux of Jünger’s thinking on war and photography: by atomizing the image of danger and normalising the sphere of pain, photography was entrusted with the role of a defence mechanism capable of effectively lowering the ethical and emotional responses to images of violence. Having understood the act of seeing as an intrinsically aggressive gesture, Jünger enlisted photography as a technological prosthesis that would endow the modern “type” (*Typus*) with the “insensitive and invulnerable eye” of the apparatus (Jünger 1934/1989:208). In line with Jünger’s ideal of “total mobilization”, his praise of camera technology was ultimately intended to fortify the “total worker”- the modern figure which he expected to take over from the dissolution of the bourgeois social order.

Jünger’s theory of second consciousness has been situated by Buck-Morss (1992) within the historical trajectory that links the nineteenth-century phenomenon of phantasmagoria with the fascist uses of cinema and photography as mass spectacles in the interwar period. Buck-Morss has interpreted the ‘Epilogue’ of Walter Benjamin’s *Artwork* essay as a vigorous argument against this tradition, which at the time of his writing had recently been revived by Marinetti’s rambling descriptions of the Ethiopian war. Benjamin famously condemned the Futurists’ intoxication with scenes of destruction as an instance of the fascist “aestheticization of politics”:

[I]nstead of dropping seeds from airplanes, [society] drops incendiary bombs over cities; and through gas warfare the aura is abolished in a new way. [...] Mankind, which in Homer’s time was an object of contemplation for the Olympian gods, now is one for itself. Its self-alienation has reached such a degree that it can experience its own destruction as an aesthetic pleasure of the first order. (Benjamin 1936/1970:244)

Given that this passage came at the end of Benjamin's ground-breaking argument about the democratizing potential of film and photography, one may well read between the lines a critique of the perverse use of these technologies in promoting an aestheticised view of war. The critic's index was pointed not only at the deployment of aeroplanes as bombers, then, but also at the use of cameras as vehicles for a distant contemplation of violence. Indeed, Benjamin's warning rang on the eve of the historical events that precipitated the transformation of cities into widespread targets of aerial bombing. Buck-Morss (1992) has interpreted the 'Epilogue' as an answer to the "sensory alienation" produced by industrial capitalism and promoted by fascist culture in various guises - including Jünger's interwar writings.<sup>11</sup> As well as a direct response to Marinetti, this admonition may therefore be read as a sweeping critique of disengaged aesthetic experience, of which a symptom was Jünger's complacent ("an-aestheticized", in Buck-Morss's term) vision of a superhuman subject self-alienated by the exposure to images of danger.

Jünger's ideas need to be understood within the new print cultures that emerged in the 1920s, Germany being at the avant-garde of the illustrated press in Europe. In his illustrated book, *Die Veränderte Welt* (1933), Jünger used press images to convey his radical vision of a "transformed world". Among a broad variety of photographs, he singled out several aerial landscapes to express an ideal of technological progress made visible in the regular patterns of city grids, motorways, and mechanised agriculture.<sup>12</sup> Accompanied by brief and catchy captions, these images sanctioned photography's power to mediate reality through the visual order of abstraction. The image of a reconnaissance cameraman and his apparatus, which featured in a page of the book, suggests a metaphorical link with the function of the airborne camera as a bearer of the "insensitive and invulnerable eye" advocated by Jünger. The aerial view combined the shielded vision of photography with the distant perception from above: although Jünger hinted at it only tangentially, the encounter between aeroplane and camera brought about a mode of perception that was arguably the utmost expression of a modern "technological consciousness". Virilio's more recent formulations of the "vision machine" are clearly indebted to Jünger's interwar ideas. Although Jünger's writings did not by any means exhaust the whole interwar debate on the aesthetics of war and photography, they allow us useful insights into the culture of representation of the time.

---

<sup>11</sup> For an interpretation of the modernist and fascist elements in Jünger's interwar writings, see A. Huyssen, "Fortifying the Heart – Totally: Ernst Jünger's Armored Texts", *New German Critique*, n. 59, 1993, pp. 3-23.

<sup>12</sup> For a detailed analysis of this book, see Werneburg (1992).

## Puzzling pictures: spaces of reconnaissance in World War II

The shift in the use of air reconnaissance from the First to the Second World War was as significant as the advance undergone by the techniques of warfare themselves. While, in World War I, aerial photographs had served mainly to visualise the movements of troops behind the front line, thereafter the notion of the battlefield itself was made largely obsolete by the new procedures of combat. World War II saw aeroplanes take a much more prominent role as the main conduits of perception and destruction alike. This also meant that the extent and accuracy of aerial coverage were far higher than they had been two decades earlier. The rapid development of aerial warfare revealed the decisive importance of detailed and updated photographic intelligence, sustained by ever more sophisticated systems of interpretation. Given this premise, it is essential to distinguish between different classes of images within the field of aerial reconnaissance, as they reveal different instrumental uses of photography. With specific regard to the representation of landscapes, three relevant practices can be identified: (a) preventive coverage; (b) damage assessment; (c) detection of camouflage. These distinct operations brought about different photographic spaces within which cityscapes were reconfigured as military targets and photographic subjects at one and the same time. The present section deals with preventive reconnaissance carried out by the Royal Air Force in the run-up to and during World War II, whereas the latter two types are discussed in the next chapters.

The class of preventive reconnaissance comprises a vast amount of visual documents that may shed light on to the representations of urban landscapes within the military discourse. Although this imagery often did not show any apparent signifier of conflict, it was firmly rooted in the military order of instrumentality. The operational value of aerial photography had been acknowledged as a priority in Britain already during World War I, when the Royal Air Force (R.A.F.) was created as a merger of the Royal Flying Corps and the Royal Naval Air Service (ARAFPO 1987). The R.A.F. was later involved in the surveying of British overseas territories and protectorates during the interwar years, when it produced extensive coverage of such countries as India, Egypt, Iraq, Palestine, and British Somaliland. A new input was given to this practice after 1937, particularly in the wake of the displays of airpower in the conflicts over Spain and Abyssinia - promoted chiefly by the fascist regimes of Italy and Germany.<sup>13</sup>

---

<sup>13</sup> After Bomber Command voiced its dissatisfaction with the inadequate standards of aerial photography in the R.A.F. and the lack of personnel trained in the interpretation of photographic intelligence, a special section devoted to photo-interpretation was finally created within the Directorate of Intelligence in 1938 (ARAFPO 1987).

Concerned with the looming prospect of a new war, the Air Ministry enhanced the development of aerial reconnaissance as a matter of security.<sup>14</sup> By the late 1930s, surveying enemy territory was a priority of military intelligence and its scope was extended to any region that could be of significance in the strategies and tactics of war. In particular, images of urban areas became integral to the practice of aerial warfare as cities became ever more likely targets of bombing raids.

The outbreak of war revealed the decisive importance of photographic intelligence. In Britain, this was eventually organised by the Central Interpretation Unit, which was set up in Medmenham at the beginning of 1941.<sup>15</sup> The millions of aerial photographs that were delivered to the Unit during the war ranged greatly in scale and included obliques and verticals; high-altitude verticals were often arranged in mosaics in order to cover large territories. Pictures of models were also realised as target maps. The models themselves were often made from vertical photographs and were then re-photographed from oblique angles to obtain “realist” views that would aid pilots in studying the target areas (Powys-Lybbe 1983; Conyers Nesbit 1996). This procedure encapsulates well the scope of utility of aerial photographs: while verticals supplied an “objective”, measurable, and map-like imagery, obliques served a rather more qualitative representation of places based on perspectival vision.

A useful source that illustrates the variety and applications of this imagery is the publication *Evidence in Camera*, which was issued by the Air Ministry from October 1942 to March 1945 and was designed to present the latest findings of aerial reconnaissance to military personnel. Although this publication was not graded as secret or confidential, its diffusion - which was marked “for official use only” - relied on the discretion of its readership.<sup>16</sup> The status of this restricted document reveals some interesting aspects of how air reconnaissance photographs operated within the military discourse. The main objectives of *Evidence in Camera* seem to have been three: informing; instructing; and entertaining. The tone and contents of the pamphlet were considerably enriched over this period, gradually shifting from a dry presentation of photographs with minimum commentary to a more discursive use of texts and images. By 1944, images were presented in the fashion of illustrated news, with in-set

---

<sup>14</sup> The R.A.F. had gained extensive photographic coverage of Germany, along with large areas of other European countries, prior to the start of the air war. On the contribution made by Frederick Sidney Cotton to pre-war intelligence gathering, see Babington Smith (1957) and Powys-Lybbe (1983).

<sup>15</sup> Various histories are available of the British photographic reconnaissance and interpretation during the war. The early units established at Wembley after the beginning of conflict were eventually organised as the Central Interpretation Unit, which was set up in Medmenham in January 1941. This was later reorganised as the Allied Central Interpretation Unit after R.A.F. liaised with U.S.A.A.F. photo sections in 1944 (Babington Smith 1957; Powys-Lybbe 1983; ARAFPO 1987; Conyers Nesbit 1996).

<sup>16</sup> The Air Ministry published in each issue the warning that disclosure of any information included in the pamphlets would interfere with the government's censorship. The standard text on the back cover read: “The distribution of photographs to the general public is carried out through the Press who are supplied with photographs which have been specially selected for their general interest and have been published after careful consideration by the Security Branch and by the Ministry of Information.”

descriptions of the latest war incidents; they were often accompanied by brief articles dealing with cultural and historical issues related to aerial photography.

Operational photographs were often edited thematically in order to allow readers the benefit of comparison.<sup>17</sup> A standard feature that appeared regularly in the pages of *Evidence in Camera* invited the reader to guess the nature of particularly intriguing patterns recorded in reconnaissance photographs. This one-page rubric, entitled “What are these?”, presented in each issue a “puzzle picture” (or “problem picture”), usually consisting of a vertical photograph.<sup>18</sup> Such photographs were presumably meant to lighten the gravity of a publication that carried copious images of war and destruction; but they also revealed the curiosity of the interpreters in front of visual patterns out of the ordinary. While all aerial images presented some degree of puzzlement to their interpreters, these were singled out not so much for the factual importance of their content as for their potential entertaining value.

The captions of these “puzzle pictures” suggest that intelligence staff were captivated by the aesthetic appeal of uncommon geometries, which challenged the legibility of landscapes when seen from above. For instance, a tented camp and a flooded polder appeared to be all but abstract patterns in the countryside, while an uncompleted railway viaduct was made recognisable only by the shadows cast by its free-standing piers on the ground.<sup>19</sup> Architectural forms also featured in several of these images, such as the vertical view of a workers’ settlement in the outskirts of Lyon, which was made conspicuous by the configuration of multi-storey slabs and tower blocks; as in other similar cases, cast shadows offered a key to decipher the volumes on the ground.<sup>20</sup> These visual puzzles drew the surrealist potential out of the aerial photographs of landscapes, posing a further challenge to any assumption that reconnaissance imagery was alien to aesthetic readings.

The range of landscapes pictured in this “collection of photographic oddities”, as one caption described them, confirms the abstracting property of aerial photography. But it also indicates the essential reduction of diverse landscapes to a homogeneous visual space within the field of reconnaissance, wherein the operations of seeing, recording, and targeting were conflated in a single function. Two puzzle pictures, both vertical photographs, are particularly useful to illustrate this loss of specificity. They show respectively a radial system of cultivation in southern France [fig. 1] and a star-shaped prison building in Milan [fig. 2]. Although these two images were not published

---

<sup>17</sup> A case in point is the rubric entitled ‘Know your ports’, which showed images of docks and harbours in enemy and enemy occupied countries. Here, vertical and oblique pictures were juxtaposed to facilitate recognition of port areas.

<sup>18</sup> Another interesting section was the rubric entitled “Know your ports”, which juxtaposed vertical and oblique pictures to facilitate recognition of docks and harbours in the enemy, and enemy occupied, countries.

<sup>19</sup> R.A.F. “Puzzle Pictures”, Series C. Source: Photograph Archive, Imperial War Museum (henceforth abbreviated IWM).

<sup>20</sup> R.A.F. “Puzzle Pictures”, C. 4852 (IWM).



together, their comparison suggests that the differences between a rural field and an urban building were less important than their similarly puzzling signs on the ground – described in the captions as “amazing patterns”. The proximity of spectacle and surveillance was further emphasized, metaphorically, by the subject of the second photograph, which showed a prison based on a variation on the scheme of the Panopticon. By reflecting back to the observer an image of the panoptic procedure within which it was produced, this photograph encapsulates - in an involuntary *mise en abyme* - the mechanism of military surveillance and its impact on the photographic representation of landscapes. By the same token, the seemingly anodyne series of puzzle pictures offers a mirror of the wider procedure of photographic interpretation as a game of visual recognition.

The disengagement of these photographs from their operational function turned them into empty signifiers open to imaginative readings, regardless of the images' very conditions of existence. In the light of Maynard's theory of photography, this aperture to an aesthetic mode of consumption can be understood as a shift of emphasis from the detective to the depictive values of the photographs. The interpreters' own search for visual meanings beyond the strict sphere of detection signalled an interest in the photographs' capacity to kindle the power of “imaginative visualization” characteristic of the medium (Maynard 1997:119). While aerial photographs were normally interpreted in order to decipher the marks recorded on surfaces with a pragmatic – and, quite literally, *detective* - intention, the “puzzle pictures” were observed as pictorial depictions open to multiple imaginary readings. In general terms, this would seem to confirm the openness of aerial photographs to multiple uses and appropriations by virtue of their seemingly neutral, objective, and innocent appearance.

The search for distinctive elements that would solve the conundrums posed by these photographs highlighted the characteristic of aerial reconnaissance as a specific class of images: their representation of a detached and distanced gaze unable to appreciate details of figures, movements, and beings on the ground. As the poet W. H. Auden observed,

From the height of 10,000 feet [...] I cannot distinguish between an outcrop of rock and a Gothic cathedral, or between a happy family playing in a backyard and a flock of sheep, so that I am unable to feel a difference between dropping a bomb upon one or the other.<sup>21</sup>

The “puzzle pictures” may be regarded as an exercise in photo interpretation that was aimed to train the intelligence staff to identify precisely the type of difference

---

<sup>21</sup> W. H. Auden, *The Dyer's Hand and Other Essays*, (New York: Vintage Books, 1971, p. 101); quoted in Baird (1983:68).

exemplified in this passage. However, the captions of these photographs seem to signal the state of indifference of the aerial observer - and, vicariously, the photo interpreter - vis-à-vis the reality on the ground, which would justify the humanist concern behind Auden's words. The latter option seems to suggest an instance of the production of abstract space that Lefebvre denounced, in an expression uncannily reminiscent of Jünger, as "pure spectacle under an absolutely cold gaze" (Lefebvre 1974/1991:287). Indeed, Lefebvre characterised abstract space as "a product of violence and war", instituted or promoted by state power. This is a space, as Lefebvre put it, that "has homogeneity as its goal" (Lefebvre 1974/1991:285). The erasure of differences produced by aerial photography is an instance of the logic of visualization that presided over the production and reproduction of abstract space.

The examples cited from *Evidence in Camera* indicate that aerial reconnaissance contributed to a representation of space predicated on its progressive abstraction. Vertical aerial photographs, which required a new set of perceptual coordinates and reading skills to be deciphered, opened up a representational space that went beyond the tradition of classic perspective but also beyond the flat space of cartography. This marked a shift towards an order of abstraction that combined the planar vision of maps with the indexical status of the photograph. However, although the vertical imagery epitomised the utmost degree of visual abstraction, the importance of low-oblique photographs of places in wartime intelligence should not be overlooked. As the following case illustrates, the visual repertoire mobilised during World War II for strategic goals included non-vertical photographs, whose provenance reached out of the field of reconnaissance.

### **From surveying to surveillance: a transfer of images**

In the interwar years, aerial photography was widely assimilated within a number of fields of application, in the military and civil spheres alike. A consistent body of literature devoted to the widening uses of the medium emerged in the late 1920s, when several specialist publications appeared on both sides of the Atlantic (Reeves 1927; Wills and Winchester 1928; McKinley 1929). As the section on Jünger anticipated, by the early 1930s the aerial image had established its presence among other forms of representation in the public domain. While documentary photography was in the process of reshaping the collective imagination of physical and social spaces, aerial photography began to feed the printed media with a novel imagery of landscapes. It is the specific task of another chapter (§ II.3) to explore how aerial

photography permeated a variety of public discourses centred on the city around that period. This section discusses an instance of how the vast circulation of photographs that took place in the interwar period had an effect on the procedures of military reconnaissance in World War II.

Fig. 3 shows a panel of photographs that was produced by the British Air Ministry as a complement to the series of “Zone Maps”, which were aimed to guide bomber pilots in their raids over German towns.<sup>22</sup> Ten aerial photographs, symmetrically arranged around a generic city plan in the centre, were meant to illustrate “Typical Examples of City Zones” in Germany. These zones comprised three urban areas: city centres, compact residential areas, and suburbs. They were further specified on the basis of a division between “large cities”, on the left side of the sheet, and “the Ruhr”, on the right side. The striking order of the visual composition, consisting of images of alternate size carefully laid out along the main axes of the rectangular panel, was matched by the pragmatic tone of the texts and captions, which described the degree of vulnerability of each urban typology. This succinct tutorial in German urbanism was mainly intended to give R.A.F. pilots a general picture of the places to be attacked; it also instructed them as to the most suitable type of explosive for each zone. Low altitude photographs, in some cases taken from balloons rather than aeroplanes, were better suited to these purposes than high-verticals.

What makes this document particularly interesting is the fact that several of those images had been published a decade earlier in a popular photographic atlas of Germany, *Das Land der Deutschen* (1931).<sup>23</sup> In this volume, which was reprinted in several editions during the 1930s, Eugen Diesel had assembled nearly five hundred aerial images, mostly taken by the well-known photographer and balloonist Robert Petschow.<sup>24</sup> The aim of this atlas was to edify the readers to recognise the geography of their *Land* seen from an aerial perspective.<sup>25</sup> In keeping with the documentary culture of the time, Diesel classified the visual knowledge of German landscapes into a series of distinct taxonomic categories, whereby the topographic identity of the nation was given a visual coherence. The book was divided into three sections, devoted respectively to “Natural Landscapes”, “Cultural Landscapes”, and “The

---

<sup>22</sup> The sheet measures 28” by 39½” and is generically dated ‘194-’.

<sup>23</sup> Four images reproduced in the ‘Zone Maps’ sheet appeared in *Das Land der Deutschen*. Figures 2, 3, 6, and 9 in ‘Zone Maps’ correspond, albeit differently cropped, respectively to the illustrations n. 401, 397, 418, and 411 in Diesel’s book. Of these, n. 397 and n. 418 were credited to R. Petschow, while the others came from picture archives in Hamburg and Leipzig.

<sup>24</sup> Martin (1983) described Petschow’s photographs of German landscapes as “a visual counterpart” to Sander’s series of portraits of German people in the interwar period, on the assumption that “both photographers exemplify the systematic method of the New Objectivity.” (Martin 1983:22) On Petschow’s aerial photographs, see also § III.3.

<sup>25</sup> The inclusion of images of Austrian and Swiss landscapes in the atlas indicates the broad notion of *Deutsches Land* that was encompassed by Diesel’s project. On the political implications of this project, see Lugin (2001:222ff).

Machine Age". Urban views featured variously in the second and third section, and they were the specific subject of the last chapter, entitled "The Big Cities". The latter, reflecting the painstaking order of the work, was divided into sub-categories illustrating different aspects of urbanism; they, in turn, were classified on the basis of distinct typologies. While the aerial photographs were instrumental to the objective claim of Diesel's project, the fact that they were oblique views taken from various distances and angles gave the pictures a merely qualitative value: they provided the reader with 'typical' illustrations that were meant to represent broad categories of landscapes. On the same account, these images did not offer to the eye of intelligence any ground for exact identification of specific target-sites, but were rather used to establish a general knowledge of Germany's urban topography.

The contrast between the captions describing the same photographs reproduced in the Atlas and in the Zone Maps sheet highlights the significance of their peculiar circulation. One example is particularly interesting. A photograph printed in the Zone Maps sheet reproduced a low-oblique view of Breslau, taken by Petschow, which appeared in the section of the book entitled "The Development of Town, Village, and Settlement: Rental Barracks and Mass of Houses" [fig. 4]. The mass of houses depicted in the image was shot from a relatively close viewpoint, which allowed the viewer to discern people and vehicles in the streets. Two densely built-up urban blocks feature prominently in the picture. The corners of the frame are further filled up by partial views of similar rectangular enclosures, which give the impression of a potentially endless replication of the same pattern. This somewhat claustrophobic effect sustained the argument put forward by Diesel in the main text and was summed up in the caption as follows:

View from a height of 150 m. of the most densely populated area of Breslau (Nikolaivorstadt, NW) with *Mietkasernen* from the 1890s. Seven-hundred people live in a house in Hildebrandstraße, four-hundred in one in Andersenstraße, and there are *Mietkasernen* even inside the courtyards. One can compare this way of living with the [...] forms of houses and estates of the old cultural landscape. The new quarters are lined up with house after house, block after block, without any human or artistic consideration. Speculative and soulless enterprises undertaken by the masses produced these "proletariat dens". (Diesel 1931:210. My translation)

The author described the state of overcrowding in the city as a consequence of the stream of population from the countryside that took place after the end of the 1914-18 war, which exacerbated the precarious standards of life in working class districts. The image signified, metonymically, the lack of building culture (*Baukultur*) and community (*Gemeinschaft*) brought about by the relentless pace of growth in the industrial cities. The implicit suggestion that emerged from the text was that tenement buildings of this kind were undesirable due to their insalubrious life conditions, but also

due to the risks of revolutionary movements they harboured. By comparison, the caption to the very same image reproduced, in a cropped version, in the Zone Maps sheet reveals another unsettling consequence of the phenomenon of urban concentration: "Zone 2a. Tenement buildings in the inner residential zone may be burnt out under heavy I.B. attack. The effect of H.E. is not hard to imagine."<sup>26</sup> The contrast between the two captions is emphasized by the fact that the image published in *Das Land der Deutschen* was attributed to a specific district in a specific town, and out-of-frame arrows pointed at the main streets whose names were also provided. Although the tenements of Breslau were deemed to be representative of a wider urban typology, they were identified as belonging to a specific city that readers could recognise. In contrast, the image that was reprinted to illustrate the Zone Maps was entirely anonymous: it provided a generic signifier of urban density that was useful to estimate the destructivity of air raids over residential areas. The taxonomic function of aerial photographs was therefore exploited and further abstracted within the discourse of reconnaissance. This was also the case for the other images that were borrowed from Diesel's atlas, which included views of Hamburg's Chilehaus and a *Siedlung* in Berlin's Neu Tempelhof area.

The shift of knowledge from the civil to the military discourse shows how the instrumental uses of aerial photography carried out for documentary purposes came to overlap with the sphere of military intelligence.<sup>27</sup> Following Krauss' analysis of photography's discursive spaces, it could be argued that these images "belong to two separate domains of culture, they assume different expectations in the user of the image, they convey two distinct kinds of knowledge. [...] They operate as representations within two distinct discursive spaces, as members of two different discourses" (Krauss 1989:288). Krauss' approach is concerned with the involvement of a photograph in a cognitive process, the recipient of which is the "user" of the image. It should be recalled that Krauss' argument was based on the comparison between a nineteenth-century landscape photograph - considered to be an artwork and therefore destined to the space of the gallery - and a lithographic copy of it, which was reproduced a few years later in a geology manual.<sup>28</sup> The present case has shown the transition of a whole set of images from the realm of geographic survey to the military discourse.<sup>29</sup> This case of re-signification is an instance of the fluidity of

---

<sup>26</sup> "Zone Maps: Typical Examples of City Zones" (Caption of Fig. 3). I.B. stands for 'Incendiary Bomb' and H.E. for 'High Explosive'.

<sup>27</sup> On the other hand, reconnaissance imagery supplied valuable information to a number of civil discourses after the end of war, providing a useful basis for comparative studies of cities over time. See, for instance: ICCD (ed.), *L'aerofotografia da materiale di guerra a bene culturale: le fotografie aeree della R.A.F.* (Rome: The British School at Rome, 1980).

<sup>28</sup> The photograph in question is "Tufa Domes, Pyramid Lake, Nevada, 1868" by Timothy O'Sullivan.

<sup>29</sup> A similar case has been pointed out by Garcia Espuche (1994b), who has shown that some of the documentary aerial surveys of Barcelona made by Josep Gaspar in 1920s later became instrumental to military intelligence during the Spanish Civil War.

meanings characteristic of aerial photography, of which other examples will be given in subsequent chapters.

## II.2. Imaging ruination: aerial photography and the scenery of urban destruction.

Ruins signal simultaneously an absence and a presence; they show, they are, an intersection of the visible and the invisible. (Settis 1997:vii)

Photography not only documents destruction, it frames and represents its subjects in order to create a distance between beholders and the events to which the photographs bear witness. (Merewether 1997:29-31)

This section carries on the discussion of how the European cityscape was framed as a photographic subject within the field of reconnaissance, with specific regard to the use of aerial photographs as documents of ruination in World War II. The aim is to explore the ways in which aerial photography, the visual medium most directly involved in the procedures of modern warfare, was used to represent landscapes of urban destruction, and the role that this imagery played in the public domain. The ambivalent status of the photograph as a witness of historical events is discussed with reference to the swift and wholesale obliteration of cities by air raids. While aerial bombing has been long understood as one of the most contentious aspects of total war, the instrumental uses of reconnaissance photography in this process have only partly been investigated so far. This chapter discusses how the scenes of unprecedented urban devastation were received with a blend of horror and fascination that carried over, to a certain extent, the modern aesthetic of ruins. The aim is to explore the tension between surveillance and spectacle which informed the imagery of war ruins in an attempt to further question the role of the photographic imagery of cities within the modern military discourse.

## Ruin aesthetics and war landscapes

In a footnote to his essay for the exhibition catalogue, *Urban Mythologies* (1999) - a critical reappraisal of contemporary representations of the Bronx - Marshall Berman expressed his surprise that the concept of *urbicide*, coined by himself in a previous publication, had not received the critical fortune he had expected (Berman 1999:72). Albeit marginally, Berman attempted to revive this category in a context in which frequent analogies were made between the ruins of a dilapidated urban district and historical images of war landscapes.<sup>30</sup> It seems relevant to reconsider the notion of “murder of a city” in relation with the occurrences of total war. During the Second World War in particular, when the practice of aerial bombing turned many cities into wholesale targets, in several circumstances the scale of damage would have probably justified the epithet of *urbicide*. The involvement of aerial photography in the recording and reporting of urban destruction is here explored in the light of the western tradition that framed the ruin as an object of contemplation and, consequently, as a distinct photogenic subject.

The modern aesthetics of ruin is marked by an enchantment with the outcome of various forms of ruination – be it the result of slow decay, planned demolition, or violent destruction. The possibility of a generic aesthetic response to the ruin has been explored, among others, by Linda Patrik, who has investigated the phenomenological aspects of what she terms the “puzzling pleasure of ruins”. Patrik suggests that, “ruination is essentially experienced as a process of change that is negative for the object undergoing it.” And yet, she points out, the aesthetic pursuit of the sublime has long operated a “positive transvaluation of ruins”, by turning them into objects of aesthetic meditation. Patrik suggests that a fundamental intricacy underlies this phenomenon: “The pleasure of ruins seems to arise out of an odd mixture of horror at the devastation undergone and of respect for the endurance upheld [...] Ruin pleasure is in a class all its own” (Patrik 1986:35). Suggestive though this idea may be, it also reveals that the category of *ruin* itself can be a rather ambiguous one unless it is properly qualified.<sup>31</sup> The combination of horror and respect in the perception of ruins raises the issue of what aesthetic responses were historically elicited by various processes of ruination. This, in turn, calls into question the modes of representation whereby the experience of ruins was transmitted. While most of the arguments about the pleasure of ruins clearly refer to the process of historical decay, the ruination

---

<sup>30</sup> See, in particular, L. Yee, “Photographic Approaches to the Discourse of the South Bronx” (Farmer 1999:10-17).

<sup>31</sup> On the ruin as metaphor, see also D. Lowenthal, *The Past is a Foreign Country* (Cambridge: Cambridge University Press, 1985), pp. 156-9.



caused by acts of violent destruction also raises interesting, and undoubtedly controversial, aesthetic issues.

The nostalgic appreciation of ruins has been possibly one of the most enduring legacies of the aesthetics of the picturesque, which has held sway in western culture from the eighteenth century up to the present day in some form or another. A few years before the outbreak of World War I, Georg Simmel described the sense of fascination caused by the effects of time on decaying architecture in his essay "The Ruin". "The ruin", he wrote, "conveys the impression of peace" (Simmel 1911/1965:264). This view reiterated, to a great extent, the picturesque fondness for the remains of antiquity; it reflected, in particular, the aesthetic tradition that had informed a new culture of restoration and preservation in the late part of the nineteenth century. For Simmel, the ruin was the site of a visible struggle between human work and natural forces. The tension between past and present he understood to be inextricably bound up with historical time, which informed the viewer's appreciation of the value of what had *not* survived decay. Simmel was not interested in the effects of violent destruction "by man", as he put it, which divested the pleasure of ruins of its essential *raison d'être*. The imagination of a lost whole, in his view, had rather to be cast upon the relics of historical monuments (Simmel 1911/1965:260). However, the fact that Simmel felt the need to exclude the effects of war from his praise of ruins was a reminder that, when taken at face value, the perceptual difference between works of natural decay and the effects of human devastation might be hard to discern. This phenomenon was later remarked on by Alois Riegl in a passage of his seminal essay, "The Meaning of Monuments and Their Historical Development", first published in 1928. In his description of the ruined castle at Heidelberg, Riegl observed that, "Seen from a distance, the effect of human destruction, which appears so violent and disturbing at close range, can be experienced as the orderly and necessary workings of nature itself" (Riegl 1928/1982:35).

The age of total war redefined the western perception of ruins, giving new forms to the phenomenon that Michael Roth has described as the modern "intoxication with destruction" (Roth 1997:15). The sheer scale of ruination and the imagery which recorded it ensured that war landscapes had little to do with the type of natural decay in which the experience of ruins had flourished under the spell of the picturesque. However, the representation of war ruinscapes shared some common elements with the aesthetics of the sublime. Aerial photography, in particular, played a significant role in conveying an aestheticised image of ruination in the first half of the twentieth century.

Well before World War I, aerial photography had been used to depict events of urban destruction, since the airborne camera made it possible to record the effects of natural catastrophes on cities. A classic example of this is George R. Lawrence's series of photographs of San Francisco's great fire which, following an earthquake, devastated the city in 1906 (Garcia Espuche 1994:97). This famous sequence of aerial views, taken with a complex apparatus tied to a captive balloon, manifested a renewed interest in seeing the *city-whole* among American photographers; a panoramic approach that had gone out of fashion after the boom of skyscraper building had hindered the panoramic views of cities (Bacon Hales 1984:84). Lawrence's aerial photographs of San Francisco captured the disappearance of the city as it unfolded before the camera eye. The recording of the city's disappearance as *a panorama* revealed that a general view was perceived to be suitable for an event of general destruction. By depicting the city in a state of ruins, these aerial images turned the aftermath of disaster into a new photographic subject, therefore fulfilling the demands posed by the new cultures of representation.<sup>32</sup>

Unlike scenes of natural catastrophes, the representation of war ruins is historically bound up with the element of intentionality that determines the event – that is, the agency of human will. According to the different nature of the events in question, the politics and aesthetics mobilised for their representation also vary considerably, since every type of visual strategy entails specific ways of seeing and forms of witnessing. The aerial gaze is invariably informed by a will to knowledge determined by a specific power system, which in the context of war is identified with the military discourse. Unlike war reportage on the ground, a field of representation open to different agents and viewpoints, the aerial recording of events and effects of air raids was mainly carried out by the same forces that conducted the bombing campaigns. The question arising here is, what are the implications of technological images in the acts of destruction wrought by aerial warfare? The specific role of the aerial photograph as witness of ruination became decisive during World War I.

The problematic tension between the horror and pleasure of destruction conveyed by this type of image has been highlighted by Bernd Hüppauf:

Planes had a profound impact on the perception of the environment. [...] They were a constant reminder that this war had also conquered the third dimension, turning Daedalus's dream of escaping from the labyrinth into the nightmare of a complete surveillance and threat. (Hüppauf 1993:55)

---

<sup>32</sup> These photographs also contributed to a broader revival of the panoramic genre, which had considerably declined as an effect of the vertical growth of American cities in the last two decades of the nineteenth-century (Bacon Hales 1984:84).

If, on the one hand, the experience of flight amounted to the conquest of a third-dimension, visual as much as spatial, on the other hand the aerial photography of landscapes reduced them to planar representations – a procedure that, as the previous chapter discussed, was all the more radical in the case of vertical images. Their main implication was the abstraction of space, which was given a new visual order within the photographic frame. As Hüppauf has observed, aerial photography brought about an abstract imagery of landscapes that had already been disfigured by the events of war:

The war killed the natural landscape and replaced it with highly artificial and, within its own parameters, functional spatial arrangements. Aerial photography then, creating a metalevel of artificiality, further abstracted from the “reality” of this artificial landscape. It not only eliminated smells, noises, and all other stimuli directed at the senses, but also projected an order onto an amorphous space by reducing the abundance of detail to restricted patterns of a surface texture. (Hüppauf 1993:57)

While multi-sensory perceptions are obviously cut off from any photographic image, the aerial view additionally removes its contents from the viewer by means of distance and viewpoint. In war photography, signs of experience fell below the threshold of visibility and the scene lost the appearance of a human space. For Hüppauf, the aerial perspective represented a disembodied and insensitive gaze cast upon landscapes of ruins: “from such a perspective, scenes of destruction may be seen as grandiose spectacles or places of pure horror, but they no longer arouse feelings of empathy, pity, or sorrow” (Hüppauf 1993:56). The photography of such scenes, he argues, invited a mode of contemplation that was inflected by the picturesque tradition, but also by the abstract elements of primitive art, conjured up by the abstract patterns seen from a plane. The visions of war landscapes from the air contributed to a revival of the “discourse of the sublime” that was fraught with moral implications. War photography therefore inaugurated a visual space that, despite its intended panoptic function, was also bound to be invested with spectacular values.

The battlefields of World War I were also reconfigured as tourist attractions shortly after the end of the conflict. Travel brochures published by Thomas Cook & Son document the popularity of war tourism in the interwar period, particularly across the European theatres of operations. Itineraries to France and Belgium often included excursions to war battlefields and, from 1920 onwards, the company organised tourist flights over those areas.<sup>33</sup> Tours and pilgrimages to the war battlefields were still being

---

<sup>33</sup> See, for instance, the brochure “Voyage en Aéroplane survolant les champs de bataille de France et de Belgique”, 1920. Source: Thomas Cook Archives, Travel Brochures, Drawer I, “Tours to ‘Battlefields’, Europe”. ‘Thomas Cook & Son’ was the first travel agent to offer pleasure trips by air in 1919. See P. Brendon, *Thomas Cook: 150 Years of Popular Tourism* (London: Secker & Warburg, 1991).

organised as late as 1938, by which time the practice of aerial warfare had inscribed new traces of destruction across the landscapes of Europe.<sup>34</sup>

The prominence of airpower grew steadily in theory and practice over the two decades following World War I, when military theorists predicted that bombing raids on cities would effectively damage the opponent's morale (Ashworth 1991:136-45).<sup>35</sup> The doctrine of airpower was formulated in the early 1920s by the Italian general Giulio Douhet, who advocated the practice of strategic bombing against industrial targets. This theory was further elaborated by various strategists in Europe and America during the 1920s and 1930s, who believed the supremacy in the sky to be the decisive factor of modern conflicts.<sup>36</sup> While cities had been targets of air raids during World War I, and again in the various episodes of "colonial bombings" of the 1920s, the events that unfolded in the decade between the mid-1930s and the mid-1940s brought about a new phase in the history of aerial warfare (Buckley 1999). The urban raids of the Spanish Civil War, in particular, brought the spectre of devastation closer to the heart of European cities. They anticipated the indiscriminate bombings of World War II and, with them, the extensive production and reproduction of aerial photographs recording the effects of raids on cities (Lindqvist 2001).<sup>37</sup>

An aestheticised view of ruins also emerged in Spain, where war landscapes were marketed as travel destinations. A brochure printed in 1938, which advertised the battlefields of the recent catastrophe as tourist attractions, offers an example of the ways in which the "pleasure of ruins" was exploited for political and economic interests. The English text read: "Visit the war routes of Spain. [...] The National Spanish State Tourist Department is organising excursions in comfortable motor-coaches with fully-qualified guides." A photograph of the devastated town of Gijón enticed the visitor with the caption: "See history in the making among Spanish scenery of unsurpassed beauty."<sup>38</sup> While not everyone might have found beauty in the sceneries of devastation, this seemingly grotesque rhetoric can be better understood within the context of the cultures of representation of the time. The visual perception of the conflict, particularly from countries which chose to remain neutral, such as Britain,

---

<sup>34</sup> See the brochure "Pilgrimage to the Battlefields of France and Flanders", 1938. (Thomas Cook Archives, location as above).

<sup>35</sup> For a recent review of the subject, see Philip S. Meilinger, "The Historiography of Airpower: Theory and Doctrine", *The Journal of Military History*, n. 64, April 2000, pp. 467-502.

<sup>36</sup> See J. M. Spaight, *Air Power and the Cities* (London: Longman, 1930).

<sup>37</sup> See Davy (1941) for an early account of the air raids on Spanish towns. On the bombing of Barcelona and other Catalan towns, see J. M. Solé i Sabaté and J. Villaroya i Font, *Catalunya sota les bombes, 1936-1939* (Publications de l'Abadia de Montserrat, 1986). For a detailed study of the bombing campaign in Spain, see J. Salas Larrazabal, *Air War over Spain* (London: Ian Allan, 1969). A projection of the damage caused by the bombing of Barcelona on a possible attack on London is contained in J. Langdon-Davies, *Air Raid. The Technique of Silent Approach; High Explosive Panic* (London: George Routledge and Sons, 1938).

<sup>38</sup> Publication held at the International Brigades Archives, London.

was mediated by an intense photographic coverage that exposed the public to images of destruction.

In her book, *War and Photography* (1997), Caroline Brothers questioned the ways in which aerial photography contributed to spreading through the media a sanitised image of Spanish cities during the Civil War. In an echo of Hüppauf's argument, Brothers suggested that the fascination that surrounded the publication of aerial views of cities derived from the absence of "everyday human concerns". Her argument reiterates the recurrent theme of abstraction with reference to published images:

The aerial photograph rapidly became part of the ordinary, visual vocabulary in representations of the Spanish Civil War. Its artificiality, its 'rationally structured order', its elimination of the appallingly sensory aspects of warfare, the sense of all-seeing power it conferred on the viewer, and above all its eschewal of empathy in recording war's most devastating deeds as abstractions – all these characteristics of the aerial photograph were normalised in the pages of the press (Brothers 1997:103).

Brothers' study refers to various types of aerial images published in the press, all of which performed a denial of experience by keeping the viewer at a perceptual distance from the ground. As a disembodied mode of vision, aerial photography shielded the spectator from the experience of war. Unlike the multiple viewpoints available to war photographers on the ground, the view from the plane was far less subjective and – what is perhaps most important – reproduced the perspective of the flying observer, which was part and parcel of the military apparatus. Upon entering the public domain, the images that were published in the press therefore presented the viewer with a toned down image of urban destruction.

The scale of destruction that spread throughout Europe in the following years brought about an unprecedented level of ruination. As Roth put it, "in the wake of World War II, culture itself came to be cast as ruin, as a troubled witness to the violence of humanity rather than as a spectator of the sublime powers of nature" (Roth 1997:20). At this stage, it is useful to differentiate between the two different meanings of the word *ruination*, which denotes both the "act of ruining" itself and "the fact or state of being ruined" that follows that act. This distinction corresponds to different classes of images within the field of aerial reconnaissance: those taken during bombing campaigns as a means of recording operations, and those taken after air raids as a means of assessing damage. The next sections discuss these two classes of images with a view to exploring their historical significance as representations of "urbicide" during the Second World War.

## **Recording raids: night photographs between action and abstraction.**

Ever since the advent of aircraft in combat, aerial photographs were taken to record the effects of bombing raids over cities. Such photographs stood at the opposite end of the spatio-temporal spectrum of preventive reconnaissance. While, in the latter, time was bent to the coordinates of a recognisable, measurable, and controlled visual space, in the former the representation of space was subjected to the rules of exposure time, which froze the scene in an instantaneous present not unlike a snapshot photograph. As Bogdan Bogdanovich has suggested, “to a large extent, war photography accentuates the intensity of what is being presented in the document, since the description of the drama is concentrated on a minimal unit of time” (Bogdanovich 1994:39). The imagery of air raids, it can be argued, possesses a dramatic charge that situates it in the sphere of shock photography.

Much as the evidential force of the ‘war snapshot’ was based on its ability to arrest a moment in time, its instrumental value as reconnaissance depended on the specific place it depicted. Moreover, the visual space of the photograph was dictated by the camera’s viewpoint. As the case of Steichen indicated, the difference between oblique and vertical views had a bearing upon the perception of aerial images. On the one hand, the oblique view tended to portray the scene of bombing in a perspectival, and therefore more realist manner, inviting a panoramic viewing of landscapes under bombing. On the other hand, the vertical image led to abstract images that identified the viewer’s axial vision with the airborne camera’s viewpoint. The latter epitomised the coterminous nature of aerial bombing and photography, while bringing the ‘lofty indifference’ of the aerial gaze to full fruition.

An interesting case of this imagery is provided by the night-time photography of air raids obtained by the R.A.F. in World War II. Such photographs were taken from bomber planes and were aimed at plotting the outcome of ongoing raids. The archival captions show that the photo interpreters’ own comments were not unaffected by the temptation of an aestheticised reading of such images. The high degree of abstraction typical of these photographs was often a motif of enchantment to the interpreters, who were faced with unfamiliar visual patterns. Amongst the most explicit captions is one describing a shell-burst recorded during an air raid over the city of Hamburg in July 1943: “One of the most extraordinary night air-war photographs yet taken [...] To the

uninitiated it is a complete puzzle-picture, with a curiously fascinating beauty in its flowing light pattern".<sup>39</sup> The baffling effect of the aerial photograph was here due to the complete abstraction of the image captured in a split-second, which made it utterly useless as a piece of reconnaissance and yet visually appealing. It may be argued that the likelihood of aestheticised readings was proportional to the degree of abstraction in the image. When only detection mattered, the creative search for pictorial depiction tended toward the non-figurative, which is why abstract patterns were often read by photo interpreters as spectacular motifs, overshadowing what Merewether has defined "the complicity of technologies of representation in technologies of destruction." (Merewether 1997:29) Other images of this kind had greater implications for the instrumental representation of cities.

An interesting example is provided by a photograph that was taken with a special camera to detect the fires provoked by a raid over Hamburg - also in July 1943 [fig. 5]. The limited field of visibility in the image makes the scene all the more abstract, leaving to the interpreters' caption the task of explaining context and content of the picture. The archival caption indicates in detail the location of each fire (represented by a thick white spot) in the urban topography – naming streets and significant landmarks, such as a barrack and a racecourse. The image of the city was here reduced to a mere collection of targets: a pattern of luminous traces that allowed intelligence experts to plot the size and sites of fires on the ground. In Maynard's terminology, no recognisable image of the city was "pictorially depicted" in this photograph, whose only effective value was its detective function. With its extremely obscure content, this image challenges the common assumption about what an urban photograph might be. Here, the threshold of visibility of an entity that could be recognised as a city was reconfigured by the military discourse through a technical code of interpretation that left out of the picture any possibility of "imagining seeing".

By contrast, a night photograph that was taken during an air raid over Berlin appears more legible as a pictorial depiction [fig. 6]. Like the previous photograph, this one too captured the marks of explosions on the ground, which made the photograph valuable for reconnaissance. However, the depictive value of this photograph is far greater. The bright spots and streaks that cut across the frame from all sides were obtained by means of a longer exposure time, allowing the camera to detect a variety of sources - such as fires, tracer bullets, anti-aircraft artillery, and searchlights – which were all of some significance to photo interpreters.<sup>40</sup> The combined effect of lighting devices and exposure time allowed the urban topography to be visible amidst the maze of white lines. The light trails were produced by the movement of the aircraft,

---

<sup>39</sup> C. 3879 (IWM).

<sup>40</sup> For details of the techniques of night photography and its interpretation, see Conyers Nesbit (1996), Chapter 11: "Night Bombing and Photography".

whereas a fairly detailed image of the target area was arrested by the momentary illumination of the ground produced by a flash bomb. The visibility caused by the separation between depicted and detected time makes this image a good example of Maynard's pronouncement that, in photography, "taking time and depicted time (if any) are often unrelated" (Maynard 1997:134). In this class of images, the fact that detection was programmed so as to assist depiction is the reason that enables the viewer to imagine seeing an urban scenery in the picture.

Among the numerous photographs recording R.A.F. raids over German towns that are held at the Imperial War Museum archives, this one is extraordinarily clear and legible. Other images are dominated by the presence of flares or, as in Fig. 5, do not depict cities in recognisable ways. The *photogenic* quality of the Berlin photograph might be the reason why it was chosen to illustrate an essay on aerial photography in the catalogue of the exhibition, *La Ville: Art and Architecture in Europe, 1870-1993*. Although the author described the prime implications of aerial photography, among artistic and documentary uses, as an instrument of warfare (Garcia Espuche 1994a:109), it is difficult not to notice the striking presence of this photograph in a section of the book dedicated to the "Visual Arts". The fact that the image may uncannily recall the abstract geometries of modernist art, such as futurist and constructivist experimental photographs, seems to have facilitated its transition from the military archives to the context of an art display. This move signals a recent, if minor, case of the broader tendency of the art discourse to aestheticize reconnaissance images, which was already recognised by Sekula (1975). By crossing the borders of discursive spaces, this case exemplifies how the aerial photograph's openness to promiscuous meanings makes it a highly malleable signifier. The publication of the Berlin photograph in an art exhibition catalogue raises the issue of how aerial photographs of war landscapes are regarded over time.

Max Kozloff has discussed the emotional responses that war photographs elicit in their viewers. He has suggested that, while most images of this genre induce an "aesthetic distance" (Kozloff 1987:207) that protects the viewer from its potentially traumatic content, pictures of ongoing acts of devastation command different reactions from pictures of their aftermath:

There is a distinction to be made between being excited and being moved by war photographs. Action excites response, but the fatal aftermath of action invokes emotion. With the first, I am caught up in an exhilarating incompleteness; with the second, I meditate on something terribly consummated. The moment I am excited I forget everything but present sensation. When I am moved, I am reminded of who I am in relation to others or of what I might be in a broader range of human possibilities. (Kozloff 1987:207)

This distinction is summed up by Kozloff as follows:



In the one instance, a feeling state is invoked almost as quickened sensory tone; in the other, appearances intimate something about our historical fortune, or I perceive and reflect upon them as such, in grief, astonishment, anger. (Kozloff 1987:207)

Kozloff here suggests that images of war actions, while providing a relentless source of visual attraction, somehow freeze the viewer's faculty to develop an adequate reflective response to the picture. Following this clue, the ability of war images to move the viewer would seem to be directly related to the shock of the movement arrested by the camera. Sensational photographs depicting momentary actions – that is, events captured in the transient moment of their occurrence - may provoke visual excitement but at the price of foreclosing reflection, which only more static pictures of the aftermath would allow.<sup>41</sup> This point bears a striking resonance to the notion of second consciousness, which for Jünger relied precisely on what Kozloff describes as the “exhilarating incompleteness” of a dynamic action.

It is interesting to compare these concepts with Roland Barthes' classic description of the “shock photograph”, which he expounded in the essay, “The Photographic Message” (Barthes 1961/1993). According to Barthes, images of traumatic events would constitute photography's closest form of “pure denotation”, which in linguistic terms amounts to a closure of the signifying chain. When the shock effect situates the traumatic photograph beyond the sphere of language, he argued, the image loses its ability to attract meanings and becomes “by structure insignificant”:

The trauma is a suspension of language, a blocking of meaning. Certainly situations which are normally traumatic can be seized in a process of photographic signification but then precisely they are indicated via a rhetorical code which distances, sublimates and pacifies them. (Barthes 1961/1993:209)

Barthes went on to suggest that, in the photograph, “the more direct the trauma, the more difficult its connotation” (Barthes 1961/1993:210). The image of traumatic events - such as “fires, shipwrecks, catastrophes, violent deaths” - is full of denotative meaning and therefore impermeable to the various types of connotation (perceptive, cognitive, or ethical) that characterise the photograph's status as a cultural object. One need not embrace Barthes' structuralist argument in its whole to appreciate the suggestion that, by fixing the image of a violent occurrence, the shock photo produces a numbed visual experience of it that disables the possibility of further signification. The overwhelming denotation in the picture captivates the viewer with the force of a

---

<sup>41</sup> Landscape photography was the main form of war photography in the nineteenth century, when the technological properties of the medium did not allow the proximity of the photographer to the scene of the action, nor the possibility of arresting rapid movement on the plate - as Kozloff remarks, nineteenth-century war photographers such as Fenton and O'Sullivan were, after all, primarily landscapists (Kozloff 1987).

dramatic spectacle, closing off the space of critical interpretation. While this argument can be read as a reiteration of Jünger's theory from an opposed critical angle, Barthes too stopped short of suggesting a positive differentiation within the field of traumatic photography. Kozloff's argument, on the other hand, seems to suggest that the image of aftermath may leave space for the viewer to seek out meanings that are located beyond the instantaneous event depicted in the picture. The next section explores the relationship between the photographic reconnaissance of so-called "damage assessment" and the landscapes of urban destruction.

### **Photography of the aftermath: picturing the ruined and the 'unruined'**

The relationship between the photograph and the ruin presents itself as an uneasy encounter. If, on the one hand, the medium has been employed since its advent to depict the relics and vestiges of the past, on the other hand the photographic image itself has been understood by critics as a trace of past presence, not unlike a ruin. As Barthes (1980/1993) pointed out, the indexicality that distinguishes the photographic image by virtue of its analogic properties emerges in all its disruptiveness when the photographed subject bespeaks void, absence, or death. This general characteristic of the photographic image is amplified when the subject itself is a ruin.

Eduardo Cadava (2001) has recently turned to the analogy between the photograph and the ruin with regard to historical time. He suggests that a photograph depicting ruins is itself a "ruin of ruin", which reveals the medium's power to embody what Walter Benjamin called the "posthumous shock" of historical experience: that is, the violent act whereby a historical object is extracted from the continuum of the past and brought to legibility in the form of an image (Benjamin 1997).<sup>42</sup> Within this framework, Cadava reads a photograph of the bombed-out Holland House Library, taken during the 1940 Blitz over London, as a powerful allegory of material and cultural devastation, which at the same time includes the signs of resistance to barbarism. The arresting effect of the photograph, he argues following Benjamin, bears not so much on the temporal context in which it was shot as on the present time in which it emerges to historical legibility. Interestingly, Cadava does not limit his reading of the "image of ruin" to its temporal qualities, but also raises a point about the dialectical process whereby time is spatialized in the photographic image. "Effecting a certain spacing of time", he writes, "the photograph gives way to an occurrence: the emergence of history as an image" (Cadava 2001:53). While in Benjamin's imagistic

---

<sup>42</sup> On the analogy between photography and historiography in Benjamin's writings, see Cadava (1997).

view of history the photographic procedure works as a metaphor for the spatialization of time in the form of a “monad”, or “constellation”, Cadava pushes forward this analogy and proposes that the photograph be considered *the* type of image that best embodies what Benjamin called the “space of history” (*Geschichtsraum*). Hence, the photograph of ruin allegorically doubles the effect of any photographic image as ruin.

A critical perspective on aerial photography raises the prospect of extending this type of reading to a mode of representation that, more than any other perhaps, became coterminous with the apparatus of destruction of modern warfare. Air reconnaissance photography introduced a peculiar *spacing of time* that operated as much within the visual space of the image as across the discursive fields of its circulation. The negative photographic space of the image of ruin therefore took on a further depth of field that normalized the act of ruination as a seemingly inevitable historical fact. To study the implications of aerial photography upon the depiction of cities in ruins means to examine the specific photographic space that was formed by this imagery, and its peculiar involvement in the recording of ruination. This requires opening up the historical space of the image, which is marked simultaneously by presence and absence and is constantly suspended between present and past. This inquiry therefore aims not only to trace the original uses of aerial photography as an apparatus of reconnaissance, but also to consider the image of ruination as a document of urbicide.

The previous chapter has anticipated how aerial photography, since its early days, played a strategic role in the logistics of modern war as a means to verify and authenticate the scale of devastation. Indeed, recording ruinscapes was one of the functions that defined the use of the photographic medium within military discourse. The vertical angle was usually chosen for the forensic task of so-called ‘damage assessment’, since it allowed the measurement of surfaces and the comparison of views over time. Otherwise, photographs of ruinscapes varied greatly in subject and scale, ranging from the high-altitude views of urban areas to closer views of specific targets. In the former case, the extent of devastation was often measured in acres of surface; far from being a collateral effect of ‘area bombing’, the destruction of residential districts and civil buildings was therefore carefully assessed as an achievement in its own right. When the accurate measurement of damage on a specific target was not required, such images were valued for the extent of wholesale devastation recorded. The assessment of damage on distinct targets was done on the basis of photographs taken from a lower altitude. Military installations and industrial buildings were among the most widely recorded bombing sites, alongside the elements of transport infrastructures, such as bridges, stations, and marshalling yards.

The R.A.F. photo interpreters working at Medmenham often made notes of the impressions they received from aerial photographs, which presented them with unforeseen scenes. The effects of incendiary bombing on residential areas prompted such descriptions as, “striking view of gutted buildings”, “premises being ‘open to the sky’”, and the frequent reference to scenes of “total devastation”.<sup>43</sup> Another recurrent phrase evoked the “honeycombing effect” produced by the fires. The airborne camera therefore became the agent of a visual archaeology of new ruins: by peering into roofless houses, the aerial observer recorded the urban landscape as a space of uncanny transparency.<sup>44</sup>

Reconnaissance photographs of urban destruction featured regularly in *Evidence in Camera*, where the captions tended to describe the extent of ruination as a sign of military power. In a 1944 issue, a large vertical photo showed the area surrounding Bremen railway station completely devastated after air raids. The thorough scale of destruction was the message conveyed by the text: “In fact hardly a single building in this area of the old town remains unscathed.”<sup>45</sup> It is interesting to remark that *Evidence in Camera* often presented images of urban ruinscapes alongside operational photographs shot during air raids – mostly night-photographs of the kind examined in the previous section. The juxtaposition of photographs of action and their after effects formed a visual narrative that translated the highly abstract images of air raids into vivid pictures of devastation taken in the immediate aftermath.

Reconnaissance was also carried out on specific sites that were expected to be spared destruction, religious buildings in particular. In fact, the same procedure of damage assessment, and the same modalities of its representation, were employed to record ruined buildings as much as *unruined* ones. While the chief aim of area bombing was to damage the enemy’s morale, its photographic records were integral to the campaign of information on the home front. From 1940 onwards, when reconnaissance began to be selected by Bomber Command and released to the British press, aerial views of unscathed monuments were therefore published in the press in support of the war propaganda. It might be argued that images of destruction and preservation played complementary roles in the reporting of the effects of air raids. As these photographs slipped from the instrumental order of surveillance to the sphere of public display, they presented the lay viewer with the task of deciphering an

---

<sup>43</sup> Captions from World War II albums (IWM).

<sup>44</sup> Interestingly, aerial surveys were also introduced in archaeology as a result of military innovations and campaigns from the 1880s onwards, especially during World War I. Archaeological sites were also discovered, or newly visualised, during the war, whereupon the first aerial surveys were published. In Britain, O.G.S. Crawford reported the birth of the field of ‘archaeology from the air’ as a consequence of the first interpretations of traces on R.A.F. photographs in the early 1920s. See O. G. S. Crawford, *Wessex from the Air* (Oxford: The Clarendon Press, 1928).

<sup>45</sup> “Bremen: Another Hamburg”, *Evidence in Camera*, Vol. 8, 1944, pp. 54-5.

unfamiliar type of image - a visual operation that may also be understood as a kind of spectatorial reconnaissance.

An interesting example is provided by the issue of *The Illustrated London News* published on July 17<sup>th</sup>, 1943. The front page carried a vertical photograph of Cologne that framed the cathedral and adjacent station amid their bombed-out neighbourhood, taken after the raids of the previous month [fig. 7]. The proximity of a key military target and a major monument of Christianity indicates that this photograph had a double function in damage assessment, being a record of the ruined and the unruined alike. The accompanying text explained that reconnaissance photographs were an efficient means of invalidating the German denunciation of the alleged “British criminality” in targeting art monuments.<sup>46</sup> The Nazi propaganda had previously spread claims that Cologne Cathedral had been destroyed in the raids over the city. In response to this, *The Illustrated London News* carried a typical example of counter-propaganda:

The sober truth is that the cathedral was scarcely touched. R.A.F. reconnaissance photographs, as they have so often done in the past, have nailed the German lie. They show the cathedral standing among acres of devastation. [...] Indeed, it seems to have suffered no more – possibly less – damage than was sustained by St Paul’s Cathedral during the German blitz on the City. (57)

The message was reinforced by a smaller inset picture of the cathedral taken after the “1000-bomber raid” of May 1942, which was here reprinted to signify the consistent precision of the raids over time: much as the building had not been destroyed the previous year, it was again left standing after the latest raids. However, the textual and visual narratives tacitly implied the righteousness of the “acres of devastation” wrought to the surrounding area.<sup>47</sup> This was even clearer in the double-spread image that appeared in the following pages of the magazine. This vertical photograph, which covered a large residential district that had been thoroughly destroyed, was presented as “A magnificent R.A.F. photograph of the extensive damage caused by the June raid on Cologne”. Under the heading, “Devastation in Cologne”, a commentary described the city in ruins and underlined the importance of reconnaissance imagery to the war effort by stating that, “It is almost impossible to exaggerate the invaluable contribution which photographs such as this make to the successful prosecution of the war” (58). While the explicit reference was to the strategic role of reconnaissance in the conduct of war, the comment implied that aerial

---

<sup>46</sup> For a wartime indictment of the damage caused by Allied bombing to Europe’s cultural heritage, see the short essay by the French architect Paul Remy, *Lo Insustituible*, [Madrid?], June 1944.

<sup>47</sup> For a critical reappraisal of the controversial practice of indiscriminate bombing in World War II, see Lindqvist (2001).

photographs also served the purpose of the internal propaganda machine.<sup>48</sup> In the public's eyes, the evidential power of photography was strengthened by the ostensible authority of the aerial viewpoint. Having the "god's eye view" on one's side was a symbolic advantage of no little importance.<sup>49</sup>

The silhouette of Cologne Cathedral was arguably one of the most emblematic images of the war, featuring as a persistent landmark in the air reconnaissance photographs that recorded the progress of the bombing campaigns over the city. The imposing presence of the cathedral amid landscapes of wholesale destruction became a visual signifier of urban devastation throughout the war. Figure 8 shows a reconnaissance of the Hohenzollern Bridge in Cologne, taken after heavy raids on March 2<sup>nd</sup>, 1945. The caption described the damage inflicted to the main railway station and, partly, to the superstructure at the western end of the bridge. It also referred to the unbroken appearance of the Cathedral standing nearby, whose twin spires cast their shadows across the Rhine. The building was to become a singular and uncanny presence in many post-war photographs that represented the city in ruins. By standing relatively unscathed amidst the extensive devastation of the city, the unruined cathedral pointed to a rare element of restraint from total destruction. Its ubiquitous presence in the aerial views of the city taken after the war rendered all the more dramatic the sight of surrounding destruction.<sup>50</sup>

It is interesting to compare the abstract, distant, and "normalised" views of large-scale urban ruination with reports written by air photographers who flew over German cities at the end of the war. A striking example is a text by Kathleen Davison, the first female photographer working in the R.A.F., who was allowed a reward flight over Germany in July 1945.<sup>51</sup> Her eyewitness account bespeaks a blend of horror and amazement at the experience of unspeakable sights from the plane:

Dusseldorf was the first big town we passed and the damage was pretty bad but when we went to Cologne and banked to come in low – My goodness! It made me want to weep. It was just an absolute shell of a place. There was nothing as bad as that at home. The Cathedral stood up black out of the shambles [...] It was a great thrill. (ARAFPO 1987:122)

---

<sup>48</sup> The issue of 14<sup>th</sup> August, 1943, published vertical photos of devastation at Hamburg port, which was described as "the most shattering air attacks in the history of war."

<sup>49</sup> A few days later, the "god's eye" of reconnaissance was cast down on the very heart of the Catholic Church. On July 20<sup>th</sup>, 1943, R.A.F. aeroplanes secured vertical photographs showing evidence that the heavy raids over Rome had left St. Peter's Cathedral and other major holy sites unharmed. See photograph C.5793 (IWM). Other churches that were photographed in this circumstance included St. Maria Maggiore and St John Lateran.

<sup>50</sup> See aerial photographs by Margaret Bourke-White in her book, *'Dear Fatherland, Rest Quietly': A Report on the Collapse of Hitler's 'Thousand Years'* (New York: Simon and Schuster, 1946). For a recent analysis of Bourke-White's work, see D. Barnouw, *Germany 1945: Views of War and Violence* (Bloomington: Indiana University Press, 1996).

<sup>51</sup> Quote from "Notes from the 'Waffery': Extracts from the recollections of 2051424 LACW Davison K (now Mrs K Stevens)", in *The History of Air Photography in the Royal Air Force* (The Association of R.A.F. Photographic Officers, 1987). This is an unpublished compilation of accounts written by members of the Association between 1977 and 1985 for internal distribution.

This personal account recalls the persistence of the “puzzling pleasure of ruins”, which found various manifestations during and after the war. The notion of a reward trip over destroyed cities is reminiscent of the voyeuristic pleasure in scenes of destruction that turned the war battlefields of previous conflicts into tourist destinations.

In fact, little was done within the military discourse to disavow the enchantment of panoramic views. After the Allies had gained decisive superiority in the air, *Evidence in Camera* published a series of aerial photographs of unruined monuments from across the Continent. These images, which depicted mostly cathedrals and other historical sites, principally in France,<sup>52</sup> had been taken in the period of the German retreat in late 1944 and were captioned thus: “where the German army was on the run, her towns and famous buildings remain unscathed”.<sup>53</sup> The captions also contained brief pieces of information about the “famous buildings” after the fashion of tourist brochures. This was the prelude to a three-page article in which aerial photography took on a purely entertaining function. This feature, entitled “Paris from the Air”, illustrated a sightseeing tour of the city through aerial photographs.<sup>54</sup> The portrayal of the newly liberated city coincided with a redeeming use of the airborne camera, which was here given free rein to depict attractive city views rather than ravaged landscapes. However, the presence of this article in a restricted military document also signalled the problematic status of the aerial photograph, constantly oscillating between the panoramic and panoptical modes of vision.<sup>55</sup>

### **Before-and-after effects: sequential narratives of ruination**

A common way in which photo interpreters used aerial photographs to assess damage was by reading images taken after raids against the background of images taken before them. The practice of sequential photography had been largely adopted in the nineteenth century, especially as a way of recording urban transformation. Charles Marville’s meticulous coverage of the rebuilding of Paris that was overseen by the prefect Haussmann between 1853 and 1869 is commonly held as the most relevant case of serial street photography. The record of various phases of the *travaux* – before, during, and after – had a political significance in that it authenticated the

---

<sup>52</sup> The list of cathedrals included Coutances, Lisieux, Rouen, Amiens, and Notre Dame in Paris.

<sup>53</sup> *Evidence in Camera*, Vol. 8, Aug. 7<sup>th</sup> 1944 to March 5<sup>th</sup>, 1945, pp. 125-131.

<sup>54</sup> *Ibid.*, 145-7. The sights portrayed were the Louvre, Montmartre, The Arc de Triomphe, Notre Dame, the Eiffel Tower, and the Hôtel des Invalides.

<sup>55</sup> As the so-called ‘Baedeker Raids’ of 1942 epitomised, the links between war and tourism took on various forms in World War II, when the underlying tension between surveillance and spectacle reached new peaks.

successful realization of the plan as the work went along (Rice 1997). The usefulness of sequential images in the field of military reconnaissance and photo interpretation had been already recognised in World War I. The sequential arrangement of vertical photographs allowed one to visualize the transformation of a building, a site, or an entire town over a period of time; by so doing, it also reactivated the detective function of preventive reconnaissance obtained prior to the raids. Aerial images taken in different periods were set side by side to record – and, in certain cases, expose – the effects of bombing raids. The photographic narratives of before-and-after were therefore always constructed *a posteriori*. As a consequence, some images of damage assessment are still arranged in sequences in some military archives.<sup>56</sup>

The opening images published in the first issue of *Evidence in Camera* showed, without introduction or commentary, a series of vertical views of German strategic sites before and after bombing.<sup>57</sup> Sequential photographs were among the most frequent items featuring in the pages of this pamphlet, which reflected the widespread use of the method in photo interpretation. To a great extent, the distinction between discrete targets and larger areas of devastation also applies to this visual narrative. Most reconnaissance images showed the effects of bombing on infrastructures and strategic buildings next to earlier photographs of the same sites, which were printed so as to show a comparable area. Besides, most photographs recording residential districts were equally arranged following diachronic criteria.

Figures 9 and 10 show a pair of before-and-after photographs of a densely built-up area of Cologne. It is remarkable that, while the *after* image was precisely situated in time (the aftermath of the spring 1943 raids), the *before* image was presented as a timeless photograph, its temporal dimension being irrelevant to the task of damage assessment. The interpreters' captions noted that the two images showed approximately the same surface and boasted "two hundred and thirty acres of complete devastation near the centre of the city". They also explained that about two thousand acres of the main built-up areas of the city, or three-fifths of the total, had been "totally devastated". These figures endowed the before-and-after sequence with a metonymic value: the effect of destruction visible in a single image could have been imagined on a tenfold scale. The urban area framed by these prints was probably not randomly chosen, since it included the Neumarkt square (below centre in the images) and at least two historical churches. The dramatic contrast of the juxtaposition was enhanced by the sense that, in the image of the aftermath, several hollowed-out

---

<sup>56</sup> The reference is to the Photograph Archive of the Imperial War Museum, but it does not apply to other collections of R.A.F. reconnaissance photographs, such as the one at Keele University.

<sup>57</sup> The first images showed a chemical plant and a railway workshop in Cologne. *Evidence in Camera*, Vol. 1, n. 1, Oct 19<sup>th</sup> 1942.



buildings had seemingly lost their shadows – an impression that was probably reinforced by the different time and weather conditions in which they were taken.

Sequential photographs of ruination were also instrumental to the public representation of the bombing war. Shortly after the reportage on the devastation at Cologne discussed above, *The Illustrated London News* published a series of R.A.F. reconnaissance pictures illustrating an article on “How to read air photographs of destruction caused by bombing” (issue of Aug 7, 1943). The author undertook the task of explaining to the lay reader how to decipher this type of image, and verticals in particular, in order to enhance the level of public familiarity with aerial reconnaissance:

The average newspaper reader, untrained in the reading of an air photograph, is not always impressed when he looks at a reproduction of it. Smoke and falling bombs may be dramatic, and some of the photographs showing the lay-out of a bombed area may give the reader some idea of the damage caused by air raids, but often he fails to understand the details which the photograph records. (156)

In order to render abstract images more legible, the author advised readers to pay particular attention to the shadows of buildings as telltale signs of their sizes and condition. In other words, the explanatory narrative was necessary to translate the signs of photographic detection into a pictorial depiction that the lay reader could understand. The most vivid effects were said to be obtained by stereoscopic images, which were often included in the public exhibitions that displayed the progress of war. The spectacular potential of such photographs was described as follows:

Each view presents the scene in full relief – as though you are looking down at it through an opening in the floor of an aeroplane while remaining motionless in mid-air – a weird and wonderful effect only to be experienced when looking at these stereoscopic air photographs. (Ibid.)

The article was followed by a set of “comparison photographs” showing the before-and-after effects of bombing on German industrial targets. Sequential images were seen as a viable alternative to stereo-photographs to satisfy the demand for the sensational representation of ruins. The publication of photographs that were essentially produced for strategic purposes aimed to illustrate the scale of destruction but also to ensure a sanitised portrayal of unsightly scenes that were safely kept at a distance from the public gaze.

Having explored some of the ways in which air reconnaissance photographs operated sequentially on different discursive levels, the question arises as to the historical significance of this specific class of images. The diachronic juxtaposition produced during the war left behind myriad documents of ruination that lend themselves to a historical reading as dialectical images. The before-and-after effect

produced by the collision of juxtaposed photographs magnified the visual narrative of absence typical of the image of ruins by inserting an extra-pictorial level of signification. While the spacing of time between the photographs sustained the evidential force of the sequence, the dramatic effect of their contrast was induced by the perception of a trans-figuration of space: that is, the translation of a material change (ruination) into the language of images (photographs). If every photograph draws its evidential power from the fact that its referent “has been there” (Barthes 1980; Pontremoli 1996), sequential images construct a temporal plane that certifies that the subject once “had been there”. They somehow conjugate the image of places, and their disappearance, in the past perfect tense. A mere chronological reading of sequential photographs, however, would be bound to lock the viewer into the vicious circle of a *fait accompli*. Conversely, a dialectical reading of these images may allow for a critical interpretation of before-and-after narratives on the basis of the co-existence of a ‘foretime’ and an ‘aftertime’ within the same visual space.

A significant consequence of sequential narratives is that the time in-between, which locates the actual event of destruction, is left out of the picture(s). This invisible “meantime” remains to be evoked by an act of dialectic imagination. The moment of disaster, already distanced by the spatio-temporal shield of the photograph, is thus written out of the image. This invisibility allows for the possibility of historical readings that take into account the event of ruination as a historical trauma. In fact, a historical trauma is inscribed in the very survival of the image that enables its posthumous legibility. As Cathy Caruth has pointed out, Freud’s theorisation of the drive to death was predicated upon the very absence of the experience of violence, which corresponds to the moment of awakening from a bad dream. Hence, she writes, “trauma is constituted not only by the destructive force of a violent event but by the very act of its survival” (Caruth 1993:25). The re-enacting of images of violent ruination fixed by photographs contains all the potential force of the *flashback*, which can reveal these images to be witnesses of survival as much as traces of disappearance - their mode of reading being inflected by the viewer’s own perspective. The spacing of time produced by the before-and-after photographs can therefore intimate the possibility of historical reflection that, as Kozloff proposed, is foreclosed by the shock image.

## II.4. Between veiling and unveiling: modern camouflage and the city in disguise.

The only answer to aerial reconnaissance is concealment from above, or confusion where concealment is impracticable. (Solomon 1920:2)

Aerial photographs speak a somewhat veiled language, and when the subtle nuances of enemy camouflage are added the language grows even more obscure. (Reit 1978:103)

This section investigates the consequences of aerial reconnaissance on the procedures of urban defence, with particular regard to the formulation of theories and methods of camouflage between the World Wars. While the aerial gaze became inextricably bound up with the means of destruction from above, the logic and logistics of total war turned cities into ever more likely targets of air raids, and therefore into sites of extensive camouflage projects. This development is examined through a close reading of some of the most significant texts published in Britain between the late 1910s and the early 1940s. These texts are situated within a broader discourse on camouflage that burgeoned at the time. Particular attention is paid to the impact of camouflage on strategies of urban protection during the early years of World War II, when the pervasive power of aerial vision brought about new ways of arranging space that increasingly involved structural forms of disguise. How cities, in particular, were subjected to temporary morphological transformation is discussed in the light of the most noteworthy example of urban disguise undertaken during the conflict - a vast and complex project that was realized in Hamburg in 1941. The links between a modern discipline of camouflage and contemporary developments in the fields of design, architecture, and planning suggest the unexpected relevance of the "art of disguise" to the history of urban representations in the high-modern age.

## Camouflage and aerial vision

The term “camouflage”<sup>58</sup> entered the English language towards the end of the First World War, when it came to indicate a whole range of techniques employed for the purposes of concealment and deception.<sup>59</sup> As military historians have repeatedly pointed out, disguise from the enemy had long been a military tactic of warfare.<sup>60</sup> However, the systematic development of camouflage was precipitated by the advent of powered flight, which rapidly extended the field of observation from the level plane of terrestrial vision to the oblique and vertical axes of aerial perspective (Newhall 1969; Martin 1983). A whole new body of methods and techniques was therefore devised in response to the threat posed by the all-pervasive gaze of military reconnaissance and its photographic apparatus. Taking up Maynard’s theory, it may be argued that camouflage turned on its head photography’s ability to record marks on the ground. The art of disguise insinuated an element of *deception* between the medium’s power of detection and its capability of faithful depiction. In fact, the purpose of most anti-aerial camouflage techniques was to fashion an illusory reality that was aimed to cheat not only the aerial observer but also the gaze of the photo interpreter. The military historian, Seymour Reit, has commented on the evidential force that was acquired by aerial photography in World War I: “there can be little doubt that, of all the war’s lethal new weapons, one of the most dangerous was a simple, unassuming photograph” (Reit 1978:97). Far from being a hyperbolic claim, the description of the photograph as a weapon corresponds to a widespread perception of the time, which Jünger’s writings gave full expression to.<sup>61</sup>

Modern camouflage came into being as a form of defence against the double threat of aerial vision and photographic detection. While conditions of visibility from the air began to dictate how troops, equipment, and installations should be disguised on the ground, aerial photographs also became the prime instruments for the unveiling of

---

<sup>58</sup> The word camouflage derives from the medieval Italian word *camuffo*, which indicated a type of hood and was used, by extension, to designate petty thieves. (The version *camuffa* is also recorded in 15<sup>th</sup>-century Venice, with the meaning of “snare”, or “deceit”.) This jargon word underwent further elaborations in French, where the current term is a derivation of *camouflet* (“snub”), which used to mean “smoke blown in someone’s face” (Robert K. Barnhart, *Chambers Dictionary of Etymology*, Edinburgh: Chambers Harrap, 1988, p. 137). All of these meanings were somehow revived in the novel signification given to the word within the context of modern warfare.

<sup>59</sup> The Oxford English Dictionary reports the following 1917 entry in the *Daily Mail* as the first recorded use of the word in English: “The act of hiding anything from your enemy is termed ‘camouflage’” (*Daily Mail*, 25 May 1917, 4/4). For a detailed distinction between concealment, deception, and camouflage, see Stanley (1998).

<sup>60</sup> It was described as early as 500 B.C. by the Chinese writer Sun Tzu in his treatise *The Art of War* (Reit 1978; Dewar 1989).

<sup>61</sup> Jünger referred to camouflage in a passage of his formulation of “second consciousness”: “Photography is a weapon which the new type of person makes use of. For him, seeing is an act of aggression. And correspondingly, the desire grows to make oneself invisible, as with the use of camouflage during the World War. A military position became untenable at the moment when it could be detected in an aerial photograph” (Jünger 1934/1989:208-9).

camouflage.<sup>62</sup> These possibilities were still relatively limited during World War I, which was mainly fought on sea and land. However, the conflict paved the way for a new mode of perception that, in turn, required appropriate counter-measures.<sup>63</sup> As Reit has put it, during World War I “camouflage – though useful against aerial spotters – was needed chiefly for horizontal protection; but with the coming of fighter-bombers and especially photographic planes, concealment became a *vertical problem* as well” (Reit 1978:96. Italics added).<sup>64</sup> A series of questions arises about the implications of this “vertical problem” for the history of the European city. How did the new scopic regime of surveillance affect the protection, transformation, and design of the built environment? Is there evidence of a specifically urban variant of camouflage? And, if so, how effective was it against the threat of aerial warfare? These questions address a wide set of issues concerning the reconfiguration of the city as a mass-target in the age of total war. A key to the answers is provided by the inter-war discourse on camouflage. Military writings on this subject came to form a discursive space in which the aerial image was defined as a contested battlefield of perception.

When, in the aftermath of World War I, a methodical approach to the practice of camouflage began to be invoked, military theorists resorted to natural principles in response to the most advanced instruments of vision. The phenomena of disguise observed in animal mimicry (such as patterns, textures, shading, etc.) were thus brought to bear on the protection of targets. The coming of age of a modern “art of disguise” was the subject of Solomon J. Solomon’s book, *Strategic Camouflage* (1920), which underlined the growing importance of this technique as an integral component of industrial warfare. An artist who was associated with the Royal Academy, Solomon had promoted the first camouflage section of the British army after gaining knowledge from the French, who had set up a specialised unit as early as 1914.<sup>65</sup> The book illustrated in particular the technique adopted by the Germans during the war, which Solomon deemed superior to the Allies’.<sup>66</sup> This method consisted of surveying the areas to be protected and building scale models on the basis of aerial photographs, in order to anticipate the effects of camouflage on

---

<sup>62</sup> In addition to the literal meanings of *camouflage*, its counter-photographic nature is confirmed by the fact that the terms associated with it (disguise, concealment, deception, etc.) are essentially antonymous to the common terminology of photography (revelation, detection, exposure, etc.).

<sup>63</sup> On the early developments of camouflage in World War I, see Hartcup (1979:16-34).

<sup>64</sup> Techniques of anti-aircraft camouflage were introduced towards the middle of the conflict and were substantively theorised only in the following years. According to Stanley, “Prior to about 1916, camouflage only had to be oriented to preclude horizontal observation” (Stanley 1998:10).

<sup>65</sup> Further details on the parallels between Solomon’s academic background and the *beaux-arts* tradition, in which most of the first French camoufleurs were trained, are given by Reit (1979:17-9).

<sup>66</sup> In Solomon’s opinion, developments in the art of disguise had been among those “material advantages” that had precipitated Germany’s entry into the war. However, this view is not always confirmed by contemporary historians of camouflage. According to Hartcup, there was no organised German camouflage until late 1917, whereupon its level did not surpass that of the Allies, except possibly for a stronger emphasis on structural devices on the German side (Hartcup 1979:29).

reconnaissance imagery. With the prospect of future conflicts looming large, Solomon argued the case for a more consistent application of “art” to military defence:

We have all, by now, gathered some little idea of the part played by Art [sic] in the Great War. It was, in fact, the only possible reply to the introduction of aerial reconnaissance; for from that moment the battle-field and the landscape for miles behind it, with every incident, every sign of movement or concentration on it, were an open book to that side whose airmen were armed with the all-seeing, all-recording photographic camera. (Solomon 1920:1)

This passage is remarkable for the sense of ineluctable sovereignty that was attributed to the aerial gaze. While air reconnaissance still fell short of being an infallible technique, its pervasive power was already deemed responsible for bringing about a new visual regime. In this respect, Solomon’s book testified to a growing awareness that industrialised warfare had begun to shape an entirely new “logistics of perception” (Virilio 1989).

Not surprisingly, references to camouflage were common in the interwar theories of aerial photography, which congealed into an organised body of knowledge in the second half of the 1920s. The most comprehensive survey of the medium published in Britain at the time reiterated the trope that new methods of disguise had been developed in response to the ubiquity of aerial vision:<sup>67</sup>

The introduction of aerial photography completely changed the tactics of war. So much information that would otherwise have been concealed from the enemy was revealed by the all seeing lens. Camouflage had to be introduced where hitherto it had been unnecessary. (Wills & Winchester 1928:7)

Among the new areas of application was the safeguarding of strategic infrastructures, such as industrial plants and transportation links, which brought the problem of camouflage to bear on the defence of cities. Although most battlefields of World War I lay outside urban areas, the first air raids over towns and cities accelerated the development of the art of disguise.

One of the earliest attempts to develop camouflage on an urban scale was a French plan for the construction of a full-size replica of Paris, conceived in the summer of 1918 by the designer Fernand Jacopozi.<sup>68</sup> As Lieutenant-Colonel Vauthier related in his book, *Le danger aérien et l’avenir du pays* (1930), a system of “luminous

---

<sup>67</sup> A comprehensive survey of aerial photography was published in the United States around the same time: A. C. McKinley, *Applied Aerial Photography* (New York: John Wiley and Sons, 1929). On the specific applications of the medium for military uses, see D. M. Reeves, *Aerial Photographs: Characteristics and Military Applications* (New York, 1927).

<sup>68</sup> The building of fake targets aimed to direct enemy pilots away from important sites had been adopted in World War I, alongside more conventional camouflage methods such as smoke screens and blackouts. See Lieut.-Colonel Delanney, “L’attaque aérienne massive du territoire”, *Revue des Forces Aériennes*, 10 May 1930, pp. 503-7.

camouflage” was designed for an area of the countryside near the city which bore a resemblance to the Parisian topography [fig. 11]. While a first phase of the project was indeed realised, simulating the Gare de l’Est - complete with rail tracks and trains in movement - the overall construction of a *faux Paris* was dismissed soon after the war came to an end (Vauthier 1930:142). An article published in the journal *L’illustration* in 1920, which contained detailed illustrations of the plan, revealed that German intelligence had been aware of the plans all along; however, it also suggested that the stratagem might have proven effective in misleading pilots during night-time air raids. The article concluded that, “even supposing that the German general staff had heard about our work, this would certainly not have prevented enemy aviators from being deceived by the mirage of a fake factory or a simulated station; and that was essential.”<sup>69</sup> This project demonstrates that the quest for substantial forms of aerial deception brought camouflage, from the early stages of its history, in direct contact with the spheres of landscape design and town planning. However, since air raids played only an inchoate role in World War I, no more than sporadic attempts were made to produce a specifically urban type of camouflage until the following decades.

Meanwhile, in the interwar period, the subject of camouflage infiltrated various scientific and cultural areas. Issues of visual perception and optical illusion were reassessed by psychologists in the light of innovations produced in World War I. Wolfgang Köhler, in particular, referred to camouflage in his contribution to *Gestalt* psychology published in 1929, when he proposed a distinction between the perceived organization of a “sensory reality” as a whole and the actual physical unity of the corresponding objects.<sup>70</sup> Köhler pointed out that, owing to the often blurred relationship between objects and their adjoining environment, the human eye can be fooled into seeing definite shapes that do not match physical entities; and conversely, it can fail to notice the unity of objects when their figures blend in with the background. Such methods as “dazzle painting” and mimetic colouring, which were extensively applied in World War I, exploited this psychological experience. “The objects themselves,” Köhler wrote, “are destroyed as optical realities and in their place appear meaningless patches which do not arouse military suspicion, since similar patches are produced constantly by the accidental properties of country and sea” (Köhler 1930:131). Köhler ascribed the difficulty of disguising the visual unity of objects to the human faculty of sensory organization, which was by nature – he believed – predisposed to identify such unity. He warned that “It is not easy to create a somewhat compact object which, when placed in a simple environment, would not fulfil the

---

<sup>69</sup> Anon., “Un faux Paris imaginé par la D.C.A.”, *L’illustration*, n. 4048, 2 Oct. 1920, p. 246 (my translation).

<sup>70</sup> On Köhler’s role within the German tradition of Gestalt psychology, see Mitchell G. Ash, *Gestalt Psychology in German Culture, 1890-1967* (Cambridge: Cambridge University Press, 1995).

general conditions of visual segregation” and he laconically concluded that “camouflage is a difficult art” (Köhler 1930:132).

The principles of visual disguise were also explored, from a different angle, by scholars who investigated the phenomenon of *mimicry* among animals, which was commonly recognised as the harbinger of man-made camouflage. In an influential article published in 1936, Roger Caillois established a link between the metamorphosis of insects and the forms of “incantation” characteristic of human magic; both were based, he argued, on the assimilation of the subject to the surrounding environment.<sup>71</sup> What is most interesting to the present discussion is that Caillois described animal mimicry as a “photographic” phenomenon in its most literal sense of this term: a writing of light, whereby nature constantly reshaped some species of animals by casting mutable images upon their bodies:

Morphological mimicry could [...] be, after the fashion of chromatic mimicry, an actual photography, but of the form and the relief, a photography on the level of the object and not on that of the image, a reproduction in three-dimensional space with solids and voids. (Caillois 1936/1984:23)

Caillois explained this photogenic process as a form of “sculpture-photography”, or “*teleplasty*” – a term stripped of its spiritualist connotations. With a stretch of imagination, this concept can be equally adopted to describe the mechanisms of artificial camouflage. It has been observed that aerial photography’s capability of flattening three-dimensional space onto a planar image was the main factor that caused the emergence of modern camouflage. By analogy with the natural realm, it may also be argued that the art of organising and displaying objects according to their photogenic qualities represented a form of teleplasty exercised by the aerial gaze on account of its panoptical power. The feared omnipresence of an all-seeing gaze was the reason behind the production of visual and spatial ruses that were aimed to reduce the recognizability of vulnerable locations on the ground.

The linkage between natural mimicry and the practice of modern camouflage was best conveyed by an issue of the *Illustrated London News* published in the same year as Caillois’ essay. Here the topics of air reconnaissance, defensive black-out, and animal disguise featured in the same issue.<sup>72</sup> The concurrent publication of three articles on these themes provided a relevant, if involuntary, illustration of photographic and anti-photographic techniques that were soon to be deployed on a large scale during World War II. In one section, a double spread with four low-oblique aerial photographs of Madrid complemented the coverage of the latest events in the Spanish

---

<sup>71</sup> Caillois compared this state to the dispossession of the self from space called *psychasthenia*, which is typical of some forms of schizophrenia (Caillois 1936/1984:28-30).

<sup>72</sup> *Illustrated London News*, Oct. 31<sup>st</sup>, 1936.



Civil War.<sup>73</sup> In another section, two photographs depicted the landscape of Paris before and after a simulated blackout, on the occasion of a “full-scale anti-air-raid practice”.<sup>74</sup> A few pages on, a further article described the topic of “protective camouflage” among animals, under the heading: “Puzzles for the sharpest-eyed enemy.”<sup>75</sup> While the coincidence of aerial photographs of a capital city and images of the obscuration of another one may not have been entirely accidental, the presence of the piece on camouflage sealed a further layer of meanings in the pages of the magazine. The protection of cities from the aerial gaze of surveillance was to be learned from the animal realm.

## **World War II and the resurgence of structural camouflage**

As the logics and logistics of total war turned cities into mass targets, the airborne gaze became increasingly associated with the possibility of destruction from above (Martin 1983). Consequently, camouflage became an essential aspect of air defence strategies in Europe in the late 1930s. The years leading up to World War II were marked not only by national defence strategies but also by a stream of new theories of camouflage, which involved the protection of industrial and civil targets.<sup>76</sup> In Britain, where a policy of Air Raid Protection had been established as a branch of civil defence in the mid-1920s, a section of the Committee of Imperial Defence began to deal with the organisation of camouflage on a national basis in 1936 (Hartcup 1979:48-9). A host of publications on the subject appeared immediately before and after the beginning of the war, ranging from advertising brochures to comprehensive treatises. An interesting example of the former was a pamphlet produced in 1939 by the Silicate Paint Company, a leading manufacturer based in Charlton, London. This informative brochure, entitled *Camouflage and Aerial Defence*, was a supplement to the company’s catalogue, which advertised “obliterating paint” and other products that had received a boost from the Civil Defence Bill of 1939. The brochure reminded readers that training in aerial perspectives was a prerogative of camouflage:

---

<sup>73</sup> *Ibid.*, pp. 778-9. Brothers also refers to these images in her account of the representation of cities in the Spanish Civil War (Brothers 1997:104).

<sup>74</sup> *Illustrated London News*, Oct. 31<sup>st</sup>, 1936, pp. 765.

<sup>75</sup> *Ibid.*, pp. 783-5.

<sup>76</sup> Although the bombardment of non-military targets was banned under international law, the “colonial” bombing of China and Abyssinia, and the air raids over Spanish towns in 1938, made the distinction between military and civil targets increasingly blurred. In June 1940, Churchill extended the definition of “military targets” to industrial areas, with obvious consequences for workers’ settlements lying in the vicinity of factories (Lindqvist 2001:§181).

It must be borne in mind that protection from aerial observation requires a totally different technique from protection against direct observation. An aerial force will, in most cases, view objectives from an oblique angle, and consequently a knowledge of the perspective of shadows, or of landscape seen from an unaccustomed angle, is essential to the camouflage designers. (Anon. 1939:10-11)

The usefulness of paint camouflage depended on the reflective properties of surfaces and their effects on photosensitive materials. For this reason, the company gave detailed advice on how to assess the texture of different landscapes on the basis of the “relative actinic values” of materials and colours. Particular attention was paid to the issue of industrial camouflage, as the greatest problem was said to be “the protection of vital spots in key cities and industrial centres” (Anon. 1939:18). Although the likelihood of preserving cities from air raids was deemed to be limited, the Silicate Paint Company recommended paintwork for important targets, such as railway termini, dockyards, and important public buildings. It was claimed that good results could be achieved not only through the study of the perspective distortions produced by graphic patterns on surfaces, but also by means of structural devices.<sup>77</sup> The assertion that camouflage designers had to be artists with “a real understanding of the scenic possibilities of landscape” (Anon. 1939:20) showed that, at the beginning of World War II, the art of disguise was perceived to reside in a combination of scientific and creative skills.

During the months of the so-called “phoney war”, scientists in Britain warned that the camouflage methods available were not suited to counter the threat of aerial bombing (Hartcup 1979:56). Therefore, defence strategists set out to formulate new doctrines of civil protection and, in 1940, a special Directorate of the Ministry of Home Security undertook official research into camouflage (Dewar 1989:49).<sup>78</sup> On the eve of the first air raids over England, Lieut.-Colonel C.H.R. Chesney wrote a wide-ranging treatise on *The Art of Camouflage*, whose principles and techniques he laid out in preparation for a bombing war.<sup>79</sup> The author criticised the long-established approach that confined the issue of disguise to a province of “paint-brush” art and maintained that pictorial methods had been overestimated in particular after the publication of Solomon’s ground-breaking book in 1920. Chesney believed that the techniques of camouflage by “imitation” (the design of painted patterns to blend objects with their surroundings) and by “disruption” (the disguise of buildings’ shapes obtained by crossing their contours or breaking their edges) were scarcely effective against ever

---

<sup>77</sup> To illustrate these methods, the brochure showed photographs of a large factory before and after camouflaging. The same images were also published in the magazine *Picture Post* (15 April 1939).

<sup>78</sup> Specific cases of camouflage realised in Britain before and during the war are illustrated by Dewar (1989).

<sup>79</sup> A war veteran, Chesney had been in charge of the camouflage factory at Amiens in World War I. Although the book was published in 1941, several passages in it suggest that it was written before the start of the Blitz in September 1940.

more sophisticated technologies of aerial perception. In particular, he lamented that little attention had been paid to constructive methods, which were comparatively expensive but appeared to have the best prospects of disguising buildings in the long term. Rather than considering three-dimensional objects as flat surfaces, Chesney proposed a technique of “deformation” based on characteristics of form and volume. He prescribed that constructional screenings of appropriate texture and dimension should be added to pre-existing structures, usually in the form of overhang sloping sides, in order to render their shadows less conspicuous.<sup>80</sup> He also invoked this method as a pre-emptive measure to be implemented in peacetime, when design and construction were not subject to the material constraints of war.<sup>81</sup>

As a premise for Chesney’s technical advice, *The Art of Camouflage* opened with a series of general considerations written by J. Huddleston, who presented the issue of resemblance in the context of natural and artificial concealment. With reference to the specific issue of urban protection, Huddleston remarked that the practical possibilities of camouflaging cities were extremely narrow, given the intrinsic legibility of urban features. In general terms, while a good deal of standard military disguise – such as for troops, vehicles, or equipment - was used against horizontal sighting, the exclusive purpose of camouflage in an urban context was to confound aerial reconnaissance. Here, the “vertical problem” was obviously exacerbated by the conspicuousness of buildings and topographic landmarks and watermarks, which were easily recognisable from the air:

Is it possible or politic to camouflage a big city – London for instance? The answer is “No!” Whilst it is fairly easy to merge or lose a single objective in a big city, the River Thames in the case of London, and similar natural features in other cities, are known to any foreign pilot, and act as pointers to “targets”. (Huddleston 1941:42)

The message was clear: neither concealment nor deception - the two fundamental principles of camouflage - would have much effect on a scale of large agglomerations, which were inevitably bound to be exposed by their most distinctive features. Huddleston considered it more useful to invest resources on targeted interventions in minor areas, such as small towns or circumscribed sites within cities (Huddleston 1941:43). This approach he understood to be the only meaningful type of urban

---

<sup>80</sup> Free-standing constructions based on circular shapes, such as gasometers and oil installations, which gained limited concealment from painting and netting, were listed as typical cases in which deformation could work at its best. See Chesney (1941), Chapter 6.

<sup>81</sup> Chesney’s book included a plea for the direct involvement of architects in industrial camouflage, written by an anonymous practitioner, “C.G.A.”, in February 1940. The architect underlined the necessity of a compromise between “safety” and “amenity” in planning for defence, proposing that architects join forces with town planners to avoid issues of amenity “be[ing] entirely overtaken by military considerations” (See “Appendix”, in Chesney 1941). Chesney’s comment on this passage was: “Amenity is a judgment based on ground view, whilst safety is based on an aerial view” (Chesney 1941:252).

camouflage, but he believed that even it would have offered limited success in the event of wholesale bombing.

Chesney's book was arguably the most comprehensive work on civil camouflage hitherto published in Britain, although it was by no means the only significant publication on the subject. In 1941, the Home Guard commissioned the painter Roland Penrose to write an instruction book for the benefit of the general public.<sup>82</sup> Penrose's *Manual of Camouflage* is further evidence that, by the early 1940s, the insufficiency of pictorial methods had been exposed and a structural approach now enjoyed broad support. Like most camouflage theorists, Penrose drew upon nature, especially the functions of texture and shadow in animal mimicry, to extol the virtues of what he termed the "deceptive art".<sup>83</sup> However, he also warned that camouflage projects were bound to backfire unless they were carefully executed, since inadequate solutions were likely to draw attention to any given target (Penrose 1941:15). The historian Roy M. Stanley has recently summed up this problem:

Since it is usually applied only to the most valuable things, the paradox of camouflage is that if it works it protects, but, if it fails it tells an enemy who can penetrate the camouflage just what the other side values most – thereby making a pointer for attack. (Stanley 1998:9)

This danger was especially high in the case of buildings that were merely covered with painted patterns, which showed little familiarity with the effects of camouflage on aerial photography.<sup>84</sup> As Penrose wrote, camoufleurs had to take into account the vantage point of the aerial observer:

The majority of men are unfamiliar with observation from this angle. It is therefore very important to learn all we can from a study of photographs taken from the air. The aeroplane, among many other things, is the eye of the modern army. Its invention makes camouflage more urgent, more difficult, and involves much wider areas. (Penrose 1941:6)

The need to employ photographs and models to plan camouflage on the ground had been acknowledged by military experts who had sought ways to pre-empt aerial detection since the 1910s. Solomon pointed out early the importance of training in photographic reading, which he deemed paramount to the development of a fully-fledged "strategic camouflage". By the late 1930s, the established opinion was that camoufleurs needed to carry out aerial surveys, both vertical and oblique, preferably

---

<sup>82</sup> Penrose was also among the artists who set up the Industrial Camouflage and Research Unit, an independent consulting firm based in Bedford Square, London (Hartcup 1979:54).

<sup>83</sup> During World War II, animal mimicry underwent renewed interest from natural and military scientists alike. See, in particular, Herbert Friedmann, *The Natural-History Background of Camouflage* (Washington: The Smithsonian Institution, 1942).

<sup>84</sup> Several examples of poor camouflage of buildings and installations are detailed by Stanley (1989:139-170).

in different light and weather conditions, in order to acquaint themselves with the field of aerial vision. Chesney and Huddleston, too, listed the practice of flying among the essential requisites of training, which had to endow a camoufleur with “first-class” skills in photographic interpretation (Huddleston 1941:46-7, 55).

Across the Atlantic, a similar approach was expounded by Robert P. Breckenridge in the book *Modern Camouflage* (1942), which presented a useful overview of the contemporary trends to the American public. The subject of camouflage was held in ever greater regard in the United States after the attack on Pearl Harbor, in December 1941, which strengthened the general belief that airpower had become the decisive factor of industrial warfare.<sup>85</sup> *Modern Camouflage* presented a lay readership with the case for wider use of “the new science of protective concealment”. Echoing Chesney’s argument, Breckenridge asserted that camouflage ought to be treated as a legitimate science, based on empirical research and aimed at a systematic improvement of civil protection. Consequently, the author offered advice not only on how to conceal existing buildings, and how *not* to do so, but also on how to plan new ones with a minimal aerial visibility [fig. 12]. He recommended functional principles for new buildings, including the design of irregular volumes and spaced-out arrangement: “Dispersion of the units or parts of an installation is essential for two reasons: to reduce the damage which may be created by a single bomb, and to facilitate the concealment of units by spacing them well apart from each other” (Breckenridge 1941:77). This blueprint for flexible and inconspicuous construction urged designers to reduce chimneys, high towers, and “unnecessary architectural trim” wherever possible (Breckenridge 1942:84). In the final section of the book, Breckenridge suggested that the application of protective concealment to the design of a wide array of building types, ranging from industrial plants to housing estates, was consistent with contemporary tendencies in urban planning.

### **Stratagem unveiled: the Hamburg case**

The problem of how to outwit the airborne camera brought about a direct confrontation between photographic interpreters and camouflage experts, who were alternately called to perform the same functions. As Reit remarked, “The result was a visual chess game in which – depending on the particular operation – each side switched

---

<sup>85</sup> This doctrine was expounded by Alexander de Seversky in his influential book, *Victory through Air Power* (London: Hutchinson & Co., 1942). It should also be noted that Giulio Douhet’s *Command of the Air* (1921) appeared in English translation for the first time in the same year as de Seversky’s and Breckenridge’s books.

position, playing camera deceiver at one point and photo detective at the next" (Reit 1978:96). In the early years of World War II, along with a shift in the balance of airpower across the military chessboard came different levels of attention given to camouflage. After the *Luftwaffe* lost the supremacy in the air, the pressure fell on Germany to elaborate new defensive strategies, whereas British – and later, Allied - intelligence units were increasingly faced with the task of uncovering camouflage.<sup>86</sup> The German military-industrial complex was so distributed that a number of strategic urban sites instantly became war zones at the onset of the bombing campaign in spring 1940. As Martin Middlebrook has noted,

The real contest was between the Allied air forces and the German cities themselves. The bombers had so to crush the spirit of the German city dwellers and so to smash up the industries in the cities that, either by breakdown of morale or by industrial collapse, the nation of Germany could fight no longer. What happened *in the cities* was the heart of the whole contest. (Middlebrook 1984:75. Italics in original)

The major German cities became the sites of camouflage schemes when it became clear that the threat of bombing raids involved all urban areas and no longer industrial targets alone. *Evidence in Camera* reported several cases of urban camouflage in Germany, particularly between 1942 and 1943, which spanned the whole gamut of techniques and methods hitherto devised. The old system of netting was still largely adopted to conceal industrial sites; it was also used to minimise the telltale signs of prominent public spaces, such as the *Tiergarten* and *Unter den Linden* in Berlin, which were both concealed under vast stretches of mesh covered with opaque materials (Reit 1978:7). Considerable effort was put to camouflaging the area of the Exhibition Grounds in the Charlottenburg district of the capital: while the tall Radio Tower was hard to conceal, the broadcasting station was draped with netting and the exhibition hall was painted over to resemble the surrounding buildings, upon which dummy roads were also simulated.<sup>87</sup> Fake building patterns were similarly painted in open squares to conceal urban landmarks, such as Königsplatz in Munich. Another application of camouflage was the blanketing of stretches of water in city centres, since watermarks were ranked among the best navigational aids at the time. A radical approach was taken in Essen, where the inner lake was drained of its water (Powys-Lybbe 1983:70). Elsewhere, watercourses were dissimulated under various methods of concealment. In Stuttgart, for example, the oval lake in the Theater Platz was covered with opaque material built on a framework and a dummy path was

---

<sup>86</sup> A German text prescribing camouflage measures against air-raid is: Herbert Knothe, *Tarnung und Verdunklung als Schutz gegen Luftangriffe: Zweiggebiete des baulichen Luftschutzes* (Berlin: Wilhelm Ernst & Sohn, 1936). See particularly section IV: "Tarnung als Schutz gegen Luft Beobachtung" ["Camouflage as Protection against Aerial Observation"].

<sup>87</sup> *Evidence in Camera*, Vol. 2, n. 1, Jan 4<sup>th</sup>, 1943, p. 6.

painted across the new surface. In Bremen, a section of the Kleine Weser running through the city centre was concealed under a broad construction that was supported by piles driven into the river bed.<sup>88</sup> These attempts to hinder the orientation of enemy's aeroplanes by screening out prominent urban features were motivated by the fact that, particularly in the early phase of the bombing war, navigational difficulties were the order of the day and pilots often struggled to identify their targets.<sup>89</sup> On the whole, stratagems old and new were brought to the "heart of the contest" in wartime Germany, often with ambivalent results.

One of the most striking examples of urban camouflage carried out in World War II was the coverage of a sector of Hamburg in the first months of 1941. The area concerned abutted on the two contiguous lakes that had resulted from the drainage of the river Alster in the city centre. Situated at the core of the city's business district, and not far from its large industrial harbour, these basins provided an ideal point of reference for night-flying pilots. Facing the prospect of aerial attack, the defence authorities put in place an ambitious project of camouflage that changed the look of the whole area from the sky (Reit 1978; Stanley 1998). The main purpose of the operation was to deceive aerial observers as to the exact location of the strategic targets in the area: the Lombard Bridge (Lombardsbrücke) separating the Binnen and Aussen Alster, and two adjacent railway stations (Dammtor and Central) on either side of the river. The complex scheme involved a number of designers, technicians, and workers over several months and comprised three elements. First, the whole Inner Alster was covered under a wooden canopy, which was planted on poles and painted over with patterns resembling a built-up area.<sup>90</sup> Here, the principle of mimicry was adjusted to simulate an urban district and conceal a telltale watermark. Second, a dummy bridge was erected across the Outer Alster, about six-hundred yards north of the real Lombard Bridge. The classic ruse of building decoy targets completed the illusory displacement of the Inner Alster. Third, the two railway stations were subject to a complex camouflage, which deformed their size by means of sloping side-screens, partially concealed them by planting trees on platforms, and further distorted them with stripes of road-width painted over their rooftops.<sup>91</sup> Smokescreens, which were arranged near the docks, completed the range of devices deployed in one of the largest and most integrated camouflage plans on record.<sup>92</sup>

---

<sup>88</sup> Reconnaissance showing the various stages of this scheme, including the effects of its structural collapse under snow, was published in *Evidence in Camera*, Vol. 1, 1942, pp. 262-3.

<sup>89</sup> See M. Middlebrook, *The Nuremberg Raid, 30-31 March 1944* (Glasgow: Collins, 1975).

<sup>90</sup> The structure was circa 225,000 sq. yds. wide and up to 20 feet above water level to guarantee the passage of boats underneath (Reit 1978; Stanley 1998).

<sup>91</sup> The various stages of the camouflage of Dammtor Station were illustrated in the first issue of *Evidence in Camera*, Vol. 1, n. 1, Oct 19<sup>th</sup> 1942, pp. 10-11. Further details of the project can be found in Powys-Lybbe (1983:80-1).

<sup>92</sup> Further details of the Hamburg scheme can be found in K. F. Wittman, *Industrial Camouflage Manual* (New York: Reinhold, 1942).

The case of the Inner Alster suggests that camouflage was regarded seriously as a measure of urban protection during the first phase of the bombing war, albeit with changing fortunes. This project has been variously described as a “classic use of misdirection” (Reit 1978:110) and even as a “very credible camouflage job” (Stanley 1998:126), on account of its combination of pictorial and structural devices. For all its painstaking accuracy, however, the stratagem proved futile against the series of air raids that devastated Hamburg in summer 1943.<sup>93</sup> The fact that the canopy and the dummy bridge were heavily burnt out in the firestorms was due to their ignitable materials rather than their efficacy as fake targets. R.A.F. reconnaissance photographs showing the area around the Inner Alster before and after camouflage allowed British interpreters to uncover the camouflage as early as April 1941 [fig. 13, 14]. Once more, the comparative method relied on the accumulation of previous reconnaissance of strategic areas.

Images of Hamburg were promptly released in the Allied countries, where they served the twin purposes of instruction and propaganda. The tonal contrast between the texture of the urban fabric and its simulated version was evident even to an untrained observer. The scale of greys in the photographs came to the aid of the photographic interpreters, who had the advantage of analysing still images through appropriate devices (Hartcup 1979:16-7).<sup>94</sup> With the benefit of hindsight, Ursula Powys-Lybbe (1983) explained why monochrome imagery gave away more details of camouflage than did direct observation:

There is an explanation for the apparent ease with which the interpreters could see through camouflage, both literally and figuratively, while a pilot might have been deceived. Camouflage was primarily designed in colour to blend with the background, so that aircrew would be unlikely to identify the target as they flashed by overhead with no time to search for it. Monochrome or black and white prints in front of the interpreters, meant that a range of neutral tone made it easier to define form, colour not being there to distract the eye, and also there was time for examination. (Powys-Lybbe 1983:79)

Musing on her wartime work as a photographic interpreter, Powys-Lybbe added: “If the German authorities had realised how much we knew about their methods of camouflage, and how we were able to watch every stage of the process, they might well have given it up as hopeless quite early on” (Powys-Lybbe 1983:91). Indeed, the final issue of *Evidence in Camera*, published in March 1945,<sup>95</sup> confirmed the inadequacy of German counter-photographic techniques. With reference to the

---

<sup>93</sup> Camouflage was still carried out on single strategic buildings in the city after the raids of 1943. See “Recent activity at Hamburg”, *Evidence in Camera*, Vol. 4, 1943, pp. 282-3.

<sup>94</sup> The discovery had been facilitated by the creation, in 1941, of a “target section” specialised in camouflage at the Allied Central Interpretation Unit in Medmenham (Powys-Lybbe 1983:77).

<sup>95</sup> *Evidence in Camera*, Special Issue on Photographic Reconnaissance and Photographic Intelligence, March 1945.



camouflage programme developed in Germany and the occupied territories in 1941-42, a text commented that “the results achieved some success in confusing the naked eye of the observer from the air, but apart from a few exceptional cases of small structures [...] they failed to deceive the camera” (1945:27). Given the advanced knowledge of aerial photography developed in Germany in the decades leading up to World War II, it is reasonable to assume that deceiving the pilots’ sight rather than the camera eye was considered a lesser yet significant objective of defence (Stanley 1998:15-7). This hypothesis might explain not only the numerous cases of patently ineffective concealment, but also more elaborate simulations, including the Hamburg scheme, which laid bare the limits of camouflage on an urban scale vis-à-vis the power of aerial reconnaissance.<sup>96</sup>

The Hamburg project revealed how the entire repertoire of civil camouflage, at the peak of its theoretical and practical advance, was mobilised to protect strategic urban targets from air raids. Endangered by its own exposure and strategic importance, the city centre was turned into a veritable theatre of war through the use of several props derived from stage design - including scene painting, shadow plays, and smoke screens. Here, on a larger scale than elsewhere, man-made mimicry was staged as a masquerade against the panoptic gaze of reconnaissance. This foiled attempt to produce a satisfactory urban camouflage can be regarded as a tactical move in a contest that was soon to be won over by the unrestricted exercise of airpower, aided by new technologies of detection. The historical trajectory charted in this section traces the increasing dominance of a scopic regime predicated on the power of aerial perception: a military panopticon within which the city was reconfigured as a visual and material target during the first half of the twentieth century.

This inquiry into the early history of camouflage has shown how the emergence of a modern art of disguise was embedded in the evolution of a panoptic apparatus, which progressively shifted the locus of perception from direct human sight to its technological extensions. As overseeing the territory and recording its ever-changing configuration became chief practices of warfare, the military use of aerial photography had a significant impact on the safety of towns and cities, which in turn became the sites of new types of defence operations. The “chess game” between camoufleurs and photo interpreters reached its climax in 1940-42, when the bombing campaign of World War II intensified the applications of anti-aerial procedures. Thereafter, the dream of camouflaging cities, itself born out of the nightmare of mass destruction, was shattered by indiscriminate bombing, coupled with the introduction of new instruments

---

<sup>96</sup> An often cited episode of inadequate camouflage in an urban context is the attempted disguise of Kremlin Square in Moscow, hastily realised in 1941. As Stanley caustically suggests, it “could not have been designed or executed by anyone who had ever been up in an aeroplane” (Stanley 1998:9).

of remote sensing, such as radar and infra-red imagery.<sup>97</sup> No sooner had the art of disguise been organised into a systematic body of knowledge than the combined powers of detection and destruction from the air highlighted its limitations as a product of the first machine age.

---

<sup>97</sup> Electronic equipment capable of producing a radar image was first used during 'Operation Gomorrah' in summer 1943 (Virilio 1989:77).

## Conclusion

The various uses of air reconnaissance photography explored in this chapter have pointed to the emergence of a scopic regime within which the image of the European city was significantly reconfigured. A central aim of aerial reconnaissance was the subjugation of spaces to the dominant gaze of the military. The photographic image was instrumental to this objective. As the city became a war target, it was also framed as a photographic subject for detailed and up-to-date inspection. The complicity of instruments of perception with the apparatus of aerial warfare was most evident in the imagery of ruination. Here, the age-old dream of picturing the city as a whole was dramatically replaced by the 'doomsday' scenarios depicting the city 'as a (w)hole'. The emotional responses elicited by this imagery sharpened the contrast between the panoptic nature of reconnaissance imagery and its perceived sensational appeal. The transition of war images from the military to the public sphere, and vice versa, has suggested a possible key to investigate this tension. The study of sequential photographs has also opened up the possibility of a critical interpretation of events of urban destruction on the basis of the visual documents produced by the war machine itself. By "brushing history against the grain", to paraphrase Benjamin, the section on ruinscapes has proposed to regard air reconnaissance photographs as witnesses of traumatic historical events.

While aerial imagery of ruins has indicated the complicity of aerial photography in the events of material destruction, the history of camouflage has shown how material solutions were also devised to prevent such events from happening. The attempts to develop a set of counter-photographic techniques during wartime revealed the perceived threat of an omniscient gaze in all its force. The dubious achievements of urban camouflage proved the superiority of a visual apparatus that increasingly evolved towards an "automatic of perception." The disguise of cities into veritable theatres of war was the most blatant confirmation that the practice of surveillance, however increasingly de-materialised, induced substantial material changes on the ground. The photographic image was the visual battlefield upon which this conflict of perceptions took place. An important outcome of the new visibility opened up by aerial reconnaissance and interpretation was a change in urban perception. It may be argued that the transfiguration of the city into an object-target of aerial vision brought about the emergence of a new viewing subject: an aerial observer who, vicariously, perceived the city as an increasingly abstract, distant, and objectified space.

# III Aerial Imaginations

## Introduction

The aim of this chapter is to explore how the avant-gardes of 'new photography'<sup>98</sup> produced a new representation of the modern city through experiments with unfamiliar and disorienting viewpoints. The urban environment was a favourite laboratory for artists and movements that were animated by the desire to represent the feelings of modern life with a new visual language. A counterpoint to the snapshot aesthetic that was forged in the street was the abstraction of oblique and vertical perspectives, which allowed picture-makers to transfigure the city image into non-figurative visual patterns. A number of 'new photographers' shared the urge to challenge the conventions of urban representation by exploring the "aesthetic from above" (Pinck 2000). Albeit in very different forms, they shared an urge to respond to the loss of traditional spatio-temporal coordinates by conveying a sense of estrangement from the everyday. Whether the photographic gaze was cast from a high point connected to the ground or from an airborne vehicle, the elevated views of cities marked a departure from the familiar territories of urban iconography.

The three chapters that form Part III pinpoint various stages that marked the departure from a street-level vision towards the ultimate abstraction of aerial photography. The underlying theme is the sense of perceptual disorientation that emerged from the encounter between 'new photography' and the modern city. The upward movement suggested in the sequence of chapters - from the street to the sky - is meant to provide a framework for the re-evaluation of the trajectory that marked a *flight* from the street-level representation of everyday life. The emergence of an aesthetic of vertigo will be examined as the symptom of an aerial imagination that pervaded various strands of modernist culture. This path is traced through a set of 'canonical' images that range from surrealist and constructivist experiments with unusual viewpoints to futurist researches in aerial vision.

---

<sup>98</sup> The terms 'new photography' and 'modern photography' will be used with reference to Phillips' general definition, which includes a broad range of avant-garde artists, groups and movements. See "Introduction", in Phillips (1989a:xi-xvii).

### III.1. *Camera ludica*: modern photography and the city as a laboratory of perceptions.

The camera is not a tool, but a toy, and the photographer is not a worker as such, but a player: not 'homo faber' but 'homo ludens.' (Flusser 1984:19)

One good lesson is enough to know a city. A single photograph chosen out of hundreds can stand for Paris, Berlin, London, Moscow. (MacOrlan 1930/1989:46).

This chapter comprises two sections. A theoretical preamble explores the relationship between modern photography and a theory of play and discusses in particular the concept of *vertigo*. This is followed by the close examination of a chosen photograph ("Meudon, Paris" by André Kertész) through which a number of issues are raised about the ways cities were pictured within the field of 'new photography'. The allegorical interpretation of a well-known picture from the late 1920s suggests the multiplicity of meanings that may be stored in a photographic image. This exercise aims to unlock a series of themes that marked out the urban imagery produced by modernist photographers in the interwar period. It also paves the ground for the subsequent studies into photography's aerial imagination. The exercise in interpretation carried out in this section aims to draw a whole constellation of meanings out of a single image. This is not meant to provide an interpretative model that will be adopted for every image examined, but rather to set out a broad field of possibilities that may be pursued by reading photographs. One of these possibilities is to consider an image for what it evokes, rather than for its content or its genre. 'Meudon' will therefore be taken as a point of departure for a study of the aerial imagination in avant-garde photography, whereby the progressive elevation of the viewer from the ground brought about a shift from the ground-level vision of everyday life.

## Photography, play, and modernity

Flusser's opening quote stems from his view that the photographer, not unlike the chess player, invariably tries to realise the "undiscovered virtualities" of a given programme – the camera being analogous to the game of chess. The search for ever new ways of utilizing the apparatus was seen by Flusser as a game of exploration in which the photographer's capacity to represent reality was in a constant state of tension with the medium's own properties. However, the analogy breaks down when we consider that photographer's relationship with the apparatus:

The photographer does not play with, but against, his toy. He crawls into the camera in order to discover the tricks hidden there. The pre-industrial craftsman was surrounded by tools, and the industrial machine was surrounded by workers, but the photographer is within the camera, intricated in it. This is a new kind of relationship, where man is neither the constant nor the variable, but one where man and apparatus form a single function-unity. (Flusser 1984:19)

Hence, creative possibilities arise when the photographer attempts to outwit the virtualities of the program in order to avoid being its mere "fonctionnaire". For Flusser, the struggle for freedom from the domination of the apparatus is the most important task faced by photographers, and at the same time the subject that a philosophy of photography should concern itself with (Flusser 1984:55-9).

Flusser's allusion to the figure of "homo ludens" referred explicitly to Johan Huizinga's eponymous study of the role of play in culture (Huizinga 1938/1970). Interestingly, a direct reference to Huizinga's book is also to be found in the opening lines of another major contribution to the modern anthropology of play, Roger Caillois' *Les jeux et les hommes: le masque et le vertige* (1958). Caillois' investigation was based on a classification of play and games into four categories: competition (*agôn*); chance (*alea*); simulacrum (*mimicry*); and vertigo (*ilinx*). Accordingly, these were the components that, in different measures, may be found at work in any ludic activity. Several questions arise from an attempt to interpret the practice of photography through this four-fold schema. Is it possible to understand the act of photographing, considered by Flusser as a form of *play*, under any of these rubrics? And how would this definition be useful to explore the encounter between photography and the city in modernist culture? The first step will be to summarize the contents of Caillois' four-fold typology of play, in order to see how these categories can be transferred from an anthropological perspective on to a critique of the photographic representation of cities.

Caillois adopted the Greek word *agôn* to designate the games animated by an individual's desire to prevail over others by testing their physical or mental skills in a competition. By extension, this spirit can also be applied to the challenge posed by

technical or mechanical apparatuses to those who try to subject them to their uses. As a common terminology suggests (e.g., “snapshot”, “viewfinder”, etc.), the game of photography is the equivalent in the visual realm of the practice of hunting, which puts the hunter in competition with the prey but also with other hunters. Therefore, photography can be understood as a picture-hunting activity, and it can be seen as a type of play whose results depend on the mastery of an apparatus. As Flusser noted, the camera’s “intelligent” mechanism functions in such a way that, “the photographer no longer needs the concentration of the brush, as the painter, but can dedicate himself to the game of the camera” (Flusser 1984:20).

Contrary to *agôn*, with the term *alea* (from the Latin word for the game of dice) Caillois indicated those forms of play whose outcome was arbitrarily decided by fate, with little or no leeway left to the players. An example of this can arguably be found in the chance effects of photography, especially when the camera program performs functions - such as, for instance, fast exposure time - that go beyond the faculties of human perception. By combining the elements of *agôn* and *alea*, photography seems to be based on a domestication of the apparatus in which a certain component of chance is often present. Indeed, this is a decisive factor of instantaneous picture-making practices such as snapshot photography, in which the final results can only be approximately predetermined.

The second pair of categories, which found pride of place in the subtitle of Caillois’ book, can similarly be discussed together. Caillois employed the English word *mimicry* to encompass those manifestations of play in which the players simulate an appearance other than their own. The games of make-believe range from theatrical performances to children’s imitation of gestures, in that they have in common an inventive search of simulation. As Caillois observed, this realm may overlap with that of *agôn*, but its representational nature makes it a particular form of play on its own. This category makes the analogy with photography the most blatant, for a simulacrum of reality was the primary goal of photography since its origins, at least in so far as analogic imagery is concerned. As a previous chapter has indicated (§ II.3), Caillois himself described the phenomenon of mimicry in animal camouflage as a type of “sculpture photography.”

Things may seem slightly less obvious with the fourth category of play, which Caillois called *ilinx* after the ancient Greek word for “eddy,” or “vortex.” He referred the phenomenon of *ilinx* to those human activities and movements that are driven by a desire to lose one’s bearings - that is, to reach a momentary state of dizziness, trance, or “voluptuous panic.” According to Caillois, from the whirling games of children to the rituals of the Mexican *voladores*, who imitated the free fall of birds by jumping into the void, the pursuit of *ilinx* was a primordial mode of human play. However, the growing

field of vertigo-inducing practices in modern times led Caillois to suggest that this phenomenon had developed significantly in the industrial age. The “vertiginous” practices that received a new impetus in modernity included the pleasure of violent shocks, the thrill of speed, and notably the human experience of flight. As far as modern photography is concerned, one could argue that it also underwent some significant developments in the interwar years that were strictly linked with a quest of perceptual disorientation. More specifically, the pursuit of “visual vertigo” by avant-garde photographers who experimented with aerial vantage points brought together the elements of *mimicry* and *ilinx* to produce a distinctly modern imagery.

Arguably, Caillois’ argument can usefully corroborate Flusser’s equivalence between photography and play, thereby providing a critical standpoint for the present study. The characterization of photography as a form of play is sustained, to varying degrees, by all of the above categories. The pairing of *mimicry* and *ilinx*, however, seems to be particularly relevant to an understanding of the aesthetics of estrangement that was developed by avant-garde photographers. Throughout Part III, the concept of “visual vertigo” will be developed as a broad notion involving phenomena of *ilinx* and *mimicry* alike.<sup>99</sup> As we will see, these were often the two sides of the same photographic coin. This tension will inform the investigation of modern photography presented in the next section, which is based on the analysis of a single photograph.

### **A point of departure: ‘Meudon, 1928’**

This section is centred on the reading of a single photograph, which will be considered as a window onto the vast realm of visual possibilities opened up by the photographic gaze vis-à-vis the urban environment. The image in question is a well-known photograph by André Kertész entitled ‘Meudon, Paris, 1928’ [Fig. 15]. This *locus classicus* of modern photography is regarded as a masterpiece of the genre of ‘snapshot naturalism’ that became popular in Europe during the 1920s (Westerbeek and Meyerowitz 1994).<sup>100</sup> The picture addresses the everyday dimension of the modern city; but, at the same time, its visual space seems to be spinning out of the

---

<sup>99</sup> The combined effects of *mimicry* and *ilinx* have also been explored in film. Alfred Hitchcock’s *Vertigo*, which was released in the same year as Caillois’ *Les jeux et les hommes* (1958), offers one of the finest linkages between the sensations of physical dizziness and temporal disorientation, as the protagonist falls victim of a deadly uncanny chain of experiences. The sensation of vertigo upon which the narrative is built evokes a fear of falling in space alongside a descent into the spiralling vortex of time. The idea that Hitchcock’s film is about vertigo in time as much as in space is also remarked by the narrator’s voice-over in Chris Marker’s film, *Sans Soleil* (1982).

<sup>100</sup> This photograph features on the cover of a popular history of street photography: J. Meyerowitz and C. Westerbeek, *Bystander: A History of Street Photography* (London: Thames and Hudson, 1994).



common frames of ordinary perception. The following analysis of the spatial and temporal attributes of the picture raises a set of wider issues concerning the relationship between the *photographic* and the *urban* within the aesthetic of 'new photography'. For this purpose, the unity of the image will be exploded into a series of threads that will lead outwards into multiple fields of interpretations. Their retrieval aims to suggest the possibility of an allegorical reading of urban photographs.

The first set of considerations regards the textual information that identifies the picture, which includes the author's name and the title. The identity of the photographer (André Kertész) is an important indicator of authorship that designates the discursive space wherein the image was produced and disseminated through the agency of art criticism (Krauss 1989). The issue of authorship brings up the debate about art versus documentary photography that raged throughout the interwar years, sanctioning at the same time a progressive independence of photography as an art form and a growing awareness of the unique role of the medium in shaping a modern documentary culture (Phillips 1989a). This image entered a specific discursive space, that of avant-garde photography, at a time when the duality of art versus documentary was being radically questioned. While a number of professional photographers, often trained as portraitists or landscapists, affirmed the documentary value of photography as an instrument of "absolute realism" (e.g., Albert Renger-Patzsch and August Sander in Germany), other practitioners, often neophytes of the medium, experimented with the "snapshot style" that was facilitated by the diffusion of hand-held cameras with fast lenses in the 1920s (e.g., Kertész and Cartier-Bressons in France).

The location of the picture situates this quintessentially urban photograph in the city that, paraphrasing Walter Benjamin, could be defined the capital of nineteenth century photography. This epithet is meant to suggest the centrality of Paris as a site of different photographic cultures, as the city's landscapes fed a whole industry of visual representations since the first daguerreotype was made (Rice 1997).<sup>101</sup> This variety of genres included the preservation of historical monuments (promoted chiefly by the *Commission des Monuments Historiques*), the record of construction works (e.g., by Collard and Marville among others), the commercial production of photographic and stereographic panoramas (e.g., by Bayard, Baldus, and Soulier) and the early experiments with photography from the air (by Nadar and Tissandier in particular). The documentary project undertaken by Eugène Atget at the turn-of-the-century, when the 'Old Paris' was perceived to be under a new threat of disappearance, in some respects bridged the gap between the nineteenth-century tradition of street photography and the advent of modernism (Agrest 1991; Nesbit

---

<sup>101</sup> An interesting discussion of Daguerre's first plate as a 'Parisian view' is offered by Rice (1997:3ff).

1992). A new season of urban photography burgeoned in the 1920s, when the city provided the setting for the surrealists' irreverent imagery. Kertesz's photograph came out of a new photographic tradition that was inspired by surrealist aesthetics. The surrealist mood of this photograph has been defined by Pierre Borham as an expression of "circumstantial magic" – one of the three criteria listed by André Breton in his concept of "convulsive beauty" (Borham 1994:88).

Entering the space of the image means, first and foremost, to interrogate its visual elements, its recognisable characters, and the photogenic effects produced by the co-existence of signs within the frame. But it also means to excavate a further layer of history that lies beyond edges of the image, in an attempt to decipher the historical depth of field of the photograph. If we step into the image, we can observe a series of elements that seem to have been orchestrated so as to direct the viewer's gaze toward different directions - in and out of the frame. Some of these may have been accurately staged (in accordance to the principle of *agôn*), while others are more likely to have been incidental occurrences (in accordance to the principle of *alea*). A foreshortened street façade occupies the left edge of the picture, stretching well into the space of the image; opposite stands a thin strip of building, which subtly defines the right edge while enclosing the space in-between as a delimited streetscape. A bright sky above and a darker grey street below define the picture's horizontal borders. But it is what lies inside this carefully framed space that attracts our attention. An imposing railway viaduct fills up the background, topped by a steam-engine train caught at the moment of speeding right-to-left across the cityscape. The smoking chimney of the locomotive stands on the vertical axis of the central brick pier of the bridge, whose expanding base disappears behind the signs of a building site. Following this virtual line down through the bottom of the picture, our eyes meet a man walking across the foreground, carrying under his arm a large wrapped object (a framed picture?). He walks in the opposite direction of the train and, were the picture to come alive, will soon disappear into the bottom right corner, no sooner than the locomotive will have disappeared behind the rooftop in the top left corner.

Adding to the complex structure of the photograph, its long depth of field is punctuated by a number of elements that introduce extra visual 'noise' to it. On the street and pavement we discern several street walkers - some partly hidden - coming up to the fore. On the same virtual line of the man's hat, a trio of men walk their way downhill towards the point where the street bends. The presence of these human figures in the picture raises the issue of how bodies and spaces can articulate – through their relations as individuals, groups, or crowds – a photographic space. And conversely, it calls into question the effect of a photograph that is devoid of recognisable human characters. It is impossible not to be attracted, before anything

else, to the central figure that is closest to us and is gazing on *our* side of the picture. The fortuitous scene is further accentuated by the mystery of the man's wrapper. May that elusive object hold the entire secret of the picture, relegating all other elements to the rank of mere surroundings? The theatrical quality of the setting is echoed by the presence of a concealed image within it, which adds to the uncanniness of the whole scene (in accordance to the principle of *mimicry*). This *punctum* (Barthes 1980/1993) opens up an imaginary space wherein the urban landscape is transformed into a space of dream and mystery.

Moreover, the coincidence of simultaneous actions, jarringly arrested within the frame, produces a tension that is accentuated by the vorticose effect of actions going on across the surface and through its depth (in accordance to the principle of *ilinx*). This spiralling movement, occurring both in foreground and background, further contrasts with the sense of void at the centre of the image, where the scaffolding appears to be rising up against the feet of the railway viaduct. While trying to tease all the elements out of the picture, one realises that the gaze is caught in a complex web of significations in which the intentional and the fortuitous are often difficult to unravel. There is not a single focus of attention - object, action or event - that dominates the scene. Even the central character is merely an anonymous presence, whose cropped body suggests a fleeting and incomplete figure. Instead, the captivating power of this image seems to rely on the simultaneous occurrence of different things at the same time; and, what is more, on the possibility for the viewer to observe any one of them at ease.

While these features may be immediately visible in the picture, there are other elements that are less evident. Inadvertently, this iconic specimen of street photography portrayed a suburb of Paris that had a strong *aerial* vocation, since Meudon was not only the site of an observatory built in the 1870s, but also home to the important *École aérostatique* of Chalais-Meudon, established in the same period, which also housed a museum of the air after 1921.<sup>102</sup> This anecdotal circumstance may yet provoke one to dig unpredictable layers of meanings out of an image that has been used to equate *urban* photography to *street* photography. Although no aerial gaze is present in this image, elevated viewpoints are suggested by various features – such as windows, scaffolding, and the daunting viaduct.

A few more words should be spent to discuss the coming together of spatial and temporal coordinates in the visual space of the photograph. We saw how interruption (of time) and abstraction (of space) are both important elements of de Certeau's critique of the gaze from above. The combined processes of framing space

---

<sup>102</sup> Meudon was also the site of the first Aeronaut Company, which was founded in 1794 during the war between the French and the Austrians. It was initially called Compagnie d'Aérostiers, and later in the same year renamed École Nationale Aérostatique de Meudon (Mead 1983:13).

and freezing time merge together and constitute what may be called the *exposure space-time* of the photograph. The snapshot quality of this image emphasizes the interruption of time achieved through the camera. As the sharp depiction of a speeding convoy shows, here time is abruptly frozen and movement is immobilised. And yet, the initial shock of interruption that originated the photograph is turned into its opposite by the eternalised character of the picture: a reality turned into a tame and harmless spectacle for endless viewing.

While the sense of interruption is characteristic of the iconography of urban snapshots, other classes of images privilege the spatial dimension. As we will see, the aerial photograph is a typical case of image that, due to its perceptual distancing from the ground, tends to reduce figurative patterns into spatial abstractions. With the progressive distancing of the observer from its subject, achieved especially with the advent of mechanical flight, the movement in the picture becomes less and less perceptible to the human eye, and therefore less discernible to the viewer of a photograph. But abstraction can be an effect of perceptual distance as much as unaccustomed viewing points. There are several angles of vision in Kertész's picture that suggest this kaleidoscopic possibility, such as the elevated vantage point from high on the bridge and the person looking out of the window on the left side. The photographer's own vantage point, in turn, seems to be suspended in mid-air, an effect augmented by the morphology of the descending street.<sup>103</sup>

The above description is meant to demonstrate how the visual space of a photograph can frame a complex scene within a single, fixed, and legible representational field. The chaos of multiple events, all made equally visible within the frame, is reduced to a visual order, as if the apparatus could filter the ephemeral and untidy image of reality through its own orderly rules. This organisation of the visual field strikes a remarkable balance between the apparent randomness of the scene and its accurate construction. Not only does the photographic medium allow us to contemplate this picture over and over, unaltered in the course of time; it empowers the viewer with a particular sense of control over what is represented. Reality is forced into the perennial straightjacket of a colourless, odourless, mute and still surface. The procedure that reduces a city space into a city-scape is the "engine of visualization" that makes us, viewers, imagine seeing things in the picture (Maynard 1997) While we may read the image as a faithful record of a past moment, we are also aware of the process of transfiguration to which a space is subjected by the means of photography.

The juxtaposition of contrasting spaces, objects, and movements mirrors the idea of the modern city as a site of relentless transformation. Here modernity and tradition, the new and the old, the speedy and the slow, man and machine, construction and

---

<sup>103</sup> This effect of suspension is discussed by Rice (1997) with reference to nineteenth-century urban views.

decay, all coexist in the same street view, therefore adding layer upon layer of signification to the surface of the image. The significance of this image in the context of the overall argument is allegorical, in that it contains *en abyme* a number of motifs that define the image of the city in 'new photography'. The notions of speed, elevation, viewpoint, body, vertigo and mimicry (and even the top-hatted man) are recurrent themes of the next chapters. Furthermore, the theme of ruin harks back at military photography (Part II) and the bridge anticipates a favourite signifier of modernity in architectural photography (Part IV).

The year 1928 is also rife with associations. As the next sections will show, it was precisely at this historical juncture (ca. 1927-9) that a new photographic aesthetic crystallized in Europe. Peak of an extraordinary cultural and economic momentum, 1928 was an exceptionally fertile year not only for experiments with new photographic perspectives, but also for the thriving debates on the nature, aims, and directions of modern photography. Being situated at the mid-point of the interwar period, "Paris, Meudon" offers the compass for a non-linear exploration of a phenomenon marked by rupture and discontinuity. Much as the visual space of Kertesz's photograph suggests a centrifugal movement, the following inquiry into the period when it was taken will also follow a similar pattern.

## III.2. Shifting perspectives: urban views on the path to abstraction.

Do you understand now that the most interesting viewpoints for modern photography are from above down and from below up, and any others rather than the belly-button level? (Rodchenko 1928b/1989:258)

There are many wonderful things between you and the horizon when you are high up. (Kertész 1985:67)

This chapter discusses some specific manifestations of 'new photography' that were designed to abstract the views of cities from the realm of everyday perception. The emergence of a new visuality is located in the second half of the 1920s, when the rise of 'new photography' and 'new vision' were ultimately codified. The abstraction of elevated viewpoints is first investigated through a set of images that are commonly associated with surrealist aesthetics. The pursuit of visual estrangement in surrealist and constructivist photography is discussed in the light of the Freudian category of the *uncanny*. The chapter then investigates the sense of disorientation conveyed by constructivist artists, whose abstract views of cities are compared with the surrealist imagery produced in the same period. Similarities and differences are highlighted between the experiments carried out by photographic avant-gardes in Western Europe and the activities that went on in parallel in Soviet Russia, where the representation of cities became a key factor in the production of a modern image of the revolution. A final section indicates how the medium of photo-montage was appropriated by the most diverse strands of 'new photography' in their search for a kaleidoscopic representation of cities.

## **‘Architectures of vision’ and the aesthetic from above**

The European city was at the same time one of the main subjects of the ‘new photography’ and the site where a modernist visual culture developed. Amidst the rapid transformations of the post-war years, the rhythm and size of cities made the urban environment a privileged laboratory of photographic experiments. It may be argued, following Herbert Molderling (1978), that the heyday of modern photography gave visual expression to the fusion between “urbanism and technological utopianism” (Molderlings 1978). Besides offering a stage for a broad range of visual innovations, the city was also the place where the cross-overs between avant-garde and mass culture were most intense. As Christopher Phillips has pointed out,

During the 1920s, especially, many observers recognized that photography constituted an important link between the artistic avant-garde and an emerging mass, technological culture. It was a medium which, in the hands of El Lissitzky, Man Ray, or Moholy-Nagy, could be used in arresting ways to explore the formal issues which preoccupied the most advanced painting and architecture: visual transparency, interpenetration, rhythmic patterning, and unaccustomed perspectives. (Phillips 1989a:xii)

Cities provided an increasing choice of “unaccustomed perspectives”, particularly at a moment of intense technological and cultural changes such as the 1920s. It is therefore not surprising to detect a common interest in unfamiliar viewpoints among artists and photographers across the spectrum of the avant-gardes. This is not to say that ‘new photography’ was an exclusively urban phenomenon. However, the intensification of stimuli produced by the modern metropolis supplied theorists and practitioners of photography with a decisive terrain where modernist principles, techniques, and aesthetics could be played out.<sup>104</sup> Interwar photographers associated with different avant-garde groups, from surrealism to constructivism, seemed to share – if anything else – a tendency for creating images that would challenge the conventional categories of urban perception. The new “architectures of vision” (Barthes 1964/1992:242) allowed picture-makers with a penchant for abstraction to reconfigure the urban view under new aesthetics. The fact that so many photographers at the time, including a number of novices, experimented with unfamiliar viewpoints cannot be explained merely out of aesthetic considerations; the rapid burgeoning of new perspectives was catalysed by the technological innovations that came about in the mid-twenties – namely hand-held cameras, inexpensive roll films, faster lenses, etc. (Jeffrey 1981, Frizot 1998). The portable Leica 35mm., which

---

<sup>104</sup> The classic definition of the modern metropolis as a place of intensification of visual stimuli was given by Georg Simmel in his classic essay, “The Metropolis and Mental Life” (1969 /1903).

enjoyed great popularity upon its first release in 1925, extended the field of possibilities in the hands of trained and untrained photographers alike, eventually making the “unaccustomed perspective” a currency of the modernist urban imagery. The photographer’s struggle with the apparatus, to put it with Flusser, therefore embraced a new set of challenges. The coming of age of the modern street photographer, uniting the features of the ‘walker’ and the ‘voyeur’, was greatly stimulated by the growing hunger for pictures that fed the illustrated magazines in the interwar years (Westerbeek and Meyerowitz 1994).

A photographic ‘aesthetic from above’ was fully established in America in the first quarter of the twentieth century. In the big city, modern photography abetted the formation of a new type of urban spectator that has been described by Meir Wigoder (2002) as the “skyscraper-viewer”. As Wigoder has shown, the visual aesthetic of the bird’s eye view developed in parallel with the explosion of the “corporate verticality” that re-shaped the physical, social, and symbolic landscapes of the American metropolis - particularly in New York between the 1890s and the 1930s. Wigoder has charted the historical development that began with Alvin Langdon Coburn’s early attempt to abstract the image of the city from high vantage points. Coburn’s celebrated picture taken from the observation deck of the Metropolitan Life Tower in 1909 recorded the octopus-like pattern of the adjacent square cut across by the building’s elongated shadow [fig. 16].<sup>105</sup> The presence in the picture of a cast image of the tower itself, which featured as viewing platform and viewed object at the same time, anticipated a motif that was to recur, for decades to come, in the modernist imagery of the metropolis. Coburn went on to take photographs from great heights that reflected the bourgeois inclination to keep the urban crowds at a distance.<sup>106</sup> As Wigoder has pointed out, this pursuit of a detached viewing experience had its roots in a tradition of representation that predated the American skyscraper: “It is impossible to understand the modern skyscraper viewer without recourse to a tradition of visualizing the city from above that had already begun in Parisian art and literature in the nineteenth century” (Wigoder 2002:160).<sup>107</sup> This passage confirms that a reference to Paris is inescapable in any history of urban photography that is concerned with the elevated view.

In the interwar years, the possibility of an ‘aesthetic from above’ captured the imagination of a number of photographers, both in Europe (e.g., Bayer, Krull, Moholy-Nagy, Munkacsy, Seidenstücker, and others) and the United States (e.g., Abbott, Hine, Martin, Steiner, and others). While in the big American cities photographers could

---

<sup>105</sup> Coburn’s series “New York from its Pinnacles” was exhibited in London in 1913.

<sup>106</sup> In some cases, such as Stieglitz’s, the photographer himself wholly embraced “the visual experience of aesthetic detachment” made available by the skyscraper (Wigoder 2002:164).

<sup>107</sup> Bacon Hale (1984) has charted the autonomous tradition of high-angle street views characteristic of American photography, from the so-called “Grand Style” of the 1870s and 1880s to the revival of panorama at the beginning of the twentieth century.



hardly escape the spreading growth of skyscrapers, in Europe the modernist aesthetic was stimulated more by the influence of avant-garde movements than by compelling architectural features – although, in some cases, both factors were instrumental.

Shortly after Kertész began to roam the streets of Paris armed with a Leica, in 1928 he also took an interest in high vantage points, which enlarged his surrealist palette. One of his ‘trademark’ photographs shows an oblique view of the ground under the Eiffel Tower, where the long shadows of passers-by melt away with the silhouette of the arched structures [fig. 17]. This is a picture *from* the Tower as much as *of* the tower itself: its bulky metalwork is evoked directly and indirectly by projections on the ground, which add to the abstract quality of the scene. The apparent distortion of otherwise familiar shapes is carefully composed within the frame so as to induce a vaguely surreal effect. In his autobiography, Kertész would later describe his predilection for high shots, observing that “If you are on the same level you lose many things” (Kertész 1985:66). A growing number of photographers experimented with the visual patterns produced by elevated viewpoints, particularly in the second half of the 1920s. The Eiffel Tower represented the architectural beacon of a new era and, therefore, was a favourite subject of their photographs. Not only artists and photographers, but also architects and critics were equally attracted to the revived photogenic quality of its structure (see § IV.3). A modern “architecture of vision” *par excellence*, the Tower was an extraordinary viewing platform onto the city of Paris.<sup>108</sup> Its prestige was augmented by the fact that, as the age of the American skyscraper was coming in full swing, the Tower remained - up until the late 1920s - the tallest building in the world (Harriss, 1976:207).<sup>109</sup>

In Kertész’s photographs, however, the inventiveness of the gaze was more important than the ingenuity of the modern structure he used as an observatory. Experimenting with unfamiliar viewpoints did not necessarily require the highest platforms. This is exemplified by Kertész’s picture of a road intersection in a small French town, where the angle of vision nears the vertical [fig. 18]. Here, the three directions of the *carrefour* are marked by different passing vehicles, while three buildings on the corners of the image reinforce its triangular structure. A funnel of light enters the scene from the upper side, casting its shadows on streets and pavements. But the urban dimension of this photograph is also enriched by another element of contrast, where the tarred surface of the main road gives way to the more fragmented grain of cobbled paving. It is through the interplay of shapes and shades that the

---

<sup>108</sup> The construction of the Eiffel Tower, in 1889, coincided with the birth of instantaneous or ‘snapshot’ photography, since George Eastman introduced its first hand-held models in the same year.

<sup>109</sup> It was only in 1929 that the Eiffel Tower lost its primacy to the Chrysler building in New York. Two years later, Lewis Hine was commissioned to make a photographic record of the construction of the Empire State Building, who broke new records. See L. W. Hine, *The Empire State Building* (New York: Prestel, 1998).

texture of the street is revealed in the photograph. In his autobiography, Kertész would later place this image next to the Eiffel Tower's as a way to rejoice the richness of elevated vision.<sup>110</sup> In fact, great heights were not always essential to explore the potential of the medium for abstracting familiar views into unnoticed landscapes. In some cases, the abstracting quality of vertical or oblique viewing angles was exploited in close-up images. Kertész's photograph of waste water ("Trottoir, Paris 1929"), along with Moholy-Nagy's shot of street drains ("Rinnstein, 1925") and Brassai's series of pictures of cobblestones (series "Les pavés, 1931-2"), are among the most renowned examples of a genre of street photography that revelled in the abstract patterns produced by the depiction of surfaces in close-up.

Although Kertész never bent his naturalist style to the complete flatness of aerial views, his interwar photographs reveal an ongoing search for unforeseen patterns in the urban environment. His imagery was not abstract in a constructivist manner, but always rooted in the human presence as an animating factor. The eerie appearance of some of Kertész's photographs, whether they be taken from the ground or from above, comes close to what Henri Cartier-Bresson was later to formulate as "the decisive moment."<sup>111</sup> The casual occurrence depicted in the view of the intersection at Blois did not possess quite the same 'shock effect' of other surrealist experiments, but it did convey the ability of the medium to capture fortuitous coincidences. As Siegfried Kracauer put it succinctly, "random events are the very meat of snapshots" (Kracauer 1960:19). While the German critic also pointed out that city life had been a "photogenic major theme" (ibid.), at least since the boom of the stereograph in the 1850s, a new visuality was established when the high vantage point became part of the stock-in-trade of modernist photography in the 1920s. The view from above introduced a variation on the theme of the urban snapshot, taking the possibility of freezing time and framing space to new visual effects. By situating the spectator in the position of a hidden observer of street life, this type of view provided a new visual idiom especially welcome by those avant-garde photographers who embraced the surrealist aesthetics.<sup>112</sup>

---

<sup>110</sup> His appreciation of viewpoints other than the one from street level is also confirmed in a note that he wrote to describe an image taken from a balcony in New York years later: "If you are too high, everything is flat. Here on the twelfth floor it is both high and low" (Kertész 1985:111).

<sup>111</sup> H. Cartier-Bresson, *The Decisive Moment* (New York: Simon and Schuster [1952]).

<sup>112</sup> This hypothesis of an intimate correlation between surrealism and photography is discussed at length by Krauss (1995).

## Uncanny streets: the 'shadow stage' of the city

The French critic Pierre MacOrlan praised the capacity of the street photographer to reveal the intimate character of a city by casting a new gaze upon ordinary places, objects, and details. The lights and shadows of the street were the basic elements of what MacOrlan called the "social fantastic", which photography was thought to have the power to unlock (MacOrlan 1930/1989). Atget was considered by MacOrlan, and soon after his death in 1927 by many other critics, the undisputed master of photography of the everyday. However, the appreciation of Atget's photographic documents of Paris as the forerunners of a surrealist aesthetic took place very much despite himself (Nesbit 1992); it was the symptom of a new photographic aesthetic that embraced a more conscious use of surprise elements. The lights and shadows of the street became part of the visual vocabulary of artists that were intrigued by the formal qualities of objects.

One of the most interesting examples is offered by the Bauhaus artist Otto Umbehr, better known as Umbo.<sup>113</sup> Two years after he first took up photography in 1926, Umbo produced a series of photographs through the window of his office at the Deutsche Photodienst ('Dephot') agency in Berlin's Jägerstrasse,<sup>114</sup> which are held among the masterpieces of 'new photography'. The titles of these pictures ("Wonder Shadows", "Mystery of the Street", and "Uncanny Street")<sup>115</sup> conveyed Umbo's desire to transfigure a series of ordinary street views from a balcony into uncanny visions. The exposure space-time common to these 'planar' photographs is a combination of vertical vantage point and fast shutter-speed. Each of the frames is split into two areas of comparable extension but different functions and textures: the street and the pavement [fig. 19, 20]. The prominence of shadows in the street is accentuated by the fact that their elongated profiles run parallel to the line of the gutter, which is the main structuring device common to these compositions. The striking effect of these images consists in producing a visual space in which the entity and size of three-dimensional figures can only be gauged from their cast projections, whereas the ground surfaces are extremely detailed and clearly intelligible at a first sight.

Maynard refers to one of these photographs, "Mystery of the Street" [fig. 19], to make a point about the difference between detection and depiction in photography: while we immediately understand a cast shadow as an imprint on a surface, he suggests, this does not necessarily make us "imagine seeing things" as well (Maynard 1997:158-60). Similarly, while all photographs are based on a detective function, only

---

<sup>113</sup> On Umbo's artistic formation, see Fiedler (1990) and Molderlings (1996).

<sup>114</sup> The first cooperative photojournalist agency, Dephot was established by Simon Guttman in Berlin, where it operated until it was dissolved in 1933.

<sup>115</sup> The original titles were: "Schattenwunder", "Mysterium der Strasse", and "Unheimliche Strasse."

some of them stimulate our imagination to see their contents “depictively”, a procedure that depends on the viewer’s perceptual ability to recognise forms. In order to emphasise this point, Maynard chose to reverse the orientation of Umbo’s photograph:

I confess to having printed Umbo’s photograph right side up, but – judging from the signature – his artwork upside down. Perhaps when the artwork is righted, readers will find that the cast shadows (say, of the rubble) become strongly depictive, evoking imagining. (Maynard 1997:160)

This simple trick reveals that Umbo shifted the position of the original shot to increase the depictive function of the photograph and placed his signature as a clear indication as to how to read the scene. Jeannine Fiedler (1990) has observed that the “hallucinatory effect” of these photographs derived from the fact that Umbo rotated the prints by ninety degrees from the actual standpoint of the camera. He oriented “Mystery of the Street”, and likewise the other two images in the Jägerstrasse series, so as to make the shadows look upright on the ground as if they were the main characters in the scene. This positioning contradicted the pictorial conventions of skiagraphy, which prescribed that shadows should be oriented towards the reader for an easier perception. However, the zenithal perspective allowed the artist to rotate the images at his discretion in order to enhance their dramatic charge without diminishing their legibility. This is all the more evident in the photograph “Uncanny Street”, where the gutter is aligned with the main axis of the image and the shadows therefore appear to be perfectly vertical [fig. 20]. The planar dimension of Umbo’s images suggests a specific characteristic of their photographic spaces: his singular compositions simulated and, at the same time, stimulated a sense of *aerial* perception. The impression of a free-floating gaze given by the vertical perspective was reinforced by the feeling that the photographer (and, vicariously, the viewer of the image) had lost physical connection with the ground. As Molderling put it, “Umbo managed to objectify a sensation: the euphoric feeling of been cut off from all earthly bounds, light and free to hover above things as if in a trance” (Molderlings 1996:108. My translation).

It can be argued that the vertical field of vision explored by Umbo induced a ‘negative’ reading of spaces based on the recognition of three-dimensional reality through its cast reflection.<sup>116</sup> The streets animated by wondrous shadows are haunted by an uncanny presence, which is suspended between the spheres of reality and imagination. Among the variety of manifestations charted by Freud in his seminal essay, “The Uncanny” (1919/1971), the phenomenon of the double (in the form of mirrors, shadows, and other reflections) is best suited to define the quality of Umbo’s

---

<sup>116</sup> On the fundamental *negativity* of the shadow in the history of Western representation, see Stoichita (1997).

street images.<sup>117</sup> This slippery phenomenon functioned, according to Freud, both “as a preservation against extinction” and as “harbinger of death”:

An uncanny effect is often and easily produced when the distinction between the imagination and reality is effaced, as when something that we have hitherto regarded as imaginary appears before us in reality, or when a symbol takes over the full functions of the thing it symbolizes, and so on. (Freud 1919/1971:244)

Laura Mulvey (2000) has related the concept of the uncanny to the realist paradigm based on the indexical nature of photography, which was theorised in particular by Barthes, Bazin and Kracauer. Mulvey has revived the notion of “intellectual uncertainty” that is at the roots of Freud’s classic essay:

In the last resort, the relation between photography and the uncanny must lie in the conjunction of two ideas. The ‘intellectual uncertainty’ of death, itself beyond meaning or understanding, merges with the ‘intellectual impossibility’ of reducing the photograph to language and meaning. (Mulvey 2000:147)

The intractable realism of the photograph is well captured by Umbo’s photographic spaces inhabited by walking shadows. Their vertical likenesses resonate with the mythical origins of art according to Pliny’s treatise of natural history, which Stoichita discussed in his book, *A Short History of the Shadow* (1997). In an attempt to trace back the “forgotten origin of all representations”, Stoichita proposed that a “shadow stage” should be considered in addition to the Lacanian concept of “mirror stage”. While the latter has been held to signify the imaginary stage in the identification of the ‘self’, the former would constitute the defining moment in the identification of the ‘other’. Since its primary mode of projection is lateral rather than frontal, the cast shadow functions as an indexical marker of an other’s presence, whereas the mirror image is normally defined as the face-to-face encounter between the viewing subject and its own reflected self-image. This notion of “shadow stage” resonates with the Freudian formulation of the uncanny. According to Stoichita, the “expression of autonomous power” embodied by shadows in Freud’s original account is a form of doubling that differs significantly from the sameness of the mirror image (Stoichita 1997:132).

Another iconic image of the new photography famously exploited the uncanny effects of textures and shadows produced by the view from above. This photograph appeared on the cover of Werner Gräff’s seminal book, *Es kommt der neue Fotograf!*

---

<sup>117</sup> The German term *Doppelgänger* evokes, more than its equivalent in other languages, the notion of a mobile (literally, ‘walking’, figure). The main source of Freud’s account of the *Doppelgänger* was Otto Rank’s eponymous study, *The Double: A Psychoanalytical Study* (New York: New American library, 1979).

("Here Comes the New Photographer!"), published on the occasion of the exhibition 'Film und Foto' set up by the Deutscher Werkbund in Stuttgart in 1929 [fig. 21].<sup>118</sup> Gräff's book, which is widely regarded as the unofficial manifesto of 'new photography', advocated the liberation from the stifling rules of conventional practice (Newhall 1978). He hailed the coming of the *new* photographer as the harbinger of a visual language that no longer accepted any given boundary (Gräff 1929:47). The active role of the photographer in shaping the visual environment of modernity was evoked in the cover of the book by the image of a walking man, whose resolute gesture echoed the title's emphatic pronouncement. Cropped inside the ring of a camera lens, the picture shows a top-hatted character marching down a cobble-paved street seen from overhead. Once again, the vertical viewpoint took a typically urban image along the path to visual abstraction.

A few years later, this picture was discussed in details by Rudolf Arnheim (1932/1989) in the context of a general review of unusual perspectives in film and photography. In his detailed description, Arnheim praised the ability of camera angles to generate new and meaningful interpretations of reality beyond the level of formal experimentation for its own sake:

Of all the available angles, the one that suggests itself most readily would have involved the photographer's standing next to or in front of this man. But he shows this man from above, and this very emphatically underscores (instead of just taking for granted) the fact that in photography, every three-dimensional body has to be viewed from a particular vantage point. (Arnheim 1932/1989:191).

This passage reveals Arnheim's allegiance to the theory of *ostranenie* ("estrangement"), which was first elaborated by the Russian critic Viktor Shklovsky in the 1910s and was formalised in the context of Soviet art in the early 1920s (Watney 1982). According to Shklovsky, the best way in which literature and the arts could respond to a world where perception was increasingly desensitised was to raise the threshold of attention by confronting the reader, or the spectator, with ever new and unfamiliar techniques of representation. As Phillips (1989b) has pointed out, Shklovsky's method aimed at arousing the readers' critical responses by stirring their imagination out of the habits of humdrum existence. Similarly, for Arnheim the visual power of the image was a function of the photographer's ability to make the ordinary unfamiliar; in other words, the more unusual the vantage point, the stronger one's involvement in the scene. But distortion could only be appreciated by viewers who had a previous knowledge of the subject seen from a 'standard' viewpoint. The exploration of uncharted perspectives would therefore bear, according to Arnheim, a didactic value

---

<sup>118</sup> Gräff's was one of the three books published for the 'Film und Foto' exhibition (Phillips 1989b).

besides an aesthetic one. The photograph of a 'walking man' was instrumental to this goal:

As a representation of the subject called "walking man", the picture couldn't be more inadequate [...] But the photographer has another intention. He presupposes a familiarity with the subject, and seeks to interest and possibly instruct the viewer by showing him this unusual sight of an extremely ordinary subject. (Arnheim 1932/1989:191)

In order to illustrate his view, Arnheim carefully chose a vertical photograph that was largely popular in art circles. The "particular vantage point" embodied by this image was the furthest one from the horizontal axis of ordinary perception. "The 'walking man's' body has become a planar image," Arnheim concluded, "and because this planar image is so unusual, it impresses itself on our consciousness" (Arnheim 1932/1989:192).

Experiments with planar images were especially welcome by Gräff, whose undermining of traditional photography was predicated upon an issue of spatial representation: since human vision did not adapt strictly to the rules of perspective, why should photography confine itself to its imitation? It is worth recalling that Erwin Panofsky's *Perspective as Symbolic Form* (1927) was first published in Germany two years before the Stuttgart exhibition. In this extremely influential book, Panofsky explained the distortion produced in the optical image when it is projected from the retina onto a surface that is closer to "the inner surface of a sphere" than to a "*plana tabella*". Beside the curvature of the retina, he observed, further qualitative discrepancies are caused by the incessant movement of the eyes. Interestingly, Panofsky suggested that the widespread dissemination of photographs had contributed to strengthen the identification of real space with perspectival construction:

If even today only a very few of us have perceived these curvatures, that too is surely in part due to our habituation – *further reinforced by looking at photographs* - to linear perspectival construction: a construction that is itself comprehensible only for a quite specific, indeed specifically modern, sense of space, or if you will, sense of the world. (Panofsky 1927/1991:34. Italics added)

The proponents of 'new photography' seemed committed to further unhinge the realm of human perception from the classic laws of perspective. Along these lines, Gräff's book defended such practices as photo-journalism, photograms, and photo-montage, whereby the medium had begun to take a path of development independent from the other arts. Gräff explicitly advocated the visual pleasure derived from aerial photographs, which contributed as much as any other class of images to the dissolution of central perspective. The revolutionary message of the 'Film und Foto' exhibition, with its accompanying cohort of catalogues and manifestoes, was later

scaled down by critics who maintained that it belatedly recorded a trend that had been going on for several years, rather than announcing the advent of a *new* approach in photography.<sup>119</sup> However, most historians of photography seem to agree that the Stuttgart event marked the full recognition of a shift in photographic practice whereby, in Gräff's words, "the uncustomary photo will no longer remain uncustomary" (Gräff 1929/1978:110). Not only did 'Film und Foto' set the seal on a new photography wedded to the aesthetic of progress but, more importantly to the present account, it also sanctioned what Molderling has called "the triumph of the new 'urban' vision" (Molderling 1979:89-90).

Before moving on to the study of constructivist photography, which put the city at the critical core of a new vision, it should be emphasised that the convenient grouping of different movements and individuals under the label of 'new photography' risks overshadowing important differences in the avant-garde production of the time. The aesthetic from above was by no means the only way in which practitioners sought to produce a modern image of reality. Moreover, the urban environment was exploited by many artist-photographers as one subject among others capable of drawing the effects of visual estrangement out of photographs. Artists and critics alike wrote about the "magic", and even "vertiginous", quality of the photograph also in contexts that had not necessarily to do with the space of the city as a site of dizzying experience. A prime example of this was the so-called "absolute realism"; that is, the sober documentary style that emerged in Germany in the 1920s and was led by Albert Renger-Patzsch. According to Renger-Patzsch, the quintessential character of photography was its ability to represent the world in a straight, mechanical, and objective fashion. He called for a higher appreciation of the opportunity offered by photography "to capture the magic of material things" (Renger-Patzsch 1927/1989:105), by which he meant natural forms as much as human artefacts.<sup>120</sup> The belief in the power of the medium to reveal the inner – one could say, *photogenic* - beauty of things led Renger-Patzsch to experiment also with unfamiliar viewpoints. However, he did not pursue a surrealist estrangement of the object, but rather pushed the fidelity of the photographic image to uncharted degrees of realism. The writer Hugo Sieker hailed the transcendent quality of this approach to photography as the harbinger of a metaphysical style:

It is significant that in writing about these photographs it is impossible not to touch on the mystery of life: for their essential quality is that they awaken on the viewer, quite forcefully at times, this extremely rare *amazement* at the *miraculousness of physical reality*. With a strange immediacy,

---

<sup>119</sup> See, for instance, I. Jeffrey, *Bill Brandt: Photographs, 1928-1983* (London: Thames & Hudson, 1993).

<sup>120</sup> In 1928, Renger-Patzsch published the successful book, *The World Is Beautiful*, which attracted much praise to the absolute realist style.



they set in motion religious vibrations; their effect is greater than that of mere aesthetic appeal.  
(Sieker 1928/1989:113. Italics in original)

This ability to draw marvellous visions out of familiar objects was deemed to catch a glimpse of the “vertiginous depth of wonder” (Sieker 1928/1989:114).<sup>121</sup> These comments reveal that the persistent theme of vertigo cut across the most diverse strands of ‘new photography’ that congealed in the second half of the 1920s.

### **Cities at a slant: revolutions of vision and visions of revolution.**

The constructivist approach to photography was largely represented in the ‘Film und Foto’ exhibition, in which Lázló Moholy-Nagy had an instrumental role.<sup>122</sup> Moholy-Nagy was the artist who contributed perhaps more than any other to establish photography at the centre of the cultural phenomenon that was to be codified as New Vision.<sup>123</sup> From the early 1920s, Moholy-Nagy advocated an art of production that would attune the modern media commonly used for reproduction, including film and photography, to new creative endeavours. Accordingly, experimental photography was deemed to be instrumental to the enhancement of the human sensory faculties. In Moholy-Nagy’s words, “Art attempts to create new relationships between familiar and as yet unfamiliar data, optical, acoustic or whatever, and forces us to take it all in through our sensory equipment” (Moholy-Nagy 1922/1989:80). Within this constructivist ethos, Moholy-Nagy went on to theorize the need to develop a truly photographic language detached from the conventional forms of representation. He insisted that the unprecedented field of visual experience opened up by photography had to be investigated on the basis of the medium’s intrinsic quality, which one may also call, following Maynard, photography’s detective function. As Franz Roh wrote,

We [...] find new ways to isolate details: this allows us to experience the inner form of a thing, by removing the usual, and distracting, context that connects one thing to the “whole” or to other adjoining things. But we also find large overviews (aerial shots) that put a piece of the world back into a more inclusive context than we can perceive in everyday life, and also views from the top down (from a chimney, for instance) that have the magical effect of showing the verticals at a slant, so that they take on the astronomical meaning of radia pointing to an imaginary center of the earth – which, in a higher sense, they actually are. (Roh 1930/1989:161)

---

<sup>121</sup> The magical realism of Renger-Patzsch’s style was famously scorned by Walter Benjamin, who decried its “creative” ambitions as a “capitulation to fashion” (Benjamin 1931/1979:255).

<sup>122</sup> On the involvement of Moholy-Nagy in the ‘Film und Foto’ exhibition, see Hight (1995:203).

<sup>123</sup> As Phillips explains, “The term ‘new vision’ does not refer to any organized photographic movement. *The New Vision* was the title of the 1930 American translation of Moholy-Nagy’s book, *Von Material zu Architektur* (1929), which summarized Moholy’s famous Bauhaus preliminary course” (Phillips 1989a:82).

Not surprisingly, the theory of estrangement had a strong influence on the constructivist aesthetics that Moholy-Nagy developed at the Bauhaus. As Eleanor Hight observed, “To disorient the viewer accustomed to a picture space based on Renaissance perspective, he recommended aerial and ‘worm’s-eye’ views, rotation of the camera to the diagonal, and elimination of the horizon line” (Hight 1995:200). For Moholy-Nagy, the unfamiliar view therefore included all types of oblique shots, from below as much as from above. In an article published in 1927, Moholy-Nagy traced the path toward a new vision by listing seven areas of future development for the medium of photography. The first area he indicated was: “Unfamiliar views made by positioning the camera obliquely, or pointing it up or down” (Moholy-Nagy 1927/1989:84). The choice of unaccustomed perspectives meant to him the possibility to explore the visual relationships offered by modern space. This approach brought about what Michel Frizot has described as “a pedagogical aesthetic for the sensory understanding of the modern environment” (Frizot 1998:462).<sup>124</sup>

The modern city offered a fertile terrain for Moholy-Nagy’s visual researches. A markedly urban character can be detected in his ground-breaking book, *The New Vision*, which greatly contributed to the diffusion of a constructivist aesthetics (Moholy-Nagy 1929/1939). Moholy-Nagy’s idea of a new visual language was conveyed by a rich selection of images, which included aerial photographs and pictures taken from skyscrapers. The main function of these images was to present the agency of light as the key factor in the transfiguration of material forms into an architecture of transparency and interpenetration. This principle crystallised in a series of pictures Moholy-Nagy took in Marseille, where he shared the predilection for the Pont Transbordeur that also animated other modernist photographers around the same time [fig. 22].<sup>125</sup> The photographic portrayal of this building shows an unbound gaze in search for a visual texture that would capture the mobile space of the bridge.

Around the same period, Moholy-Nagy also took a famous series of photographs from the heights of Berlin’s Radio Tower (*Funkturm*), which are held among the paradigmatic examples of abstraction in urban photography. The photograph shown in Fig. 23 reveals Moholy-Nagy’s wish to combine the abstract patterns of the background with a foreshortened view of the tower’s trestle-work – a three-

---

<sup>124</sup> While space was a central issue in Moholy-Nagy’s visual researches, it is remarkable to find no mention whatsoever to exposure time among the seven fields of photographic exploration that he listed. These included the use of distorting lenses, new camera constructions, X-ray photography, experiments with photograms, and colour sensitivity.

<sup>125</sup> A number of photographers visited Marseilles around that period and took photographs of and from this bridge, including Herbert Bayer, Germaine Krull, and August Sander. See *Le Pont Transbordeur et la Vision Moderniste* (Marseille: Musée de Marseille, 1991). A detailed analysis of Sigfried Giedion’s photographs of the same building is made in another chapter of the thesis (§IV.3).

dimensional element that fills the depth of field of the image. Rupert Martin has commented on the 'Radio Tower' series:

In these photographs the subject is of less importance than the shock of seeing the relationships of incongruous elements on the same plane [...] the unfamiliarity of their shape and the incongruous relationships startle us into re-evaluating our conventional ways of seeing. (Martin 1983:21)

Parallels are often drawn between Moholy-Nagy's constructivist vision and surrealist photography, not least on the basis of a common quest of defamiliarisation sought out by means of unusual camera angles. Similar features are shared by Moholy-Nagy's 'Radio Tower' photograph and Kertész's image of the 'Eiffel Tower' [fig. 17].<sup>126</sup> Besides having in common similar compositional aspects, such as the near-vertical vantage point and the distance from the ground, both of these photographs are pictures *of* and *from* the towers at the same time. The 'Radio Tower' picture, however, arguably reaches a higher degree of visual abstraction, since the absence of any sign of human action banishes the perception of time and experience from the frame. Indeed, as Kozloff has pointed out, Moholy-Nagy pursued a complex effect of disorientation:

Even when they choose the same extreme angle, high or low, one feels that Kertész always implies some kind of situation likely to justify the gymnastics of the view. A great deal of the charm and wit of a Kertész photo lies in the fact that the craning or oblique view just happens to lock material freshly and significantly "in place" as it also affords us a rather privileged glimpse of behavior. Moholy, in contrast, thinks holistically of the frame, and never asks what people are doing, let alone who they are. (Kozloff 1979:130)

While the presence of time - whether in the guise of people, situations, or cast shadows - seems to enter insistently Kertész's images, Moholy's abstract photographs tend to privilege the construction of timeless visual spaces, inhabited by geometric patterns rather than human events. This situates Moholy's views closer to a non-figurative visual language that excluded from the image the passage of time as well as the specificity of place. As Kozloff put it, in Moholy's hands photography became "an instrument of modern consciousness" (Kozloff 1979:135). But what was the nature of this modern consciousness? The 'Radio Tower' pictures suggest a visual procedure whereby the technological advances of modern engineering were combined with the mechanical gaze of the apparatus to produce an abstract vision. The flattening of

---

<sup>126</sup> A possible analogy between the two constructions has been suggested by Eleanor Hight, who has observed that "The Funkturm was in one sense Berlin's Eiffel Tower: a modern steel construction from which the energetic photographer could obtain views of the city below" (Hight 1995:121). It is interesting that both the Funkturm and the Eiffel Tower, two 'architectures of vision' that inspired the rise of an aerial gaze, also functioned (for a certain period at least) as 'aerials'.

space onto the surface of the photograph evoked not only the work of an 'aerialist' armed with a camera, to paraphrase Kozloff, but also the embodiment of a gaze that strove to rescind its anchorage to the ground. Moholy-Nagy's experiments from high vantage-points were clearly aimed at conjuring up the effect of a flying gaze. As Hight (1995) has observed, the Berlin series epitomised Moholy-Nagy's interest in "the iconography of the aerial view", which he embraced for its association with the new visual possibilities opened up by modern technology. Moholy-Nagy's study of early 1900s experiments conducted with carrier pigeons equipped with miniature automatic cameras testifies to his interest in the possibilities of the bird's eye view: "For Moholy, aerial photographs came to depict the modern world through a new and appropriate way of viewing, looking down on the cityscape where urban designers have organized geometric forms on a monumental scale" (Hight 1995:121).

Sekula (1975:30) has described Moholy-Nagy's images as "aerialized" street photographs and has compared them to the work of Aleksandr Rodchenko. Indeed, few historians of modern photography have failed to make the connection between the 'new vision' that emerged in Germany during the 1920s and the experiments conducted by Russian constructivist artists in the same period.<sup>127</sup> Since the early days of the Soviet Union, the camera had become at once the prime witness of the proletarian revolution. Hence, avant-garde photographers were keen to explore a new visual iconography based on radical camera angles. The launch of the first five-year plan, in 1928, also gave a considerable input to the organization of visual means of propaganda capable of recording (and reporting) the images of the country's new era.<sup>128</sup>

Daring visual angles were used to suggest, with their perspective and exaggerated foreshortening, the invincible strength of the "new man", the revolutionary worker, and his domination over his environment. Through the use of high- and low-angle shots, this art, placed in the service of the technical revolution, was able to encompass all space and make it its own. (Frizot 1998:461)

New dynamic effects were explored by such photographers as Aleksandr Rodchenko and Boris Ignatovich, who were among the promoters of the photographic section of the *October* group, founded in 1930. Rodchenko, in particular, advocated a constructive approach to press photography based on the combined effects of multiple views. His belief was that snapshots should be taken from the viewpoints most appropriate to each subject, so that they could be then assembled to the effects required. This type of photograph (called "photo-still", or "photo-moment") was radically opposed to the organic style advocated by realist photographers, who

---

<sup>127</sup> On the mutual influence between Moholy-Nagy and Rodchenko, see Hight (1995:200-3).

<sup>128</sup> The instrumental uses of modern photography in Soviet propaganda journals are discussed in chapter § IV.2.

pursued a more synthetic type of image based on pictorial conventions (which was also called “photo-picture”). In a series of articles and lectures, Rodchenko advocated the thought-provoking shock of unfamiliar images, based on the method of the photo-still, against the passive and uncritical reception of photo-pictures.<sup>129</sup> At the roots of the dispute that opposed the *October* group to the proponents of a conservative approach to photography was a fundamentally different concept of totality (Tupitsyn 1992; 1996).<sup>130</sup> Rodchenko and his followers rejected the idea that a single image was needed to express a whole message. They believed instead in the creative power of dialectics, whereby a sense of the whole could only be obtained by effect of a collision of parts or fragments. Photographic meaning was therefore to be sought out in the assemblage of fragmentary views, each of which contributed to the whole visual effect. According to Margarita Tupitsyn, the photo-reportages made by Rodchenko and Ignatovich in the late 1920s functioned “to disrupt the continuity of everyday life and to concentrate on and expose the elements (contents) which certified the presence of a new reality” (Tupitsyn 1992:488).

In the hands of *October* photographers, the departure from the everyday took the form of dizzying visual compositions. Not unlike their counterpart in the Western Europe, they set out to expand the common perception of familiar objects by challenging the established canon of central perspective in photography. In 1928, Rodchenko famously urged photographers to abandon altogether the straight viewing angle: “Photograph from all viewpoints except ‘from the belly button,’ until they all become acceptable. The most interesting viewpoints today are ‘from above down’ and ‘from below up,’ and we should work at them” (Rodchenko 1928a/1989:246). This appeal for a photography of oblique viewpoints sparked a heated controversy among Soviet art circles. In the same year, Rodchenko defended his approach in the pages of the journal *Novyi Lef*, where he insisted that avoiding the horizontal axis of vision meant a definitive rupture from the visual hegemony of painterly representation. The echoes of the breakdown of traditional perspective affected by the early phase of Cubism<sup>131</sup> were evident here: “Photography – the new, rapid, concrete reflector of the world – should surely undertake to show the world from all vantage points and to develop people’s capacity to see from all the sides” (Rodchenko 1928b/1989:257). The implications of this method were far-reaching. By reconfiguring the visual field of the photograph, Rodchenko intended to tear asunder the conventional relationship between the viewer of the image and its content.

---

<sup>129</sup> The debate over photo-still and photo-picture was sparked by the critic Ossip Brik in a series of articles published between 1926 and 1928 (Phillips 1989a:213-20, 227-33) On the origins and connotations of the original Russian words, *foto-kadry* and *foto-kartiny*, see Tupitsyn (1992:484).

<sup>130</sup> The Revolutionary Society of Proletarian Photographers (ROPF), in particular, propounded an approach to photo-pictures close to the principles of Russian realist painting.

<sup>131</sup> See Galassi (1998:118ff).

Peter Galassi (1998) has offered an acute analysis of the varying effects produced by Rodchenko's slanted views:

The oblique [perspective] can disengage the viewer from the scene, rendering it as a pattern of unfamiliar forms, unburdened of their worldly association. Or it can aggressively implicate the viewer in the scene, evoking a vertiginous plunge into an all too palpable space. (Galassi 1998:120)

Galassi has found a masterly combination of these two effects in Rodchenko's 1928 photograph, "Assembling for a Demonstration": a high shot overlooking the courtyard of the Higher Institute of Technics and Art in Moscow, where the artist was active as a teacher [fig. 24]. Galassi has suggested that, by comparison with the lack of depth of Umbo's "Uncanny Street", Rodchenko's image created a space of gradual recession that virtually extended to the plane of the viewer.<sup>132</sup> The surrealist abstraction of Umbo's planar images was here mitigated by an element of stronger realism. This comment also applies to the personal style elaborated by Rodchenko's fellow *October* photographer, Boris Ignatovich, which can be considered a variation on the theme of the oblique angle. The photograph [fig. 25] of the monument to Lassalle in St Petersburg, which had been re-named Leningrad in the wake of the October revolution, shows his method of the so-called 'wrapped up' (or, 'packed') composition, which Tupitsyn has described as the "maximum condensation of a photo still" (Tupitsyn 1992:486). The photographic space is compressed and organised along a diagonal, with a layering of planes in depth marked by the tower's receding cornices.

For the *October* photographers, tilting the camera was a manner of shaking off the burden of western conventions of representation. This framing device, which was to earn Rodchenko the discrediting label of 'formalist' in many circles, was in fact a gesture that freed up photography not only from its nineteenth-century subjugation to bourgeois aesthetics, but also from the visual hegemony predicated upon classical perspective:

The oblique perspective signaled a dual liberation: of photography from painting and of the artist from the shackles of tradition [...] Long denigrated as a passive mirror of reality, photography announced its ardent new identity merely by deflecting its regard from the horizontal. By obliging the viewer to register this deviation, the photographer claimed an active role in shaping the picture, and the medium's mechanical objectivity was transformed from a liability into an asset. (Galassi 1998:118-9)

---

<sup>132</sup> A similar effect was also achieved by Rodchenko in a series of views of the courtyard in Myasnitskaya Street in Moscow that he took around the same period.

The oblique angle became a photographic signifier of the modern way of seeing brought about by revolutionary culture. Although Moholy-Nagy's experimental programme was driven by the desire to produce a new, universal, way of seeing, it was considered too formalist by Soviet critics who decried its disengagement from political issues. Conversely, the work conducted in parallel by Russian constructivists was coloured from the beginning by a political ideology rooted in the October revolution. Not surprisingly, the city was the epicentre of this visual revolution. Indeed, one of the driving forces behind Rodchenko's photographic aesthetic was an impulse to register the dynamism of the modern city:

The modern city with its multi-story buildings, the specially designed factories and plants, the two- and three-story store windows, the streetcars, automobiles, illuminated signs and billboards, the ocean liners and airplanes [...] have redirected (only a little, it's true) the normal psychology of visual perceptions. It would seem that only the camera is capable of reflecting contemporary life. (Rodchenko 1928b/1989:258-9)

Galassi aptly observed that the urban setting evoked by this passage might have triggered images of New York, Paris, or Berlin, but it was hardly to be experienced in late 1920s Moscow (Galassi 1998:122). However, it may also be argued that Rodchenko brought the new possibilities of the photographic medium to bear on the representation of the city as the ideal terrain for a modern - that is, for him, revolutionary - aesthetic of perception. Insofar as contemporary life was identified with urban life, the capital of the Soviet Union became the laboratory where radical photographers experimented with "degravitized and liberating perspectives" (Kozloff 1994:119). As Tupitsyn pointed out, "It was in Moscow that the social utopia was being forecast and the status of avant-garde artists had been upgraded from marginal to that of a ruling force in major schools, museums, architectural projects, and mass media" (Tupitsyn 1998:8).

Rodchenko's vision became increasingly radical in the photographic project on Moscow he was commissioned in the early 1930s (Tupitsyn 1998). By a calculated tilting of the camera, he transfigured ordinary street scenes into dynamic images, thus producing a classic exercise in photographic *ostranenie* [fig. 26].<sup>133</sup> As Rupert Martin has noted, "The tilted views give one the sensation of flying over the city" (Martin 1983:22). Not unlike Umbo's or Moholy-Nagy's photographs, Rodchenko's experiments with the aesthetic from above were designed to induce the vertigo of flight by simulating an aerial perspective that dislocated the viewer from an atrophied habit of perception. In addition, Rodchenko's images reconfigured the city, quite literally, as

---

<sup>133</sup> The influence of Shklovsky's theories was all the more direct since the two worked closely, also as colleagues in the LEF group.

a 'revolutionary' landscape: a visual field so charged with energy as to give the impression of spinning and revolving before the viewer's eyes. With the new decree of the Communist Party on the arts in 1932, the period of avant-garde free experimentation came to a close and Rodchenko's aesthetic project, which was accused of formalism by the artistic establishment, was largely defused (Tupitsyn 1996; Bendavid-Val 1999).

### **Montage and the dialectics of vantage points.**

The sense of alienation induced by multiple vantage points was central to the modernist practice of photomontage, whose kaleidoscopic possibilities were explored by the most diverse avant-garde groups (Ades 1976; Teitelbaum 1992; Frizot 1994; Roberts 1998). The estrangement produced by unfamiliar visions was a driving force in the assemblage and composition of photographs as much as in their production. The coming into being of an aesthetic of montage in different media (photography, cinema, graphic arts, etc.) occurred in Europe between the mid-1910s and the early 1930s. Influenced by the Cubists' dissolution of a single-point perspective and multi-material collages, artists developed a wide array of theories and practices of montage ranging from photography to film and literature. Not surprisingly, montage was acclaimed by Gräff (1929) as an important practice of 'new photography'. As the passing hint to Rodchenko's predilection for montage effects has anticipated, this medium was an important component of the avant-garde practices in Soviet Russia. The cognitive potential of dialectical imagery was promptly put to the service of revolutionary culture. As John Roberts observed, "Montage, in effect, was argued to be the synecdochal expression of revolutionary transformation itself [...] The activity of montage represents the active making of the revolutionary subject and therefore of a new world" (Roberts 1998:20).

Through the practice of photomontage, the modern perception of the city found a new terrain of representation: a contested domain straddling the poetic and the political, the factual and the fictional, the filmic and the photographic, which demanded its viewers to leap into a constructed visual space. Michel Frizot has described this modernist technique as particularly apt to recreate the dynamism of the city, insofar as the assemblage of multiple viewpoints was akin to the mobile perception of city dwellers. As Frizot has pointed out, photomontage also utilized a method of construction that was in keeping with the character of urban life:



In its own way, the technique of photomontage accounts – materially and concretely – for the architectural events in the modern city. Every element of photomontage has been produced with a particular aim, from a defined vantage point, and in a privileged direction; all of these are dispersed by their assemblage, which creates out of all the pieces a hyperspective object, resulting from a number of diverging and heterogeneous vantage points. (Frizot 1994:259. My translation)

The city itself, Frizot continues, was reconfigured as a “hyperspective object”:

The photographic fragments, juxtaposed and reworked to form a new space, are [...] particularly apt to evoke the city, with its jolty rhythms and its rapid breaks of volumes and perspectives. (Frizot 1994:259. My translation from the French)

Along similar lines, James Donald has described modernist montage as “the ‘new law’ that made it possible to combine multiple perspectives with a complex, multilayered temporality in order to capture the unique texture and rhythm of the modern metropolis” (Donald 1999:79). Like other critics, Donald refers to the urban character of montage as a general method that was used in photography and film alike. Although it is not the design of this chapter to investigate the medium of film, it is worth reminding that some of the artists whose work has been examined worked in film as well – e.g., Rodchenko worked with Dziga Vertov and Umbo with Walter Ruttmann.

It seems to be possible to distinguish between two forms of photo-montage whereby a multifaceted portrayal of the city was produced. These typologies of montage may be defined *intra-pictural* and *inter-pictural* montage. The first type (‘intra-pictural montage’) comprised the assemblage of fragments of different origins within a single frame – whether by effect of juxtaposition, superimposition, or else. This combination of heterogeneous elements to form a new whole is the principal meaning commonly attributed to the term ‘photomontage’. Interestingly, the first recorded photo-montage with a specific urban theme, Gustav Klutzi’s *The Dynamic City* (1919), was constructed in such a way that could be seen from all sides (Ades 1976).<sup>134</sup> This composition broke away with the notion of a subject’s embodied viewpoint by creating a multi-perspectival visual space that simulated a mobile, vertical gaze. The most celebrated ‘urban’ photomontage of the twenties, Paul Citroën’s *Metropolis* (1923), also combined pictures taken from different viewing angles. An ‘aerial’ dimension pervaded the imagery of avant-garde artists who experimented with photomontages, as high viewpoints suited a type of composition based on the assemblage of fragments.

The second class of images (inter-pictural montage) shared more with the cinematic technique from which photomontage had derived its name. Montage effects

---

<sup>134</sup> Klutzi had advocated the agitational power of this technique from the early years of the revolution and was to become the champion of political photo-montage for communist propaganda (Tupitsyn 1996).

were sought through pairings, juxtapositions, sequences, and other ways in which images were kept intact but were inserted in a visual context in which their significance was dictated by the presence of other images. The dialectical potential of this technique was much exploited by the Soviet avant-gardes, namely by Rodchenko in his so-called 'second phase', when he experimented with the effects of multiple snapshots (Tupitsyn 1996). Spatial contrasts and temporal sequences were the elements of this visual language, which evolved in parallel with the "montage of attractions" elaborated by Sergei Eisenstein in the mid-1920s. Eisenstein theorised the concept of "intellectual montage" in coincidence with his first film, *Strike* (1924), where he put in practice his belief on the necessity of showing each subject from an appropriate angle (Taylor 1928). This form of *photogénie* was adapted to the urban scenes of the film, where Eisenstein boldly experimented with the use of elevated vantage points. By the end of the 1920s, constructivist photomontage had exhausted much of its critical inventiveness (Ades 1976; Teitelbaum 1992). However, this technique continued to appeal to a popular use of photography. Examples of photomontage of both types, intra-pictorial and inter-pictorial, are going to be discussed in Part IV with regard to the illustration of urban views in different contexts.

### III.3. Flights from the everyday: the aerial gaze and the pursuit of visual vertigo

The beauty of photography from an airplane often has a completely unprecedented effect on the human imagination, and as regards sensationalism, it is a great feast. (Santholzer 309-10)

The connotations of fear in the aerial photograph are bound up with the sensation of vertigo which the view from above can induce. (Martin 1983:23)

This chapter continues the discussion of avant-garde photography by exploring the impact exerted by the advent of the airborne camera upon the representation of cities in interwar Europe. While the phrase 'aesthetic from above' has been used to indicate a generic visual phenomenon, the historical possibility of an aerial gaze introduced an important, epistemological difference to earth-bound vision. The new visuality produced by the combination of techniques of perception and aviation made possible, particularly in the wake of World War I, a mode of urban representation that had hitherto been the province of the imagination. The new visual field was eagerly explored by avant-garde artists, who embraced the aerial imagery within the repertoire of 'new photography'. The shift from a type of image that simulated a sensation of flight to experiments with airborne cameras should not be taken as a logical, or chronological, development. The two strands evolved in parallel and their points of contact are extremely important. However, the distinction proposed here intends to emphasise the peculiarity of a perception achieved by separating the 'umbilical cord' that previously kept the observer connected to the ground. The chapter situates the emergence of an aerial photographic imagination in Nadar's pioneering experiments in the mid-nineteenth century, before examining the relevance of the aerial gaze to the urban imagery of the 1920s and 1930s.

## Separation perfected: photography and the experience of flight

The introduction of powered flight in the early 1900s had a fundamental impact on the sensorial experience of space. As Ken Baird has pointed out, the overcoming of gravity brought about a reconfiguring of the habitual structures of perception:

Flight is a sensory experience which, although it may have its antecedents in fantasy, mythology, or contemplation provides a perception of the earth which cannot be obtained without separating the umbilical cord - the gravitational and tactile contact with the physical surface of the earth itself.  
(Baird 1983:68)

The advent of free flight, in particular, shifted in significant ways the boundaries of visual perception. But well before the “umbilical cord” was materially cut off, when balloons were still only tethered to the ground, the practice of captive flight had already unmoored a whole realm of representations. As various authors have remarked, fantasies of flight, vertigo, and anti-gravity were rife in nineteenth-century literature and visual arts.<sup>135</sup> The artistic and literary responses to the increasing acceleration of technological progress reflected new forms of disorientation. By the time that technological advances made powered flight a feasible prospect, the dream of flight had long carved its place as a recurrent motif in the modern literary imagination.

Gaston Bachelard’s study of the phenomenology of movement, *Air and Dreams* (1943/1988), is a standard work on the poetic imagination of the nineteenth-century.<sup>136</sup> The French philosopher considered the aerial imagination conveyed by poetic images in their *mobility* rather than in their *structure*. His approach was essentially dynamic, and as such it excluded any reference to static images bound by the constraints of sensory perception. In the introduction of *Air and Dreams*, Bachelard stated that “Imagination allows us to leave the ordinary course of things. Perceiving and imagining are as antithetical as presence and absence. To imagine is to absent oneself, to launch out toward a new life” (Bachelard 1943/1988:3). Bachelard was keen to explain that the path from the realm of reality to that of imagination was less a drifting reverie than a distinct type of departure. A “true poet”, he wrote, should be able to take the dynamic force of language beyond the level of immanent reality so as to present the reader with a compelling “invitation to journey” (ibid.). The starting point of Bachelard’s study was the light, weightless, dematerialised imagery to be found in the works of nineteenth-century poets and writers - such as Novalis, Shelley, Poe, Baudelaire, Nietzsche, and Rilke. In Bachelard’s view, the dynamic imagination produced by their

---

<sup>135</sup> On the relationship between vertigo and modern art, see J. Simmen, *Vertigo: Schwindel der modernen Kunst* (München: Klinkhardt und Biermann, 1990).

<sup>136</sup> This was one of a series of books that Bachelard dedicated to the “four material imaginations,” based on a search for the attributes of creative imagination contained in the four elements - air, water, fire, and earth.

writings oscillated between the poles of lightness and heaviness, offering profuse variations on the themes of rise and fall.<sup>137</sup>

By analysing the ecstasy and terror related to the imagination of flight, Bachelard set out to describe the “ascensional psychology” characteristic of the poetic incitement to aerial travel. Upward movement was deemed to have a positive sign, as though it were the equivalent of natural growth in the realm of imagination. In Bachelard’s words, “*Rising* is the real meaning of the production of images. It is the positive act of the dynamic imagination” (Bachelard 1943/1988:94. Italics in original). As a necessary counterpoint to this ascendant movement, Bachelard also theorised what he called “the imaginary fall”: the equally ambivalent downward movement, often associated with the feeling of vertigo, which in nineteenth-century literature was variously manifested as fear or, conversely, desire to fall. As Bachelard pointed out, the psychological value of these opposite thrusts along the axis of verticality was by no means the same:

In fact, despite the frequency of our impressions of falling and the reality that these have for us, I believe that the true axis of *vertical imagination* is directed upward. To put it another way, we *imagine* the upward élan, and we *know* the downward plunge. The fact is that we have great difficulty to imagine what we know. [...] The *higher*, then, takes precedence over the lower. The *unreal* commands the *realism of imagination*. (Bachelard 1943/1988:92. Italics in original)

The imagery that fell under Bachelard’s scrutiny consisted exclusively of literary images. However, it seems to be possible to draw some connections between this form of aerial imagination and the vicissitudes of mid-nineteenth century photography, particularly with relation to flight. In general terms, the physical and chemical characteristics of photographic technology would immediately set it apart from the dynamic faculty of poetic imagination described in *Air and Dreams*. It can be argued that the mechanical status of the photograph - its characteristic fixity, but also its sheer materiality - situated it at the far opposite of the immaterial, ever-changing lightness underlying poetic imagery. In Bachelard’s terms,

An image that deserts its *imaginary* principle and becomes fixed in one definite form, takes on little by little all the characteristics of immediate perception. Soon, instead of leading us to dream and speak, it causes us to act. We could say that a stable and completely realized image *clips the wings* of the imagination. (Bachelard 1943/1988:2-3. Italics in original)

In the realm of literature, nothing could be thought by Bachelard to be worse than such a static image. In contrast, the fixity that makes an image akin to immediate

---

<sup>137</sup> Among the references to psychological literature given by Bachelard features a study on levitation by O. Leroy, *La lévitation: contribution historique et critique à l'étude du merveilleux* (Paris: Librairie Valois, 1928).

perception calls to mind the intrinsic quality of the photograph - the quintessence of a “completely realized image”. Contrary to poetry, what presides over “the realism of imagination” in the domain of photography, following the argument of phenomenology, is precisely “the real” (Barthes 1980/1993; Kracauer 1960; Pontremoli 1996). However, the ‘reality effect’ is also what binds photography’s visual power to its own domain of imagination. In Maynard’s terms, the faculty of “imagining seeing things” in a photograph is a decisive component of its depictive quality. The difference between these two realms of imagination (the static-photographic and the dynamic-poetic) helps us to understand the specific operations of aerial photography. The sense of vertigo induced by aerial photographs is caused by the sense of a downward plunge of the gaze into the space of the image. In fact, while the poetic imagination is dynamic by definition, aerial photography has the peculiar effect of visualizing scenes that seem devoid of movement – the futurist aerophotography being a notable exception (see next section). Since the early days of the medium, the vertical imagination driving photographic experiments from balloons was directed downward rather than upward, in the direction of the reality whose depiction was the purpose of the whole enterprise. Reversing Bachelard’s phrase, one could say that the ‘lower’, here, took precedence over the ‘higher’.

A mammoth lighter-than-air balloon, *Le Géant*, carried Nadar through his pioneering experiments with aerostatic photography, which took place near Paris in 1855 (Garcia Espuche 1994a, 1994b; Rice 1997). The first aerial pictures were realised through a special camera with a horizontal focal-plane shutter. The sense of fleeing reality while floating away from it was expressed by Nadar in his collection of memoirs, *Quand j’étais un photographe* (Nadar 1900/1994), where he described his rapture at the sight of the ground from above in terms of a metaphysical experience. The photographer’s fascination with the unprecedented spectacle made him throw all his material preoccupations into oblivion. The revelation of a deeper “Truth” came across the airborne spectator who was able to perceive things at a glance, capable of gauging the relative proportions of things from his elevated vantage point (Nadar 1900/1994:96). As the ground seemed to vanish into the distance, the burden of earthly life was also perceived to be fading away: “Beneath us,” Nadar wrote, “the earth unfolds into an enormous unbounded carpet, without beginning or end” (Nadar 1900/1994:97).

The metaphor of the earth as an unfolding carpet was to become a recurrent trope in the literature of air travel well into the twentieth century (see § IV.1). While Nadar was fully aware of the potential uses of his patent in such areas of application as military surveillance and cadastral mapping, his experiments were animated by a passion for new visual possibilities that would transcend everyday perception. Nadar’s

account of the figure that appeared on the glass plate after the first successful flight bespeaks his excitement before an extraordinary kind of image. Amid the blurred and stained picture Nadar could recognise the likeness of a familiar reality, which he described in vivid details: the three buildings of the Petit-Bicêtre valley, a carter arrested by the sight of the balloon, and two white pigeons against the darker background of a tile roof (Nadar 1900/1994:112-3). With all its aesthetic and practical implications, this experiment marked the surfacing of a scopic regime that was to transform the ways in which landscapes were visualized.

Shelley Rice (1997) has discussed the aesthetic drive behind Nadar's ground-breaking enterprise, which accordingly was animated by a Romantic attraction to flying united with a longing for the sublime (Rice 1997:172). Rice detects this spirit in the first views of Paris produced by Nadar in 1858 [fig. 27], which earned him the patent of aerostatic photography in October of the same year. Rice's argument hinges upon the value of these pictures as records of the effects of Haussmann's ongoing *grands travaux*. While Nadar's "First Results" were obtained at a time in which the tradition of panoramas and bird's eye views was being established, especially in Paris, the singularity of the aerial photographs can be seen in their direct response to a process of reconstruction that was irremediably altering the face of the city. In this respect, Nadar's aerostatic images worked alongside his renowned photographs taken in the tunnels of Paris' sewers.

The complementary significance of these two series has been remarked by various authors. André Rouillé has linked Nadar's urban photography to the utopian currents that animated the scientific and artistic circles in 1850s France, investing photography in a broader "quest of the absolute":

In the air and underground Nadar achieved, thanks to photography, an extension of the visual field: in balloon he conquered a vertical vantage point on space; in the sewers and catacombs he revealed a world of darkness by nature averse to photography. Whether it be associated to aerostation or electricity, in either case the photographic act derived from the temerity and discovery of a technical exploit. (Rouillé 1989:330-1. My translation)

Rice has gone beyond an appreciation of Nadar's technical exploits to consider his subterranean and aerostatic photographs of Paris as "counter-memories", in Barthes' terms. By recording images of absence, both of these series disavowed photography's claim to preserve the memory of changes:

The Paris that Nadar and his camera see is one in which there are no people – and not only because they are too far away, too small to see from a balloon, or too quick for exposure times underground. Rather, Nadar's is a Paris from which all traces of people have "gone away," leaving a city full of physical objects, even "exterior charm," but empty, dead, devoid of spirit. Nadar, like

Louis Blanc, saw in the transformation of Paris the end of memory; the end of the unaffected merger of the physical and the spiritual, of the past and the present; the end, that is, of life. (Rice 1997:178)

This compelling analysis portrays particularly well Nadar's views from the air. These static, frozen, and timeless images portrayed the city from unfamiliar viewpoints and distances, with the effect of draining the perception of time out of the picture. Pascal Pinck has commented on this property of aerial photography:

Altitude and viewing angle dictate an entirely distinctive visual regime: as details disappear and scale becomes relative, we witness the transformation of a familiar, human-sized and human-centred view into something altogether different. [...] This view invokes a language that denies familiar codes of the representation of real objects, is removed from the passage of time, and is disassociated from any specific context - we might call it the "aesthetic from above." (Pinck 2000:63)

In Nadar's early experiments, the departure from the ground of everyday perception was accentuated by a perceptually alien visuality. Hence, these images appeared "empty, dead, devoid of spirit" owing to their mode of vision before any consideration of content. The impression that the viewing subject is dispossessed of any memory-value can be ascribed to the aerial technique as much as to the loss of memory that affected the photographed city. This would seem to chime in with Nadar's own account of the sublime escape from the earth, described as a blissful state of oblivion. The static character of the aerial photograph, it might be argued, made it a favourite instrument of counter-memory: it was an image that, paraphrasing Bachelard, 'clips the wings of memory'. The static, distant, and mechanical gaze of the airborne camera produced an imagery that was utterly foreign to the mechanisms of human memory and those of dynamic imagination alike. This assumption was challenged by interwar artists who explored the aerial imagination through the medium of photography.

## **Aerophotography and the kinetic image of cities**

Within the culture of the European avant-gardes, the movement that adopted aerial vision most systematically was Italian futurism. The practice of 'aerophotography' addressed directly the relationship between the experience of flying and the production of aerial images for primarily aesthetic goals. Its origins lay in the experimental photography that was first developed by the Italian brothers Anton Giulio and Arturo



Bragaglia in the early 1910s.<sup>138</sup> The Bragaglias' innovative technique of 'photodynamism' has been often regarded as the major contribution of the Futurist movement in the field of photography.<sup>139</sup> The technique of photodynamism consisted of recording the successive positions of a moving subject on a single photograph. The basic idea was to exploit the dynamic effects of blurred pictures in order to express the essence of movement. The Bragaglias described this process as a shift from a "*fotografia mossa*" (a blurred, or literally 'moved', photograph) to a "*fotografia movimentata*" (which could translate as 'animated', 'lively', but also as 'filled with movement') (Bragaglia 1913).<sup>140</sup> By seeking a dynamic synthesis of complex phenomena, the Bragaglias pushed the nature of photography towards an increasing dematerialization of reality charged with spiritual overtones. In their intentions, this would endow the photographic image with an artistic value that would transcend what they saw as the medium's unsophisticated realism.

In his essay "Fotodinamismo futurista" (1913), Anton Giulio Bragaglia put the photodynamic aesthetic at the forefront of experimental media, establishing a new visual paradigm that would have a vast influence on the theory and practice of avant-garde photography. The departure of this dynamic technique from the static nature of photography was clearly asserted. "Photodynamism," Bragaglia wrote, "can establish results from positive data in the construction of moving reality, just as photography obtains its own positive results in the sphere of static reality" (Bragaglia 1913/1989:292). The futurist method was also capable of recording the memory of movement locked in the "intermovemental states of the action", which were lost in other techniques such as Marey's chronophotography. "With Photodynamism," Bragaglia went on, "remembering what took place between one stage and another, a work is presented that transcends the human condition, becoming a *transcendental photograph of movement*" (Bragaglia 1913/1989:293. Italics in original). This essay also expounded the notion of *vertigo* that underlay the futurist experiments on the perception of movement. The ability to induce dizzying effects was seen by Bragaglia as a proof of the dynamic nature of the new technique: "The fact that our evocations appear vertiginous and indistinct at first sight demonstrates how movement exists in our work" (Bragaglia 1913:33. My translation). Thereby the meaning of "vertigo" was shifted from an involuntary perceptual disorder to an induced perceptual stimulation. As Giovanni Lista has observed, "the object of the photodynamic image is this 'visual vertigo,' which translates the vital and subjective dimension of movement and causes

---

<sup>138</sup> The ambiguous relationship between the Bragaglias and others segments of the Futurist movement, are discussed by Lista (2001:21-8).

<sup>139</sup> It has also been suggested that photodynamism was the first theorised approach to the medium introduced within the milieu of the European avant-gardes (Lista 2001).

<sup>140</sup> It ought to be noted that, in Italian, the word *fotografia* means both 'photograph' and 'photography'.

the image to move ‘even further away from the photographic reproduction of things’” (Lista 2001:23).

Photodynamism was deemed to be capable of enhancing the lyrical potential of photography. In characteristic futurist prose, A. G. Bragaglia explained:

At the moment we are studying the trajectory, the synthesis of action, that which exerts a fascination over our senses, the vertiginous lyrical expression of life, the lively invoker of the magnificent dynamic feeling with which the universe incessantly vibrates.” (Bragaglia 1913/1989:294)

In many respects, this aesthetic notion of vertigo overlapped with that of estrangement examined above. The so-called “second generation” of futurists harked back to this concept when, in the late 1920s and 1930s, they eagerly revived the aesthetic of flight that had inspired the movement since its beginnings.<sup>141</sup> The late 1920s, in particular, marked a moment of great popularity of flight in Italian culture, which culminated in the cross-Atlantic expedition led by Italo Balbo in 1929.<sup>142</sup> The *Manifesto of Aeropainting*, published by Filippo Tommaso Marinetti and Fedele Azari in the same year, set out to explore “the stimuli that could be offered to creative imagination from the exceptional optical and psychological situations enabled by flight” (Averini 1953:16. My translation). In the coming years, Crali, Dottori, Prampolini, Tato, and other painters went on to represent the “perennial mobility” theorised by the manifesto, which extolled the virtues of aerial perception as fundamentally detached from the horizontal plane of terrestrial reality.<sup>143</sup> Indeed, the manifesto suggested that the ever-changing perspectives allowed to the flying observer would become the basis of a polio-centric image projected toward an “extraterrestrial plastic spirituality.”

The birth of futurist aeropainting was sparked by an aerial perspective painted by Fedele Azari,<sup>144</sup> a proficient aviator who in 1919 had founded the ‘Futurist Aerial Theatre’. Azari was one of the first artists to apply the aerial aesthetic to photography, which he took up in order to derive the artistic expression of mutable states of mind from the experience of flight. Together with Azari, Filippo Masoero also explored the dynamic possibilities of ‘aerophotography’, a technique that gave a new relevance to the concept of visual vertigo (Lista 1984, 2001). By exposing the plate for a relatively long time while spiralling down in their planes, these pilots-cum-photographers produced dizzying pictures of cities from the air that look as though the lens had

---

<sup>141</sup> Significant passages describing the beauty of aircraft are present in the Futurist Manifesto (1909).

<sup>142</sup> For the story of the legendary cruise over the Atlantic, conceived in 1928-9, see: Italo Balbo, *La centuria alata*, (Milano: A. Mondadori, 1934). Balbo subsequently flew to Rio in 1931 and later to the USA.

<sup>143</sup> See F. Ragazzi, “Futurismo e fascismo, parole e immagini dell’aeropittura”, in S. Barisione, M. Fochessati, and G. Franzone (eds.), *Parole e immagini futuriste dalla Collezione Wolfson* (Milano:Mazzotta, 2001).

<sup>144</sup> The painting was titled *Prospettive in volo* (ca. 1926).

zoomed in on the subject [fig. 28]. Their experiments were inspired by the programme of aeropainting, but also by the developments in photodynamism. A. G. Bragaglia himself praised the dynamic effects of these aerial views as a direct outcome of the research that he and his brother carried out in the early 1910s (Lista 2001). Although the results were similarly dynamic, aerophotography was based on a process that reversed the principle of photodynamism: the kinetic element was now the camera, whereas the subject was immobile.

The cityscape was central to the futurists' research on aerial photography, which offered a medium for visualizing historical sites in a futurist fashion. Urban landscapes that were commonly identified as part and parcel of Italian heritage – and, increasingly, as tourist attractions - were turned into new visual spectacles by the airborne camera. Lista has observed the significance of this technique vis-à-vis the futurists' ambivalent relationship with Italian cities:

Aerophotography was also particularly important because it enabled the Futurists to grapple with the reality of Italian cities. Faced with the “museum cities” of ancient and Renaissance Italy [...] Futurist photography preferred to ignore the visual experience of the city. So the problem was how to interpret in a Futurist dimension a static urban environment that was majestic in its monumentality. Masoero solved the problem by capturing Italian urban landscapes in a vibrant accelerated vision that, like an instant seismograph of a living experience, corresponded to a sort of photographic “action painting.” (Lista 2001:79-80)

Although the futurists shunned abstract art as a formalist exercise, their experiments in aerophotography contributed to detach the visual representation of cities from the domain of everyday perception. The experiments in aerophotography of the 1930s expanded the field of urban perception by introducing a vicarious experience of flight based on a kinetic element. The pursuit of a specifically photographic type of vertigo expanded the power of the medium as a generator of new forms of urban vision.<sup>145</sup> Thereby the futurists subverted the role of photography in relation with the aerial imagination. Prior to the Bragaglias' experiments, photographers had mostly produced a fixed type of image - however dynamic the act of photographing may have been. This was the predicament that moved the futurists to experiment with photodynamism, and later with aerophotography. Their kinetic imagery conveyed the vertigo of flight and fall, but this feeling was always controlled by the orderly composition of their photographs. Paradoxically, while futurist photography gave free expression to the experience of flight, it also brought about a new imagery that engaged this unbounded movement within the confines of a still image.

---

<sup>145</sup> Aerophotography found epigones also beyond the circle of Italian Futurism. A key exponent of this 'acrobatic' style was the German Willi Ruge. See “Aerial acrobatics with Udet” (with photos by Ruge), in *Le Miroir du Monde* (Paris), n. 108, 26 March 1932.

## Aerial visions between realism and illusion

The emergence of aerial imagination can be observed across a wide spectrum of avant-garde movements, ranging from surrealism to constructivism and suprematism. A paradigmatic example of aerial imagination in surrealist art is offered by the photograph “Dust Breeding”, which Man Ray took in Marcel Duchamp’s studio in Paris in 1920 [fig. 29]. The object detected by the photograph was the dusty surface of a panel Duchamp was using for his artwork, “Grand verre”; but the framing and composition of the image extended its depictive potential into other imaginary visions. When, two years later, Man Ray published this picture in a literary magazine, he captioned it with the words “Aerial view from an airplane” - a surrealist jibe hinting at the illusion produced by the abstract patterns of the image (Lampe 2000).<sup>146</sup> The abstract quality of the photograph turned it into an empty signifier ready to be filled with a variety of meanings. And aerial perception offered an amusing answer to the visual rebus posed by this image. As Angela Lampe has noted, the long exposure time allowed Man Ray to obtain a depth of field that made the surface, when seen from a lateral angle, look as though it were falling towards the viewer (Lampe 2000:58). This sense of disorientation was exploited for a deeply surreal effect, which evoked the imaginary flight above a strange, unfolding scenery. Although “Dust Breeding” cannot be technically considered an aerial photograph, the playful caption provoked a split between the levels of detection and depiction that made the viewer imagine seeing a landscape from the air.

The visual deception produced by Man Ray’s aerial simulation resonates with the illusory effects produced by camouflage (see chapter § II.3). This technique was revived, within the milieu of the avant-gardes, by the Manifesto of Futurist Photography, which was published by the ubiquitous Marinetti with Guglielmo Sansoni (better known as Tato), in 1930. The programme contained a striking combination of principles that, following Caillois, one might refer to as *mimicry* and *ilinx*. On the one hand, the Manifesto advocated a photography capable of expressing the dramatic power of mobile and immobile objects, the contrasts of shadows, and the art of disguise derived from war camouflage.<sup>147</sup> On the other hand, it called for a fusion of aerial, marine, and terrestrial perspectives, encouraging vertical viewing angles and the deranging effects of objects suspended in space. While the first set of prescriptions underpinned the experiments in aerophotography, the second revealed

---

<sup>146</sup> The photograph was published in the magazine *Littérature*, n. 5, Oct. 1922.

<sup>147</sup> On the relationship between camouflage and modern art, especially the visual revolution of Cubism, see N. Zapata-Aubé (ed.), *André Mare: Cubisme et Camouflage, 1914-1918* (Bernay: Musée municipal de Bernay, 1998).

the futurists' proximity with surrealist aesthetics. Unlike aerophotography, which pursued effects of disorientation by arresting movement, camouflage offered a range of visual illusions based on spatial arrangements. This principle animated in particular the work of Tato, who turned the psychological uncertainty of shape recognition to the advantage of futurist art. In an article published in 1940, Tato (1940/1979) reasserted the idea that the effects of camouflage could be adopted to "create the perfect illusion of a non-existent reality". Futurist photographers pursued this aesthetic goal by appropriating, under different guises, the operations of concealment and deception that were central to war camouflage. In keeping with the militarist vein of the movement, Marinetti and his followers believed that experimental photography should actively promote new developments in the art of disguise for military purposes.

The practical involvement of avant-garde artists in the field of camouflage, especially in World War II, went far beyond the futurist aesthetic. Some of the European artists who had carried over the spirit and methods of the German Bauhaus to America found themselves in a position to apply the modernist principles of 'new vision' to the issues of civil defence. Shortly after the attacks on Pearl Harbour, in December 1941, design research in the United States turned to the development of camouflage. At that time, the School of Design of Chicago, directed by Moholy-Nagy, gained authorization from the government to set up a special Camouflage Workshop as part of the initiatives promoted by the School to support the war effort. The course was led by Moholy-Nagy's fellow Hungarian artist and visual theorist, Gyorgy Kepes, who applied his expertise in the study of light to the training of military personnel.<sup>148</sup> As Alain Findeli (1995) explained, Kepes taught students to recognise "visual tensions" in images in order to become able to minimise their effects in the design of camouflage. The basis of this visual syntax was the relationship between figure and ground, a chief concern of Gestalt psychology which, as Köhler had anticipated in the late 1920s (§ II.3), came to play a significant role in the art of disguising objects from the air:

The figure/ground model that [Kepes] developed in his researches describes succinctly but exactly the issues of camouflage: how to make sure that a certain factory or port installation, when seen from a plane, would not create a visual contrast with the surrounding landscape – that is, a field of forces attracting attention. (Findeli 1995:284. My translation)

The brief experience of the School of Design marked an interesting point of intersection between the histories of camouflage and modern art. The image of Moholy-Nagy in training flights over Chicago captures the complexity of a moment in which avant-garde artists lent their expertise to civil defence. As Sibyl Moholy-Nagy

---

<sup>148</sup> Interestingly, after the war Kepes gave a significant contribution to new research into the concept of urban *legibility*, working with Kevin Lynch at the Joint Center for Urban Studies of the Massachusetts Institute of Technology in the late 1950s (see Lynch 1960).

later chronicled, “while [László] fought air sickness [...] he pondered how to conceal the vastness of Lake Michigan with a simulated shore line and floating islands” (S. Moholy-Nagy 1950/1969:184). This description calls to mind the Hamburg camouflage described in chapter II.3. This uncanny resonance is further amplified by the knowledge that, in the following year, the Berlin Funkturm that Moholy-Nagy had brought to iconic status through his elevated photographs was at the centre of a large camouflage scheme that was recorded by the R.A.F. air reconnaissance.<sup>149</sup>

The historical linkage between futurist photography and the camouflage workshop in Chicago is defined by a distinctive form of aerial imagination, which applied various forms of ‘illusionism’ to the representation of cities. In his influential book *Language of Vision*, written during the war, Kepes emphasised the role played by the aerial gaze in the formation of a modern visual idiom:

New technological discoveries have brought about a fundamental reevaluation of vertical position as a sign of depth. Bird's eye view and frog's eye view in photographs and a new vision in aerial observation were the most important factors. For the airman, as well as for the photographer, the horizon line changes constantly, and consequently loses its absolute validity. No longer was it inevitable that the visual understanding of objects and their spatial relationships be based upon a frame of reference which had a constant – the fixed visible or latent horizon. (Kepes 1944/1951:75)

While for Kepes and Moholy-Nagy the camera was primarily an instrument capable of domesticating the new visual environment, other artists took a different view. Another significant way in which the aerial imagination stimulated the representation of landscapes is to be found in the photographic collages used by Kasimir Malevich to conjure up the principles of Suprematism. In his Bauhaus book, *The Non-Objective World* (1927), Malevich produced a set of photographic assemblages to compare different aesthetic sensibilities. One of these collages, showing aerial views of anonymous cities, epitomised what Malevich called “The environment that stimulates the Suprematist artist”, which he set in contrast with the supposed visual repertoires of Academic and Futurist artists [fig. 30]. Malevich's visual choice embodied an aspiration to ‘flight’ in the twofold sense of the word that we found in Nadar. The coincidence of soaring and fleeing was described by Malevich:

The familiar recedes ever further and further into the background [...] The contours of the objective world fade more and more and so it goes, step by step, until finally the world - ‘everything we loved and by which we have lived’ – becomes lost to sight. (Malevich 1927/1959:68)

Aerial imagination had inspired Suprematist paintings at least since the early 1910s, providing an exemplary model for a visual aesthetic projected towards growing

---

<sup>149</sup> See *Evidence in Camera*, Vol. 2, Jan. 1943, p. 6.

levels of abstraction (Wohl 1994). The juxtaposition of aerial photographs sanctioned, in a comparative and somewhat didactic manner, a whole approach to art. They also served to visualise the escape from the everyday world. The prominent display of a vertical aerial view, in particular, reinforced the correspondence between Malevich's non-objective art and an imagery utterly devoid of any reference to perspectival vision (Galassi 1998). Malevich's faith in technological progress was further expressed by his choice of urban images. While, in other panels, Malevich depicted futurist imagery as rooted in an industrial environment - represented by images of machines, factories, and airships - his utopian abstraction was best encapsulated by visions of and from aeroplanes in flight. The aerial photographs of cityscapes were part of a visual rhetoric that drew on the aesthetics of flight to express and ideal quest of abstraction.

In the late 1920s, aerial photography was discovered by proponents of a new objectivity, who exploited the documentary value of the medium. In a recent contribution to the history of documentary photography, Olivier Lugon (2001) has charted the transition from a generic notion of *document* to the establishment of a visual culture based on *documentary*.<sup>150</sup> Lugon has also pointed out the emergence of an aerial version of documentary photography in the 1920s, when the aerial view was embraced for its neutral and direct portrayal of reality. The perceived objectivity of vertical photographs, in particular, provided a model for the documentary genre as a whole. By grafting the planar imagery of cartography on to the representation of landscapes, the vertical view epitomised the "ideal" of documentary photography, which Lugon describes as "a paradoxical double dream of transparency and legibility" (Lugon 2001:240. My translation).

It was after 1925, in particular, that the aerial view became a popular mode of representation in Europe and America.<sup>151</sup> As the previous reference to *Das Land der Deutschen* has shown (§ II.1), an aerial documentary genre was especially flourishing in Germany, where aerial imagery entered the public domain in significant ways through the illustrated press.<sup>152</sup> The sensation of aerial photographs relied on their unusual visual spectacles that, as Lugon has noted, were often praised for their immediacy and objectivity. Robert Petschow, whose photographs were chosen by Diesel for his photographic atlas of Germany, contributed to the aesthetic of aerial photography by publishing illustrated accounts of his balloon trips. Petschow nostalgically defended the spiritual pleasure of balloon flying in an age of airships and

---

<sup>150</sup> It is interesting to observe that the French term *documentaire*, whose use as an adjective was recorded in the late 1870s, began to be employed as a noun in 1929.

<sup>151</sup> In America, the Farm Security Administration also made a large use of aerial photographs in its surveys of physical and social landscapes (Lugon 2001:236-40). Roy Stryker's interest in aerial photography is also discussed in Teitelbaum (1992:178ff.)

<sup>152</sup> A notable precursor to Diesel's book was a *Bilderatlas* published by Nikolaus Creutzburg in 1930, which charted the physiognomy of landscapes from the world over. See N. Creutzburg, *Kultur im Spiegel der Landschaft: Das Bild der Erde in seiner Gestaltung durch den Menschen* (Leipzig: Bibliographisches Institut, 1930).

aeroplanes, but he also praised the applications of aerial images for practical uses. In an article entitled “The Giant Toy: The World from Above” [fig. 31], he illustrated what he called “the signs of the cultural-historical development of the land lying beneath” (Petschow 1925:38. My translation). The mixture of documentary realism and spectacular enchantment makes Petschow’s work a suitable end of this overview. It also established a point of transition between the non-instrumental discourse of the avant-gardes and the applications of aerial photography that are going to be investigated in the next part of the thesis.



## Conclusion

This cluster of chapters has mapped a specific trajectory whereby the unsteadiness of urban modernity found new photographic expressions in the interwar years. The search of perceptual weightlessness in modern photography marked an important step in the path to visual abstraction. The new 'aesthetic from above' pervaded a broad spectrum of avant-garde movements: it was instrumental to the surrealist urban imagery populated by uncanny presences, but also to the constructivist search for an abstract visuality based on the extension of the visual field. A strong input came from Bauhaus artists in the second half of the 1920s, when the school reached the climax of its innovation in the field of photography. Umbo and Moholy-Nagy broke new grounds in the pursuit of a 'new vision' predicated on the explosion of viewpoints. The parallel developments in Soviet Russia showed that a similar pursuit of vertigo motivated the research of visual artists who were committed to establish photography at the centre of a radical culture of representation. The estrangement of the viewer from the scene was here geared towards political and agitational goals. In all these cases, the modern city was the chief laboratory of a new perception and became the subject of radical experiments in 'new photography'.

A further stage along this path was reached by the wide diffusion of aerial imagery, which was one of the innovatory fields of the new vision. The emergence of aerial photography in the repertoire of the European avant-gardes contributed in significant ways to a reconfiguration of urban landscapes. With the putative invention of 'aerophotography', the futurists' pushed the goal of disorientation to new limits. The desire to produce a dynamic representation of reality led futurist 'aerophotographers' to challenge the traditionally static imagery of aerial photography by introducing a powerful kinetic element. Their explicit pursuit of 'visual vertigo' also found in the urban environment an ideal terrain of experimentation: not so much because the modern city offered a dynamic subject but because its static views could be dynamised by effect of dizzying aerial perspectives. The futurists' fondness for war camouflage threw a bridge between the non-instrumental discourse of the avant-gardes and that of reconnaissance photography, whose "triumph of instrumentality" was discussed in Part II. This intersection has revealed that the circulation of models, images, and visual patterns across discursive boundaries was also helped by the actual migration of artists – the case of Moholy-Nagy being paradigmatic. Finally, the junction of documentary aesthetic and aerial photography paves the ground for the analysis of some applications of this medium in different fields of urban representation.

# IV Aerial Illustrations

## Introduction

The last Part of the thesis looks at the ways in which the aerial imagery of cities was adopted within different discursive spaces. The diffusion of a documentary form of aerial photography will be investigated through a series of cases in which urban views were used as illustrations in the print cultures of the interwar period. The visual inventions of the avant-gardes, on the one hand, and the instrumental purpose of reconnaissance photography, on the other, are necessary premises to explain the diffusion of an aerial imagery of cities in the illustrated press. By charting some significant stages in this historical process, these four chapters therefore bring together elements discussed in the two previous Parts.

The growing demand for public images, which was sparked off by the “media conflagration” of the 1920s, paved the ground for the mass dissemination of aerial photographs in the public domain. The literature on flying grew steadily after the end of World War I, both in Europe and United States, mainly as a result of the writings produced by military pilots that had served in the war. Systematic studies of aerial photography were also published toward the end of the decade, upgrading the field from a state of piecemeal knowledge to a comprehensive set of rules, techniques, and applications. The increasing applications of aerial photography were inscribed in a wider affirmation of the medium’s documentary function. Not unlike other photographic practices of the interwar years, aerial surveys were mainly geared towards the production of public images that would circulate as documents of modernity (Baqué 1993).

An intensification of this process can be observed in particular in the late 1920s, when there occurred a sudden increase of the number and variety of aerial photographs in the illustrated press. The aerial photograph entered the collective imaginary through a multitude of channels, principally through the illustrated press. As a consequence, aerial views of cities became a currency in illustrated books and magazines. This growing market was fed by the production of a growing range of picture-making agencies that carried out air-photographic surveys - including civil and military institutions alike. The extensive coverage of places and events produced by survey companies supplied a new visual repertoire to the illustrated press that brought about an aerial iconography of the modern city. The following chapters investigate the forms of ‘aerial illustration’ that were disseminated in three areas: illustrated

travelogues, photographic reportage, and the literature of modern urbanism. Part IV is concluded by a case study on the aerial imagery of London produced and circulated by a leading air survey company in the interwar period.

## Sightseeing from above: air travelogues and urban panoramas.

In a few seconds from the sky you can get a more vivid picture of the cities and structures of men than in days afoot on the earth. (Thomas 1928:102)

Moats fail and walled cities yield their secrets, now that men fly. (De Pinedo 1928:261)

This section looks into the formation of an aerial imagery of cities within the discourse of modern travel. The role of photography is investigated with regard to the representation of the city as a visual spectacle. How the experience of flight, in particular, brought about a new perception of cities from the air is explored through a sample of interwar travelogues in which aerial photographs played a significant role. The European focus of the research is here interpreted in two different ways. One section explores a travelogue written by a prominent American journalist after an aerial journey across the skyways of Europe. The following section considers some articles written by European pilots and authors for a popular American magazine. A degree of consistency is given by the fact that all the travelogues examined were published in the same year, 1928. The aim of this case study is to discuss the implications of the emergence of an aerial observer, at this historical juncture, upon the representation of the city as a spectacle and tourist attraction.

## Air travelogues and city views

The notion of sightseeing is central to the practices of modern tourism and their procedures of representation. Judith Adler (1989) has explored how the eighteenth-century taste for travel and exploration was increasingly dominated by visual observation. The increasing importance given to seeing practices fundamentally altered the nature of travel experience, which began to take on its modern character as a pursuit of visual pleasures. The quest for a visual record of travel experiences brought about new forms of representation of places. Adler has described how the production of topographical views came along with the rise of “picturesque travel”. A shift occurred, towards the end of the century, from the idealized representation of places in historical paintings, which was mostly linked to the memory of historical events, to a more descriptive rendition of landscapes.

As M. Christine Boyer (1994) has pointed out, between the late eighteenth- and the early nineteenth-century, travel illustrations contributed to disseminate a popular imagery of exotic lands and peoples as they were recorded by artists and illustrators who embarked on picturesque voyages. These views were mainly catered for middle-class European tourists, who increasingly demanded a visual representation of the places they visited in their own journeys. An early notion of ‘documentary evidence’ therefore began to be established, until photography took over much of the topographic view-making business in the middle of the nineteenth century. A visual image of the world was made familiar through transportable forms of representation, ranging from drawings and travelogues to *tableaux vivants* and pantomimes as theatrical entertainments. Hence, Boyer suggests that picturesque travel became a form of entertainment as much as a way of learning:

Seeing the world as landscape or illustrated picture was a visual and mental experience, one that moved from vista to vista, viewing objects from different perspectives. ‘Travel’ became a way to escape the tedium of everyday life, projecting oneself into an exotic milieu; it was as well a telescoping experience, drawing the faraway background as a place full of mystery and adventure into the foreground, where it could be minutely detailed and studied. (Boyer 1994:247)

Travel folios illustrated with lithographic views, which dominated the market in the early decades of the nineteenth century, paved the way to the archaeological spirit that animated various European cultures from the 1830s onwards. In a parallel development, travel writing became more subjective as it began to contain personal advice and indications about places, habits, and behaviours that the traveller would encounter in foreign lands. From this early nineteenth-century tradition emerged the

publication of travel guidebooks, which came of age with the Baedeker and Murray editions in the late 1820s. As Boyer has suggested,

The nineteenth century displayed a passion for traveling as the primary means to learn about history, while simultaneously perceiving travel narratives, history books, historical painting, and architectural ruins to be modes of vicarious travel through time and space. (Boyer 1994:228)

This nineteenth-century tradition therefore established the pursuit of a vicarious experience of otherness – travelling to *other* spaces and times - at the core of modern tourism. As Curtis and Pajaczkowska have pointed out, the escapist desire to experience “elsewhere” is inextricably bound up with the longing for “elsewhen” (Curtis and Pajaczkowska 1994). The desire to travel, albeit vicariously, through space and time was given a further expression by the panorama, which introduced a form of “total vision” in the public representation of cities (Bordini 1984). By providing comprehensive and seamless views, the urban panorama established another form of “simulated travelogue” - to borrow Boyer’s term – which had a profound impact on the representation of European cityscapes. Panoramas exploited the qualities of realist painting to produce detailed depictions that fascinated their viewers through their high degree of verisimilitude.<sup>153</sup> Boyer has suggested that this mode of representation turned the cityscape into the object of a collective, enchanted experience: “The panorama turned cityscapes into pictures like those that hung in art galleries, a series of encircling spaces that contained their spectators, regulated their pleasures, and focused their gaze.” (Boyer 1994:253) The spectacle of panoramas worked as a way of disciplining the perception of cities by erasing their real-life contradictions. In the panorama of London painted by Thomas Horner from the dome of St. Paul’s, which was famously displayed at Regent’s Park in 1821, the distanced view from a central tower produced a somewhat sanitised image of the city, ready to be enjoyed as a pleasurable entertainment by the spectator situated in the middle of the display.

Photography reproduced this experience in miniature, by allowing the viewers to possess their own reproduction for private consumption. The range of panoramic reproductions grew extensively during the nineteenth century. As Rice has observed, Paris was the site of an enormous diffusion of panoramic imagery, particularly during the *grands travaux* of the 1860s when a detached mode of perception became popular:

The word ‘panorama’ changed its meaning during the course of the nineteenth century to include any picture or series of pictures, big or small, that provided an overall view or a survey of its subject. It covered a motley range of images, both popular and otherwise: bird’s eye views, maps

---

<sup>153</sup> On the origins of the panorama in the eighteenth century, see Rice (1997:127).

and diagrams, painted or photographed depictions encompassing a broad angle of vision, serial or continuous images chronicling a narrative or describing a location or situation. (Rice 1997:129)

The spatial arrangement that presided over this form of spectatorship – a circular space with a viewing tower in the middle - has prompted Boyer to draw an analogy between the panoramic spectacles and the panoptical device elaborated by Jeremy Bentham (Boyer 1994:253). For Boyer, the historical coexistence of these two models within the discourse of exploration suggests a “complicity” between the ideal of an objective description of reality, on the one hand, and a drive toward the subjective contemplation of spectacles, on the other – both of which began to emerge in the Renaissance:

In the historical roots of topographic views of the city, we find the [...] primacy of the visual and pictorial, combining the spectacle with documentation; placing the spectator inside the panoptic machine, intensifying in a blackened room, through a peep box, a camera obscura, or urban observatory, the experience of an isolated viewer gazing upon the many fascinating things presented on the urban stage, but a gaze that classified, categorized, and judged the verisimilitude of the projected imagery. (Boyer 1994:204)

Challenging Foucault’s assertion that the regime of surveillance based on documentary practices took over from the essentially pre-modern culture of spectacle, Boyer has insisted on the mutual interplay of these forces in the formation of topographic views of cities throughout the nineteenth century. As a consequence, this process brought about a new viewing subject whose defining characteristic was a panoramic mode of perception: “The panoramic eye”, Boyer writes, “was a peculiarly nineteenth-century product, combining a taste for spectacular illusion with the thrill of documentary realism” (Boyer 1994:257).<sup>154</sup>

A similar argument has been proposed by Tony Bennett (1994) with reference to the nineteenth-century culture of display epitomised by the World Exhibitions – which Boyer has also discussed in terms of “simulated travelogues”. Without discarding Foucault’s argument about the prevalence of surveillance over spectacle, Bennett has instead interpreted the emergence of “the exhibitionary complex” as a combination of the two. According to Bennett, museums, exhibitions, and the other spaces and institutions that promoted the organization of knowledge into forms of public display worked as mechanisms of social surveillance. Their operations were obviously different from the type of self-regulation effected by carceral institutions, but they nonetheless contributed to establish a disciplinary regime based on the display of power and knowledge. In parallel with Boyer, Bennett has also gone beyond the limits

---

<sup>154</sup> On the impact of the railway journey on the nineteenth-century perception of space and time, see Schivelbusch (1986).

of Foucault's theory by proposing a more inclusive understanding of the relationship between panoptical and panoramic visions:

The Panopticon is simply a technique, not itself a disciplinary regime or essentially a part of one, and, like all techniques, its potential effects are not exhausted by its deployment within any of the regimes in which it happens to be used. The peculiarity of the exhibitionary complex is not to be found in its reversal of the principle of the Panopticon. Rather, it consists in its incorporation of aspects of those principles together with those of the panorama, forming a technology of vision which served not to atomized and disperse the crowd but to regulate it, and to do so by rendering it visible to itself, by making the crowd itself the ultimate spectacle. (Bennett 1994: 131-2)

In different ways, Boyer and Bennett have suggested that the visual cultures of the nineteenth century contained the seeds of a double-pronged phenomenon, whereby the panoramic eye and the panoptical eye were the conduits of a single mode of vision.

The "panoramic eye" was not only a product of new forms of representation and display, but also of the technologies of transportation that made travel possible in the first place. The impact of the railway journey on the modern perception of space and time has been the subject of several cultural analyses (Kern 1983; Schivelbusch 1986). Wolfgang Schivelbusch, in particular, described how the "machine-unit" constituted by trains and railways redefined, from the 1820s onwards, the space between the modern traveller and the landscape. Accordingly, the transformation of travel into a uniform and continuous type of movement produced a "disorientation of perception" analogous to the effects caused by the new iron-and-glass architecture in its early users (Schivelbusch 1986). Along similar lines, it might be argued that the advent of powered flight reinforced even more the role of sight as the privileged sense in western culture, therefore contributing to the gradual dematerialisation of travel. In other words, the experience of flying signalled a further stage in the desensitization of the body from the space traversed.<sup>155</sup>

The aerial gaze seems to offer a possible paradigm to investigate the complicity between panoramic and panoptic vision in the interwar period. The visual possibilities opened up by air travel enabled the formation of a new panoramic gaze on the city, which was fixed in a broad ranged of representations. A new form of travel literature appeared in the 1920s, when civil aviation made the experience of flight accessible to an increasing number of people. The nineteenth-century tradition of the travelogue was therefore renewed by authors, in some cases being pilots themselves, who seized on the public demand for tales of flight (Wohl 1994). The progressive opening of flying routes in and out of Europe along with the news of record-breaking feats accomplished

---

<sup>155</sup> See R. Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (London: Faber, 1986).



by the best-known aviators, contributed to a boom of the 'air travelogue' in the interwar years. This literature was often illustrated with aerial photographs, which became pervasive in the late 1920s. Amid the variety of landscapes that began to be depicted from the air, urban views invited a type of contemplation that renewed the notion of panorama. The following sections examine different examples of travelogues: the first discusses an American journalist's account of a voyage across Europe, while the second takes on a series of articles written by European pilots for a popular American magazine in the same year.

### **'Like exquisite miniatures': images from an air travelogue**

This section examines the visual contents of *European Skyways*, an aerial travelogue published by Lowell Thomas in 1928. Thomas was a prolific writer, reporter, and traveller who achieved wide recognition as a 'pioneer' in various media during the interwar years.<sup>156</sup> His *European Skyways* was an interesting example of a new popular literature based on the experience of air travel. This illustrated book, which was dedicated "to all who have missed the joys of flight", told the story of Thomas' journey through the skyways of Europe, which had been recently opened to civil aviation.<sup>157</sup> Having previously documented the first aeroplane flight around the world,<sup>158</sup> Thomas now composed a travelogue that blended personal anecdotes with geographical and historical notes about the places he flew over. His goal was to offer an overview of the 'sights' observed from the sky to readers unaccustomed to flying, while also introducing them to the safety and convenience of air travel. *European Skyways* initiated the lay reader to the experience of flight, both in terms of a form of transport and as a mode of perception.

Thomas' narrative relied on the description of household places, mostly urban landscapes, as he perceived them from the aeroplane. Much as the textual narrative of the book was a montage of memories and descriptions, interspersed with long passages in which various characters spoke in first person, a heterogeneous visual narrative wove together photographs taken by the author with images borrowed from other sources. The experience related by the author was illustrated by a series of aerial photographs that may or may not have reproduced his own vision, but which crystallized the various stages of the journey. The images of cities encountered during

---

<sup>156</sup> Thomas was the first news reporter for radio and the first journalist to do a televised news programme in the 1930s.

<sup>157</sup> The itinerary started at Croydon and reached Istanbul before returning back to England.

<sup>158</sup> Thomas related the story of the first world flight carried out by the U.S. army air service in 1924 in the book, *The First World Flight* (London: Hutchinson, 1926).

the expedition varied greatly in style, ranging from pictorial views to straightforward documentary images. The sequence of illustrations included images of places that were not part of the itinerary and others which had been acquired from airlines and agencies; on the whole, only some of the pictures published in the book were actually taken by the author himself.<sup>159</sup> These illustrations therefore constituted a narrative on its own, complementary to the text but at the same time independent from it.

Following the image in the frontispiece, which showed an aeroplane flying through a sky covered with clouds, the first illustration was captioned, “Europe from the Air: A morning mist creeps over Edinburgh” (Thomas 1928:2. Fig. 32). Although Edinburgh was out of the flying route, this image was chosen to represent a view of “Europe from the Air”, presumably on account of its dramatic force. The picture set up the tone of the book by featuring an aeroplane inside the aerial view of an urban landscape. This visual trope identified the viewer with a virtual external observer following the author and recording the phases of the journey. This way of making visible the aerial observer might have enhanced the realist effect of the travelogue; but, at the same time, it placed the visual narrative of the book in a blurred area between fiction and documentary. In fact, the picture’s illusory quality was increased by the fact that it was a superimposition of different negatives. This photo-montage was the work of Alfred G. Buckham, a R.A.F. pilot who became the major proponent of a pictorialist style in aerial photography during the 1920s. Buckham used some of his famous photographs of ‘cloudscapes’ as the bases for a series of montages which turned aerial city views into dramatic sceneries. In the symbolic economy of the travelogue, it did not matter whether or not the Scottish city was part of the author’s route; neither did it matter whether the picture was ‘authentic’ or not. The image essentially functioned as a universal signifier of the supposed sublimity of (European) urban landscapes seen from the aeroplane. This form of representation therefore situated the aerial image within the established practice of topographic views based on a combination of the real and the imaginary (Boyer 1994).

The next illustration showed the aerial view of an unidentified city illustrating the following passage: “A new visionary world unfolds before the eye of the modern traveller who hurries from cloud to cloud.” This image made it all the more evident that the opening pictures served to represent not so much specific urban places, but rather the possibility of a new perception accessible to the modern traveller. There was therefore no incongruity between the images and the content of the text, since they both contributed to conjure up the newness of the aerial experience through

---

<sup>159</sup> The book’s illustrations were not credited individually, which makes it difficult to know their respective authors. Several pictures were taken with the cooperation of Captain Alfred G Buckham (a fellow of the Royal Photographic Society of London and aerial photographic expert with the R.A.F.), and others with the assistance of various European commercial airlines.

descriptions of urban views. The evocation of a “visionary world” was also in keeping with the atmospheric quality of the pictorialist photographs in the early pages of the book.<sup>160</sup> In the structure of the book, the opening pictures corresponded to Thomas’ tales of his early flying experiences in Egypt during World War I, which they evoked by conveying a sense of travelling through time and space alike. As Thomas wrote, “When we got up a few thousand feet, I had the weird sensation that I was a spectator from another planet, astride a flying meteor, viewing the earth through a vista of thousands of years” (Thomas 1928:3).

Similarly, the author’s second flight over Sinai and other biblical sites was described in meditative tone, as though the spectacle of ancient history had brought about a spiritual revelation. As Thomas wrote, “It was a Pilgrim’s Progress and converted me to the aeroplane as a vehicle from which to see the world unfold in panorama” (Thomas 1928:5). The perceived conversion to an ascetic experience of the world seen from the sky was meant to encourage readers to undertake the ‘leap of faith’ required to venture upon flying. For Thomas, boarding an aeroplane amounted to embracing a new perceptual world in which panoramic vistas unfolded under the spectator’s gaze. A decade after this rite of initiation, the author engaged with the task of converting his readers to the pleasure of flying. The rhetoric of a “romance of the flight” underlying the text, to use Thomas’ own expression, explained the choice of sublime views of cities that apparently stood out of historical time.

Thomas went on to narrate a short history of aviation, from the Lillenthals’ experiments to the first long-distance flights, before he finally began his travelogue. This was punctuated by aerial photographs of various kinds, alternating straightforward images to pictorialist ones, the latter being normally high-oblique (and high-contrast) views showing an aeroplane in the picture. Thomas was keen to prove to his readers that the air journey was able to provide them with an “authentic” experience of foreign places that would match their expectations. The caption to the photograph of a Dutch port town, whose anonymity served to enhanced its “Dutchness”, reassured the reader as to the likelihood of indulging in the pleasurable game of visual recognition from the plane: “Even without the baggy pantaloons and wooden shoes”, Thomas wrote, “Holland looks Dutch from the sky” (Thomas 1928:48. Fig. 33). No other passage in the book captured the potential of aerial photography to construct or consolidate modern mythologies, in Barthes’ terms, as well as this one. In his further descriptions of Dutch landscapes, Thomas attempted to persuade the reader about the aeroplane’s potential as a viewing platform for sightseeing: “We fall in love with Holland at first sight from the air. Any one who wouldn’t be responsive to the charm of this gentle, half-drowsy land

---

<sup>160</sup> Another well-known photograph by Buckham, depicting London from the air, was published to illustrate the departure from the capital. The caption read: “Out of stormy skies through streaks of sunshine along the winding Thames” (Thomas 1928:34).

of red-roofed villages and canal-boats would indeed be hard to please” (Thomas 1928:50-1). The plane became a vehicle for the contemplation of unfolding spectacles, not unlike the deck of a bus along the busy streets of a foreign city. As Thomas put it, “From the cockpit of the aeroplane I can observe, as plainly as if I were on a sight-seeing wagon, the lovely old buildings that date back to the twelfth century” (Thomas 1928:51-2). This analogy well encapsulated the spirit of Thomas’ journey, which reproduced an American tourist’s experience of European landscapes and cityscapes from the air.

Other photographs published in *European Skyways* had a similar function of visualising well-known places, with all their stereotyped attributes, from a novel vantage point. The cognitive possibilities opened up by aerial observation were bound up with the pursuit of spectacular views. This emerged clearly from two photographs of Paris. Thomas praised a low-oblique picture of the Louvre for producing an easily intelligible image of a large and complex urban structure: “In a few seconds from the sky”, he captioned, “you can get a more vivid picture of the cities and structures of men than in days afoot on the earth” (Thomas 1928:102. Fig. 34). Later on in the travelogue, a depiction of Nôtre Dame and the Île de la Cité was characterised in these terms: “Like an exquisite miniature framed by the river Seine” (1928:114).<sup>161</sup> Here Thomas inadvertently theorised a mode of perception characteristic of what may be called, with reference to John Urry’s definition, the ‘aerial tourist gaze’ (Urry 1990, 1992). The panoramic view at a glance was rendered all the more comprehensive and perceptually secure by the elevated perspective of the aeroplane.

This mode of contemplation was also applied to the war battlefield of France and Belgium, which were a choice destination of Thomas’ voyage.<sup>162</sup> A photograph entitled “Over the shattered ruins of Noyon” showed the town’s ruined cathedral in a section in which Thomas sang the praise of the R.A.F. pilots’s successes in the air battles of World War I. The spectral character of these sites was appreciated from the safe distance of the aeroplane, which induced the traveller to draw fantastic appearances from their sights. The search for mystery was an underlying theme of the whole travelogue, which strove to convey a sense of adventure [fig. 35]. Hence, the image of the domes of the Sacré Coeur in Paris became, in Thomas’ account, a “ghost-like” vision, while the castle of Mont Saint-Michel was portrayed as “fairy-like”. These descriptions, together with the pictorial style of several of the book’s photographs, signalled the author’s attempt to reinvest the image of familiar places with a new enchantment. The attraction produced by the new mode of contemplation was

---

<sup>161</sup> Aerial shots of Place de la Concorde and the Sacré Coeur completed the portrayal of Paris.

<sup>162</sup> This excursion was in keeping with the tourism of ruins that was described in chapter § II.2.

therefore coloured by a feeling of uncanniness that might have helped to fascinate the reader to the experience of flight.

Natural landscapes were also appreciated in a new light from the plane, which made even the least appealing scenery look visually attractive to an aerial observer. Thomas was thrilled not only by the Alpine landscapes and the Rhône valley, but also by the Italian Riviera and the tapestry-like plains of the Danube.<sup>163</sup> However, it was the urban imagery that occupied the majority of the book's illustrations. The bulk of Cologne Cathedral was among the urban monuments that featured in Thomas' account, which described how the cathedral's "famous twin spires" were visible from miles away (Thomas 1928:318). The prominence that would later characterise the building's defiant presence in the air photographs of World War II was hereby announced as a favourite tourist attraction from the air. Berlin, Istanbul, Moscow, and Stockholm were depicted among other cities, the latter being described as "a glorious sight" from the air. In an eloquent passage, Thomas recognised the significance of aerial vision for the comprehension of cities:

By far the best way to see a city for the first time is from on high. Instead of coming in through a lot of dirty railway yards and uninteresting factory and poorer residential sections, you get a perfect panoramic view, a view that once and for all puts a plan of the city in your mind's eye. Then, too, some cities are marvellous spectacles from the sky. (Thomas 1928:168)

By conflating the cognitive and spectacular qualities of the airborne image onto a single function, Thomas was sanctioning the double role of the aerial scopic regime as a vehicle of visual information and visual pleasure alike. The working of the imagination, he noted, was also stimulated by the game of visual recognition from the air, since the aerial view was layered on to a pre-existing mental image: "As I speed across the sky", Thomas wrote, "the whole history of the region below me, or such fragments as I can recall, come rushing to mind. So I really see a double panorama – one with my eyes, the other with my imagination" (Thomas 1928:105). This passage, along with others quoted above, gives a sense of the spirit of discovery that animated Thomas' travelogue. His often naïve or starry-eyed comments were in fact the record of an experience of airspace that was just beginning to be open to the wide public. The centrality of vision to the whole rhetorical construction of *European Skyways* reproduced the conventional act of sightseeing, and its representation, on a new (aerial) level. The use of photographs played a significant role in visualising the aerial imagination that emerged from the experience of flight. As the next section shows, the sensation of watching geographical and historical landscapes 'unroll' was a common trope in other narratives of air travel published around the same time.

---

<sup>163</sup> See chapter XI, "Looking down on the Alps from the sky."

## Seeing landscapes unroll: the pilot's viewpoint

A chapter of *European Skyways* was devoted to Thomas' meeting with Alan J. Cobham, an English veteran of long-distance flying. Taking on the narrator's voice, Cobham told the story of his ground-breaking African flight from London to Cape of Good Hope via Egypt and central Africa. The purpose of this anecdotal digression in Thomas' travelogue was a practical one: the tale of Cobham's journey was meant to persuade readers to travel the skyways of Europe, where ground organization was better organised than in Africa. This digression offers a pretext to examine Cobham's own travel writings of the time, which provide a pilot's accounts of his own flying adventures narrated to the wide public. In 1925, Cobham published *Skyways*, a book that might well have inspired the title of Thomas' later work. A fundamental difference, however, was that the former did not belong to the rank of travel writers who occasionally ventured upon flying, as the latter did, but was an expert pilot himself – renowned enough to be described by Thomas as “a maker of aerial history.” The type of travel literature produced by aerial observers that were passengers of flights, such as Cobham, must be distinguished from the genre of travelogue narrated by pilots themselves in first person, such as Cobham's book.<sup>164</sup> The latter genre was often illustrated by aerial photographs as well.

In an article published by the *National Geographic Magazine* in March 1928, entitled “Seeing the World from the Air”, Cobham narrated his legendary flights of the 1920s, which he mostly undertook in order to test the possibility of opening new air routes through various countries and continents. Despite the practical considerations that led him to embark on long and difficult journeys, Cobham declared that his main goal was “touring for pleasure” (Cobham 1928:355). The author seemingly enjoyed the element of unpredictability as part and parcel of the aerial business. This attitude was reflected by his preference for journeys that were not based on a fixed itinerary. “One of the delights of aerial touring”, Cobham wrote, “is that you are never quite certain where you are going to turn up” (Cobham 1928:357). Cobham's travelogues were therefore imbued with a spirit of conquest that was absent from the purely spectatorial tone of Thomas' book published the same year. What united their accounts was a combination of manifold images that were edited out to produce semi-fictional visual narratives for public consumption.

A self-professed ‘tourist of the air’, Cobham used to travel with an assistant who was charged to keep a pictorial record of his flights, some of which he used to illustrate his writings. The article in the *National Geographic* shows a pervasive use of aerial

---

<sup>164</sup> In his European journey, Thomas had hired several planes as a passenger before reaching his destination.

photographs, alongside ground-level views, which came from various sources.<sup>165</sup> Aerial views were deemed to be appropriate to illustrate a sweeping range of places from all continents. At the time when the frontiers of geographical knowledge were being redesigned by the pioneers of trans-continental flight, the medium of aerial photography allowed to translate the diversity of world landscapes into a unified visual language. Cities were a favourite subject in this composite portrayal of “the World from the Air”. Whether they depicted new or ancient sites, urban views seemed to exert a peculiar kind of fascination over the pilot-narrator. Indeed, the visual narrative of what may be called a ‘tour of the world in thirty-five pages’ relied on the diversity of images and sights represented. Two urban views captured this variety vividly: a photograph taken “Looking down upon the Acropolis at Athens” (Cobham 1928:357. Fig. 36), and one showing “Australia’s new capital [...] rising in the raw and open country” (Cobham 1928:380. Fig. 37). While the former picture, taken by the author himself, epitomised the city of classic antiquity, the latter represented the city of the ‘new world’, which was signified by the layout of Canberra traced on the ground.

Interestingly, several other issues of the *National Geographic* published in 1928 also contained reports of flights around the world, all being illustrated by a significant amount of aerial photographs.<sup>166</sup> The personal cult achieved by Charles A. Lindbergh in the wake of his 1927 transatlantic flight ensured him a privileged place in the American chronicles of the time. Hence, it is not surprising to find, at the beginning of the following year, an article entitled “Seeing America with Lindbergh”,<sup>167</sup> and later an article by Lindbergh himself narrating his latest flight to South America.

As far as the European discourse of aerial touring was concerned, Cobham’s travelogue was echoed few months later by an article written by one of the most popular figures of Italian aviation in the interwar years, Francesco de Pinedo. A commander of the Royal Italian Air Force who called himself “Marco Polo of the air”, de Pinedo exalted his flying adventures around the world in a piece whose title evoked at the same time the length of the journey and the pomposity of its narration: “By Seaplane to Six Continents: Cruising 60,000 Miles, Italian Argonauts of the Air See World Geography Unroll, and Break New Sky Trails Over Vast Brazilian Jungles” (Pinedo 1928). Not unlike Thomas’ rhetoric of visual recognition and Cobham’s narrative of aerial discovery, de Pinedo’s travelogue relied upon the enchantment of seeing landscapes unroll before the observer’s eyes, which he likened to watching a movie screen: “From my plane I saw a motion picture of travel scenes 60,000 miles

---

<sup>165</sup> Some of the aerial images were credited to Cobham himself – although they had more likely been taken by his photographer. Others were credited to individual photographers, public institutions, or photo-agencies.

<sup>166</sup> This recurrence has been noticed, in passing, by Dreikausen (1985). See also M. O. Williams, “Seeing 3,000 Years of History in Four Hours”, *National Geographic Magazine*, Vol. 54, n. 6, Dec. 1928, pp. 719-

39.  
<sup>167</sup> *National Geographic Magazine*, Vol. 53, n. 1, Jan 1928, pp. 1-46.

long” (de Pinedo 1928:247). The aerial observer enjoyed a privileged position that afforded him a glimpse onto otherwise hidden or invisible territories, the city being a crucial image. As de Pinedo put it, “Moats fail and walled cities yield their secrets, now that men fly” (de Pinedo 1928:261).<sup>168</sup> The aerial photographs that illustrated this article did more than merely represent in visual images the lands flown over by the author. They lent evidential force to the entire narrative, reinforcing a rhetoric of conquest that described the expeditions in terms of hunts for exotic preys. While the interplay of texts and images conveyed the spatial and visual dimensions of these ‘captures’, the explicitly male narrative also introduced a further implication. A case in point was the description of Rio de Janeiro, a halting place visited by de Pinedo during his flight to inner Brazil. The gratification derived from penetrating the cityscape with a gaze from above gave way to the wish for a closer encounter with the city on the ground [fig. 38].<sup>169</sup> While telling his sojourn in Rio, de Pinedo described the city in terms of an object of desire: “I wanted to look my best for Rio. There she lay, fragrant and colourful, voluptuously reclining beside the sea” (de Pinedo 1928:267). The popularity of de Pinedo’s flying cruise was depicted at the end of his article, which presented a near-vertical view of the Tiber in Rome, taken by the pilot upon his return to Italy. The crowds welcoming him on the *Ponte Margherita* and the surrounding streets aptly sealed the travelogue with an image that emphasized the perceived heroism of the enterprise – a typical finale adopted also by Cobham, Lindbergh and others for similar accounts.

These illustrated articles from the *National Geographic* constitute only a minor section of the travel literature of the time, but they nonetheless provide interesting material to this chapter. The rhetoric of such fliers as Lowell, Cobham, and de Pinedo was based on the idea of new enterprises opening up routes of communication and exploration. One by-product of these travelogues was the production of new forms of visual representation of distant lands, which combined direct records of journeys with a wider repertoire of evocative images. By casting a new gaze on *other* places, these travelogues contributed to a vicarious experience of otherness that was mediated by a combination of textual and photographic narratives. The prevailing imagery was based on a perception of landscapes and cityscapes ‘unrolling’ before the viewer’s eyes. The act of seeing was reduced to a seemingly passive function through this type of narrative, as though the landscapes themselves were moving before an immobile aerial observer. This transfer of ‘activity’ had the effect of normalising the procedures of

---

<sup>168</sup> This might well have been the caption to one of the aerial photographs published in *European Skyways*, which described the enclosure of Aigues-Mortes as “The most perfect mediæval walled town in all Europe.”

<sup>169</sup> The caption of the image read: “An aerial view showing Rio de Janeiro’s Avenida Rio Branco, cut through the heart of the city. To relieve congestion of traffic, to provide better ventilation and relief from heat, and to improve the appearance of the second largest city in South America, the Brazilians spared no expense or labor.” (Pinedo 1928:265)



visual colonisation and the power structures embodied by those procedures. It was not a coincidence that most of the aviators who produced these narratives were military pilots or had been trained as such – and, in some cases, were air reconnaissance photographers.

While the travelogues examined above can be situated in a sub-category of travel writing, a literary canon based on the experience of flight was being established around the same time by the most famous writer-pilot, Antoine de Saint-Exupéry (1900-44), who also served as an air reconnaissance photographer. In his diaries, tales, and novels, the figure of the pilot is often characterised as a modern witness of historical change. These writings can hardly be compared to the genre of aerial 'reportage' in terms of literary value. However, certain common motifs may be detected. In *Pilote de Guerre* (1942), for instance, the city is often described as an unfolding landscape made of apparently static objects and signs. Even more strongly, in *Courrier Sud* (1929), the experience of flight is told through a sequence of shifting landscapes that reveal the aviator's solitude and fragility. Through poetic and philosophical observations, the protagonist Jacques Bernis sees the world from ten thousand feet as a "chessboard world" – an abstract and perfectly ordered visual pattern. Saint-Exupéry insisted on positioning cities as the visual focuses that punctuated the aviator's landscape. The near-identical appearance of cities from the air gave way to differences only when the pilot began to explore them after landing. The city, like any other object seen from the air, was therefore reconfigured by the aviator, who held it as a hostage in his visual field. In this world, which Jacques Bernis finds "too exposed", cities slowly come into view on the unfolding carpet of the earth below. While the natural landscape seen from the aeroplane is spatialised as if it were a home, the city is seen as an object of conquest, prey, or 'theft' – which in French is the same word as flight (*vol*). To conquer a city, the protagonist observes, is to bring it back to light. Saint-Exupéry's transposition of airspace into a 'dreamspace', while belonging to mainstream fictional literature, cannot be ignored in a study of interwar aerial travelogues. In fact, the sense of possession conveyed by his lonely aviators, which was applied to the city as an ideal object of desire, also characterised the experience of flight narrated by various pilots and writers of the time.

## Reporting construction: photo-journalism and the iconography of progress.

Now an oblique aerial photograph when taken from the most advantageous angle is an object of interest and excellent propaganda. (Cobham 1925:79)

To review the grandiose swing of construction while standing on the ground is impossible. It is necessary to rise on an aeroplane to a great height, and gaze upon the renovated country from the cabin window. The picture is amazing, thrilling! (*USSR in Construction*, n. 6/1932, n.p.)

This chapter deals with the production of an aerial iconography of cities in the illustrated press of the 1930s, with particular regard to the propaganda uses of aerial photographs in Italy and the USSR. The emergence of the practice of 'aerial reporting' is situated within a larger phenomenon in which cities became the sites of production and consumption of new print cultures in the interwar years. The specific role of photography as main ingredients of illustrated magazines is discussed through the critical angle of Kracauer's writings. A brief excursus into the field of reportorial aerial photography leads to the specific study of two cases in which this practice became integral to picture-making strategies driven by revolutionary ideologies: *USSR in Construction* and *La Rivista Illustrata del Popolo d'Italia*. An examination of the visual rhetoric of these two magazines is conducted on the basis of specific samples of images. The case study reveals a persistent, if variegated, use of aerial imagery to depict cities as sites of ongoing physical and social construction, and ultimately as signifiers of different revolutionary cultures.

## Aerial reporting and the illustrated press

In his essay "Photography", Siegfried Kracauer (1927/1995) asserted that the extraordinary growth of the illustrated press in the 1920s was mainly due to the visual power of the photograph. "The aim of the illustrated newspapers," he wrote, "is the complete reproduction of the world accessible to the photographic apparatus. They record the spatial impressions of people, conditions, and events from every possible perspective" (Kracauer 1927/1995:57-8). Kracauer argued that the increasing coverage of topical news was inversely proportional to the public comprehension of the world's events. As he put it, "In the hands of the ruling society, the invention of illustrated magazines is one of the most powerful means of organizing a strike against understanding" (Kracauer 1927/1995:58).

This piercing view on the function of the illustrated press was only one of Kracauer's wide-ranging reflections on the nature of photography. The crux of his argument was that photography established a spatial continuum analogous to the temporal continuum recreated by historicist thinking, which had emerged in Germany at about the same time as photographic technology: "Historicism is concerned with the photography of time. The equivalent of its temporal photography would be a giant film depicting the temporally interconnected events from every vantage point" (Kracauer 1927/1995:50).<sup>170</sup> On the pages of illustrated magazines, news photographs were arranged in such a way as to produce an effect of "contiguity", as Kracauer called it, which erased the original contexts in which events took place. The impression of contiguity expunged the gaps between the spaces and times of the events themselves. Cultural meanings were continually manipulated within this new photographic space. As Kracauer vividly suggested, "The blizzard of photographs betrays an indifference toward what the things mean" (Kracauer 1927/1995:58). It is evident that Kracauer assessed the social effects of the media conflagration that followed World War I in a very different way from his contemporary Ernst Jünger. While the latter revelled in the cognitive potential opened up by photography as a vehicle of an armoured consciousness, the former warned against its risks of impinging upon the formation of public knowledge and memory. Cadava has interpreted Kracauer's essay as an early critique of the presumed "historical truth" conveyed by photographs:

The flood or blizzard of photographs [...] reveals the historical blinding or amnesia at the heart of photographic technicalization. Substituting for the object and its history, the image represents a trait of the world that it at the same time withdraws from the field of perception. The event that gives the

---

<sup>170</sup> For a detailed discussion of Kracauer's analogy between photographic procedures and the writing of history, see D. Barnouw, *Critical Realism: History, Photography, and the Work of Siegfried Kracauer* (Johns Hopkins University Press, 1994).

age of technological reproducibility its signature is the event of this withdrawal from sense. (Cadava 1997:xxvii)

The photograph's illusory effect of bridging the distance between the viewing subject and the object concealed a deeper form of alienation. For Kracauer, the impressions of proximity and contiguity created by press photography – and, on a different level, by historicist thinking - clashed with the discrete and selective images of human memory. The growing demand for photographic coverage of topical events was a signal that modern society was embracing a spectacular mode of self-representation that coincided with the genealogy of the 'society of spectacle' (Crary 1989). The apparent reduction of distances engendered by the mass media of the interwar period, with their early forms of space-time compression, was a phenomenon that was predominantly forged and consumed in the metropolis.

The city was at the same time a theatre of ceaseless events and the breeding ground of a modern culture that increasingly demanded up-to-date information about itself (Donald 1999:63-4). Kracauer observed that the city was the main provider of topical stories, which magazines strove to report from every possible angle. As he wrote in the same 1927 essay, "Photography shows cities in aerial shots, brings crockets down from the Gothic cathedrals. All spatial configurations are incorporated into the central archive in unusual combinations which distance them from human proximity" (Kracauer 1927/1995:62). The independent visual world created by photography, Kracauer conceded, had the positive effect of promoting the direct confrontation between modern consciousness and its mediated image of reality. The new vantage points from which photography produced its "spatial inventory" were part of this process. Indeed, aerial images were among the "blizzard of photographs" that swept the pages of newspapers and magazines, especially from the mid-1920s onwards, therefore enlarging the repertoire of the illustrated press. The subjects of this aerial 'reportorial' photography were often urban scenes that could be better depicted from the air - such as sport events and mass gatherings. Benjamin famously observed that, "Mass movements are usually discerned more clearly by the camera than by the naked eye. A bird's eye view best captures gatherings of hundreds of thousands" (Benjamin 1936/1970:251). By visualising the geometric patterns of the city invisible from the ground, the airborne camera therefore became instrumental to the new urban iconography of the interwar years.

The demand for aerial photographs was met by the growth of air survey companies, which in the 1920s began to cater images for a wide range of commercial purposes. The urban applications of the air-photographic medium were mainly based on the depiction of places and events. While, on the one hand, there grew an increasing demand for records of specific sites from the air, on the other hand, the

exigencies of journalism required images of topical events.<sup>171</sup> Alan Cobham, whose travel narratives have been discussed in the previous chapter, was also among the first aviators who embraced aerial photography for press reporting, besides being one of the most prolific British writers on the subject. Cobham intuited the potential of the aerial image when he wrote in his early account of flying, “Now an oblique aerial photograph when taken from the most advantageous angle is an object of interest and excellent propaganda” (Cobham 1925:79).

The use of aerial photography for press coverage grew steadily over the 1920s and 1930s and, on the eve of World War II, aerial views were a common currency of photo-journalism. In a book about Cobham’s flying enterprises, Ronald S. Lyons described the “thrilling uses” of the aeroplane as follows:

To-day the ‘snapping’ of pictures from speeding aeroplanes has become almost commonplace, and some amazing ‘shots’ have been given in the newspapers. Shipwrecks, fires, train smashes, mine disasters, riots, and a host of other exciting and often terrible events have been snapped by flying photographers, who take their lives in their hands and risk death for the sake of an *exclusive* picture. (Lyons 1938:150. Italics in original.)

This passage conjured up an image of the aviator-reporter as a brave adventurer, who combined the skills of the press journalist with the pilot’s ability to race against time in order to deliver the day’s pictures to magazine editors.<sup>172</sup> Lyons’ use of the term “snapping” in the above passage amplified the essential attribute of swiftness in his hero’s practice. In the eyes of the reader, the dangerousness of the event depicted was heightened by the risks involved in its depiction. Indeed, the events listed by Lyons chimed in with Jünger’s imagery of shock and danger discussed earlier, which supports the idea that aerial photography played a role in the interwar iconography of violence.

Although Cobham’s reference to propaganda was only tangential, the line quoted above can be taken as a cue for the study of the interwar applications of the medium to political discourses. The function of aerial photography, which, in a country like Britain, produced urban views mostly for commercial aims, was elsewhere put to the service of a political rhetoric predicated on the idea of a new ‘construction’ – physical, social, and symbolic at the same time. The focus of the next two sections is on the uses of aerial photographs of cities in the illustrated press of the 1930s for the purpose of political propaganda. Aerial reporting is going to be investigated with a specific attention to the visual narratives deployed to represent urban landscapes in two revolutionary states – the Soviet Union and fascist Italy.

---

<sup>171</sup> The range of customers included public bodies and private clients – such as postcard makers, estate developers, and factory owners. Construction firms were also keen to have the progress of their works recorded from the air (Wills and Winchester 1928:154-61).

<sup>172</sup> Lyons also foresaw the use of autogyros and aeroplanes to regulate the traffic, and advocated the use of “aerial policemen” to prevent crime (Lyons 1938:154).

## Photographing utopia: aerial visions in ‘USSR in Construction’

A previous chapter (§ III.2) has outlined the central role that photography played in the visual culture of the Russian avant-gardes in the 1920s, with an emphasis on the experiments in urban photography carried out by Rodchenko, Ignatovich, and other artists of the *October* group. The debate over the *how* and *what* of a revolutionary photographic practice, which reached its apex in 1928, coincided with the start of the first Five-Year Plan in the USSR. The vast infrastructural works that went along with the process of social and cultural modernization of the country required an adequate form of visual recording. The Soviet propaganda machine mobilized technological and human resources on a vast scale to produce a documentary record of the rapid transformation of the country into a major industrial power (Bendavid-Val 1999). Tupitsyn has underlined the coincidence of a new political era with a new season in the Soviet avant-garde movements:

For Soviet society 1927 meant the birth of a new political era, as well as the launch of a second avant-garde that operated entirely in the realm of mass media. [...] The resulting ‘visual documents’, produced primarily for the press, traced and displayed the success of socialist urban modernity. (Tupitsyn 1998:13)

Since its early years, the Soviet Union was home to a growing movement of workers’ photography circles, which contributed to spread a visual culture of the revolution from bottom-up (Tupitsyn 1996).<sup>173</sup> The activities of these circles were supported by the government, which promoted the publication of their images in the illustrated press. The exposure of increasing audiences to films and photographs also gave avant-garde photographers an extraordinary chance to venture upon new techniques and aesthetics to represent the process of socialist construction. An active participation to the diffusion of photographic literacy was prescribed, among others, by the photo-section of the *October* group, whose 1930 programme stated that anyone who joined the section “must be linked to production, i.e., should work in printing or be involved in newspapers, magazines, etc.” (Anon. 1931/1989:284).

One of the most widely spread publications that portrayed the ongoing process of social and spatial construction in the Soviet Union was the illustrated magazine *SSSR na Strojke* (‘USSR in Construction’). This periodical, which was founded by Maxim Gorky in 1929, was addressed to an international public and soon became, in Kozloff’s phrase, “the main clearing house of Soviet imagery for foreign consumption” (Kozloff

---

<sup>173</sup> Phillips has pointed out that “By 1928 around three thousand amateur photography organizations or ‘photo-circles’ organized in schools, factories, and army units had sprung up in the USSR, with a total membership of nearly fifty thousand” (Phillips 1989a:266).

1994:119).<sup>174</sup> A number of avant-garde artists took part in the design and layout of the magazine between 1929 and 1941.<sup>175</sup> The issues were mostly thematic and were illustrated almost exclusively with photographs, while text was often kept to a minimum. As Erika Wolf has pointed out, a belief that photography would provide an objective form of representation animated the magazine editors, whose goal from the start was to attain a “systematic application of photography in the representation of industrial construction” (Wolf 1999:61).<sup>176</sup> The geographic extent of the territory that had to be covered, in addition to the colossal scale of the construction works, required the mobilization of a large team of photographers. The plurality of gazes that was mirrored in the visual language of *USSR in Construction*, at least in its early years of publication, signalled that the dispute over which photographic style should be adopted to represent a revolutionary society was still open.<sup>177</sup>

Aerial photography played a significant role in the formation of the magazine’s visual narratives. This will come as no surprise if one considers the pressing needs of the political authorities to oversee the process of restructuring of the Union’s social and economic bases, and their equally pressing desire to divulge an up-to-date picture of the ongoing transformations. Within this context, the visual appeal exerted by aerial photographs became instrumental to the dissemination of a progressive image of the territory, which underwent a rapid process of industrialization. As the tools of photo-reportage were enriched by the possibilities of an aerial view, the new imagery provided a suitable visual aid to the all-encompassing project of the Five-Year Plan.

Aerial representations of cities featured prominently in the first years’ issues of *USSR in Construction*. The contents of these images fell into two main categories: new construction and re-appropriation. On the one hand, there were photographic records of new urban buildings and infrastructures, which were displayed as part of the broader iconography of socialist progress. On the other hand, there were photographs of urban sites that had been reconverted to the revolutionary cause through a new functional or symbolic value. In addition, pictures of public events were also a common feature of the magazine, which used bird’s eye views to report on mass gatherings, parades, and various moments of collective celebration that lent themselves to aerial representation. In all these cases, the various types of layout and visual composition of the pictures,

---

<sup>174</sup> From the beginning, *USSR na Strojke* was simultaneously published in Russian, English, German, and French editions; a Spanish edition was later issued as well.

<sup>175</sup> The layout and cover of several issues were designed by El Lissitzky and Sophie Lissitzky-Küppers; several others by Alexandr Rodchenko and Varvara Stepanova. In addition to this, renowned writers also contributed to the magazine throughout its history, including Isaac Babel, Nikolai Fadeev, and Sergei Tretiakov.

<sup>176</sup> Editor in chief in those years was G.L. Piatakov, who was also the chairman of *Gosbank*, the State Bank of the USSR, which was instrumental to the distribution of the magazine abroad (Wolf 1999:62-3).

<sup>177</sup> Among those who contributed to the magazine in this period feature avant-garde photographers who stood in different camps of the aesthetic debate of the time, including Alpert, Shaikhet, Zelma, Rodchenko, Fridland, and Ignatovich.

along with their textual narratives of explanation, affected the specific messages they conveyed.

Two issues of *USSR in Construction* from the early 1930s can be singled out for their significant presence of aerial photographs of cities. The issue of September 1931 was entirely dedicated to Moscow, which was portrayed as the “model capital of the socialist state.” The city’s economy was said to have been completely restored after the devastation inflicted by war and revolution, with important consequences to its built environment; as the editorial stated, “the whole aspect of Moscow is entirely changed.” The strategic importance of the subject matter was matched by the deployment of a team of renowned photographers.<sup>178</sup> The opening illustration showed a full-page montage by John Heartfield, one of the few foreign contributors to the magazine. It featured a silhouette of Lenin, in a characteristic forward-looking pose, superimposed to the view of a new urban settlement seen from the air [fig. 39]. Framed by the wing’s metal rods, Lenin’s shadow appeared to be pointing the way forward while standing on the fuselage, therefore conjuring up an image of the ‘spirit’ of the revolution projected toward the future. Heartfield’s superimposed montage aimed at reinforcing a given message rather than at mobilising the viewer’s critical imagination.

The universality of the message conveyed by Hartfield’s montage was reinforced by the anonymity of the site depicted. The image of new housing schemes epitomised the city’s economic, social, and cultural progress at the same time; it illustrated the rhetoric of the “The Moscow of to-day”, which presented the conversion of the capital from town of cotton-goods to a major industrial centre with a population of three millions. While new construction was the metaphoric image of the new city, the latter in turn stood for the ongoing progress of the whole country. As the editors’ introduction observed, “Moscow is a vivid example of the general development of industry in the USSR”. The capital was boasted as a laboratory of the new: the showcase of an experiment towards a model city without pollution, unemployment, and other urban evils. Photographs of various styles and sizes were edited together to illustrate all this. They included images of street traffic, road building, industrial plants, and a number of public buildings - old and new – that were often juxtaposed to ‘construct’ a dialectical image of progress. The construction of new housing was illustrated by full-page aerial photographs showing unnamed residential districts, the density of which was boasted as a technical achievement, as in the picture captioned, “Whole towns [...] rising in the shortest space of time on vacant lots” [fig. 40].

In addition to images of sites and buildings, public events were also depicted from high vantage points. A series of panoramic views published in the same issue of the magazine illustrated the Red Square as the site of the annual parades that took

---

<sup>178</sup> The issue carried photographs by the likes of Alpert, Ignatovich, Langman, Rodchenko, and Schaikhet.



place during the days of public celebrations - May 1<sup>st</sup> and November 7<sup>th</sup> [fig. 41, 42]. The political and symbolic significance of these mass demonstrations was emphasised by the photographs' visual spaces, which framed the gatherings against a monumental urban backdrop. By portraying the *mise-en-scène* of the masses from the air, these images were an instance of the integral role played by photography in the formation of what Kracauer (1963/1995) theorised as "mass ornament". Kracauer referred specifically to the body culture that was imported to Germany from America, which found its uppermost expression in the choreographed spectacle of the Tiller Girls. But he also pointed to the wider international diffusion of "the *aesthetic* pleasure gained from ornamental mass movements" (Kracauer 1963/1995:79. Italics in original). Kracauer asserted that the prime characteristic of this type of spectacles was their "abstractedness", which bespoke the increasing level of rationality in social and cultural practices. It is interesting to notice that he compared the abstracting effects of mass ornaments with the visuality produced by aerial images: "The ornament resembles aerial photographs of landscapes and cities in that it does not emerge out of the interior of the given conditions, but rather appears above them" (Kracauer 1995:77. Italics in original).

Two months after the Moscow issue, *USSR in Construction* published a number devoted to "Leningrad in Construction" carrying an extensive coverage of recent transformations in the former St. Petersburg. This issue paid a tribute to the city that represented the highest example of urban planning in modern Russian history; a city that also occupied an important logistic and symbolic place in the genealogy of the revolution. The main message was that a New Leningrad was rising: a city of industry and labour, of science and culture, where seemingly every single building - from the shipyards to the Academies – had been reconverted to the productive efforts of a communist society. In the opening pages, a double-page collage of aerial photographs depicted a series of historical sites (monuments and buildings) that had been given new functions. The pictures in this issue were credited to "a brigade of photo-correspondents" that included members of the *October* group; the bird's eye views of the city were specifically credited to two leading aerial photographers, Ignatovich and Shtertzer. Records of material transformations and images of symbolic re-appropriations featured on the pages of the magazine among pictures taken from the ground. In both cases, the underlying rhetoric was the making of the city into a revolutionary social fabric. The use of radical aerial perspectives to depict new constructions is best exemplified by the juxtaposed pictures of two New Baths facilities [fig. 43].<sup>179</sup> These images enhanced the modernity of their subjects through a radical

---

<sup>179</sup> Another way of signifying progress was the juxtaposition of images of 'old' and 'new' buildings to construct a narrative of change. A typical example of this was Boris Ignatovich's series, "Old Leningrad, New Leningrad", published in the Russian journal *Proletarian Photo* in 1931.

framing, which had all the trademark signs of Ignatovich's 'wrapped up' compositions. In addition, the montage of two images taken from very different viewpoints further increased their defamiliarising effect.

Another interesting example of aerial photography being used to document new construction concerned a school building. An article about the reforms of primary education described the practical philosophy underlying the Soviet polytechnic school, which was based on a combination of classroom lessons and laboratory-based activities. The new plan for elementary schools was developed in close analogy with the principles of workshop and factory, and was aimed at bringing up "a practical worker with a broad education."<sup>180</sup> A school built in the Volodarsky district of Leningrad was presented as a model of this new type of institution. Of the four pictures illustrating the article, the view placed at the centre of the page showed the spatial articulation of the building seen from the air [fig. 44]. This was the image of the sequence that most vividly conveyed the school's principles. The functional arrangement of volumes, their orderly geometrical configuration, and the rich provision of open spaces were all elements that the picture revealed at a first glance through a tilted viewing angle that produced a dynamic image. Here, the revolutionary significance of the places depicted was enhanced by the novel perspective from the air.

The domain of education also provides an example of the use of aerial photographs to report the re-appropriation of urban buildings. A similar rhetoric in which education was deemed to be an industry for the production of "human force" was deployed in an article that was significantly entitled "Leningrad as a School and Laboratory." As the heading suggested, this section reminded the reader that, besides its industrial vocation, the city was also a major centre of research and formation: a kind of urban workshop comparable in its entirety to "a huge scientific institute."<sup>181</sup> Here, a high-oblique aerial photograph framing the All-Union Academy of Sciences functioned as a counterpoint to a ground-level image of the Marble Palace, which was now home to the Academy of Material Cultures. The former image exemplified the re-appropriation of pre-revolutionary institutions by picturing them from the air. In a similar fashion were depicted several other institutional buildings of the city as well, including the Smolny, Ouritski Palace, and the Winter Palace [fig. 45]. The aerial gaze turned these monumental buildings into signifiers of change: the values of 'old' authority and prestige associated with neoclassical architecture were re-appropriated through a 'new' mode of representation that exposed them to the public gaze from an all-encompassing viewpoint.

---

<sup>180</sup> Anon., *USSR in Construction*, n. 11/1931, n.p.

<sup>181</sup> *Ibid.*, n.p.

Text and image were here indissolubly joined to evoke a revolutionary image. As the previous example has shown, the physical permanence of Tzarist architecture was compensated by a change of their purposes. A change of use was often accompanied by a change of name, a procedure that was extended to the toponomastics of whole cities - and, indeed, to the names of some cities too, as in the case of Leningrad. Brothers (1997) has used the linguistic category of “homology” to describe similar functional changes that were brought on particular urban sites in Spain during the Civil War (Brothers 1997:107). She has pointed out the political use of photographs that depicted such homologic shifts in the foreign press during that conflict. The publication of aerial images in *USSR in Construction* to illustrate homologic shifts that had taken place in Leningrad fit in a similar rhetoric of re-appropriation. However, since the signs of change were mostly imperceptible to the airborne camera-eye, the role of aerial photographs was that of giving an overview of places whose revolutionary significance, be it functional or only symbolic, was explained by the captions. Besides the photograph of the Academy of Sciences, other aerial shots depicted prominent city streets and squares that had undergone homologic changes of various kinds.<sup>182</sup> By showing unfamiliar views of familiar buildings, these pictures made such changes easier to appreciate by the lay reader.

A further issue of *USSR in Construction* deserves attention for its explicit emphasis on aerial vision. The editors of the June 1932 issue, which was devoted to the development of Soviet civil aviation, advocated a faith in aerial communications as a vital instrument in the reduction of physical and social barriers across the USSR. In order to accentuate this key political message, the aerial images commissioned by the magazine portrayed the relentless extension of cities, thus conveying an idea of the conquest of airspace going on in parallel with the physical reconstruction on the ground. A reportage on the “Aerial highways of the USSR” described the photo-excursions organised by the editorial board of the magazine, and undertaken by hired photo-correspondents, over two major flying routes linking Moscow with other Republics.<sup>183</sup> The spectacle of the aerial views was enthusiastically praised along with their instrumental value:

The aspect of our country changes with surprising rapidity. It is becoming more and more industrial. To review the grandiose swing of construction while standing on the ground is impossible. It is necessary to rise on an aeroplane to a great height, and gaze upon the renovated country from the cabin window. The picture is amazing, thrilling! (Anon. *USSR in Construction*, n. 6/1932, n.p.)

---

<sup>182</sup> For instance, two panoramic view of Leningrad showed, on the same page, the newly renamed ‘Square of Revolt’ and ‘Avenue of October 25’ – the latter previously known as Nevski Prospect.

<sup>183</sup> One flight covered the Moscow-Baku route (2,500 km), while the other went over the Moscow-Irkutsk highway (4,700 km).

This issue sanctioned the preeminence of the airborne camera as a surveying tool and a picture-making medium capable of producing spectacular images. An article claimed that the surface of the USSR had been recorded from an aeroplane for the first time during that reportage, before which only experimental flights had reportedly been conducted from airships.<sup>184</sup> The chief aim of the flights was to verify the medium's suitability to visualise the immense expanses of Soviet territories. As an editor put it, "The pictures give an idea of the swing of our construction, of our new modern workers settlements, socialistic towns and factories, and collective farms with their vast stretches of cultivated fields."<sup>185</sup>

A set of pictures of Moscow was particularly effective in conveying an image of the city as a large building site. Amid aerial photographs of State farms and new workers' homes was published the image of a large urban wasteland, showing the site of the former Church of the Saviour cleared of most of its rubble. This picture, significantly captioned "Old Moscow," indicated the areas upon which "the greatest cultural monument in the world" – that is, the new Palace of the Soviets - was planned to be built. This image of emptiness captured the transient moment between the reclamation of old sites and the rise of new constructions in their place. It also epitomised the variety of uses to which aerial photography was put in order to publicise an iconography of change.

One of these uses, an example of which has been mentioned above, was photomontage. While Heartfield's cover image presented a rather sophisticated visual composition, more ordinary assemblages appeared in later issues of *USSR in Construction*. A double-spread from a 1932 issue is arguably the most interesting example of this genre with an urban subject.<sup>186</sup> Few other pictures encapsulated so well the idea of relentless construction (physical, social, and economic) as this large synthetic diptych, which was accompanied by a text and a series of charts praising the steep growth of industrial production over the previous decade. Close-ups would not have suited the breadth of this scope, which was better conveyed by a jumble of high-point photographs juxtaposed in irregular stripes across the pages. The presence of an aeroplane in the top-left corner worked both as a signifier of industrial progress and as a marker of the aerial gaze behind the pictures. The landscapes depicted from the air epitomised the modern infrastructures of a country "in construction" – i.e., mechanised agriculture, transportation, factories, power plants, and housing. Images were smoothly

---

<sup>184</sup> The preface reported that the forecast of the Soviet civil air fleet for the year 1932 included the target of surveying 80,000 hectares of territory, a figure that was listed amongst those of other, seemingly more vital, activities to be performed by the civil aviation (e.g., cargo and passenger transport, mail service, crop spraying, etc.).

<sup>185</sup> Anon. *USSR in Construction*, n. 6/1932, n.p.

<sup>186</sup> The issue in question (n. 10/1932) was devoted to Dnieprostroy, the power plant built on the Dniepr that was hailed as an example of "victory over nature" in the process of electrification of the country. The plan of the issue was designed by Max Alpert, El Lissitsky, and Boris Agapov.

assembled so as to suggest a sense of continuity between the sites depicted, which metaphorically represented the broader project of construction under way. This chain of seamless transitions conveyed the idea of a unitary whole being coherently developed in all its parts - a kaleidoscopic effect magnified by the multiplicity of viewpoints and scales of the images brought together.

What do these examples tell us about the implications of the aerial gaze upon the politics of urban representation in the Soviet Union of the early 1930s? The empowering gaze afforded by the aerial viewpoint played into the hands of a political ideology which harnessed the new medium to underpin the public perception of the country “in construction”. As old spaces were subsumed under new forces, the aerial visibility became instrumental to the project of symbolic construction – of the new and the old alike. In its early years, *USSR in Construction* gave space to a broad range of visual idioms, which were also reflected in the variety of aerial gazes on the cities. Thereafter, the prevailing approach began to reflect the regressive turn to the doctrine of socialist realism that characterised the cultural policies of the Soviet Union after the early 1930s. Constructivist artists such as Rodchenko and Ignatovich continued to work for the magazine but were forced into a retreat from their most radical aesthetic inventions. Although it would be far-fetched to assume that the introduction of aerial photography decisively altered the possibilities of communication already possessed by the Soviet propaganda machine, the section has shown how the medium was integral to the visual strategy of *USSR in Construction* from the early years of its publication.

### **Aerial visions in *La Rivista Illustrata del Popolo d'Italia***

A comparison might be drawn between the visual rhetoric of *USSR in Construction* and that of a monthly journal published in Italy during the 1930s, *La Rivista Illustrata del Popolo d'Italia*.<sup>187</sup> It should be premised that this magazine, although its pro-fascist stance was nearly as official as its Soviet counterpart, did not limit its scope to the reportage of novel realizations but covered a broad range of topics, after the fashion of illustrated magazines in Europe and America. Topics ranged from fashion to cinema and literature, but the essential core was the coverage of current events, the so-called *attualità*, which were often illustrated with photographs taken by reporters of the ‘Istituto LUCE’. Amidst the variety of subjects covered by the magazine, two stood out for their frequency: the display of ever newer military equipments and the celebration of recent achievements in the construction sector, which included features on architecture,

---

<sup>187</sup> The director of the magazine was Manlio Morgagni, who founded it together with Arnaldo Mussolini.

restoration, and planning. In a number of cases, these issues represented the inseparable backbone of the magazine, fixing the essence of fascist propaganda in the spheres of accomplished construction and threatened destruction. The forward-looking spirit underlying the propagandistic agenda was reflected in the type of photography welcomed by the editors, which included close-ups and defamiliarising viewpoints, in the modernist style that had become standard currency throughout Europe over the 1920s. Elevated shots also featured on the pages of the magazine, both in its earth-bound and airborne versions. As in the other cases discussed above, the main goals of this imagery were the representation of public events and new constructions.

The view from above was often used by *La Rivista Illustrata* to depict large public gatherings that supplied a visual propaganda to the regime. This imagery gave visual expression to the fascist rhetoric of community, the *piazza* being the principal urban space that the regime claimed to have regained to public life.<sup>188</sup> Jeffrey Schnapp has recently examined the specific rhetoric of the “oceanic crowd” promoted by the magazine through frequent fold-out photographs of public rallies, which he has situated within the broader history of the photographic panorama.<sup>189</sup> Through a close analysis of published photographs, Schnapp has discussed the ways in which the “mass panorama” was in fact constructed as an artificial totality based on tricks, cuts, and assemblages. For this class of images he has coined the term “documentarist photomontage”: that is, “photomontage deployed in the service of enhancing the reality effect, which means the thrill effect that can be achieved by means of conventional press photography” (Schnapp 2002:257). The key feature of these photomontages was that the technique was not revealed: unlike ‘explicit’ montages, here the seamless effect of the mass panorama concealed a special effect that were indiscernible by the lay viewer. The implications of this technique, Schnapp suggests, were both agitational and disciplinary at the same time:

Mass panoramas are as much about unleashing revolutionary tides as they are about stilling and channelling them, as much about infinite oceans as about the absolute finitude of the frame, the grid, the geometry of the page, the edit and cut. Politically disciplined by the leader, the crowd is pictorially disciplined through photomontage. (Schnapp 2002:272)

The manipulation of mass-panoramic photographs to convey an image of totality that enfolded the viewer within the scene was not an exclusive feature of *La Rivista Illustrata*. Schnapp has suggested, in passing, that similar uses of photographs were to be found in the propaganda magazines of other countries in the 1930s, including

---

<sup>188</sup> See, for instance, the articles, “Alla mostra della Rivoluzione: La Piazza”, and “La Rivoluzione Fascista ha riabilitato la piazza”; both in *La Rivista Illustrata del Popolo d'Italia*, n. 4, 1933.

<sup>189</sup> Interesting examples of a photographic iconography of the crowd in fascist publications are contained in M. Ardemagni, *Supremazia di Mussolini* (Milano: Fratelli Treves, 1935).

*USSR in Construction*. However, his claim that the latter emphasised “abstract representations of the crowd” (Schnapp 2002:273) rather than a site-specific imagery, shaped by specific urban and architectural settings, seems to be disproved by the images of Moscow described above. In fact, the horizontal picture of Red Square [fig. 42] appears to have been constructed through the very same criteria of “documentarist photomontage” that Schnapp so convincingly describes. What this concealed type of montage reveals is the construction of a visual space in which an illusion of realism was pursued. It may be argued, in Maynard’s terms, that the “photo-fidelity” (Maynard 1997) of photographic records was manipulated in order to simulate unreal panoramic views. The rift between detection and depiction was harnessed towards forging a mass panorama that existed only as a photographic space.

The appropriation of photographs of mass movements by the State, through its various cultural ramifications, had a bearing upon the understanding of the politics of urban representation in inter-war Italy. This has been observed in particular by Karen Frome (1993), who has pointed out that the depiction of human choreographies from the air played a part in the “internal colonization” of Italian culture brought about by the regime through the instruments of visual propaganda - newsreel, cinema, photography, etc. In 1930s Italy, aerial photography became an integral part of the imagery of the fascist regime, which understood that rational principles and hierarchical relationships were most evident when seen from above (Fuller 1988; Frome 1993). The aerial view was therefore instrumental to boost the regime’s territorial achievements. As Frome has pointed out, the function of this imagery was strongly connoted with the symbolism of a ‘god’s eye view’:

The aerial perspective best captured the desired effects of the fascist ceremonies. Before its use as a military reconnaissance technique, the aerial view had been available only to the celestial eye of god or through imagined and/or constructed depictions by artists and cartographers. The aerial perspective also inverted the subordinate role traditionally imposed in the church - the upward gaze toward the dome of heaven. Soaring vicariously above the earth, man could now imagine that he could control all that lay below. (Frome 1993:76)

The disciplinary gaze of surveillance coexisted with the panoramic gaze of spectacle.<sup>190</sup> New and old constructions, along with public ceremonies and mass gatherings, were increasingly depicted from the air. In 1936, *La Rivista Illustrata* published a special issue to commemorate the newly proclaimed empire, following the annexation of colonial territories in East Africa.<sup>191</sup> This ostentatious and oversized publication covered selected moments in Italian history, from the Roman Empire to the

---

<sup>190</sup> Collections of aerial views of cities were published by the Italian air ministry in the early 1930s. See, Ministero dell’Aeronautica, *Roma vista dal cielo* (Roma: Ministero dell’Aeronautica, 1933).

<sup>191</sup> *La Rivista Illustrata del Popolo d’Italia* (Special Issue), Vol. XIV, 1936.

more recent African campaigns, in an attempt to legitimise the empire through its historical precedents. The issue also gave the regime a pretext to eulogise the self-sufficient system of production in the face of the economic sanctions imposed by the League of Nations. The last rubric, devoted to "The Imperial Economy," contained texts written by various public figures in defence of Italy's productive capability. These articles were illustrated with propaganda photographs and still frames from newsreels provided by the Istituto LUCE. Aerial images were specifically used to illustrate articles about industrial production. These photographs functioned as 'establishing shot' that introduced the sites to the viewer and were followed by other pictures from the ground and interior views.

Photomontages were also used to represent some of the industries. A case in point is offered by the Lanerossi wool factories, which appeared in an aerial montage made of cut-out strips of photographs reassembled in an apparently seamless whole, which bore a striking resemblance to the aforementioned montage published in *USSR in Construction* a few years earlier (n. 10/1932). Once again, the synthetic quality of photomontage was exploited to produce the visual equivalent of a synoptic table: that is, an organised composition of fragments that compressed the image of the new in a single picture. A looser juxtaposition of images was chosen to illustrate the public works of "disembowelment" (*sventramenti*) undertaken in the capital, which appeared next to images of ancient monuments recently brought back to light. New constructions and restored monuments were therefore represented as two sides of the same ideological coin, in a persistent bid to reassert the historical legitimacy of the regime. The medium of montage projected the dialectical images on past and present architecture on to a modern dimension that, once again, was signified by the mode of vision as much as the subject photographed.

A last note should regard the construction of the New Towns promoted by Mussolini on reclaimed land, which could not have been missing from this issue of *La Rivista Illustrata*.<sup>192</sup> A photo-mosaic showed the ongoing works carried out in some of the towns and included two juxtaposed pictures of Littoria and Sabaudia from the air [fig. 46a and 46b].<sup>193</sup> The relatively small scale of the settlements made them ideal subjects of aerial photography, which could offer views of the New Towns 'as a whole'. These oblique views captured the rational planning schemes of Littoria and Sabaudia, the one radial and the other orthogonal, while also allowing their comparison at a glance. As historical photographs of Sabaudia have shown, the elevated vantage point was favourite by photographers who were commissioned to record the various stages

---

<sup>192</sup> The planning and construction of New Towns took place between 1928 and 1940 and concerned the design of twelve new urban areas. See D. Ghirardo e K. Forster, "I modelli delle città di fondazione in epoca fascista", *Storia d'Italia* (Torino: Giulio Einaudi Editore, 1979), pp. 635-74.

<sup>193</sup> "Le realizzazioni dell'Opera Nazionale Combattenti nell'Agro Pontino", in *La Rivista Illustrata*, n. p.



of the town's construction (Carfagna, Muratore, and Tieghi 1998). While towers and flat roofs provided documentarists with easy viewing platforms for their photographs, aerial views were also produced to disseminate the image of the new town through picture postcards [fig. 47]. Besides illustrating the internal "achievements", the special issue of *La Rivista Illustrata* also published aerial photographs of some of the main cities in the colonies of the newly-proclaimed empire. Images of Bengazi, Asmara, and Mogadishu seen from different angles and distances were juxtaposed on the same page [fig. 48]. This cluster of photographs produced a tamed and controlled representation of the African territories colonised, which were displayed to the readers through the agency of an all-seeing gaze.

The examples from *La Rivista Illustrata* show similarities with the visual rhetoric deployed in *USSR in Construction*. Whether aerial photographs contributed to stimulate a visual knowledge of places and events, or whether they staged a subliminal strike against public understanding, their recurrent use suggests an important aspect of the urban iconography in different cultures of revolution. Despite the profound historical differences between the ideologies of urbanism in Stalin's URSS and in Mussolini's Italy, the imagery of revolutionary progress promoted in the two countries were expressed through similar visual narratives. The aerial iconography of cities, in particular, was integral to the representation of revolutionary society as an urban landscape. The panoptical eye of power infiltrated the public spectacle of the illustrated press, entrusting the airborne camera with a message of progress that was embodied by the aerial perspective. This class of images was also inserted in a broad range of montage techniques that produced a kaleidoscopic range of urban visions.

## Picturing tomorrow: projects and projections for the modern city.

The gradual supplanting of that essentially architectural image (with its flatland, upwards-directed view) by our own remote view down from outer space is one measure of how our perception of the city has changed. (Jackson 1980:55)

The airplane is an indictment. It indicts the city. It indicts those who control the city. By means of the airplane, we now have proof, recorded on the photographic plate, of the rightness of our desire to alter methods of architecture and town planning. (Le Corbusier 1935:1987:11)

The present chapter discusses the pervasiveness of photographic imagery in the discourse of modernist urbanism. It examines the ways in which photographs were used to conjure up urban visions in some of the key publications of the Modern Movement that were published in the interwar years. It investigates, in particular, the types of aerial imagination that informed the visual rhetoric deployed by Giedion and Le Corbusier in their most influential works on urbanism. The aim of this case study, which is divided into two sections (on Giedion and Le Corbusier), is to explore the emergence of a photographic space that evoked the ideal of a 'city of tomorrow'. The specific meanings and uses of 'aerial' photographs – intended in a broad sense – show the resurfacing of several themes that have been encountered in other discursive formations examined in previous chapters. Links are also suggested between the applied photography that entered the discourse of the Modern Movement and the imagery produced in the realm of avant-garde photography.

## Giedion's visions: the *air* of the modern city.

The historical linkage between photography and modern architecture has been the subject of numerous studies in recent years. Beatriz Colomina has drawn important connections between architectural modernism and the culture of mass media while exploring, in particular, the influence that the modes of vision derived from camera technologies (film and photography) exerted upon the spatial conceptions of some of the 'modern masters', namely Loos and Le Corbusier (Colomina 1992; 1994). This section investigates an aspect of the visual culture within which the Modern Movement established its discourse through the mass media of the period. It discusses, namely, how the aerial imagination that emerged from the developments in the *new vision* and avant-garde photography (§ III.2-3) informed one of the founding texts of the Movement, Sigfried Giedion's *Building in France, Building in Iron, Building in Ferroconcrete*, which was first published in Germany in 1928.

Two years earlier, the German architectural culture had been taken by storm by the publication of an illustrated account of contemporary trends in the United States. Erich Mendelsohn's book, *Amerika: Bilderbuch eines Architekten*, owed a great deal of its fortune to its bold use of photographs, most of which were taken by Mendelsohn himself. This travel picture book showed a kaleidoscopic image of American architecture in its most wonderful but also most grotesque expressions. Above all, Mendelsohn was fascinated by the sharp contrasts that he found in such cities as New York, Chicago, and Detroit, which he photographed from a variety of vantage points.<sup>194</sup> Besides depicting the architectural symbols of America's economic and commercial power, he also used his hand-held camera to record his impressions of the incessant rhythm of city life by day and night.

In a review of *Amerika* written for a Russian magazine, El Lissitzky praised Mendelsohn's subjective use of the camera, which allowed the author to record his perceptions better than a sketchbook would have done: "The modern architect has armed himself with a more modern instrument – a small camera. He merely has to take a good look, and be able to see – for therein consists all of art" (Lissitzky 1926/1989:225). The architect's picture book organised this look into a narrative and projected it onto the future. By photographing some of the archetypal sites of the American built environment in a typically modernist fashion, Mendelsohn offered a vision of urban America as a beacon of modernity. This message was also conveyed in the final section of the book ("*Das Neue, Das Kommende*"), where images of skyscrapers under construction suggested a move forward as much as a thrust upwards. These otherwise dull images of building sites emphasised the visual logic

---

<sup>194</sup> Mendelsohn illustrated the "gigantic" element of American architecture by depicting the transition of skyscrapers, from the initial horizontal lines to the "triumph of verticality" (Mendelsohn: 1928:66-8).

underlying Mendelsohn's project: that is, a radical attempt to use photography to conjure up an image of the city of tomorrow.

In his review, Lissitzky lamented that Mendelsohn had not taken advantage of the view from above allowed by American skyscrapers. While *Amerika* included a number of views of tall buildings from below, Mendelsohn had clearly shunned the reverse angle in favour of street-level pictures.<sup>195</sup> Giedion, on the other hand, manifested his empathy for elevation in the choice of pictures for *Building in France*, a book which is shot through with *aerial* images of various kinds. The Swiss critic, who was also the author of several of the book's photographs, adopted a broad range of vantage points in his own attempt to picture the shape of cities to come. Giedion's 'America' was a country of lower-rise architecture: France. Yet his visual approach was inspired by constructivist aesthetics, in particular by the ideas of his friend and collaborator, Moholy-Nagy.<sup>196</sup> In this respect, it should be remarked that the publication of *Building in France*, in 1928, coincided not only with an eventful year in the vicissitudes of architectural modernism,<sup>197</sup> but also with the high point of the avant-garde photography in Europe.<sup>198</sup>

By styling himself as the mouthpiece of modern *Zeitgeist*, Giedion tried to interpret the ongoing evolution of architecture within a deeper social transformation that redefined the space-time coordinates of human experience. While this process would be more thoroughly explored in Giedion's successive and more widely acclaimed book, *Space, Time, and Architecture* (Giedion 1941), it already informed his argument in *Building in France*. The crux of the matter was that the new architecture that had emerged in the first quarter of the twentieth century was rooted in the constructional possibilities opened up by the pioneering use of iron and concrete in nineteenth-century France. At the same time as he announced the advent of a 'new' architecture originated from the pioneering use of iron and ferroconcrete in nineteenth-century France, Giedion delineated the forward path of progress opened up by the "subconscious" achievements of industry and engineering: "Construction in the nineteenth century plays the role of the subconscious. Outwardly, construction still boasts the old pathos; underneath, concealed behind facades, the basis of our present existence is taking shape" (Giedion 1928/1995:87).<sup>199</sup>

Giedion's rhetoric teemed with images of movement, such as "fluctuation," "transition," and "connection" (Giedion 1928/1995:90-1). The engineering structures of

---

<sup>195</sup> One such view of Times Square in New York appeared in the sixth edition published in 1928.

<sup>196</sup> Typography and layout of *Bauen in Frankreich* were undertaken by Giedion in collaboration with László Moholy-Nagy, who also designed the jacket for this book.

<sup>197</sup> Giedion was appointed secretary of the C.I.A.M., which were founded in 1928 at La Sarraz.

<sup>198</sup> Moholy-Nagy's influential presence at the Bauhaus ceased after Hannes Meyer took over from Walter Gropius as director in 1928. Meyer appointed Walter Peterhans to lead a new photography workshop, which retained little of Moholy-Nagy's innovative visual theories.

<sup>199</sup> For Benjamin's remarks on Giedion's reference to the "role of the subconscious" in explaining this historical process, see Buck-Morss (1989:272).

the nineteenth century were said to epitomise the relational qualities of modern architecture, which were encapsulated in the notion of “interpenetration” (*“Durchdringung”*): that is, the property that allowed a space to be traversed by light, air, and indeed other spaces, in a state of perpetual and unbounded fusion. As Hilde Heynen has observed, this category lay at the core of the argument presented in *Building in France*: “For Giedion, *Durchdringung* thus refers to an essential characteristic of the new architecture: its capacity to interrelate different aspects of space with one another” (Heynen 1999:33). From the outset, Giedion heralded the breaking-up of conventional boundaries in architecture as a redeeming event that would lead to a radical transformation of modern spatiality. In Giedion’s words, “There is only a great, indivisible space in which relations and interpenetrations, rather than boundaries, reign” (Giedion 1928/1995:93). The fluid character of modern architecture reflected Giedion’s organic conception of space and time, which he later theorized in *Space, Time, and Architecture*.

Giedion’s understanding of architecture in terms of interpenetration was inextricably bound up with the possibility of visual transparency. The book’s illustrations show that the permeability of *neues bauen* to the flow of air was as much an experiential condition as it was a perceptual one. In a telling example, Giedion compared Le Corbusier’s 1920s houses with the arrangement of objects in Cubist painting, “in which things are seen in a floating transparency” (Giedion 1928/1995:169).<sup>200</sup> The possibilities of interpenetration afforded by this architecture were based on a sense of weightlessness that Giedion found most exhilarating: “There arises – as with certain lighting conditions in snowy landscapes – that dematerialization of solid demarcation that distinguishes neither rise nor fall and that gradually produces the feeling of walking in clouds” (Giedion 1928/1995:169). The radical choice of photographs for the book, and their montage sequences, aimed to evoke this peculiar sense of flimsiness. However, Giedion’s frequent use of serial images to represent the same object can also be seen as a symptom of his anxiety to express the fluidity of architecture through the static medium of still photography. In fact, the composition of *Building in France* alluded to the fragmented structure and swift changes of perspective characteristic of cinematic space.

According to Sokratis Georgiadis (1995), Giedion’s account of the dawn of a new architecture is best understood in terms of a cinematic tour to selected places and times. The attempt to achieve a cinematic unity - a spatial as much as a visual ideal - was manifested in the framing and layout of images: “One might say that Giedion strives to tear up the set frame of the picture, to replace the individual picture as a

---

<sup>200</sup> The pursuit of transparency and weightlessness in modern architecture is sharply criticised by Lefebvre in *The Production of Space* (Lefebvre 1991:146ff).

source of information with a sequence of shots that corresponds to a perception in movement” (Georgiadis 1995:207). This cinematic quality was overtly invoked in the description of Le Corbusier’s housing scheme at Pessac, which Giedion promoted as exemplary work of the younger generation of up-and-coming architects. The Swiss critic thought that he could not adequately represent the relational character of these houses through photographic images: “Still photography does not capture [the row houses] clearly. One would have to accompany the eye as it moves: only film can make the new architecture intelligible!” (Giedion 1928/1995:176). And yet, in spite of his longing for a more appropriate vehicle to convey the properties of modern architecture, Giedion relied heavily on photographs to illustrate his book. For want of a moving image, the task of wandering from a vista to another was remitted to the reader’s imagination, which was stimulated by the dynamic editing of texts, photographs, and captions.<sup>201</sup>

Giedion’s own photographs deployed a broad range of modernist devices in order to communicate the new sense of spatiality. In particular, the aesthetic of vertigo based on the estranging power of abstraction proved instrumental to his argument. As Georgiadis has pointed out,

Giedion applies a series of photographic techniques that reduce forms to lines, surfaces, and volumes, and that reach such a degree of abstraction that the observer is seduced into abandoning the conventional “perspectival” view and adopting a cinematic view. Through close camera work, the particular thematic object appears as a fragment or a segment; through the intensive exploitation of light and shadow attained by appropriate exposure, the object is defamiliarized and dematerialized, its geometry distorted by the camera angles, and the often neutral background makes it difficult to judge the scale. (Georgiadis 1995:207)

The function of photographs in Giedion’s book has received renewed critical attention in recent years (Georgiadis 1995; Heynen 1999; Mertins 1999). A further interpretation can be suggested with specific regard to the aerial imagination that animated Giedion’s visual strategy, which was closely related to his advocacy of an airy architecture based on interpenetration. The aerial visuality contained in some of the book’s photographs was aimed to transmit an image of the city of tomorrow. A closer look at some of the illustrations in *Building in France* shows how this aerial imagination informed the visual apparatus of the book.

The eloquent role played by photographs in *Building in France* is made manifest already in the opening section, entitled simply “Architecture”.<sup>202</sup> The first pair of images contains in embryo the main visual tropes employed by Giedion throughout the book;

---

<sup>201</sup> For an interpretation of the book as a *Gesamtkunstwerk*, see the “Appendix” to the recent edition of the book, by S. Georgiadis (1995:207-8).

<sup>202</sup> On the controversy about this title, which in Giedion’s original intentions was followed by an exclamation mark - “Architecture?” - see Georgiadis (1995:41-4).

they take the reader straight into the critical core of the argument. Figures 49 and 50 show, respectively, a general view of Marseilles' harbour, with the Pont Transbordeur in the middle, and a view taken from inside a pylon of the Eiffel Tower against a hazy Parisian background. The two photographs were instrumental to Giedion's assertion that a new monumentality had emerged which would render the term "architecture" itself obsolete.<sup>203</sup> The illusion that these images might depict the same structure, as though the camera had zoomed in, signalled that the general sensation of space conveyed by the two buildings was more important than their distinct features. The telescoping effect of these 'establishing shots' worked effectively to position the viewer at the same time inside and outside the objects reproduced. Hence, the conquest of new perceptual frontiers mirrored the overcoming of traditional spatial restrictions: which is to say, once more, that Giedion conceived of the interpenetration of space in visual terms. After describing the development of iron construction through the nineteenth century, with occasional parallels taken from 1920s architecture, Giedion returned to the two gateposts that presided over the book's opening. The Eiffel Tower and the Pont Transbordeur gained renewed prominence in a the chapter entitled "Further Development", which charted the transition from the section on iron to the one on ferroconcrete. The two buildings were now promoted to the rank of ultimate signifiers of modern monumentality.

Giedion hailed the Eiffel Tower as the model of high-rise steel-skeleton building, praising it as the forerunner of skyscraper construction across the Atlantic. Interestingly, none of the photographs in *Building in France* gave a general view of the Tower, whereas they invariably showed details of its structure as a connecting system between different levels. The passing description of an "airy staircase" might well be read as a clue to understand the perceptual quality of the whole building: a gigantic well-hole traversed by stairs and elevators, whose main function appeared to be the transportation of people – and, significantly, their gazes – across vertical and diagonal lines. The fundamental airiness of the metal skeleton summed up the quality of interpenetration advocated by Giedion as a general property of the new architecture. An exterior view of the Tower was followed by two images taken inside it, which illustrated Giedion's plea for a complete transcendence of the separation between interior and exterior [fig. 51, 52]. This type of images gave visual expression to the author's belief that the traditional hierarchy between horizontal and vertical elements had burst into a complex web of intersecting spaces. Indeed, as a result of their oblique viewpoints and crammed compositions, these pictures made it difficult to distinguish at a first sight the metal skeleton from the host of winding stairs, elevator tracks, landings,

---

<sup>203</sup> See also the section "On Monumentality", in S. Giedion, *Architecture, You and Me: The Diary of a Development*, Cambridge MA: Harvard University Press, 1958.

rails, and walkways encaged within the iron frameworks. Thus, the eerie feeling of lightness conveyed by the suspended stairs viewed from below [fig. 52] acted as a counterpoint to the dizzying glimpse down the elevator shaft of the previous page [fig. 51].<sup>204</sup>

A similar combination of views illustrated the Pont Transbordeur.<sup>205</sup> Giedion's predilection for this structure was partly due to its remarkable construction, and partly to what he referred to as a "graceful combination of stationary and moving parts" (Giedion 1928/1995:146). The key factor of interpenetration observed in the Tower was clearly present here, too, as it was the element of mobility. While metal staircases featured in both buildings, the counterpart to the elevator inside the Tower was here the floating ferry that, hanging on an elevated gangway, moved horizontally across Marseille's *Vieux Port*. Motion and stasis were therefore compounded in the same structure, which enabled vertical and horizontal connections at the same time, through the ferry and the staircase. Much as the Tower included horizontal platforms and connective passages, the Bridge comprised tall vertical structures that could be ascended like metal towers. The historical shift symbolised by this construction fed neatly into Giedion's eulogic narrative of progress, as mobility encapsulated the literal and metaphorical meanings of a historical advance towards what Giedion termed "a new oscillating harmony" (Giedion 1928/1995:142).

Two of Giedion's own photographs showed the Bridge as a transportation system. A low-angle view taken from the staircase inside a pylon framed the ferry in the foreground against the urban backdrop. Next to it, a steep oblique shot from on top of the gangway framed the ferry gliding a few meters above the water at the feet of the pylon, which appeared itself to be floating [fig. 53]. The visual space of the latter, in particular, was so arranged as to emphasize the lightness and mobility of the structures depicted, giving the feeling that all the elements of the Bridge were weightlessly thrust upwards. An enhanced sense of dynamism derived from the oblique viewing angle, which ensured that none of the lines composing the picture would run parallel to its edges. By combining the display of technical achievement with a bold perspective, Giedion's photograph therefore signified progress on multiple levels. An element that worked functionally as well as metaphorically was the staircase running through the pylon - even airier, in its appearance, than the one inside the Tower. Its overhanging platforms evoked the image of endless superimposed springboards leaning over glittering waters. Giedion emphasised the redeeming potential of this motif, which had strong echoes in modernist architecture:

---

<sup>204</sup> This image was also published by Moholy-Nagy the following year in his *Von Material zu Architektur* (1929). In the English edition, the caption read: "The Eiffel Tower is on the border line between architecture and sculpture. According to the definition laid down in this book, it is a piece of sculpture: a volume creation. It is a broken-through, completely perforated 'block'" (Moholy-Nagy 1929/1939:51).

<sup>205</sup> Built by F. J. Arnodin in 1905, the Pont Transbordeur was later demolished during the Nazi occupation.



Plenty of new visual possibilities: everything is based on mobility. Notice the platforms of the staircase that boldly project out into space. The 'new architecture' has unconsciously used these projecting 'balconies' again and again. Why? Because there exists the need to live in buildings that strive to overcome the old sense of equilibrium that was based only on fortresslike incarceration. (Giedion 1928/1995:147)

The escape from the "fortresslike" prison of the old implied a physical and symbolic loss of equilibrium: a sense of disorientation that would come with the jump into the new. The unfamiliar view from the Bridge can therefore be read as a dizzying image of progress, the flight of stairs signifying an escape route from the gravity of the past. Besides the natural elements of water, air, and light, all that is to be seen in the photograph is a machine in the act of working: a floating architecture, one could say, ferrying the spirit of the age across the waters of history.

Giedion's idealism also informed the last of the four photographs he devoted to the Bridge, where the iron structure was reduced to a pure viewing apparatus. This elevated shot showed a curved block of houses upon which the stretched shadow of one of the trestles was cast [fig. 54]. The Bridge's projected image conjured up the arrival of a weightless but mighty future eclipsing the stony relics of the past. Whether intentionally or not, this uncanny image illustrated Giedion's call, in the following page of the book, for a sustained research into the possible applications of iron construction to the building of modern housing settlements (Giedion 1928/1995:149). By means of its out-of-field evocative power, this seemingly marginal photograph well encapsulated Giedion's overall argument.<sup>206</sup>

The above observations open up the possibility of reading *Building in France* through a multi-layered concept of 'montage'. As Heynen has suggested, this notion permeates *Building in France* "even if the term as such is not used explicitly" (Heynen 1999:38). The two series of photographs examined above exemplify Giedion's kaleidoscopic montage that Georgiadis has described in cinematic terms: that is, the combined effect of two or more photographs of the same building, usually taken from different angles and distances, to produce a multi-perspectival representation. The Eiffel Tower sequence suggests another way in which the principle of montage operated in Giedion's text. The black arrow that linked the image of "suspended stairs" with Mart Stam's 1926 project for a superstructure in Amsterdam was the visual marker characteristic of Giedion's dialectical method, which relied on the juxtaposition of

---

<sup>206</sup> Note the coincidence that brought together (around the same year?) Giedion's most mature formulation of his ideas on modern architecture (*Space, Time and Architecture*) and the demolition of the transporting bridge.

nineteenth-century pioneering buildings with more recent projects to invoke, dialectically, the image of a new architecture.<sup>207</sup>

This type of montage was praised by Benjamin in his notes for the *Passagenwerk*, where he praised Giedion's book as an example of radical approach to historiography.<sup>208</sup> As Buck-Morss has pointed out, Benjamin saw in it a working model for his historical materialism, which he summed up in a fragment saying, "Telescoping of the past through the present" (Buck-Morss 1989:291).<sup>209</sup> The subject matter of *Building in France* aroused Benjamin's interest as much as its method, since iron construction itself provided him with a suitable metaphor for the process that he adopted in his literary montage.<sup>210</sup> Mertins has suggested that Benjamin's appreciation of Giedion's visual narratives worked on two levels: his radical method of telescoping past and present, and his constructivist images representing an architecture of interpenetration. Evidence of the latter was Benjamin's specific reference to Giedion's three photographs of the Pont Transbordeur discussed above. To Benjamin, these images represented the distinctive spatial experience allowed by bridge scaffolding (Buck-Morss 1989:126-7).<sup>211</sup> But, according to Mertins, they also carried a further signification:

Hovering weightlessly and breathlessly above the harbour of Marseilles, Giedion's 'iron balcony' served to reframe and shatter the familiar, harsh world of the industrial metropolis, providing Benjamin with a graphic image of the 'threshold' of awakening from the false dream-consciousness of the bourgeoisie. (Mertins 1999:211)

For this purpose, Mertins continues, "Benjamin focused, not on images of the great iron structures themselves, but on the unprecedented views of the city that they afforded" (Mertins 1999:212). Accordingly, Benjamin's acquaintance with the methods of the *new vision*, besides his affinity with the surrealist avant-gardes, enabled him to appreciate the implications of Giedion's work.

This digression into Benjamin's reading of *Building in France* highlights an important aspect of the book's set of illustrations: beside the multiple types of montage operating in and across the images, Giedion's own photographic style owed a great deal to the constructivist aesthetic. His pursuit of a weightless, impermanent, and dematerialised architecture reflected the influence of the Bauhaus visual theories. The

---

<sup>207</sup> One can also think about a literal meaning of the French word, *montage*. Besides signifying a composition based on some sort of assemblage, the term also denotes the act of rising (*monter*), as in the operation of a "raising, lifting, or hoisting apparatus".

<sup>208</sup> *The Arcades Project*. See in particular Konvolut F ("Iron Construction"), and Konvolut N ("Elements of a theory of Knowledge, Theory of Progress").

<sup>209</sup> Benjamin's line is quoted from *The Arcades Project* (N 7a, 3)

<sup>210</sup> See *The Arcades Project* (F 4a, 2).

<sup>211</sup> *Arcades Project* (F 3, 5). Benjamin himself had sojourned in Marseille in 1928, when he wrote two essays inspired by his experience of the city.

photographs of metal structures in the fashion of *new vision* showed that Giedion has absorbed the modernist lessons and was applying them to a specific architectural agenda. It can be argued that a subconscious aerial imagination provided the link between the spatial and the visual aspects of his work. On the one hand, Giedion theorised a new architecture characterised by “air as a constitutive material” (Mertins 1999:211); on the other hand, his mode of representation drew upon the dizzying angles and abstract close-ups of Moholy-Nagy, the “aerialist” of modern photography par excellence (Kozloff 1979). The aerial element guaranteed the entrance of architecture into a new order of spatial and visual fluidity – that is, interpenetration - which in turn would make the usefulness of the term ‘architecture’ questionable.

The final aim of this section is to discuss how the photographic narrative of *Building in France* was used to project an image of the future city. Two further images come in support of this thesis; albeit in a different way from those examined above, they also share in the aerial imagination pervading the whole book. The chapter of the book devoted to ferroconcrete carried a pair of aerial photographs of public buildings designed by Tony Garnier in Lyon, the slaughterhouse and the stadium. While these images usefully illustrated the two large complexes, they seem especially relevant in the context of the book as a modern visual repertoire. Aerial photography, it could be argued, completed the visual montage of a new, airy architecture.

The photographs published on the following page showed two views of the rooftops of the Grange-Blanche Hospital at Lyon, with Garnier’s project still under construction. The caption read: “Despite the massiveness of its form, the harmony of the many airy islands conveys a hint of what our future cities will look like” (Giedion 1928/1995:166). There is little in these photographs showing any significant architectural feature, such as the connective elements and the structural details of the metal buildings reproduced in previous pages. To Giedion, Garnier’s terraces signified merely *airiness*, in spatial and visual terms: they conveyed a feeling of elevated space and, at the same time, provided viewing platforms on to the city. The combination of airy structures and aerial views that Giedion proposed throughout the book was here enriched with the suggestion of airspaces. From the balconies and landings of Bridge and Tower, here the idea of “projecting out” of the building was ultimately identified with the image of a flat roof, symbolising a springboard into the city’s future.

The significance of this motif in Giedion’s book is confirmed in its final page, where the last photograph showed the empty terrace of a Parisian garage, against a background of receding rooftops in the background [fig. 55]. The universal tone of the caption matched the indistinctness of its subject:

The broad surfaces at the top level of the large cities will be used for sports, gardening, and eventually probably also for landing strips for aircraft. For hygienic reasons alone, steep roofs will

soon be forbidden in large cities. Flat ROOFS (sic) will serve recreational purposes and offer points of rest for the eye accustomed to today's disruptions. (Giedion 1928/1995: 204)

This forward-looking remark fell squarely into Giedion's rhetoric of *Zeitgeist*, whereby present changes were interpreted as signs of a historical movement towards a predestined future – what Heynen refers to as a “linear evolutionary pattern” (1999:29). However, this passage may also invite a different reading. The flat roof of an indistinct urban building was the point of arrival of a trajectory that traced back the path of modern architecture through the stages of its progressive dematerialization. The unhindered view from the terrace seemed to offer an occasion of rest for the eye, not only of the visitor but also of the author and his readers: a halting place from which the future could be calmly contemplated. This urban outlook, for Giedion, was inevitably going to take the shape of a functional and sanitised space, where steep roofs would be substituted by flat surfaces destined to allow aerial transport in and out of cities. Architecture's intrinsic potential for mobility was encapsulated in this image of emptiness, which evoked a virtual leap into a future that was present *in nuce*.

Surely, the privileging of vision in Giedion's entire oeuvre had an ideological significance that transcended the use of photographs in his first major book. As K. Michael Hays (1992) has pointed out, Giedion's visual rhetoric aimed at re-establishing a unity of experience in the individual subject that modernity was thought to have jeopardized. This “reassertion of the centered subject” (Hays 1992:18) relied on the visual position of the interpreter vis-à-vis its object: “The process of critical interpretation is transformed by Giedion into one of a hypothetical or imaginary restoration of the historical situation itself, whose reconstitution is at one with visual comprehension” (*ibid.*). The careful staging of photographs in *Building in France* was arguably a symptom of it. The images revealed a fundamental quality of the new architecture implicitly advocated by Giedion: the permeability not only to air, light, and space but also to the gaze of the camera. The traditional function of architectural photography was here turned on its head: averted from its traditional use as a record of a vanishing past, photography's purpose became that of conjuring up a future that had already begun. While Giedion described the advent of a new building culture through the history of its subconscious manifestations, it may be argued that the aerial imagination permeating his book insinuated itself, perhaps subconsciously, between the folds of his own narrative.

## Le Corbusier's visions: enchantments, indictments, simulations

An 'aerial imagination' also informed, to a considerable extent, the urban visions formulated by Le Corbusier in the 1920s and 1930s. As it has been shown, Giedion's critical appraisal of modern architecture, and his evocation of a future city, was largely inspired by Le Corbusier's work. At the same time, Le Corbusier's own pursuit of a new urban order was sustained by a predominantly aerial type of vision. Albeit in very different ways, the chief exponent of the Modern Movement and its more articulate theorist expressed a belief in a new urbanism that was deeply rooted in an aerial imagination. In the case of Le Corbusier, the aerial photograph became a vital instrument whereby the case for a modernist planning was put forward.

While architectural historians have often focused on the meeting between Giedion and Le Corbusier that took place within the context of the C.I.A.M. (Heynen 1999:29), which they both contributed to found in their native Switzerland, in 1928, the present section begins with a rather symbolic type of meeting, which may be described as the encounter of two modernist visions on a 'flight deck'. The flat roof on which Giedion ended his *Building in France* provided an evocative image for the city of the future that owed a debt to Le Corbusier's early urban schemes. The idea of urban terraces being converted into "landing strips for aircraft" echoed the aerodrome on top of the Great Central Station in the 'Contemporary City', which Le Corbusier illustrated in *The City of Tomorrow* (Le Corbusier 1925/1971). The twofold meaning of the term 'flight deck' is encapsulated in an image that appears at the end of the first part of the book, an aerial photograph showing "The platform of an airplane carrier at sea" [fig. 56]. This visual trope resonated with the spaciousness of flat concrete terraces advocated by Le Corbusier and Giedion alike. Indeed, *The City of Tomorrow* also contained the idea of reclaiming the city's roofs as the foundation of a new urban scene. The airy terrace, which for Giedion represented the birth of the modern city, had a spatial *and* a visual function in his mind as much as it did in Le Corbusier's. Besides this functional purpose, the flat roof was central to the definition of a modern skyline that, in Le Corbusier's vision, would replace of the "tumultuous line with jutting broken forms" he decried:

Reinforced concrete provides a solution – a revolution of the scheme of things whereby the "roof" (a jumble of garret windows, tiles and gutters) has always been treated as a sort of "no man's land", haunted only by Louis Wain's cats. It now becomes an immense reclaimed surface, a superficial area of the city available for gardens or walks. (Le Corbusier 1925/1971:232)

As Le Corbusier insisted, "the silhouette against the sky is a determining factor in our feelings; it is exactly the same thing as profile and contour in sculpture" (*ibid.*). He

therefore conceived of the city as a unitary artwork whose profile should be designed as carefully as the general layout in plan. However, the reclamation of the city's surfaces was aimed not only to produce a new skyline but also to allow new viewing platforms. Le Corbusier conveyed his exhilaration for ascent in his description of the Eiffel Tower:

If I climb up to the platforms of the Eiffel Tower, the very act of mounting gives me a feeling of gladness; the moment is a joyful one, and also a solemn one. And in proportion as the horizon widens more and more, one's thought seems to take on a larger and more comprehensive cast: similarly, if everything in the physical sphere widens out, if the lungs expand more fully and the eye takes in vast distances, so too the spirit is roused to a vital activity. (Le Corbusier 1925/1971:186)

This analogy between broadening vistas and spiritual uplifting resonated with other passages of the book, which was imbued with metaphors of ascent and elevation – epitomised by the image of man climbing up “to his highest point” in the progress of civilization (Le Corbusier 1925/1971:30). The description of a climb up the Tower was illustrated by two photographs taken from high vantage points, one vertical and one oblique [fig. 57]. These images did not have the same constructivist quality as the pictures of the same building that featured in *Building in France*. It is evident that Le Corbusier aimed to represent the sights visible *from* the Tower, whereas Giedion was keen to depict the space that was visible *in* and *through* it. These different visual strategies bespoke a different nuance in their approach to the idea of modern spatiality. While the former foretold the necessity of a loss of equilibrium in architecture as a healthy departure from the burden of the past, the latter stressed the necessity of balance as index of calm, order, and clarity of vision.

The medium that proved to be best suited to express this clarity of vision on an urban scale was aerial photography. This is the crucial point where Giedion's and Le Corbusier's visual languages most radically differed from one another. While the former used photographs to depict airy structures and to evoke a sense of airspaces, with only an occasional display of airborne images, the latter embraced the photograph from the aeroplane as the principal tool for the visualisation of the city. In Le Corbusier's visual rhetoric, the aerial imagery functioned in a twofold way: both to expose the failures of the city of the past and to simulate the appearance of the city of the future. The metaphoric takeoff from the flight deck of the aircraft carrier (or, the roof terrace) to that of the aircraft itself concludes this long preamble and gives way to a study of Le Corbusier's own urban visions.

Le Corbusier's recourse to aerial photographs in his books on urbanism of the interwar period was reinforced from his own experience of flight and the ensuing faith that he placed on the aerial gaze as bearer of a new visual knowledge. Le Corbusier

considered his first flight in 1928, from Paris to Moscow via Germany, as a compelling and revealing experience. As he reported in various accounts, the discovery of airspaces led him to appreciate the efficiency of aircrafts as functional objects and of airports as functional spaces (Le Corbusier 1935/1987; 1933/1967; 1942) This experience also coincided with the revelation of aerial views of cities, which Le Corbusier famously recorded in numerous sketches during his subsequent flight above South America the following year.<sup>212</sup> The recurrence of aerial imagery in Le Corbusier's urban thinking has been noted by various authors, who have often drawn connections between his rationalist planning concepts and his advocacy of flying. Donald (1999) has recently interpreted Le Corbusier's urban visions as a typical embodiment of the dream of a "concept city" described by de Certeau:

Le Corbusier's was, paradigmatically, the abstracting vision which de Certeau talks about in his account of the *dieu voyeur* looking down on the city from the skyscraper. This view from on high, whose inhumanity de Certeau decried, was exactly what Le Corbusier aspired to. For him, the skyscraper could never be high enough. To see through the miasmic chaos of existing cities, and to be able to imagine their transformation, what was needed was the perspective from an aeroplane. (Donald 1999:55-7)

This view possibly overshadows Le Corbusier's complex relationship with the experience of flight, and it oversimplifies his rather more elaborate ideas about skyscrapers; nonetheless, it helps us to situate Le Corbusier's faith in the visual power of the aeroplane within the dual scheme proposed by de Certeau. There can be little doubt that the utopian scheme for a 'Radiant City' was high in the list of de Certeau's targets when he levelled his critique of the dream of total transparency.

Stanislaus von Moos (1979) has proposed a more nuanced account of Le Corbusier's relationship with flight, which hinges upon the "cosmic" value of this experience. According to von Moos, there was an ambivalence between Le Corbusier's feelings about the sensory experience of flight and his assertions of the invaluable lesson that could be learnt from such experience – in particular about the state of cities. A key to this ambivalence can be found in some passages of the book *Aircraft: The New Vision*, which Le Corbusier published in English in 1935. The subtitle positioned the visual theme at the centre of the book's argument, which was structured as a collection of thoughts assembled into a series of thematic fragments. The book contained a tribute to the "modern conscience" embodied by aerial vision, which Le Corbusier deemed of great consequence to the future of urbanism. His long affair with

---

<sup>212</sup> For a detailed account of the journey to South America, see Le Corbusier, *Précisions sur un état présent de l'architecture et de l'urbanisme* (Paris: Editions G. Crès & C., 1930).

the aeroplane, often indicated as the symbol of the modern machine age,<sup>213</sup> was here enriched by a new awareness of the ability of aerial vision to document the state of cities. This is how he characterised the bird's-eye view: "It is a new function added to our senses. It is a new standard of measurement. It is a new basis of sensation. Man will make use of it to conceive new aims. Cities will arise out of their ashes" (Le Corbusier 1935/1987:96). The instrumentality of the aeroplane in this process of regeneration was summed up in the section's title, "The airplane indicts the city" (Le Corbusier 1935/1987:10). However, while Le Corbusier established the cognitive function of the aircraft as an instrument of vision, he also expressed unease about the detached sensations induced by high-altitude flight:

The flight of a plane provides a spectacle with a lesson – a philosophy. No longer a delight of the senses. When the eye is five feet or so above the ground, flowers and trees have dimension: a measure relative to human activity, proportion. In the air, from above? It is a wilderness, indifferent to our thousand year old ideas, a fatality of cosmic elements and events [...] From the plane: there is no pleasure [...] but a long, concentrated, mournful meditation. (Le Corbusier 1987/1935:113)

The enchantment with flight was due less to its spectacular potential than to the possibility of a cosmic contemplation of the earth from above. Although Le Corbusier appreciated the gains of a meditation detached from the earth, he struggled to accept a mode of experience of space that cut off the body from the ground. The passage quoted above continued as follows:

I feel myself unapt at this sort of unattainable delight. I understand and ponder, I do not love; I feel I am not attuned to the enjoyment of these spectacles from above. Everything escapes me. I no longer possess an instrument which gives me dimension, which makes form finite, complete, entire: my feet on the earth and my eye five feet or so above the ground. (*ibid.*)

Von Moos has related Le Corbusier's sense of bodily isolation with some of the accounts of flight written by Saint-Exupéry.<sup>214</sup> What their descriptions had in common, according to von Moos, was the sense of "alienation from nature's sensual proximity", which they both perceived as the downside of a spiritually uplifting experience. This tension resonated with a wider contradiction in Le Corbusier's thinking between the allure of organic forces and the desire of a rational and totalising control over them:

In a way, the flight experience both stimulated and confirmed Le Corbusier's paradoxical relation to reality, his obsession with absolute and universal laws that exempt the creative mind from close-up observation and empirical analysis. (von Moos 1979:290)

---

<sup>213</sup> On Le Corbusier's fascination with aircraft and airports as symbols of the "machine age", see Pascoe (2001:113-132).

<sup>214</sup> Coincidentally, Saint-Exupéry was the pilot who, along with Mermoz, flew Le Corbusier above South America in his 1929 journey (Le Corbusier 1967:83).



Le Corbusier further reiterated his belief in the visual power of the aeroplane in his later book, *The Four Routes* (1942). In the chapter dedicated to “The Air”, he extended the account of his first experiences of flight with a longer description of the circumstances in which aviation became popular, in the 1920s, through legendary figures such as Lindbergh, Mermoz, and Saint-Exupéry. Le Corbusier explained his attraction to flying on aesthetic and functional grounds. Besides declaring his personal enthrallment with the experience of flight, problematic though it may have been, he went to great lengths to advocate the “immense potentiality of air-routes” for the creation of a modern and integrated transport infrastructure (Le Corbusier 1942:106). Indeed, this was the central message of *The Four Routes*.

Most significantly, this text also contained Le Corbusier’s explicit appraisal of the combined power of aviation and photography. The authority of photography provided Le Corbusier’s rhetoric of radical urbanism with a decisive complement to the indicting force of the aerial gaze. The airborne camera was therefore deemed to be an ideal instrument to gather evidence about the contemporary urban condition:

We now have a record, aero-photographic plates, which proves that at all costs we must save our cities [...] The plane observes, works quickly, sees quickly, never tires. In addition, the plane plunges deep into realism. Its implacable eye penetrates the misery of cities and brings back the photographic record for those who lack the courage to go and see for themselves – from the air.  
(Le Corbusier, 1942:108)

The technological eye of the camera and the mechanical apparatus of the aircraft appeared, in Le Corbusier’s account, to be so inextricably bound up with each other as to partake in a single seeing machine.

The usefulness of aerial photographs was recognised by Le Corbusier already in *The City of Tomorrow*. In the section of the book dedicated to the concept of “order,” the elevated gaze was called upon as an ideal vantage point on human creation, and on the city in particular, that would bring the aerial observer closer to an ideal of perfection predicated upon “pure geometry”. The aerial perspective was employed to present, in oblique photographs, some model schemes of urban planning such as St. Mark’s Square in Venice and Place Vendôme in Paris. However, while these and other aerial photographs performed various functions in the book, their role as indicting images seems to be particularly relevant: in various instances this imagery provided Le Corbusier with damning evidence in favour of his argument for radical urban transformation. The prime target of the book was the densely built-up environment of European cities, epitomized by the Parisian “street corridors”. Hence, the book carried a pair of vertical photographs of Paris showing what Le Corbusier considered a hellish

vision of the present-day city. One of these views, in particular, was singled out for criticism [fig. 58]. The long caption began with a strong indictment:

These houses are on average seven stories high. Is this a picture of the seventh circle of Dante's Inferno? Alas, no! It shows the terrible conditions under which hundreds of thousands of people have to live. The city of Paris does not possess these denunciatory photographic documents. This general bird's-eye view is like a blow between the eyes. (Le Corbusier 1925/1971:284)

A portion of this image reappeared, a few pages on, in the well-known montage showing the business district of the Plan Voisin next to the centre of Paris on the same scale [fig. 59]. This double usage of the aerial photograph may be described in terms of visual *projection*, in the twofold etymological meaning of the word. On the one hand, the image exposed the city's allegedly despicable condition (the original meaning of the Latin word *pro-iectāre* being 'to put forward', 'to expose', but also 'to blame'); on the other hand, it was used to project a new urban design that epitomised the vision for "the city of tomorrow".<sup>215</sup> The effectiveness of the Plan Voisin montage was confirmed by the innumerable reproductions it enjoyed in the architectural press and in various books on urbanism of the time.<sup>216</sup>

The possibility of setting up a contrast between juxtaposed images (of different objects, places, but also times) was largely exploited by the architectural press during the 1920s. One of the most enduring images was published on the cover of the first issue of the magazine *Das Neue Frankfurt*, which appeared in 1926 [fig. 60]. The sense of radical progress conveyed by this triptych rested upon the sharp contrast between the new settlements and the old fabric of the city, which were photographed from apparently similar viewpoints. Here, a modern *Siedlung* took centre stage by breaking open the fabric of the old city and brushing it aside. The newness of the scheme depicted was emphasised by the contrast with the densely built-up area of the historical centre, which was framed in the chosen photograph so as to suggest an opposite direction to that of the springing rows of new housing. This image captured the essence of the vast plan undertaken by the *Stadtbaurat* of Frankfurt under the direction of Ernst May, who also edited the journal that was designed to popularise the broader cultural project for a New Frankfurt (Hirdina 1984; Heynen 1999; Mumford 2000). As the picture shows, aerial photographs were favourite material for this type of

---

<sup>215</sup> A previous montage, which loosely exploited the same visual language, juxtaposed a perspectival view of Le Corbusier's design for a Contemporary City with an oblique aerial photograph of Manhattan - both to the same scale and seen from a similar angle. This equally successful image invited merely a general comparison without laying claim to the measurable properties of the planar image.

<sup>216</sup> Walter Gropius used this montage to illustrate his article, "flach-, mittel-, oder hochbau?", *Das Neue Frankfurt*, n. 2, 1931. It was also a favourite feature in the illustrations of the book's reviews (see Edwards 1929).

representation since the onset of *Das Neue Frankfurt*.<sup>217</sup> The dialectical use of montage, also introduced in other issues of the magazine, testifies to a strong constructivist aesthetic behind the visual agenda of May and his circle, which was alien to Le Corbusier's more omnivorous appetite for visual images.

While a whole spectrum of aerial photographs was present, even though in embryo, in Le Corbusier's first book on urbanism, their use became standard in his works of the 1930s, after his own experiences of flight. *The Radiant City* is a book that teems with aerial photographs, which are fundamental to the visual economy of the whole book. Various vertical and oblique views of cities featured here with diverse purposes, ranging from the descriptive to the accusatory; as it was done with the Plan Voisin, a drawing of the Radiant City was also juxtaposed to an aerial picture of Paris said to be on the same scale. The chapter of the book on "Plans", in particular, drew heavily on aerial photographs to illustrate Le Corbusier's urban schemes old and new. An interesting example is provided by an image that straddles the divide between enchantment and indictment. This is a picture postcard of Rio de Janeiro that accompanied Le Corbusier's series of sketches he took while flying above the city [fig. 61]. The caption read:

Rio and its enchanted offshore view! From the houses, no one sees it. There is no more land to build upon. Find communications? Open new ways? Where? There are nearly a dozen bays, closed, isolated. If you walk through the maze of streets, you rapidly lose all sense of the whole. Take a plane and you will see, and you will understand, and you will decide. (Le Corbusier 1933/1967:223)

In this case, the aerial photograph functioned as the background for another visual narrative (Le Corbusier's own sketches) and required the viewer to infer the situation described in the caption from an otherwise pleasing panoramic view of the city.<sup>218</sup>

A further case that looks particularly interesting is the series of aerial photographs of Algiers published in the same section of *The Radiant City*. Le Corbusier displayed a range of aerial views to illustrate the challenge posed by the city's topography. A vertical view showed the clear division between the Casbah and the modern city, while oblique views worked as 'establishing shots' to familiarise the viewer with the sites of Le Corbusier's projects. An image of 'plan B' based on the superimposition of a drawing to an oblique photograph was also shown. However, the multitude of aerial photographs signalled an anxiety about how to represent a place that posed particularly severe challenge for its topography. This circumstance was better revealed

---

<sup>217</sup> Aerial photographs of new or ongoing urban construction were published in other issues of *Das Neue Frankfurt*. See, for instance, the issue n. 3, 1932, devoted to The New City ("die neue stadt").

<sup>218</sup> It is interesting to compare this image and caption with the representation of Rio given by de Pinedo, who instead underlined the improvements brought to the living conditions in the city (see § IV.1.).

in the volume *Oeuvre Complète 1929-1934*, in which Le Corbusier and Pierre Jeanneret published three pairs of images of the 'Project A' for Algiers; here aerial photographs of the city juxtaposed to photos of models on the same scale and point of view.<sup>219</sup> A caption read: "Comparative views of today's city, in an appalling state of disorder and unable to develop between the cliff and the sea, and Le Corbusier's and P. Jeanneret's plan" (Le Corbusier and Jeanneret 1946:142. My translation). However, in another caption Le Corbusier conceded that the aerial view was not suited to depict "the violent accidents of the ground" that marked out the site of Algiers and, finally, in the last caption he suggested that the model succeeded better [fig. 62]. This careful juxtaposition of views revealed another use of 'aerial' photographs in Le Corbusier's repertoire, which was made all the more interesting by the fact that he referred to the images of models also in terms of "bird's eye view". The photographs of models were photographic simulacra whose purpose was to simulate the effects of aerial photographs. Such fictional images marked the extreme separation between detective and depictive values in the aerial photographs. This use of aerial imagery showed how Le Corbusier spanned a broad spectrum of uses of the medium for different purposes, and how he also appreciated its limits.

The enormous influence of Le Corbusier's planning ideas within the C.I.A.M. was reflected, to some extent, by the impact of his visual rhetoric. The fact that the aerial photograph became a currency in the visual discourse of the Modern Movement is well exemplified by José Luis Sert's book *Can Our Cities Survive?*, which presented a compendium of the C.I.A.M.'s interwar urban thinking. Indeed, the opening illustration of the book, which first appeared in 1942, was an aerial oblique photograph of Manhattan. The caption acknowledged the preeminence of this mode of vision in the realm of modern urbanism: "The new perspective. Air views reveal a new urban 'façade' – a perspective never before known. Here is no individual building, or street, or neighborhood, but the whole city and, with it, a revelation of its composition" (Sert 1944:3). By hinting at Le Corbusier's notion of the ground as a "fifth façade", Sert declared the appropriation of the aerial photograph as the ultimate visual tool of modern planning, capable of producing the long-awaited view of the city as a whole. As previous chapters have shown, the instrumental use of aerial photography to illustrate urban problems was not the exclusive province of architects and urbanists, but was also adopted by historians, critics, and various authors who sustained reformist arguments.<sup>220</sup>

What seems to be particularly noticeable in Le Corbusier's appropriation of this imagery is the contrast between photographs that might have looked, in another

---

<sup>219</sup> The photographic representation of Le Corbusier's buildings in the *Oeuvre Complète* is discussed by T. Schumacher, "Deep Space, Shallow Space", *The Architectural Review*, n. 1079, Jan. 1987, pp. 37-42.

<sup>220</sup> See the discussion of E. Diesel's *Das Land der Deutschen* (1931), in § II.1.

context, utterly insignificant and the importance of the messages that images were loaded with when they were turned into “denunciatory photographic documents”. A positivist faith in the ‘objective’ value of the photograph, combined with the perceived authority of the aerial gaze, led Le Corbusier to present survey documents as ultimate records of an unsustainable urban condition. The forensic evidence he sought in these images relied on the openness of the aerial photograph to multiple significations. The fact that such an abstract and seemingly neutral imagery could be mobilised to the cause of a utopian urban vision is a paradox only in appearance. In fact, Le Corbusier’s visual rhetoric operated a tactical intervention in the gap between the detective and the depictive functions of the photograph, which was peculiarly wide in the case of aerial images. The result was an extraordinary reactivation of empty visual signifiers into images charged with ‘excessive’ meanings: an operation that required the viewer to imagine deep implications behind the surface of seemingly tedious images. Le Corbusier’s visual rhetoric can be better understood against the background of the aerial visibility that emerged in the spheres of military and civil surveying in the period. Moreover, the aerial imagination underlying Le Corbusier’s arguments was tied up with the wider context of avant-garde photography, which filtered into the architectural discourse through Giedion’s contribution in particular.

## Surveying a metropolis: inter-war London in the photographs of 'Aerofilms Ltd.'

Apart from the happily appropriate conception of picturing London from [the airplane], there is no better way in which to see and fully appreciate the real beauty and interest of London's layout and planning. (Anon. 1928:1)

The eye of the airplane is pitiless. This time we have the actual record of reality. What an appalling thing! Do human beings live here? Do they consent to do so? Will they not revolt against it? (Le Corbusier 1935/1987:102)

The final chapter of Part IV is a case study on aerial photographs of London produced by Aerofilms Ltd., the leading survey company operating in Britain in the interwar years. A short history of Aerofilms opens the chapter, which then examines a range of pictures that were published, across various books and magazines, in two distinct realms: tourism and urbanism. The focus is on the status of aerial photographs as public images. The role of aerial photographs in the tourist guidebooks of London is considered first, with regard to the issue of 'representability' that affected the city in its late-imperial era. The following section considers a range of photographs that appeared in publications on architecture and urbanism. A case of 'image transfer' illustrates the fluidity of this imagery and the breadth of meanings that were associated with the aerial photographs of London in the 1920s and 1930s.

## A short history of a survey company: Aerofilms Ltd.

The air survey company Aerofilms Ltd. was founded by C. G. White and F. L. Wills in Hendon, London, in 1919.<sup>221</sup> With the promise of “every kind of aerial view expertly photographed,”<sup>222</sup> the company quickly established itself as the most important British provider of aerial photographs in the interwar years, when its output reached a growing field of private and public applications.<sup>223</sup> Aerofilms produced aerial coverage for a wide array of customers, ranging from the commercial sector (industry, advertising, property, etc.) to the public (local and governmental authorities).<sup>224</sup> In the fast-growing market of aerial photographs, the company quickly established its reputation as the most important provider in Britain, a role to some extent comparable to that played by the Fairchild Company in the U.S. during the same period (Campanella 2001).

The different types of depiction allowed by vertical and oblique views made them suitable for different markets. Vertical photographs were mainly used for cartography and quantitative surveys, supplying essential images to town planners and estate agents. A common procedure was the assemblage of vertical views, which were re-photographed so as to obtain mosaic-maps of large areas from relatively low altitudes. In some cases, vertical imagery was also used to produce evocative effects in images destined to the wide public, such as posters and advertising material [fig. 63, 64]. Oblique views, on the other hand, were demanded for a larger variety of uses due to their higher degree of legibility, which made them suitable for advertising, journalism, and other forms of public circulation. Panoramic views gained popularity in particular through the channels of illustrated publications and picture postcards.

The theory and practice of aerial photography were formulated as a systematic body of knowledge in the late 1920s. F. L. Wills, a founding father of Aerofilms, co-edited one of the most complete expositions of the medium's applications hitherto published: *Aerial Photography: A Comprehensive Survey of Its Practice and Development* (Wills and Winchester, 1928).<sup>225</sup> The book gave a detailed account of the technical aspects of aerial photography, with descriptions of various types of apparatuses and their use. It also charted the progress made by air survey photography in various commercial sectors. The main fields of application of the airborne camera were the illustrated press (pictures of topical events), the construction sector (records of building work in progress), housing development (images of estates

---

<sup>221</sup> Alan J. Cobham was among the pilots who flew Aerofilms photographers in the company's early years (Cobham 1925:94ff).

<sup>222</sup> Advertising leaflet, from Aerofilms archives.

<sup>223</sup> A public exhibition of Aerofilms' photographs from was held at Cumberland House, Southsea, in 1932.

<sup>224</sup> Archival documents show that Aerofilms also undertook, in the late 1930s, contracts for the Ordnance Survey and worked on commissions for the Home Office. Aerofilms photography archives, Boreham Wood, London.

<sup>225</sup> This publication was followed, a year later, by an American book on the same subject (McKinley 1929).

for agents and developers), tourism (pictures for guidebooks, brochures, and postcards), and the factory sector (photographs of works and business premises for advertising purposes) – the latter being accounted for as “the biggest branch of industrial aerial photography” (Wills and Winchester, 1928:159) Being at the helm of the leading company in the field, Wills inserted in the book a self-promoting profile of Aerofilms, whose pioneering activity was best illustrated by the company’s own photographs.

A former wartime pilot himself, Wills underlined the military origins of the airborne camera and went on to describe its virtues in peacetime. In fact, the vicissitudes of the business in the 1920s and 1930s were never entirely separated from the developments in aerial warfare and reconnaissance that characterized that period. This underlying connection, which brought about the birth of Aerofilms in the first place, also marked its subsequent developments. At the outbreak of World War II, the company’s chief survey and photogrammetric staff were called upon to lend their expertise to the tasks of photographic intelligence.<sup>226</sup> As the personnel went on to constitute the core of the R.A.F. Central Interpretation Unit, the company’s aircraft and instruments were also transferred to the army’s camouflage units. The history of Aerofilms therefore dissolved into that of R.A.F. photo-interpretation during the war.<sup>227</sup> This shift was symptomatic of the contiguity between civil and military uses of the aerial photographic medium, of which examples have been given previously.

The following two sections deal with the publication of Aerofilms’ photographs of London in two specific discursive fields: tourism and urbanism. Each section examines a range of publications in which photographs produced by that company were instrumental to shape the aerial representation of London in the interwar years. For this purpose, images are situated within the broader cultural contexts in which they operated. The study of published images of a single city coming from the same survey company aims to provide a common ground for the comparative reading of some of the ‘urban visions’ that have been discussed in previous chapters.

---

<sup>226</sup> Wills himself worked as photographic Liaison Officer between the Headquarters of Bomber Command, in High Wycombe, and the Interpretation Unit at Medmenham in 1941-42.

<sup>227</sup> After a shareholding negotiation started in 1938, Aerofilms was bought over by a group led by Percy LI. Hunting, and ultimately merged into Hunting Aerosurveys Ltd. in 1944. Thereafter, the Aerofilms branch specialized in oblique coverage and the Hunting branch provided only vertical images. Source: F. L. Wills, “Memories of my Association with the Hunting Family and Group”, unpublished manuscript (Aerofilms archives). See also *The Aerofilms Book of Aerial Photographs* (London: Aerofilms Ltd., 1954).



## **Tourist attractions: new visions of the 'greatest city'**

The problem of finding an adequate visual representation for London, which had emerged in the mid-Victorian era, marked out distinctly the tourist literature of the interwar period. As David Gilbert (1999) has pointed out, throughout the second half of the nineteenth century it was often felt that London's cityscapes did not match her status of imperial capital. The possibilities of representing the city as a site of world power were found to be limited in comparison with other European capitals. This issue of self-representation was carried over into the visual narratives of guidebooks, which also suffered from the lack of spectacles offered by London's cityscapes. This section examines the role of aerial imagery in guidebook representations of London in the interwar period, with an emphasis on the pervasive presence of Aerofilms photographs.

Since the appearance of photographs in guidebooks in the 1870s, this literature struggled to portray the largest city in the world in ways that would convey its imperial centrality. This problem was especially felt after World War I, in spite of the public works that had enhanced the profile of the capital's image over the early years of the century. While some guides celebrated the improvements and new vistas allowed by these transformations, others still "doubted London's capacity to sustain an ordered and visually intelligible cityscape" (Gilbert 1999:292). The introduction of snapshots in the 1930s, in keeping with the mass-dissemination of this genre among the public, fragmented the image of the city into a kaleidoscope reflecting a great variety of subjects and viewpoints. This diversity of visual idioms, however, could hardly make up for the perceived lack of imageability that continued to afflict the tourist representations of London.

Gilbert has discussed this multiplication of vantage points, which became part of the rhetoric of London guidebooks especially in the first quarter of the twentieth century. The search for a privileged point of view was an intrinsic part of the problem of exhibiting London as spectacle. For want of high observation decks that could provide the tourists with all-encompassing panoramas, the double-decker bus was considered one of the best platforms from which the spectacle of London could be experienced. The experience of the city from the so-called "garden seats" on top of buses brought visitors in contact with the city's everyday life while at the same time keeping them at a safe distance from the dangers of closer encounters. This was considered all the more appropriate since one of London's main attractions lay in the chaotic hustle and bustle of its street life (Gilbert 1999:290-1).

In the first quarter of the twentieth century, photographs featured prominently in London guidebooks with an increasing variety of genres, subjects, and viewpoints.<sup>228</sup> The aerial imagery entered the visual repertoire of London guidebooks in the mid-1920s. At the time in which commercial airlines began to carry passengers in and out of the country, the aerial gaze cast down on the city became a feature of tourist literature. How did this imagery affect the chronic problem of representability in the imperial capital? The alliance of photographic medium and aerial viewpoint combined the authenticating effect of the former with the panoramic gaze of the latter – a common visual trope in tourist representations before the introduction of photography. Hence, the new technologies of representation infiltrated a visual discourse that had long relied on drawn or painted views of cityscapes from high viewpoints.<sup>229</sup> London guidebooks of the second half of the 1920s show that Aerofilms was a major provider of aerial photographs in this field.

H. V. Morton's pocket-size guidebook, *London*, first published in 1926, points to an early use of this imagery. Three of the twenty-four illustrations in the book were aerial photographs, which were interspersed with other types of city views. These images, all flown by Aerofilms, depicted Trafalgar Square, The Marble Arch, and the Tower of London from an aeroplane [fig. 65]. The text referring to the latter, in particular, attempted to validate the inclusion of aerial images in the guidebook for their supposed "enlightening" effects: "The aerial photograph [...] gives an admirable idea of the plan of the Tower, which to the unenlightened explorer on the ground level seems merely a confusing mass of turrets, bastions, and gateways" (Morton 1926:133). Interestingly, this passage presented the aerial photograph as a new visual tool capable of expanding the comprehension of otherwise well-known architecture from a revelatory perspective. The possibility of making sense of a sight at a glance was in keeping with the thin and handy format of the guidebook, which Morton introduced as a "bird's eye survey" of the city. This visitors' guide to London anticipated a trend that would invest the tourist literature of the late 1920s and 1930s.

The prime example of it was a peculiar guidebook uniquely designed as a sightseeing tour of London from the air – the illustrations were aerial photographs provided by Aerofilms. This pamphlet, published by the chain Gordon Hotels in 1928, was called *London from Aloft*. Its anonymous writer emphasised the novelty of this

---

<sup>228</sup> Constance M. Foot's popular publication, *In and Around London*, selected a broad range of sights and scenes to portray "the largest and richest city in the world" in the early 1920s. The range of photographs included conventional building façades, scenes of street traffic, images of work, and night pictures. Elevated views also appeared, showing images of parades and rallies (mainly acquired from photojournalist agencies, such as Topical Press and Central News), but aerial photographs were not used yet. See C. M. Foot, *In and Around London* (London: T.C. & E.C. Jack, 1923).

<sup>229</sup> The pervasiveness of the elevated view in tourist guidebooks prior to World War I is exemplified by Herbert Fry's annual publication, *London (Its Stones & Commercial Landmarks)*, which, in the 1915 issue, was illustrated by twenty prints from bird's-eye views. These fold-out maps, complete with notes of the most significant buildings, provided the tourist with a means of spatial orientation through the city centre.

publication by presenting it as “the most remarkable collection of photographs of London which has ever been made” (Anon. 1928:1). This and other passages suggested that the use of aerial photography in a city guidebook was still regarded as an innovation at the time, and that it was at this historical juncture that aerial imagery entered tourist publications as a major source of illustrations. Gordon Hotels triumphantly introduced *London from Aloft* as a breakthrough in the tradition of city guidebooks. Although its publishers fell short of proclaiming it the first tourist publication to show the city by aerial photographs, they insisted that the originality of the book would arouse new and old visitors alike:

To those who know London and to those who do not, ‘London from Aloft’ should prove a work of absorbing fascination, for it shows in a manner which no other form of illustration can the wonderful and intriguing grandeur of this noble old city. (Anon. 1928:1)

None of London’s “representability complex” transpired in this preliminary comment. On the contrary, the city seemed to gain renewed majesty thanks to the new mode of representation. Most of the aerial photographs shown in the book had been deliberately commissioned to Aerofilms for this publication. Not only were they intended to exhibit the old city under a new guise, but also to make intelligible London’s layout with its most recent developments:

Apart from the happily appropriate conception of picturing London from this novel aspect, there is no better way in which to see and fully appreciate the real beauty and interest of London’s layout and planning. It renders it possible to study the fine architectural features of the various well-known buildings from an entirely new viewpoint. These unique aerial photographs also convey an excellent idea of the extensive reconstruction work which has taken place during the past ten years, particularly in the shopping thoroughfares, theatreland, and the fashionable West End areas. (Anon. 1928:1)

The information provided in this pamphlet was minimal. Each page contained an aerial photograph of a well-known sight accompanied by a small-scale drawing of a monument, building, or interior. The texts gave general descriptions of the places photographed and indicated their location within the frame, inviting the reader to a game of visual recognition by spotting what could be seen and where in the picture. A first visual sequence took the viewer through an aerial trip from Buckingham Palace to the British Museum, following the major tourist sights in loose topographic succession. One of the early captions, describing the photograph of Buckingham Palace and Grounds, displayed more than any other the daring use of aerial perspective while suggesting, somewhat ominously, its panoptic potential: “The eye of the Airman sees all – even the private terraces, lawns and walks in the secluded gardens of the King’s

Palace. A screen of trees flanks either side, maintaining complete obscurity from road view" (Anon. 1928:10). The exclusive power afforded by the airborne camera-eye resonates with de Certeau's description of the view from above as a voyeuristic experience.

An emphasis on the shopping streets and other fashionable areas of the affluent West End disclosed the fundamental purpose of this pamphlet, which was designed essentially as advertising material for Gordon Hotels. After a second sequence of aerial photographs, progressing eastwards from the Law Courts down to Tower Bridge, unsurprisingly via St Paul's Cathedral, the pamphlet presented a publicity section with details of the company's four hotels.<sup>230</sup> Most of the illustrations were colour drawings and photographs of interiors; but, what is perhaps more interesting, three out of four hotels were *also* introduced by means of aerial photographs. These establishing shots emphasised the hotels' locations in their surroundings. Moreover, they established a metonymic link with the other sites depicted in the previous pages of the book. Since the privilege of the aerial view was purportedly reserved to the representation of prominent sites and "fine architectural features", the hotels were aligned - in representational terms - on the same axes of prestige as other monumental buildings of the city centre.

In *London from Aloft*, the aerial images of the city bore a twofold connotation of exclusivity, which equally applied to the social status of the clientele and to the mode of representation adopted. While the aesthetic novelty of these images was couched in universal terms, the lofty views of London they afforded wove together a less inclusive subtext, whereby the elite clientele of Gordon hotels was invited to stand aloof from the metropolitan crowds. In spite of its narrow readership and limited edition, this pamphlet marked a significant step toward the diffusion of aerial imagery in the mass market of tourist literature. It is also remarkable that *London from Aloft* should have appeared at the same time in which the popular literature on travel also began to make a consistent use of aerial photographs.<sup>231</sup> Tourist publications produced in other countries indicate that the diffusion of aerial imagery in the late 1920s was not an exclusive prerogative of British or American culture. In 1928, the Catalan pilot-cum-photographer Josep Gaspar was commissioned to undertake an aerial coverage of Barcelona for a series of tourist brochures entitled *Barcelona Attracci3n*. As Albert Garcia Espuche has observed, Gaspar's photographs were regarded as a significant aesthetic (and even conceptual) intervention: "The[se] images exploit the never-seen-before point of view, they uncover a city hitherto unknown, more than anything they interpret with the intention of putting their work on the same level as art" (Garcia Espuche 1994a:28).

---

<sup>230</sup> These hotels were The May Fair, The Metropole, The Victoria, and The Grosvenor.

<sup>231</sup> See chapter § IV.1.

In Britain, tourist publications began to host an increasing variety of photographic images in the late 1920s, including different genres, subjects, and viewpoints. It was in this period that the industry fully recognised the possibility of exploiting the technical and aesthetic means of representation offered by photography to reveal places from unfamiliar viewpoints. The idea of seeing a city from new angles suited particularly a metropolis that lacked “an ordered and visually intelligible cityscape.” In this respect, the guidebooks that seized on the kaleidoscopic representation of London from multiple and unusual viewpoints tried to capitalise on the benefits of the city’s heterogeneous appearance. This was the case of Schultze’s *London from Every Angle*, published in 1937. *London from Every Angle* was chiefly illustrated with pictures from ground-level, including snapshots of everyday life (some in close-up), along with a few oblique views from sharp angles - but no aerial photographs. The choice of exploding the cityscape into a motley sequence of vignettes was indubitably in tune with the expanding field of amateur photography (Gilbert 1999). Tourists were not only presented with a multifaceted image of the city, but were also encouraged to venture upon such vistas with their own hand-held cameras. The viewing angles reproduced in the book were therefore accessible to the visitor, virtually at least. This had not happened with *London from Aloft*, where the possibility of discovering the city from new viewpoints was confined to the vicarious perception of the airborne camera. The extreme fragmentation of viewpoints on the one hand, and the choice of synoptic images from above on the other, responded both to the demand for a new portrayal of the city.

Amid the growing range of earth-bound viewpoints, the presence of aerial images also gained broader currency in London guidebooks of the 1930s. A case in point is supplied by the series of *Pictorial and Descriptive Guides* published by Ward & Lock, which had established themselves as the archetypal visual guidebooks of London since the late-Victorian period (Gilbert 1999:291). The very title of the series drew the attention to the combined use of texts and images as a means to introduce places to the reader-traveller. The Ward & Lock’s *Guide to London* published in 1937 – the year of the royal coronation - included aerial photographs among its illustrations, mainly picturing the central areas around the course of the Thames. A characteristic example is a double-spread image of the Pool of London, which functioned as a visual aid to the visitors by providing them with the equivalent of a perspectival ‘orientation map’. As in the case of most of the guidebooks examined, the aerial images published by Ward & Lock were taken by Aerofilms Ltd. This recurrence suggests that, however widely spread, the diffusion of aerial photographs was inevitably limited by the standard views available on the market. In fact, images often circulated from a publication to another,

thus establishing canonical views of buildings and places from the air much as street photography created its own repertoire of standard images from ground-level.

An instance of this circulation, at the end of the 1930s, was the thin guide *London: The Wonder City*, published by the Pullman Car Company for American tourists (Gilbert 1999:294). The 1939 edition carried aerial photographs of central London, some of which had been previously published in *London from Aloft*.<sup>232</sup> Pictures that had been commissioned by the Gordon Hotels for their innovative promotional strategy were to circulate for years to come. This concurrence seems to confirm that, after the excitement with the aerial photographs of the city reached its peak in the late 1920s, London guidebooks of the following decade assimilated this imagery to the point of defining a normalized set of views.

### **Contested views: the cityscape between good and evil**

Aerofilms gave a significant contribution to the aerial imagery of London in the fields of architecture and urbanism between the World Wars.<sup>233</sup> It catered for the growing demand of city views, by providing records of pre-existing buildings and new architecture alike. One example of how the visual possibilities opened up by the airborne camera were exploited by the British architectural press is shown by the sudden and substantial appearance of aerial photographs in *The Architectural Review* at the end of the 1920s. Robinson and Herschman (1987) have pointed out that, “in about 1930”, the journal embraced the ideas of the Modern Movement and also an appropriate modernist style of photography, which was to be shaped by the straightforward approach of its new official photographers, M. O. Dell and H. L. Wainwright (Robinson and Herschman 1987:118-9).<sup>234</sup> Another shift that occurred around the same period, and which has not been remarked by historians, involves the publication of aerial images in *The Architectural Review*. The journal began to publish aerial photographs in the late 1920s to illustrate some of its features, particularly those of urban content. This trend began in the issue of July 1929, which covered the topic of “Rural and Urban England”. A close examination of this issue shows that aerial imagery was used for mixed purposes.

---

<sup>232</sup> The pictures published in *London from Aloft* as “Buckingham Palace and Ground” and “London’s Famous Shopping Centre” were here published, suitably cropped, respectively at page 10 and 30-1.

<sup>233</sup> It was not uncommon for architectural photographers to have been trained during World War I as military pilots. A case in point is Sydney Newbery, who became architectural photographer for the *Architects’ Journal* after serving in the Royal Flying Corps (Elwall 1994:62).

<sup>234</sup> On the changes in the editorial approach of the journal at the end of the 1920s, see *The Architectural Review*, n. 96, May 1996 (special issue: “The first 100 years”), p. 43. For a comprehensive account of architectural photography in Britain prior to World War II, see Elwall (1994).

In the opening article, Hilaire Belloc (1929) levelled a critique of the loss of clear boundaries in contemporary British towns. The feature was illustrated with an image of suburban housing taken over Villadom, Leeds, which was held as a negative model of built environment. The photograph supplied evidence against the sprawling growth of cities, in favour of a policy of delimitation that would arrest the loss of urban identity, which Belloc described in terms of a lack of “personality”, “spirit”, and even “accent” and “patriotism”. What could have served this position better than an aerial view of repetitive suburban tenements? The image showed a linear arrangement of tenement houses along seemingly endless parallel lines, producing an effect of alienation that was accentuated by the alignment of the rows along the diagonal of the frame. Lack of boundaries, character, and ultimately “common spirit” were epitomised by a distant view that evoked repetitiveness on a large scale. It is remarkable that this use of the aerial photograph as a signifier of urban chaos served an urban ideology that was utterly different from the modernist discourse, which, as the previous chapter discussed, employed similar images for its visual rhetoric.

Further on in the same issue, an editorial entitled “Chaos Unlimited” echoed Belloc’s argument, in words and images alike. Here the call for an end to the “senseless exploitation” of English cities by speculative builders was shored up by a pair of Aerofilms’ images of Liverpool showing, in the same page, a view of the city centre and a fragment of the modern outskirts seen from a similar oblique angle. The comparative reading of the ‘old’ and the ‘new’ supported a discourse in favour of regional and town planning measures to stop the indefinite growth of cities. Yet again, these images followed the same criterion of negative evidence as the first one.

However, the same issue of *The Architectural Review* also made use of aerial photographs for a less hostile purpose. Next to Belloc’s opening article appeared a review of the newly-built Larkhall Estate in Clapham, London. This piece, too, began with an Aerofilms’ oblique photograph of an urban district, but this time the argument was very much in favour of the building enterprise depicted. The Larkhall Estate was praised for the spaciousness of its scheme and was therefore presented as a viable alternative to the suburban tenement. The large blocks of flats built round quadrangular green areas stood out in the aerial picture, which showed the spaced-out project amidst the densely built-up surroundings. The same medium that was used to expose the urban predicament was here adopted to show a possible remedy.

These images were only the first of the kind to be published by *The Architectural Review*. In November 1929, a review of the new headquarters of the Underground Railway in Westminster was illustrated by an aerial photograph of the building designed by Adams, Holden, and Pearson (Bayes 1929). While the rest of the piece was customarily illustrated with photographs taken by the magazine’s own staff, this

aerial view worked as an establishing shot to allow the reader a cursory glance at the building in its urban location [fig. 66]. The white cruciform volume appeared almost like a sacred building at the centre of the picture, thus providing a visual echo to the reviewer's eulogy of its classic monumentality.<sup>235</sup> This example and the above signalled the beginning of a pattern in the illustrative use of aerial photographs: while images of distinctive buildings were used to extol the specific virtues of new architecture, anonymous suburban views were often used as evidence of a generic sprawling condition. Behind the introduction of this imagery in the pages of the most popular architectural magazine in Britain was the output of Aerofilms. Shortly after the company had provided the photographs for the first aerial guidebook of London, it established its authority in the field of architectural publishing.

The September 1929 issue of the magazine, published between those examined above, carried a review of Le Corbusier's *Urbanisme*, which had just appeared in English translation as *The City of Tomorrow*. In this review, Trystan Edwards criticised Le Corbusier's visionary scheme for a Contemporary City on pragmatic and aesthetic grounds and dismissed his planning ideas as "architectural nihilism". Nonetheless, Edwards considered the book as an important example of modern architectural discourse, potentially influential for its trenchant style more than its actual contents: "While [...] the constructive ideas of M. Le Corbusier cannot hold our attention for long, the methods of his propaganda are of great interest, and especially so because they are gradually being adopted by the whole Modernist School" (Edwards 1929:137). To confirm this assertion, some of the most suggestive and polemic of Le Corbusier's images were chosen to illustrate the review, including the 'Plan Voisin' montage discussed in the previous chapter. The publication of this review right between the issues of *The Architectural Review* examined above offers the pretext for a further digression into the visual repertoire of *The City of Tomorrow*.

The opening image of the English edition depicted an unidentified suburban area in the outskirts of London with the caption: "A London suburb."<sup>236</sup> The town spread out over an immense area. Narrow 'corridor' streets. Back gardens that are little more than yards" (Le Corbusier 1929/1971:ii. Fig. 67). By setting the tone for the book's argument, this photograph presented to the English reader a view of the type of city that Le Corbusier vowed to replace.<sup>237</sup> The image portrayed an extensive and uniform suburban environment, which constituted one of the prime targets of his radical planning vision. The predicament of suburban life epitomised a "vice of planning" which

---

<sup>235</sup> The original print, held at the Aerofilms archives, indicates that the chosen image was preferred to others taken during the same survey, which did not draw the same photogenic quality out of the subject. Source: Aerofilms archives. Survey number C.14717, carried out on August 30<sup>th</sup>, 1929.

<sup>236</sup> This image and the following ones were not present in the original French edition of 1925.

<sup>237</sup> The next chapter further discusses this image with regard to its contexts of production and dissemination.



Le Corbusier would later describe as “a despicable delusion entertained by a society stricken with blindness” (Le Corbusier 1933/1967:92). A second aerial photograph, very similar to the first, opened the ‘Foreword’ of the book, which followed Frederick Etchells’ introduction. The caption was only more ironical: “A typical London Suburb. A charming picture which displays every vice of planning!” [fig. 69]. The redundancy of these two photographs is rather puzzling, since they depicted similar suburban views of London to back up the same rhetoric. However, these images are particularly relevant to the present chapter for two reasons: first, they confirm that Aerofilms’ output reached into the core of the discourse of modern urbanism in the late 1920s; second, they also appeared in later publication on London, showing a further instance of the circulation of aerial images encountered in previous chapters.

A copy of the ‘Foreword’ photograph of *The City of Tomorrow* was reprinted by Steen E. Rasmussen in his popular book, *London: The Unique City* (1937),<sup>238</sup> where it was plainly captioned “Typical London houses” (Rasmussen 1937:303. Fig. 70).<sup>239</sup> In this context, the photograph represented the widespread suburban pattern that was built around the turn of the century for lower-class families. Although Rasmussen’s critical verve did not match Le Corbusier’s radicalism, the Dane used the same image, in a smoother way, to warn against the threat posed by slums to the fabric of the city. A close look reveals that a print of the same image also appeared in Wills and Winchester’s *Aerial Photography* (1928), where it illustrated the section of the book on housing development. The caption described the view as, “The uninteresting stereotyped lay-out of small house property of the past” (‘Plate 48’ in the book). This standard manual of aerial photography, which fell little short of an unofficial catalogue of Aerofilms, unwittingly promoted a view of London houses that would congeal into a ‘stereotypical’ representation. The pervasiveness of Aerofilms’ production is also shown by the other aerial images published in Rasmussen’s book, all of which were taken by the same survey company. Aerial photographs were used to illustrate some areas of “the unique city” that were generally also depicted from ground-level.<sup>240</sup> A more distinctive use of aerial imagery, however, was displayed in two before-and-after pairings that showed new suburbs that were built around underground stations in the 1920s. Aerofilms’ pictures of Edgware and Hendon, taken in 1923 and 1930, supplied the reader with an overview of the rapid growth promoted by railway extensions at the edges of London. On the whole, Rasmussen’s selection of aerial images was in keeping with his careful choice of illustrations, which, as James Bone noted, were not

---

<sup>238</sup> The first English edition of the book, published in 1937, was a revised version of the original Danish edition (1934), of which it reproduced the same format and illustrations.

<sup>239</sup> This picture illustrated a chapter devoted to “The London House”, in which the author described in detail various historical types of dwelling in an attempt to pin down the city’s “typical” house.

<sup>240</sup> This was the case with Lower Regent Street and Bloomsbury, and views of London parks (Battersea, Hyde, Regent’s, and Hampstead Heath).

intended “as applied decorations, but as part of [the book’s] very fabric” (Bone 1937:18).

A further case of image transfer is to be found in the abridged edition of Rasmussen’s *London*, which was published by Penguin in 1960. Fewer images appeared in this pocket-size edition, but an illustration of “Typical London houses” was included [fig. 68]. It can be noticed that this image is not the same as the one published in the 1937 integral edition of the book but it reproduced, instead, the image published in the frontispiece of *The City of Tomorrow*.<sup>241</sup> A comparison between the two versions of the same image [fig. 67 and 68] shows that the arrangement of their visual spaces reinforced the images’ functions in their respective contexts. In *The City of Tomorrow*, the picture conveyed a sense of disorderly and endless suburban sprawl, which was made all the more dramatic by the misty appearance of the scenery. The image in Rasmussen’s book, on the other hand, covered a smaller area and was vertically framed, so that the railway line and receding houses on the right hand side were left out of the picture. A small enlargement allowed the viewer to discern better the “typical London house” of the turn-of-the-century, which Rasmussen described as having “comparatively high standards” despite the limitation of its narrow plan (Rasmussen 1934/1960:221). This less dramatic image portrayed the London suburb in a brighter light and gave the reader a sense of irregularity amid the apparent uniformity of the rows of houses.

The impression that the image shown in Fig. 68 look like a milder version of the one shown in Fig. 67 reflects a difference in the arguments that these pictures illustrated. In Le Corbusier’s book, the ‘Londonness’ of the image was overshadowed by the universal message it was loaded with – the ‘city of today’ to be replaced by the ‘city of tomorrow’. In Rasmussen’s book, a modified version of the same image served to sustain a milder argument for urban reform. While a more scathing view of the city’s housing problems had been published in the original version of *London*, the abridged edition did not include the conclusion, which Rasmussen titled “A most unhappy ending”.<sup>242</sup> In its place, the section on London Parks concluded the pocked edition, which was obviously a smoothed down version of the original.

There is another notable instance in which Le Corbusier published an Aerofilms’ picture of London to convey a general sense of crowdedness. In his book *Aircraft*, which was first published in London, Le Corbusier inserted a view of the Bank, seen from over Victoria Street, to expose the density of building in the City. The caption of this crammed view was harsh: “The eye of the airplane is pitiless. This time we have

---

<sup>241</sup> A possible reason for this substitution is that a significant portion of the Aerofilms’ stock was lost during World War II, which made it difficult to recover photographs published in pre-war books for post-war re-editions.

<sup>242</sup> Under this heading, Rasmussen had expressed in the 1930s his concern with the changing patterns of the city’s architecture and the increasing threat posed by traffic and slums.

the actual record of reality. What an appalling thing! Do human beings live here? Do they consent to do so? Will they not revolt against it?" (Le Corbusier 1935/1987:102). Once again, the target of Le Corbusier's invective was not so much the specific city or urban district represented in the image, as an *idea* of contemporary city that could best be documented from the air.

The fact that images of different places could fit perfectly well the purpose of representing a certain idea of "Londonness" says something about the abstracting force of aerial photography. Given the limited amount of details visible in a view from the air, a comparatively narrow range of aerial photographs was required to form a body of visual knowledge about the city's urban typologies. The indefinite character of this class of photographs, therefore, turned them into highly transposable images. The result of this process was that the same images, suitably cropped and framed, could be published to illustrate different arguments. This section's case study further highlights the capacity of Aerofilms to set up a 'canonical' repertoire of city views in the interwar years. Although the transfer of images discussed above might have been an isolated case, it confirmed the central role played by this survey company in producing an enduring iconography of the city from the air.

## Conclusion

The study of different discursive spaces has revealed the pervasive uses of aerial photography as a medium of urban representation. The airborne camera became the instrument of a mode of urban perception that was increasingly mediated by the mass media. In a constant oscillation between disciplinary (panoptic) and spectacular (panoramic) functions, this imagery furnished the print cultures of the time with a new source of illustration that brought about a novel perspective on the city. The cognitive potential of the new imagery was recognised and established in various fields.

Tourism, journalism, and urbanism were among the areas in which the aerial gaze found a fertile ground of expression. The connections between the images produced and reproduced within each of these discourses indicate an essential openness of the aerial photograph to various purposes. This fluidity of meanings corresponded to an opening of visual frontiers that allowed a broad circulation of models, images, and aesthetics. The new practice of aerial photo-reportage was seized upon by the most diverse forces involved in image-making procedures, ranging from political propaganda to travel writing. The 'aerial' imagery, in its various manifestations, was promptly absorbed by the discourse of the Modern Movement in architecture and urbanism, as prominent authors appropriated it to picture the 'city of tomorrow'. The pervasiveness of Aerofilms' imagery has indicated the important role played by specific agencies and institutions in the formation of a city's imagery. The trajectories of some specific images have shown regularity in the production and dissemination of city views. Whether they were used to evoke the image of existing places or to invoke the changes desired for the city of the future, photographs became a main vehicle for the circulation of a visual knowledge about the city. The dissemination of aerial imagery in various public discourses produced a new mode of urban perception in which the regime of panoptical vision became inextricably tied up with a new panoramic vision of cities. The increasing appearance of aerial photographs in a broad range of publications arguably contributed to reconfigure the city as an object of public consumption.

## Conclusion

The thesis has proposed a wide-ranging enquiry into the relationship between photography and urban representations in the period 1914-1945. The development of aerial vision has emerged as a pervasive factor across a number of visual discourses concerned with the image of cities. Not only did photography provide a visual representation of the spatial experience of modernity, it also played a significant part in shaping the modern conditions of feeling, seeing, and perceiving reality. The agency of aerial vision endowed photography with a new set of perceptual coordinates for the representation of space. The three decades between the mid-1910s and the mid-1940s saw the emergence of a modern urban visuality based on the increasing detachment of the observer from the scene depicted.

The thesis has explored a plurality of ways in which the cityscape was reinvented under the scopic regime of aerial vision. Part II has discussed the instrumental functions behind the upsurge of aircraft-based photography in the first half of the twentieth century through the specific study of reconnaissance imagery produced in World War II. Cities were visualised as targets (actual or potential, tactical or strategic) within the visual regime of military surveillance. At the same time, the publication of aerial photographs also appealed to an aestheticised representation of war. The *abstracting* character of the aerial image contributed to the tension between spectacle and surveillance. Part III has discussed the systematic pursuit of visual abstraction in the 'new photography' of the interwar years. The modern city was a laboratory of perceptions for avant-garde artists and movements driven by an 'aerial imagination'. The modernist desire to explore unfamiliar viewpoints in and on the city brought about an urban imagery that either recorded or simulated the experience of flight. A series of images drawn from the canon of 'new photography' have been examined with a view to weaving together various aesthetic expressions that had in common the pursuit of visual vertigo. Part IV has analysed the applications of aerial photography in different contexts. Case studies into the discourses of tourism, journalism, and urbanism have highlighted how the aerial gaze became instrumental to diverse urban visions in the interwar period. The final chapter has explored these visions with specific regard to the photographs of interwar London produced by a leading air-survey company. The circulation of images in different publications has offered further insights into the fluidity of meanings that were conveyed by aerial imagery.

Three general points can be drawn from this investigation. The first point concerns the formation of a *photographic space* within which the image of the city was reconfigured. The study of aerial imagery suggests that a spatialization of time

occurred as a result of the linkage between photography and aviation. While the diffusion of new modes of representation must not be reduced to a matter of technological determinism, it can safely be argued that the widespread growth of aerial photography had a significant impact upon the representation of space. The military and civil practices that appropriated the aerial gaze produced a new urban visuality in which, as a result of abstraction and distance, the perception of time was mostly driven out of the picture. This consideration goes against the grain of a host of theories of photography that have privileged the temporal quality of the image. It also suggests that a comprehensive approach to the subject of 'urban photography', which has not been thoroughly investigated yet, should not limit its scope to the *genre* of street photography but extend it to visual practices that, in some cases, originated in exact opposition to the street as a site of urban experience.

The critical definition of *photographic space* that was laid out at the beginning identified three spatial levels involved in photography's modalities of representation: the referential space in the image (*what* is photographed); the pictorial space of the image (*how* it is photographed); and the discursive space through which the image operates (*why* or *for what purpose* the photograph was produced/reproduced). The thesis has provided a framework for the study of three intersecting levels, from which a specific historical object (the 'photogenic city') has emerged. The critique of power/knowledge relations embedded in different discursive spaces has been integrated by a constant attention for the visual spaces of specific photographs. Lessons from the phenomenology of photography have been integral to the study of the uses and meanings of images. Perceptual issues concerning the emotional charge of photographs have been brought up through the diverse effects elicited by them – such as estrangement, surprise, attraction, repulsion, shock, indignation, etc.

The double-prong method of the thesis has sought to highlight the validity of a study of photographic spaces that may usefully incorporate elements from the Foucauldian camp (i.e., an approach to photography based on procedures, discourses, institutions, etc.) with elements of the Barthesian camp (i.e., an approach to photography based on subjectivity). The research has combined these approaches to pursue an investigation of specific images within their own discursive spaces. In addition, the parallel investigation of different visual discourses across the same historical period has also shown interesting cases of 'traffic in photographs' (Sekula 1989). The import and export of photograph across the putative boundaries of discursive fields has highlighted the fundamental mobility of photographic images and of aerial images in particular. Several cases have shown that the specific sets of meanings attributed to this imagery enjoyed an extraordinary degree of fluidity and circulation. These findings confirm the relevance of an approach that should concern

itself not only with the visual space of the images but also with their unpredictable trajectories. In other words, the research of photographic spaces ought to take into account a 'monadology' of the photographic image as much as a 'nomadology' of its circulation.

A preoccupation with the aesthetics and politics of urban representation, however, must not erase the specificity of the photographed spaces. Although the main goal of the thesis has been to describe the implications of photography for the construction of a generic notion of 'city', this has been done by looking at the specificity of places depicted - that is, the spatial referent of the image. The case study on London has attempted to reverse the strategy of research by starting from a given city and looking for a multiplicity of representations thereof. The variety of fields in which *this* city, at a definite historical moment, began to be portrayed from the air suggests a discontinuity in the history of urban perceptions. The instrumental role of one survey company in this process shows a peculiar aspect of aerial photography: that is, the comparable narrowness of the range of views that are available to the airborne camera. The sudden explosion of the new mode of representation from the air coincided with the formation of a standard repertoire of images that were used for the most diverse purposes. This case study has brought up the issue of how the photograph circulated as a visual currency within a 'symbolic economy of representation' (Crary 1990). If all photographs are susceptible of what McQuire (1998) has defined "promiscuous meanings", this is not less true for the aerial image, whose qualities of spatial abstraction and temporal suspension make it a highly exchangeable currency.

The second point concerns the dual concepts of spectacle and surveillance, whose tension has been an underlying theme of the thesis. Research has shown that the aerial gaze had major implications on the dominant ways of seeing, understanding, and transforming cities during and between the World Wars. As urban landscapes were reconfigured under the aerial gaze, the spatial and social dimensions of the modern city were subjected to a 'will to knowledge' predicated on a dream of transparent and total vision (Foucault 1980). Since an aerial scopic regime was established, the image of the city was equally subjected to the practices of surveying and surveillance, which performed a panoptic function under different guises. Foucault's (1977) critique of panopticism seems to be an appropriate framework for the discussion of the procedures of aerial photography and their impact on the reconfiguration of urban landscapes. However, a series of caveats might help to reinforce the legitimacy of this model while avoiding the risks of an oversimplified interpretation.

In subjecting entire territories to the aerial gaze, the apparatus of military reconnaissance operated as invisibly as the warden in the Panopticon, albeit in a more dispersed and secretive way. Unlike the self-regulatory principle of the “inspection house”, the system of aerial surveillance established in the First World War was mostly aimed to gain visual control over *other* - normally foreign - territories by means of gathering information useful to their military control. There is a difference between this regime of inspection and the panoptic principle, whereby disciplinary power is exerted by means of smoothly instilling in every individual the consciousness of an all-seeing gaze. In fact, the kind of military surveillance deployed in the period examined did not aim so much to discipline societies with durable effects as to ensure tactical and strategic gains that were instrumental to the conduct of war.

Another characteristic of the Panopticon that was not shared by the practice of photographic reconnaissance was the separation of individual bodies in space. While the panoptic device performed at once the functions of optical surveillance and physical segregation, aerial inspection lacked the physical constriction of the “system of isolating visibility” (Foucault 1980:147). Under the scopic regime of the aerial gaze, incarceration was substituted by a mechanism of vision whose point of application was extended from the body of the individual to everything that could be considered a military target. A consequence of it was that space itself became the object of inspection. The panoptical nature of aerial surveillance was manifested by the practice of recording, classifying, and updating information about territories that were kept under scrutiny. Aerial reconnaissance had to rely, at least until World War II, mainly on printed photographs to provide effective intelligence. The work of photo interpreting was therefore always deferred in time from the moment in which the image was taken. Hence, one could argue that the model provided by Bentham’s “house of inspection” was adjusted into a photographic space of surveillance predicated on the power of a disembodied, discontinuous, and deferred gaze. An unintended result of this visual regime was that the images it produced were susceptible of interpretations that exceeded their immediate instrumental role, paving the ground for what may be regarded as a *panoptical aesthetic*.

On the whole, it may be argued that the practice of aerial reconnaissance introduced in World War I produced a variant of panopticism in which the pursuit of disciplinary power based on the confinement and regulation of bodies was substituted by a regime of surveillance based on the visualization of space: an “abstract space” that was parceled out in order to provide useful empirical information (Lefebvre 1991/1974). The body disappeared by effect of a distant vision and inhabited the image only through the vicarious traces of human practices: geometric signs on the ground that had to be deciphered and recognized through photographic interpretation. In lieu



of a “microphysics of power” based on the constant visibility of bodies in space (Foucault 1977), aerial photography put in place a system of seeing and recording that located the human body beyond the threshold of visibility: a *macrophysics of power*, one could argue, based on the evidence of still, distant, and fragmented images rather than the permanent gaze of direct human vision.

However, the uses of aerial photography to produce an objectified and intelligible image of cities went beyond the military domain, as the aerial gaze was heralded as a harbinger of a new type of spectacle. The dissemination of aerial views of cities in the illustrated press of the interwar years contributed to an enchanted vision that revived the tradition of the urban panorama. This imagery was instrumental to a broad range of discourses. Travel literature embraced aerial photographs as favorite representations of aerial journeys, while propaganda magazines took advantage of the sensational effects of aerial views to illustrate the construction of new societies. These were only some of the uses to which the aerial representation of landscapes and cityscapes was put in the interwar years; further research would have to be done to explore other fields that the thesis has only mentioned in passing, such as archaeology and documentary photography. The chapter on the modern movement in architecture has also revealed the tension between surveillance and spectacle, with echoes of de Certeau’s theorization of the “concept city”. The disciplinary and voyeuristic implications of the aerial gaze coexisted, in particular, in Le Corbusier’s interwar writings on urbanism, where city images were used to illustrate manifold visual rhetorics.

In strict Foucauldian terms, the civil practice of aerial surveying should not be considered less ‘panoptical’ than the practice of military surveillance. Much as the panoptic imagery of reconnaissance was invested with spectacular values, the panoramic imagery displayed in these public discourses sprang from documentary procedures of coverage, classification, and description. The study of aerial photography therefore raises legitimate questions about the validity of a dual opposition between spectacle and surveillance. On the contrary, the circulation of aerial images across disciplinary and discursive spaces suggests that panoramic and panoptic visions were conflated on the same visual practice. The thesis has therefore followed an inclusive approach that takes into account the mutual effects of these forces instead of regarding them as opposite or alternative to one another (Boyer 1994; Bennett 1994).

The third point concerns the implications of aerial vision for “the status of the observing subject” (Crary 1990). Aerial photography mediated a type of perception that became available to a growing number of people with the rise of civil aviation. The experience of flight, however, did not become a mass phenomenon until after World War II. Photographs disseminated a vicarious perception of airspaces in a period in

which the experience of flight was still suspended between reality and myth. The culture of aerial representation that came of age in the late 1920s suggests the emergence of a new “observing subject”. At a time when writers and critics – such as Benjamin, Hessel, and Kracauer - were rediscovering the figure of the *flâneur*, which was born out of the experience of the city in the nineteenth century, there also emerged another modern figure that might be characterised, with a stretch of linguistic imagination, as *planeur*.<sup>243</sup> The rise of this aerial observer (aviator, reporter, explorer, planner, etc.) signalled the advent of a mode of perception that invested the traditional ways of seeing and depicting urban space. The status of this subject crystallised in the interwar years, when the flourishing cultures of representation multiplied the fields of expression available to the public. Thereby, the combination of photography and aerial vision, in its multiple guises, shifted the boundaries of urban perception and reconfigured the modern city as a site and subject of representation.

---

<sup>243</sup> The French term *planeur* is commonly used to signify “glider”. However, its verbal form (*planer*) comprises a richer field of meanings. Apart from meaning “to soar” or “to glide over” (said of aeroplanes and birds), the verb also means “to hover over” (said of birds of prey) and, more figuratively, “to have one’s head in the clouds” (said of dreamers). *Harrap’s Unabridged Dictionary*, vol. 2: French-English, 2001, p. 917.

# Archives and Libraries

The following archives have been visited in the course of the research:

Aerofilms' Photograph Archive, Boreham Wood.

The Imperial War Museum, Photograph Archive, London.

Thomas Cook Archives, Peterborough.

Bauhaus Archiv, Museum für Gestaltung, Berlin.

The following libraries have been visited in the course of the research:

## In London:

British Library and British Library, Newspaper Library.

University College London libraries: Environmental Studies; Main Library; DMS

Watson; Institute of Archaeology; School of Slavonic and East European Studies.

University of London Library.

Birkbeck College Library.

Imperial War Museum Library.

National Art Library.

RIBA Library.

## Elsewhere:

Kent Institute of Art and Design Library, Canterbury.

Staatsbibliothek, Berlin.

Maison Européenne de la Photographie, Paris.

Biblioteca Centrale, Facoltà di Architettura, Turin.

Biblioteca dell'Istituto di Storia Moderna e Contemporanea, Rome.

Biblioteca di Archeologia e Storia dell'Arte, Roma.

## Bibliography

Ades, Dawn, *Photomontage*, London: Thames & Hudson, 1976.

Adler, Judith, "Origins of Sightseeing", in *Annals of Tourism Research*, n. 16, 1989, pp. 7-29.

Agrest, Diana, *Architecture from Without: Theoretical Framings for a Critical Practice*, Cambridge MA: The MIT Press, 1991.

Alvisi, Giovanna, Ceschi, Carlo, et al., *Fotografia aerea. Cenni storici e applicazione allo studio degli interventi dell'uomo nel territorio*, Roma: Centro Studi di Storia dell'Architettura, 1968.

\_\_\_\_\_, *La fotografia aerea nell'indagine archeologica*, Roma: La Nuova Italia Scientifica, 1989.

Anonymous, *London from Aloft: A Pictorial Survey of the British Capital City from a New Angle*, London: Gordon Hotels, [1928].

Anon., *Camouflage and Aerial Defence*, London: Silicate Paint Company, [1939].

Anon., "Program of the October Photo Section" (1931), in C. Phillips (ed.), *Photography in the Modern Era: European Documents and Critical Writings, 1913-1940*, New York: Metropolitan Museum of Art, 1989, pp. 283-5.

Arnheim, Rudolf, "On the Nature of Photography", *Critical Inquiry*, Vol. 1, n. 1, Sep. 1974, pp. 149-62.

\_\_\_\_\_, "Excerpt from 'Film as Art'" (1932), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 186-93.

Averini, Riccardo, "L'aeropittura futurista in Italia", *Ciampino*, n. 7, July 1953, pp. 12-21.

Babington Smith, Constance, *Evidence in Camera: The Story of Photographic Intelligence in the Second World War*, Harmondsworth: Penguin, 1957.

Bachelard, Gaston, *Air and Dreams: An Essay On the Imagination of Movement*, Dallas: Dallas Institute Publications, 1988. (Trans. from the French by Edith R. Farrell and C. Frederick Farrell. Original published in 1943).

Bacon Hales, Peter, *Silver Cities: The Photography of American Urbanization, 1839-1915*, Philadelphia: Temple University Press, 1984.

Baird, Ken, "The Aerial View: Scientific Documentation and Art", in R. Martin (ed.), *The View from Above: 125 Years of Aerial Photography*, London: Photographers' Gallery, 1983, pp. 68-9.

Balshaw, Maria and Kennedy, Liam, *Urban Space and Representation*, London: Pluto Press, 2000.

Baqué, Dominique (ed.), *Les documents de la modernité: Anthologie de textes sur la photographie de 1919 à 1939*, Éditions Jacqueline Chambon, 1993.

Barthes, Roland, "The Photographic Message" (1961), in S. Sontag (ed.), *A Roland Barthes' Reader*, London: Vintage, 1993.

\_\_\_\_\_, "The Eiffel Tower" (1964), *A Barthes Reader*, (Ed. and with an introduction by Susan Sontag), London: Vintage, 1993, pp. 236-50.

\_\_\_\_\_, *Camera Lucida: Reflections on Photography*, London: Vintage, 1993. (Transl. from the French by Richard Howard. Original published in 1980).

Bayes, Walter, "Sense and Sensibility", *The Architectural Review*, Vol. LXVI, n. 396, Nov. 1929, pp. 225-7.

Belloc, Hilaire, "The Importance of Exact Boundaries to Towns", *The Architectural Review*, Vol. LXVI, n. 392, July 1929, pp. 3-6.

Bendavid-Val, Leah, *Propaganda and Dreams: Photographing the 1930s in the USSR and US*, Zurich: Edition Stemmler, 1999.

Benjamin, Walter, "A Short History of Photography" (1931), in *One-way Street and Other Writings*, London: Verso, 1979.

\_\_\_\_\_, "The Work of Art in the Age of Mechanical Reproduction" (1936), in *Illuminations*, London: Fontana, 1973, pp. 219-53. (Ed. and with an introduction by Hannah Arendt. Translated from the German by Harry Zorn).

\_\_\_\_\_, *Sul concetto di storia*, Torino: Einaudi, 1997. (Ed. by Gianfranco Bonola and Michele Ranchetti).

\_\_\_\_\_, *The Arcades Project*, Cambridge MA: Belknap Press, 1999. (Transl. by Howard Eiland and Kevin McLaughlin; prepared on the basis of the German volume ed. by Rolf Tiedemann).

Bennett, Tony, "The Exhibitionary Complex", in N. B. Dirks, G. Eley, and S. B. Ortner (eds.), *Culture, Power, History: A Reader in Contemporary Social Theory*, Princeton: Princeton University Press, 1994, pp. 123-54.

Berman, Marshall, " *All That is Solid Melts into Air. The Experience of Modernity*, London: Verso, 1982.

\_\_\_\_\_, "Views from the Burning Bridge", in J. A. Farmer (ed.), *Urban Mythologies: The Bronx Represented Since the 1960s*, New York: The Bronx Museum of the Arts, 1999, pp. 70-83.

Blau, Eve and Kaufman, Edward (eds.), *Architecture and its Image: Four Centuries of Architectural Representation*, Montreal: Canadian Centre for Architecture, 1989.

Bogdanovich, Bogdan, "Semiology of Destruction and Signs of Hope", in A. Garcia Espuche (ed.), *Cities: From the Balloon to the Satellite*, Madrid: Electa, 1994, pp. 39-41.

Bolton, Richard (ed.), *The Contest of Meaning. Critical Histories of Photography*, Cambridge MA: The MIT Press, 1989.

Bone, James, "Introduction", S. E. Rasmussen, *London: The Unique City*, London: Jonathan Cape, 1937, pp. 13-9. (English revised ed.; first published in Danish, 1934).

Bordini, Silvia, *Storia del panorama: La visione totale nella pittura del XIX secolo*, Roma: Officina, 1984.

Borham, Pierre, *André Kertész: His Life and Work*, Boston: Bulfinch Press, 1994.

Boyer, Marie Christine, *The City of Collective Memory: Its Historical Imagery and Architectural Entertainments*, Cambridge MA: The MIT Press, 1994.

Bragaglia, Anton Giulio, *Fotodinamismo Futurista*, (third edition), Rome: Nalato Editore, 1913.

\_\_\_\_\_, "Futurist Photodynamism (excerpts)" (1913), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 287-95.

Branch, Melville C., *Aerial Photography in Urban Planning and Research*, Cambridge MA: Harvard University Press, 1948.

Breckenridge, Robert P., *Modern Camouflage: The New Science of Protective Concealment*, New York: Farrar & Rinehart, 1942.

Brookes, Andrew J., *Photo Reconnaissance*, London: Ian Allan Ltd., 1975.

Brothers, Caroline, *War and Photography: A Cultural History*, London: Routledge, 1997.

Buck-Morss, Susan, *The Dialectics of Seeing: Walter Benjamin and the Arcades Project*, Cambridge MA: The MIT Press, 1989.

\_\_\_\_\_, "Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered", *October*, n. 62, 1992, pp. 3-41.

Buckley, John, *Air Power in the Age of Total War*, London: University College London Press, 1999.

Cadava, Eduardo, *Words of Light: Theses on the Photography of History*, Princeton: Princeton University Press, 1997.

\_\_\_\_\_, "Lapsus Imaginis: The Image in Ruins", *October*, n. 96, 2001, pp. 35-60.

Caillois, Roger, "Mimicry and Legendary Psychasthenia" (1936), in *October*, n. 31, 1984, pp. 17-32.

\_\_\_\_\_, *Les jeux et les hommes: le masque et le vertige*, (revised edition), Paris: Gallimard, 1985. (First ed. published in 1958).

Campanella, Thomas J., *Cities from the Sky: An Aerial Portrait of America*, Princeton: Princeton Architectural Press, 2001.

Carfagna, Daniela, Muratore, Giorgio, and Tieghi, Mario (eds.), *Sabaudia, 1934: The Dream of a New Town and Rationalistic Architecture*, Sabaudia: Sabaudia Town Council, 1998.

Caruth, Cathy, "Violence and Time: Traumatic Survivals", in *Assemblage*, n. 20, 1993, pp. 24-5.

Certeau, Michel de, *The Practice of Everyday Life*, Berkeley: University of California Press, 1984. (Transl. from the French by Steven Rendall. Original published in 1980).

\_\_\_\_\_, "Practices of Space", in M. Blonsky (ed.), *On Signs*, Oxford: Blackwell, 1985, 122-49.

Chesney, Clement Hope Rawdon, *The Art of Camouflage*, (with four chapters written by J. Huddleston), London: Robert Hale, 1941.

Cobham, Alan J., *Skyways*, London: Nisbet & Co., 1925.

\_\_\_\_\_, "Seeing the World from the Air", *National Geographic Magazine*, Vol. 53, n. 3, March 1928, pp. 349-84.

Coke, Van Deren, *Avant-garde Photography in Germany, 1919-1939*, Munich: Schirmer & Mosel, 1982.

Collins, Mary Rose, *The Aerial Photo Sourcebook*, Lanham Maryland: Scarecrow, 1998.

Colomina, Beatriz, "The Split Wall: Domestic Voyeurism", in B. Colomina (ed.), *Sexuality and Space*, New York: Princeton University Press, 1992, pp. 73-128.



\_\_\_\_\_, *Privacy and Publicity: Modern Architecture and Mass Media*, Cambridge MA: The MIT Press, 1994.

Conyers Nesbit, Roy, *Eyes of the RAF: A History of Photo-Reconnaissance*, Stroud: Alan Sutton, 1996.

Corner, James and Mac Lean, Alex S., *Taking Measures across the American Landscape*, New Haven: Yale University Press, 1996.

Crary, Jonathan, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, Cambridge MA: The MIT Press, 1990.

\_\_\_\_\_, "Spectacle, Attention, Counter-Memory", in *October*, n. 50, 1989, pp. 97-107.

Creutzburg, Nikolaus, *Kultur im Spiegel der Landschaft: Das Bild der Erde in seiner Gestaltung durch den Menschen. Ein Bilderatlas*, Leipzig: Bibliographisches Institut, 1930.

Curtis, Barry and Pajaczkowska, Claire, "'Getting There': Travel, Time and Narrative", in J. Bird *et al.* (eds.), *Travellers' Tales: Narratives of Home and Displacement*, London: Routledge, 1994, pp. 199-214.

Dalì, Salvador, "Photographic Testimony" (1929), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 34-6.

Davy, M. J. Bernard, *Air Power and Civilization*, London: Allen and Unwin, 1941.

Debord, Guy, *Society of the Spectacle*, Detroit: Black and Red, 1983. (Revised edition; translator unknown. Original published in 1967).

\_\_\_\_\_, *Comments on the Society of the Spectacle*, London: Verso, 1990. (Transl. from the French by Malcolm Imrie. Original published in 1988).

Deutsche, Rosalyn, *Evictions: Art and Spatial Politics*, Chicago MA: The MIT Press, 1996.

Dewar, Michael, *The Art of Deception in Warfare*, Newton Abbot: David & Charles, 1989.

Diesel, Eugen, *Das Land der Deutschen*, Leipzig: Bibliographisches Institut Ag., 1931.

Donald, James, *Imagining the Modern City*, London: The Athlone Press, 1999.

Dreikausen, Margret, *Aerial Perception: The Earth as Seen from Aircraft and Spacecraft and Its Influence on Contemporary Art*, Philadelphia: The Art Alliance Press, 1985.

Edwards, Trystan, "Dead City", *The Architectural Review*, Vol. LXVI, n. 394, Sep. 1929, pp. 135-8.

Elwall, Robert, *Photography takes command: the camera and British architecture, 1890-1939*, London: RIBA Heinz Gallery, 1994.

Enzesberger, Hans Magnus, "A Theory of Tourism" (1958), in *New German Critique*, n. 68, 1996, pp. 117-35.

Evans, Jessica (ed.), *The Camerawork Essays. Context and Meaning in Photography*, London: Rivers Oram, 1997.

Evans, Jessica and Hall, Stuart (eds.), *Visual Culture: The Reader*, London: SAGE, 1999.

Fiedler, Jeannine (ed.), *Photography at the Bauhaus*, Cambridge MA: The MIT Press, 1990.

Findeli, Alain, *Le Bauhaus de Chicago: L'œuvre pédagogique de László Moholy-Nagy*, Sillery: Éditions du Septentrion, 1995.

Fishman, Robert, *Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier*, New York: Basic Books, 1977.

Flusser, Vilém, *Towards a Philosophy of Photography*. Göttingen: European Photography, 1984.

Foucault, Michel, *Discipline and Punish*, Harmondsworth: Penguin Books, 1977.  
(Transl. from the French by Alan Sheridan. Original published in 1975).

\_\_\_\_\_, "The Eye of Power", in C. Gordon (ed.), *Power/Knowledge: Selected Interviews and Other Writings by Michel Foucault, 1972-1977*, Brighton: The Harvester Press, 1980, pp. 146-65.

\_\_\_\_\_, *The Archaeology of Knowledge*, London: Routledge, 1989. (Transl. from the French by A. M. Sheridan Smith. Original published in 1969).

Freud, Sigmund, "The Uncanny" (1919), in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, (ed. by Carrie Lee Rothgeb), Vol. XVII, Washington D.C.: U.S., G.P.O., 1971, pp. 219-52.

Frisby, David, *Fragments of Modernity. Theories of Modernity in the Work of Simmel, Kracauer and Benjamin*, Cambridge: Polity, 1985.

Frizot, Michel, "Le Photomontage, Construction Habitée", *La Ville: Art and Architecture in Europe, 1870-1993*, Paris: Centre Pompidou, 1994, 259-60.

\_\_\_\_\_, *A New History of Photography*, Cologne: Könemann, 1998.

Frome, Karen, "A Forced Perspective: Aerial Photography and Fascist Propaganda", *Aperture*, n. 132, 1993, pp. 76-7.

Fuller, Mia, "Building Power: Italy's Colonial Architecture and Urbanism, 1923-1940", *Cultural Anthropology*, Vol. 3, n. 4, Nov. 1988, pp. 445-87.

Galassi, Peter, "Rodchenko and Photography's Revolution", in M. Dabrowski, L. Dickerman, and P. Galassi (eds.), *Aleksandr Rodchenko*, New York: The Museum of Modern Art, 1998, pp. 100-37.

Garcia Espuche, Albert (ed.), *Cities: From the Balloon to the Satellite*, Madrid: Electa, 1994.

\_\_\_\_\_, "La ville comme objet trouvé", in *La Ville: Art and Architecture in Europe, 1870-1993*, Paris: Centre Pompidou, 1994, pp. 109-10.

Georgiadis, Sokratis, "Introduction", in S. Giedion, *Building in France, Building in Iron, Building in Ferroconcrete*, Santa Monica CA: The Getty Centre for the Arts and the Humanities, 1995, pp. 1-78.

Gibbs-Smith, Charles H., *Aviation: An Historical Survey from its Origins to the End of World War II*, London: Her Majesty's Stationery Office, 1970.

Giedion, Sigfried, *Building in France, Building in Iron, Building in Ferroconcrete*, Santa Monica, CA: The Getty Centre for the Arts and the Humanities, 1995. (Transl. from the German by J. Duncan Berry. Original published in 1928).

\_\_\_\_\_, *Space, Time, and Architecture: The Growth of a New Tradition*, Cambridge MA: Harvard University Press, 1941.

\_\_\_\_\_, *Architecture, You and Me: The Diary of a Development*, Cambridge MA: Harvard University Press, 1958.

Gilbert, David, "London in all its glory – or how to enjoy London': guidebook representations of imperial London", *Journal of Historical Geography*, Vol. 25, n. 3, 1999, pp. 279-97.

Gräff, Werner, *Es kommt der neue Fotograf!*, Köln: Verlag der Buchhandlung Walther König, 1978. (First ed. published in 1929).

Green, David, "On Foucault: Disciplinary Power and Photography", in J. Evans (ed.), *The Camerawork Essays: Context and Meaning in Photography*, London: Rivers Oram, 1997, pp. 119-31.

Gregory, Derek, *Geographical Imaginations*, Blackwell: Oxford, 1994.

Harriss, Joseph, *The Eiffel Tower: Symbol of an Age*, London: Paul Elek, 1976.

Harvey, David, *The Urban Experience*, Baltimore: Johns Hopkins University Press, 1987.

Hays, K. Michael, *Modernism and the Posthumanist Subject: The Architecture of Hannes Meyer and Ludwig Hilberseimer*, Cambridge MA: The MIT Press, 1992.

Heynen, Hilde, *Architecture and Modernity: A Critique*, Cambridge MA, The MIT Press, 1999.

Hight, Eleanor M., *Picturing Modernism: Moholy-Nagy and Photography in Weimar Germany*, Cambridge MA: The MIT Press, 1995.

Hirdina, Heinz (ed.), *Neues Bauen Neues Gestalten. Das neue Frankfurt/ Die neue Stadt: Eine Zeitschrift zwischen 1926 und 1933*, Berlin: Elefanten Press, 1984.

Huddlestone, J., "Civil Camouflage: General Considerations", in C.H.R. Chesney, *The Art of Camouflage*, London: Robert Hale, 1941.

Huizinga, John, *Homo Ludens: A Study of the Play Element in Culture*, London: Paladin, 1970. (First ed. published in 1938).

Hüppauf, Bernd, "Experiences of Modern Warfare and the Crisis of Representation", *New German Critique*, n. 59, 1993, pp. 41-76.

Jackson, John Brinckerhoff, *The Necessity for Ruins and Other Topics*, Amherst: University of Massachusetts Press, 1980.

Jameson, Fredric, *Postmodernism: The Cultural Logic of Late Capitalism*, London: Verso, 1991.

Jay, Martin, *Downcast Eyes: The Denigration of Vision in Twentieth Century French Thought*, Berkeley: University of California Press, 1993.

Jeffrey, Ian, *Photography. A Concise History*, London: Thames and Hudson, 1981.

\_\_\_\_\_, "Morality, Darkness and Light: The Metropolis in Pictures", in M. Caiger-Smith and D. Chandler (eds.), *Site Work. Architecture in Photography since early Modernism*, London: The Photographers' Gallery, 1991, pp. 57-62.

Jünger, Ernst, "War and Photography" (1930), *New German Critique*, n. 59, 1993, pp. 24-6.

\_\_\_\_\_, "On Danger" (1931), *New German Critique*, n. 59, 1993, pp. 27-32.

\_\_\_\_\_, "Photography and the Second Consciousness: An Excerpt from 'On Pain'" (1934), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 207-10.

Kaes, Anton, "The Cold Gaze: Notes on Mobilization and Modernity", *New German Critique*, n. 59, 1993, pp. 105-17.

Kellein, Thomas and Lampe, Angela (eds.), *Abstrakte Fotografie*, Bielefeld: Hatje Cantz, 2000.

Kepes, Gyorgy, *Language of Vision*, Chicago: Paul Theobald, 1951. (First ed. published in 1944).

Kern, Stephen, *The Culture of Time and Space, 1880-1918*, Cambridge MA: Harvard University Press, 1983.

Kertész, André, *Kertész on Kertész: A Self-Portrait*, London: British Broadcasting Corporation, 1985.

Köhler, Wolfgang, *Gestalt Psychology*, London: G. Bell and Sons, 1930. (First ed. published in 1929).

Kozloff, Max, *Photography and Fascination*, Danbury N.H.: Addison House, 1979.

\_\_\_\_\_, "Looking Backward on the U.S.S.R. in Construction", in *Lone Visions, Crowded Frames: Essays on Photography*, Albuquerque: University of Mexico Press, 1994, pp. 115-30.

Kracauer, Siegfried, *Theory of Film: The Redemption of Physical Reality*, Oxford: Oxford University Press, 1960.

\_\_\_\_\_, *The Mass-Ornament: Weimar Essays*, Cambridge MA: Harvard University Press, 1995. (Translated from the German, edited, and with an introduction by Thomas Y. Levin. Original published in 1963).

Krauss, Rosalind, "Photography's Discursive Spaces," in R. Boston (ed.), *The Contest of Meaning: Critical Histories of Photography*, Cambridge MA: The MIT Press, 1989, pp. 286-301.

\_\_\_\_\_, *The Optical Unconscious*, Cambridge MA: The MIT Press, 1993.

\_\_\_\_\_, *L'amour fou: Photography and Surrealism*, New York: Abbeville Press, 1985.

Lampe, Angela, "Irreale Welten: Die Fotografie Man Rays", in T. Kellein and A. Lampe (eds.), *Abstrakte Fotografie*, Bielefeld: Hatje Cantz, pp. 57-74.

*La Ville: Art and Architecture in Europe, 1870-1993*, Paris: Centre Pompidou, 1994.

Le Corbusier, *The City of Tomorrow and Its Planning*, Cambridge MA: The MIT Press, 1971. (Transl. by Frederick Etchells from the 8<sup>th</sup> French edition in 1929. Original published in 1925).

\_\_\_\_\_, *The Radiant City: Elements of a Doctrine of Urbanism to be Used as the Basis of Our Machine-Age Civilization*, London: Faber and Faber, 1967. (Transl. from the French by P. Knight, E. Levieux, and D. Coltman. Original published in 1933).

\_\_\_\_\_, *Aircraft: The New Vision*, London: Trefoil Publications Ltd., 1987 (First ed. published in 1935).

\_\_\_\_\_, *The Four Routes*, London: Dobson, 1942. (Transl. from the French by Dorothy Todd. Original published in 1941).

Le Corbusier and Jeanneret, Pierre (eds.), *Oeuvre Complète de 1929-1934*, (with an introduction and texts by Le Corbusier), Zurich: Willy Boesiger, 1946. (First ed. published in 1935)

Lefebvre, Henri, *The Production of Space*, Oxford: Blackwell, 1991. (Transl. from the French by Donald Nicholson-Smith. Original published in 1974).

\_\_\_\_\_, *Writings on Cities*, Oxford: Blackwell, 1996. (Essays selected, translated and introduced by Eleonore Kofman and Elizabeth Lebas).

Lindqvist, Sven, *A History of Bombing*, London: Granta, 2001.

Lissitzky, El, "The Architect's Eye" (1926), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 221-6.

Lista, Giovanni (ed.), *Fotografia futurista italiana*, Bilbao: Museo de bellas artes, 1984.

\_\_\_\_\_, *Futurism and Photography*, London: Merrell, 2001.

Lugon, Olivier, *Le style documentaire: D'August Sander à Walker Evans, 1920-1945*, Paris: Macula, 2001.

Lynch, Kevin, *The Image of the City*, Cambridge, MA: The MIT Press & Harvard University Press, 1960.

Lyons, Ronald Samuel, *Sir Alan Cobham Book's of the Air*, (ed. by A. Cobham), London: Blackie & Son, 1938.

MacCannell, Dean, *The Tourist: A New Theory of the Leisure Class*, Berkeley: University of California Press, 1999. (First ed. published in 1976).

Mac Orlan, Pierre, "Preface" to *Atget photographe de Paris* (1930), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, 41-9.

Malevich, Kasimir, *Die gegenstandslose Welt*, Mainz: Kupferberg. 1980. (Reprint of the original edition, published as 'Bauhausbuch 11' in 1927).

Martin, Rupert, "A New Perspective", in R. Martin (ed.), *The View from Above: 125 Years of Aerial Photography*, London: Photographers' Gallery, 1983, pp. 19-23.

Maynard, Patrick, *The Engine of Visualization: Thinking through Photography*, Ithaca: Cornell University Press, 1997.

McKinley, Ashley C., *Applied Aerial Photography*, New York: John Wiley and Sons, 1929.

McQuire, Scott, *Visions of Modernity: Representation, Memory, Time and Space in the Age of the Camera*, London: SAGE, 1998.

Mead, Peter, *The Eye in the Air, History of Air Observation and Reconnaissance for the Army, 1785-1945*, London: Her Majesty's Stationery Office, 1983.



Meilinger, Philip S., "The Historiography of Airpower: Theory and Doctrine", *The Journal of Military History*, n. 64, 2000, pp. 467-502.

Mellor, David (ed.), *Germany: The New Photography, 1927-33*, London: Arts Council of Great Britain, 1978.

Mendelsohn, Erich, *Amerika: Bilderbuch eines Architekten*, Berlin: Rudolf Mosse Buchverlag, 1928. (Sixth edition; original published in 1926).

Merewether, Charles, "Traces of Loss", in M. S. Roth, et al. (eds.), *Irresistible Decay: Ruins Reclaimed*, Los Angeles: The Getty Research Institute for the History of Art and the Humanities, 1997, pp. 25-40.

Mertins, Detlef, "Walter Benjamin and the Tectonic Unconscious: Using Architecture as an Optical Instrument", in A. Coles (ed.), *The Optics of Walter Benjamin*, London: Black Dog, 1999, pp. 196-221.

Meyerowitz, Joel and Westerbeck, Colin, *Bystander: A History of Street Photography*, London: Thames and Hudson, 1994.

Mitchell, W. J. T., *Iconology: Image, Text, Ideology*, Chicago: University of Chicago Press, 1986.

Moholy-Nagy, Lázló, *The New Vision: From Material to Architecture*, London: Faber and Faber, 1939. (Revised and enlarged edition. Transl. from the German by Daphne M. Hoffmann. Original published in 1929.)

\_\_\_\_\_, *Painting, Photography, Film*, Cambridge MA: The MIT Press, 1969. (Transl. from the German by Janet Seligman. Original published in 1925).

\_\_\_\_\_, "Production-Reproduction" (1922), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 79-82.

\_\_\_\_\_, "Unprecedented Photography" (1927), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 83-5.

Moholy-Nagy, Sibyl, *Moholy-Nagy: Experiment in Totality*, Cambridge MA: The MIT Press, 1969 (1950).

Molderlings, Herbert, "Urbanism and Technological Utopianism: Thoughts on the photography of Neue Sachlichkeit and the Bauhaus", in D. Mellor (ed.), *Germany: The New Photography, 1927-33*, London: Arts Council of Great Britain, 1978, pp. 87-94.

\_\_\_\_\_, *Umbo: Otto Umbehr, 1902-1980*, Düsseldorf: Richter Verlag, 1996.

Moos, Stanislaus von, *Le Corbusier: Elements of a Synthesis*, Cambridge MA: The MIT Press, 1979.

Mormorio, Diego, *Un'altra lontananza. L'Occidente e il rifugio della fotografia*, Palermo: Sellerio, 1997.

Morris Hamburg, Maria and Phillips, Christopher (eds.), *The New Vision: Photography between the World Wars*, New York: The Metropolitan Museum of Art, 1989.

Mulvey, Laura, "The Index and the Uncanny", in C. Bailey Gill (ed.), *Time and the Image*, Manchester: Manchester University Press, 2000.

Mumford, Lewis, *The Culture of Cities*, London: Martin Secker & Warburg, 1938.

Mumford, Eric, *The CIAM Discourse on Urbanism*, Cambridge MA: The MIT Press, 2000.

Nadar, *Quand j'étais photographe*, Paris: Le Seuil, 1994. (First ed. published in 1900).

NAPLIB, *Directory of Aerial Photographic Collections in the United Kingdom*, Second Edition, Toftwood: NAPLIB, 1999.

Nesbit, Molly, *Atget's Seven Albums*, New Haven: Yale University Press, 1992.

Newhall, Beaumont, *Airborne Camera: The World from the Air and Outer Space*, London: The Focal Press, 1969.

\_\_\_\_\_, "Photo Eye of the 1920s: The Deutsche Werkbund Exhibition of 1929", in D. Mellor (ed.), *Germany: The New Photography, 1927-33*, London: Arts Council of Great Britain, 1978, 77-86.

Osborne, Peter, *Travelling Light: Photography, Travel and Visual Culture*, Manchester: Manchester University Press, 2000.

Panofski, Erwin, *Perspective as Symbolic Form*, New York: Zone Books, 1991. (Transl. from the German by Christopher S. Wood. Original published in 1927).

Pare, Richard (ed.), *Photography and Architecture: 1839-1939*, Montreal: Canadian Centre for Architecture, 1982.

Pascoe, David, *Airspaces*, London: Reaktion, 2001.

Patrik, Linda E., "The Aesthetic Experience of Ruins", *Husserl Studies*, Vol. 3, n. 1, 1986, pp. 31-56.

Penrose, Roland, *Home Guard Manual of Camouflage*, London: George Routledge and Sons, 1941.

Petschow, Robert, "Das Riesenspielzeug. Die Welt von oben: Fahrten mit dem Freiballon", *Berliner Illustrierte Zeitung*, n. 2, 11<sup>th</sup> Jan., 1925, pp. 36-8.

Phillips, Christopher, (ed.), *Photography in the Modern Era: European Documents and Critical Writings, 1913-1940*, New York: Metropolitan Museum of Art, 1989a.

\_\_\_\_\_, "Resurrecting Vision: European Photography between the World Wars", in M. Morris Hamburg and C. Phillips (eds.), *The New Vision: Photography between the World Wars*, New York: The Metropolitan Museum of Art, 1989b, pp. 65-108.

Pinck, Pascal, "From the Sofa to the Crime Scene: Local News and the Televisual City", in M. Balshow and L. Kennedy (eds.), *Urban Space and Representation*, London: Pluto Press, 2000, pp. 55-70.

Pinedo, Francesco de, "By Seaplane to Six Continents", *National Geographic Magazine*, Vol. 54, n. 3, Sep. 1928, pp. 247-302.

Pontremoli, Edouard, *L'excès du visible. Un approche phénoménologique de la photographie*, Grenoble: Millon, 1996.

Powys-Lybbe, Ursula, *The Eye of Intelligence*, London: Kimber, 1983.

Price, Mary, *The Photograph. A Strange Confined Space*, Stanford CA: Stanford University Press, 1994.

Rasmussen, Steen Eiler, *London: The Unique City*, London: Jonathan Cape, 1937. (English revised ed.; first published in Danish, 1934).

\_\_\_\_\_, *London: The Unique City*, Harmondsworth: Pelican Books, 1960. (English abridged ed.; first published in Danish, 1934).

Reit, Seymour, *Masquerade: The Amazing Camouflage Deceptions of World War II*, New York: Hawthorn Books, 1978.

Renger-Patzsch, Albert, "Aims" (1927), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 104-5.

\_\_\_\_\_, *Albert Renger-Patzsch: Photographer of Objectivity*, (ed. by Ann and Jürgen Wilde and Thomas Weski), London: Thames & Hudson, 1997.

Rice, Shelley, *Parisian Views*, Cambridge MA: The MIT Press, 1997.

Riegl, Aloïs, "The Modern Cult of Monuments: Its Character and its Origin", *Oppositions*, n. 25, 1982, pp. 21-51.

Roberts, John, *The Art of Interruption: Realism, Photography and the Everyday*, Manchester: Manchester University Press, 1998.

Robins, Kevin, *Into The Image. Culture and Politics in the Field of Vision*, London: Routledge, 1996.

Robinson, Cervin and Herschman, Joel, *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present*, New York: Architectural League of New York, 1987.

Rodchenko, Aleksandr, "Downright Ignorance or a Mean Trick?" (1928a), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 245-8.

\_\_\_\_\_, "The Paths of Modern Photography" (1928b), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 256-63.

Roh, Franz (ed.), *Moholy-Nagy: 60 Fotos*, Berlin: Klinkhardt & Biermann, 1930.

\_\_\_\_\_, "The Value of Photography" (1930), in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 160-3.

Roh, Franz and Tschichold, Jan, *Foto-Auge*, Stuttgart: Akademischer Verlag F. Wedekind, 1929.

Rose, Gillian, "Engendering the Slum: photography in East London in the 1930s", *Gender, Place and Culture*, Vol. 4, n. 3, 1997, pp. 277-300.

\_\_\_\_\_, *Visual Methodologies*, London: SAGE, 2001.

Roth, Michael S., "Irresistible Decay: Ruins Reclaimed", in M. S. Roth, *et al.* (eds.), *Irresistible Decay: Ruins Reclaimed*, Los Angeles: The Getty Research Institute for the History of Art and the Humanities, 1997.

Rouillé, André, *La Photographie en France: Textes et Controverses. Une Anthologie, 1816-1871*, Paris: Macula, 1989.

Saint-Exupéry, Antoine, *Oeuvres complètes*, Paris: Gallimard, 1994-9.

Santholzer, Vilém, "The Triumphant Beauty of Photography", in C. Phillips (ed.), *Photography in the Modern Era*, New York: Metropolitan Museum of Art, 1989, pp. 309-11.

Schivelbusch, Wolfgang, *The Railway Journey: the Industrialization and Perception of Time and Space in the 19th Century*, Leamington Spa: Berg, 1986.

Schnapp, Jeffrey T., "The Mass Panorama", *Modernism/Modernity*, Vol. 9, n. 2, 2002, pp. 243-281.

Schultz, Edmund (ed.), *Die Veränderte Welt: Eine Bilderfibel unserer Zeit*, (with an introduction by Ernst Jünger), Breslau: Wilh. Gottl. Korn Verlag, 1933.

Schultze, C. Max. (ed.), *London from every Angle*, London: W.H. Press, 1937.

Scott, Clive, *The Spoken Image: Photography and Language*, London: Reaktion, 1999.

Sekula, Alan, "The Instrumental Image: Steichen at War", *Art Forum*, Dec. 1975, pp. 26-35.

\_\_\_\_\_, *Photography against the Grain*, Halifax: Nova Scotia, 1989.

Sert, José Luis and C.I.A.M., *Can Our Cities Survive? An ABC of Urban Problems, their Analysis, their Solutions*, Cambridge MA: The Harvard University Press, 1944. (First ed. published in 1942).

Settis, Salvatore, "Preface", in M. S. Roth, et al. (eds.), *Irresistible Decay: Ruins Reclaimed*, Los Angeles: The Getty Research Institute for the History of Art and the Humanities, 1997.

Shapiro, Theda, "The Metropolis in the Visual Arts: Paris, Berlin, New York, 1890-1940", in A. Sutcliffe (ed.), *Metropolis 1890-1940*, London: Mansell, 1984, pp. 95-128.

Shields, Rob, "A Guide to Urban Representation and What to Do About It: Alternative Traditions of Urban Theory", in A. D. King (ed.), *Re-presenting the City: Ethnicity, Capital and Culture in the Twenty-First Century Metropolis*, London: Macmillan, 1986, pp. 227-52.

Sieker, Hugo, "Absolute Realism: On the Photographs of Albert Renger-Patzsch" (1928), in C. Phillips (ed.), *Photography in the Modern Era: European Documents and Critical Writings, 1913-1940*, New York: Metropolitan Museum of Art, 1989, pp. 110-5.

Simmel, Georg, "The Metropolis and Mental Life" (1903), in R. Sennett, (ed.), *Classic Essays in the Culture of Cities*, Englewood Cliffs: Prentice-Halls, 1969, pp. 47-60.

\_\_\_\_\_, "The Ruin", in K. Wolff (ed.), *Essays on Sociology, Philosophy, and Aesthetics*, New York: Harper Torchbooks, 1965, pp. 259-66.

\_\_\_\_\_, "The Stranger", in D. N. Levine (ed.), *Georg Simmel: On Individuality and Social Forms*, Chicago: Chicago University Press, 1971

Solomon, Solomon J., *Strategic Camouflage*, London: John Murray, 1920.

Solomon-Godeau, Abigail, *Photography at the Dock: Essays on Photographic History, Institutions and Practices*, Minneapolis: University of Minnesota Press, 1991.

Sontag, Susan, *On Photography*, Harmondsworth: Penguin, 1977.

Stanley, Roy M., *To Fool a Glass Eye*, Shrewsbury: Airlife Publishing, 1998.

Stoichita, Victor I., *A Short History of the Shadow*, London: Reaktion, 1997.

Sutcliffe, Anthony (ed.), *Metropolis 1890-1940*, London: Mansell, 1984.

Tagg, John, "The Discontinuous City: Picturing the Discursive Field", *Strategies*, n. 3, 1990, pp. 138-58.

\_\_\_\_\_, *The Burden of Representation. Essays on Photographies and Histories*, London: MacMillan, 1988.

Tato [Guglielmo Sansoni], "Tato racconTato da Tato" (1940), in *Storia d'Italia: L'immagine fotografica, 1845-1945*, (ed. by Carlo Bertelli e Giulio Bollati), Torino: G. Einaudi, 1979, pp. 294-301.

Taylor, Richard (ed.), *The Eisenstein Reader*, London: BFI, 1998.

Teitelbaum, Matthew (ed.), *Montage and modern life, 1919-1942*, Cambridge MA: The MIT Press, 1992.

Thomas, Lowell J., *European Skyways: The Story of a Tour of Europe by Aeroplane*, London: Heinemann, 1928.

Trachtenberg, Alan (ed.), *Classic Essays on Photography*, New Haven: Leete's Island Books, 1980.

Tupitsyn, Margarita, "Fragmentation versus Totality: The Politics of (De)framing", in *The Great Utopia: The Russian and Soviet Avant-Garde, 1915-1932*, New York: Solomon R. Guggenheim Museum, 1992, pp. 484-95.

\_\_\_\_\_, *The Soviet Photograph, 1924-1937*, New Haven: Yale University Press, 1996.

\_\_\_\_\_, *Aleksandr Rodchenko: The New Moscow*, Munich: Schirmer and Mosel, 1998.

Urry, John, *The Tourist Gaze: Leisure and Travel in Contemporary Society*, London: Sage, 1990.

\_\_\_\_\_, "The Tourist Gaze Revisited", *American Behavioral Scientist*, Vol. 36, No. 2, 1992, pp. 172-86.

Virilio, Paul, *War and Cinema: The Logistics of Perception*, London: Verso, 1989. (Transl. from the French by Patrick Camiller. Original published in 1984).

\_\_\_\_\_, *The Lost Dimension*, New York: Semiotext(e), 1991. (Transl. from the French by Daniel Moshenberg. Original published in 1984).

\_\_\_\_\_, *The Vision Machine*, London: BFI, 1994.

Watney, Simon, "Making Strange: The Shattered Mirror", in V. Burgin (ed.), *Thinking Photography*, London: Macmillan, 1982, pp. 154-76.

Werneburg, Brigitte, "Ernst Jünger and the Transformed World", *October*, n. 62, 1992, pp. 43-64.

Wigoder, Meir, "The 'Solar Eye' of Vision: Emergence of the Skyscraper-Viewer in the Discourse on Heights in New York City, 1890-1920", *Journal of the Society of Architectural Historians*, vol. 61, n. 2, June 2002, pp. 152-69.

Wills, F. L. and Winchester, Clarence, *Aerial Photography: A Comprehensive Survey of Its Practice and Development*, London: Chapman and Hall, 1928.

Wohl, Robert, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918*, New Haven: Yale University Press, 1994.

Wolf, Erika, "When Photographs Speak, to Whom Do They Talk? The Origins and Audience of *SSSR na stroike (USSR in Construction)*", *Left History*, Vol. 6, n. 2, 1999, pp. 53-82.



The following periodicals have also been consulted:

*The Architectural Review. A Magazine of Architecture and Decoration*, Vol. LXVI, 1929.

*Evidence in Camera*, [published by the Air Ministry of Great Britain for restricted circulation], Vol. I, 1942 – Vol. 8, 1945.

*The Illustrated London News*, years 1936, 1943.

*National Geographic Magazine*, Voll. 53 and 54, 1928.

*La Rivista Illustrata del Popolo d'Italia*, Years 1933, 1936.

*U.S.S.R. in Construction*, Years 1930-36.

# Illustrations

The concept city	The textured city
The city as object of knowledge: realm of power and abstraction.	The city as site of appropriation: pedestrian poetics of resistance;
The fiction of a panorama-city.	Poetic and mythical experience of space.
Will to visibility: a utopian city of optical knowledge.	The <i>narrative reality</i> of the street, written by the dwellers through their practices.
The idealised perspective of planners: a governable space.	The urban uncanny: a opaque and labyrinthine space.
Dream of universal transparency.	Resistance to transparent decoding.
A place ruled by benign surveillance: " <i>un espace propre</i> " - a proper, purified and hygienic space.	A place invested with dense meanings, memories, and desires.
Transparency, legibility, objectivity.	Darkness, opacity, subjectivity.

Table 1: The dual model of the city according to de Certeau (1984). My elaboration.