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Introduction

Mark Dorrian and Frédéric Pousin

From the late eighteenth century onward, the phenomenon of human flight generated profound transformations in the cultural imagination. It changed the way that the environments in which we live were seen, and formed one of the main vectors of the modern expansion of mobility that has led to the construction of a visually comprehensive global space throughout which – thanks to contemporary digital technologies – it is now possible to browse. The aerial, with all the upheavals it engendered and conquests it permitted, is central to the modern imagination and, indeed, might even be claimed to be its emblematic visual form: as László Moholy-Nagy declared in his seminal publication *The New Vision*, 'the most essential for us is the airplane view, the complete space experience'.[1]

To understand the transformation in seeing brought about by flight, the study of images is essential. On one hand, these reflect the experience of flight, but on the other they give rise to practices through which the environment in which we live is interpreted and shaped. At the same time, however, the question of the aerial – despite its intimate relation with modernity – cannot be directly linked and naively restricted to the physical possibility of ascension, as the existence of overhanging perspectives, city portraits and bird's-eye views produced from the Renaissance, and even earlier, shows.

Recognising the complex cultural history of aerial imagery and the shifting contexts of its production and reception, this book considers its subject in terms of a *longue durée*. Its primary aim is to develop a cross-disciplinary consideration of the aerial view in relation to spatial practices, knowledge construction and affect. Given the extensiveness and intricacy of the topic, the book can make no claims to be exhaustive. Instead, it is structured through a series of 'episodes' or

representative case studies that have a strategic value and eloquence in relation to the long cultural history of aerial images. This approach permits the various phenomena it considers, which have hitherto been isolated from one another, to be thought relationally in a new way. Moreover, the essayistic format allows the individual case studies to be developed in the detail that is demanded by the complexity of the subject matter, while at the same time locating them within a wider historical context of shifting ideas, technologies, cultures and meanings. The chapter sequence – which is broadly chronological – facilitates the historicisation of each of the episodes and helps to make legible the connections, transformations and developments between them.

Throughout the volume, an interrogative and critical approach to the topic is maintained, which involves directing questions toward the concepts with which the book deals, as well as toward the material that it examines. While focused on its own material, each chapter is developed in relation to a common series of questions that motivate the collection as a whole and ensure its coherence. Thus we ask – what is the aerial view; that is to say, how do we define it in relation to other visual modes, positions and so on, and what are its constitutive limits? Within what discourses have practices of the aerial view emerged, and how have they been variously staged or conceptualised within them? What, in specific historical and cultural contexts, have been the discursive or ideological effects and agencies of the aerial view? In what representational forms has the aerial view been historically anticipated or mediated (drawing, models, photography, cinema, etc.), and how do we analyse the specific effects and utilities that these forms present? How are these representational documents then deployed? And how do they interact with other images and what kinds of knowledge and practice do they make possible or, alternatively, foreclose?

The collection opens with a chapter by Marina Warner, which reflects on the work of the Danish artist, Melchior Lorck, who travelled to Turkey in 1555 as part of the embassy of the Emperor-elect, Ferdinand I, to the court of Sultan Suleiman the Magnificent. Pointing out the narrative powers and possibilities that are endowed by the aerial view, she identifies it with the unboundedness and mobility that third-person narrative bestows upon the imagination, transporting readers across space and time and into secret and otherwise hidden locales. This is a relationship that underpins a drawing by Lorck of a view from his window that was made, she argues, during the period in which the ambassadors were confined after their arrival. This interplay of intimate and even forbidden knowledge with overview, which Lorck's drawing makes visible, would find a more literally expanded articulation in his extraordinary *Prospect of Constantinople*, in the foreground of which the artist's aerial eye registers himself at work. Warner finds the aspirations of the earth-bound artist for mobility – whether aerial or within the aqueous medium of the fishes of which he so admiringly wrote – pictured in his remarkable drawing of a large tortoise passing blimp-like above a walled town and wryly inscribed with the note 'Made in Venice from Life'.

Michael Bury's paper transports us to Rome, two decades on from Lorck's *Prospect*, and to two bird's-eye views of the city, those of Etienne Dupérac (1577) and Antonio Tempesta (1593). Analysing these with reference to the specific choices of viewpoint and representational technique employed, Bury examines the interpretations of the city that the images promoted. Structured through a visual rhetoric on the relation between the modern city and its ancient predecessor, these images carry meanings that are enabled by the particular agency of the bird's-eye view. Dupérac's image, in which an orthographic plan is combined with the rendering of buildings from an oblique viewpoint, pictorially emphasises the ruins of the ancient city and relegates the contemporary city to background. In Tempesta's *Prospectus*, however, the graphic suppression of the countryside beyond the city walls supports the vision of a modern city that has flourished to succeed the ancient, whose environs it is now pictured as filling.

The following chapter moves us into the era of flight, and to a unique early account of the effects upon the senses of altitude and the so-called aerostatics of the balloon. This is *Airopaidia*, the treatise published by the Englishman Thomas Baldwin following his ascent in 1785 in the balloon of the Italian aeronaut Lunardi, who was then visiting Chester. Baldwin had carried with him various instruments with which to take readings, and when his publication appeared it was accompanied with a set of engravings of an unprecedented kind. Here, in her study of *Airopaidia*, which she calls a 'treatise on the sensations experienced in a balloon in motion', Marie Thébaud-Sorger describes Baldwin's efforts to articulate the conditions of a new kind of vision, one whose objects had undergone radical transformation by virtue of the way in which they were now viewed. Considering the remarkable circular illustration in Baldwin's publication titled *A View from the Balloon at its Greatest Elevation*, she notes his novel and close attention to atmosphere, weather and light – a concern so alien to the cartographic tradition – and his characterisation of a chromatically complex and shifting world in which the contour of objects gives way to colour.

Jean-Marc Besse's study of the work of Alfred Guesdon maintains the atmospheric theme, although now the clouds to which we are directed are those that issue from the chimneys of the industrial plants of mid-nineteenth-century European cities. Guesdon, whose work is historically poised on the cusp of a new era of photographic reproduction, from 1845 travelled for about 15 years in France, Italy, Spain and Switzerland, producing over 100 bird's-eye views of cities. Besse's analysis of Guesdon's drawings situates them in a complex and longstanding discourse on perspectival technique and construction, within which

the elevated viewpoint played a very specific role. Moreover, he notes how, for certain Fourier and Saint-Simon-inspired architectural theorists of the nineteenth century, the aerial view carried a diagnostic force, which made it a privileged vehicle for the comprehension of the city. Guesdon's views of the modernising urban landscape of Napoleon III's France, and other countries, shows cities that are in movement, infused with the energy of work and machinic force and whose emblems of industrialisation – such as the billowing smoke from factories – attain a newly assertive presence.

The closing years of Guesdon's activities overlapped with the start of the aerial exploits of the photographer Nadar, which would lead to his successful photographic recording of a view from a balloon in 1858. Following this aerial achievement Nadar quickly embarked on a new project to photograph the Paris catacombs under artificial light and, in his chapter, Stephen Bann explores this suggestive interplay between the aerial and the subterranean. If, as he argues, the mid-eighteenth century saw a new conjunction between the two, and an awareness of their relation, as antiquarians calibrated patterns evident on land seen from above with new understandings of what lay below derived from excavation, then by the mid-nineteenth century the earth's surface had come to be seen as less a limit than an interface between two different kinds of knowledge. Examining Nadar's writing, Bann detects a shift from an understanding of the aerial view that was deeply shaped by intellectual tradition and literary precedent, to one committed to the progressive potential of this new and powerful way of seeing for which the photographic apparatus played the role of necessary complement and stabilising device.

Suprematism, established around 1913 by Kazimir Malevich, was a movement that was deeply saturated with the powers and potentialities of the aerial view. Christina Lodder's chapter examines this relationship and – in particular – the role that aerial photography played in the development of the Suprematist imaginary. Certainly, this is a relation that Malevich explicitly articulated in the 1920s in his book *Die Gegenstandlose Welt* (translated as *The Non-Objective World*), but Lodder goes further back to examine the concepts and meanings associated with the aerial view present in the milieu in which Malevich developed Suprematism during the previous decade. Showing how the transfigured sight of the aviator could be analogised with the metaphysical vision of the icon painter (famously Malevich compared his *Black Square* with a traditional icon), she also explores the links between the aerial view and the *ostranenie* (estrangement) of the Russian formalists, and the concept of the fourth dimension as it was elaborated in the philosophy of Peter Ouspensky. Her essay closes with a reflection upon Malevich's drawing for the libretto of the Futurist opera *Victory Over the Sun*, a celebration of the transcendence of technology over cosmic forces, for which

flight held paradigmatic status. Here, at the inception of Suprematism, the black square is anticipated as, in Malevich's word, a 'louse' that absorbs and cancels the radiance of the sun.

In her chapter, Teresa Castro considers in detail the connection between aerial mobility and the cinematographic imagination, a relationship that the opening remarks of Marina Warner's essay have already alerted us to. Examining the coupling of the technology of the moving image with that of the aircraft, Castro's analysis stresses the importance of the sensation of flight and mobility in three dimensions that film made possible and that indeed was fundamental to the very concept of cinematic vision as – for example – articulated by the Soviet film-maker Dziga Vertov. World War I gave powerful impetus to the development of aerial imaging techniques, and Castro discusses the case of Lucien Le Saint who had experimented with fixing his camera to a gun-mount and who was involved in the production of a remarkable aerial film made in the aftermath of the conflict. Produced to document the post-war devastation, this was part of a larger effort to amass information to aid planning for reconstruction in France. However, Castro finds that, in excess of its documentary function, the mobile camera becomes a source of emotion, in which the pleasure of free aerial movement and the new perspectives of the earth it allows are mixed with the scrutiny of a devastated terrain that now takes on the new aspect of a wounded body. Her discussion of cinematography from above concludes with a suggestive consideration – by way of Siegfried Kracauer's theorisation of the mass ornament – of Busby Berkeley's Hollywood musicals of the 1930s.

With David Hopkins' new reading of Man Ray's photograph *Dust Breeding* (*Elevage de poussière*) we remain above the battlefields of World War I. Taken in Marcel Duchamp's studio in New York in 1920, this close-up photograph of the artist's *Large Glass* was subsequently published in the Dadaist magazine *Littérature* with the caption 'Vue prise en aéroplane'. Connecting the image, with its strange collapse of proximity and distance, to World War I aerial reconnaissance photography, Hopkins' argument explores the significance of the dust that has settled upon the artwork in relation to the remains of the war dead and to Duchamp's female alter-ego Rrose Sélavy, whose domain the photograph was declared to depict. Here the (war) game-like scenario of *Elevage de poussière* represents, Hopkins suggests, a process of mourning, but one in which the horror of the conflict and the ensuing loss has been displaced by the ludic. Meanwhile, Rrose herself is figured as a medium through which the spirits of the dead – and of Duchamp himself, on the 'other side', in New York – are transmitted.

Walter Mittelholzer – the Swiss pilot, photographer and entrepreneur – is the subject of Olivier Lugon's essay, which analyses both the construction of his

identity as national aviator-hero and the specific relations between his practice and the mountain landscape of Switzerland, with its tradition of high-level views associated with alpine tourism and ascensional (and morally freighted) sporting activities. Trained as an aerial photographer during World War I, Mittelholzer subsequently co-founded an aerial photographic and transportation company that would in time become the national airline carrier Swissair. Lugon shows how Mittelholzer's practice emerged at the intersection of the discourses of science and adventure. In Mittelholzer's books the roles of pilot and photographer merged into one, while the presentation and narrative framing of his photographs, which emphasised the physical effort involved in their capture, ensured that Mittelholzer himself was the constant reference and in a sense the perpetual subject of his practice. This in turn was reflected in what Lugon describes as a unique form of aeronautic-ethnographic view that Mittelholzer developed during his trans-Africa crossing from Zurich to Cape Town: a low-level photograph, taken from the cabin of the landed aircraft, whose aim appears to have been less to see its subjects 'in themselves' than to register their surprise and admiration in the presence of their observer.

Marie-Claire Robic locates her account of the aerial view in French geographical discourse during the 1920s in relation to an underlying tension between the rational or reflective contact with terrain at a distance as mediated and made possible through documents such as the map and the direct personal experience of a place that had, by the beginning of the twentieth century, been newly valorised. Holding these together within what Robic describes as a 'mixed epistemology', the modern French geographers developed a concept of the *vue raisonnée* of the earth, and it is the particular ability of aerial photography to embody this, by negotiating its internal tension, combining 'the verticality of the gaze with the feel of the terrain', upon which Robic specifically concentrates. She goes on to discuss a series of case studies, which include Jean Brunhes' jubilant response to aerial photography as that which – through its very constitutive distance – was capable of registering the extent of the humanisation of the earth. Also considered here is the uptake of techniques and approaches that were pioneered in World War I, such as those developed in Morocco by the French military, whose photographs then formed the basis for a series of articles by the young geographer-pilot Jules Blache between 1919 and 1921. In her analysis Robic emphasises the importance of the experience of the aerial view for the new centrality and programmatic status that the term 'landscape' (*paysage*) gained in French geographical circles in the first decades of the twentieth century.

The distinction between vertical and oblique, discussed by Robic, plays a recurring and crucial role in conceptualisations of the aerial view. It is to the fore again in John Macarthur's chapter, which reads a 1919 article on aerial

photography by Gordon Holt, published in the British journal *The Architectural Review*, in light of Louis Marin's celebrated analysis of the maps of Paris by Mathieu Mérian (1615) and Jacques Gomboust (1652). In his article Holt describes the techniques of orthographic vertical photography but also sets out the virtues of oblique views, especially those with a steep incidence which are thereby capable of conveying both the three-dimensional formation of the urban fabric and an understanding of its arrangement in plan, in a way that is otherwise impossible when the view is more laterally directed. If Holt's promotion of this kind of view is based on its ability to mediate between 'figuration' (or 'urban character') and abstraction (the diagrammatic overview of the plan), then it resembles the seventeenth-century maps of Paris whose semiotics were analysed by Marin as holding an array of structural oppositions together within a totalising utopic view. And here Macarthur sees a correspondence between the disappearance of the horizon in Holt's steeply angled shots and the utopic indeterminacy of the viewpoint of the maps that Marin discusses. While the image that is constituted as the totality of the city finds its addressee in the eye of the sovereign, Macarthur suggests that we might find a corresponding image for the liberal polity in the fragmented collage urbanism promoted by the English architectural critic, historian and urbanist Colin Rowe, whose compositional position – abstract because 'in the air', as the essay puts it – implicitly secures the distance from tradition required before historic urban form can become material for the procedures of collage.

Nathalie Roseau's study considers the impact of aerial mobility and representation on the way the modern city was imagined and examines its connection with the new infrastructural conditions of the airport in relation to which it developed. Her account moves us – by way of Hugh Ferris, Le Corbusier, Paul-Henry Chombart de Lauwe and the aerial urbanism of the architect-engineer Eugène Hénard – from the large-scale public demonstrations of the new technologies of aerial locomotion at the beginning of the twentieth century to the spectacle of the airport itself. Airports have frequently been characterised as being like cities in their own right, and Roseau interprets their evolution in terms of the history of representations – and here the aerial view was of fundamental importance – within which the image of the city of the future as a spectacle was constructed. Here she finds a crucial moment in the New York World's Fair of 1939–40, in which diverse media and technological installations were deployed in order to provide simulated experiences of flight: such, for example, was the 'Futurama', designed by Norman Bel Geddes, in which the spectacle of the future city was disclosed through the mechanism of a simulated aircraft journey.

The next chapter takes us to 1944 and to a view from above that is also to do with a certain vision of the urban future, but this time of a radically

different kind. For these 'bird's-eye views' of Warsaw were taken by an *Owl*, or more precisely a Focke-Wulf 189A *Eule*, the reconnaissance aircraft whose twin-boom arrangement resulted in it being nicknamed 'The Frame'. In her essay Ella Chmielewska reflects on a sequence of photographs drawn from the Luftwaffe's aerial survey of the city that year, a project that recorded and memorialised the city as a prelude to its intended total destruction. Her text, which meditates on the experience of looking at these photographs, reflects on images of ruins, on ruined images and on the complex moment and movement of photographic capture. Her discussion of the photographs re-establishes the importance of image sequence as it relates to the flight-path of the aircraft, whose frame-like shadow we find imprinted on Warsaw's surface, while her close reading of them draws out the quotidian life of the fractured city below. She shows how figures on the ground – and in the past – at certain moments turn toward the aircraft overhead and, beyond it, to the observer of the image and her present. Thus, a kind of destabilisation in the survey document is effected, in which the directionality of the gaze from above that is monumentalised in the photograph is unsettled by the witness of those below.

Taking as his case study Firminy vert – the important new town constructed near St Étienne after 1953 – Frédéric Pousin examines the role of aerial photography in the discourse on urbanism in France during the period of its post-World War II reconstruction. Noting the intimate relation between the elevated eye and the very concept of planning, he observes the importance that images taken from helicopters and other aircraft had assumed in technocratic thinking by the late 1950s. In the pursuit of its mission, the Ministère de la Reconstruction et de l'Urbanisme (MRU) amassed a vast array of documentary photography that recorded and promoted its modernising activities and that retrospectively bore witness to the emergence of a landscape that was, as Pousin puts it, fundamentally new but extraordinarily banal. The town of Firminy vert was to be different, however. Conceived by its mayor in opposition to the limitations of the 'grands ensembles', the imaging of Firminy by the Basque photographer Ito Josué from 1960 also responded to new conditions: the task was no longer to produce a bureaucratic documentation of the construction process but rather was to visually forge the identity of the new town, and this entailed a different kind of photographic practice. By studying not only Josué's images, but also their dissemination through publications and interlinkage with other images, texts and diagrams, Pousin's analysis demonstrates the symbolic role and effects of the aerial view with regard to this emblematically modern project.

Gilles A. Tiberghien's study takes up the conception of 'aerial art' developed by the American artist Robert Smithson, locating its beginnings in the project for Dallas regional airport for which Smithson acted as a consultant to the

architectural practice Tippetts-Abbett-McCarthy-Stratton. It was here, as Smithson later reflected, that his thinking on earthworks developed, this leading to his famous *Spiral Jetty* of 1970. Deeply interested in the experience of descent and ascent in an aircraft and the scaling effects that it produced, Smithson's proposals included a series of earthworks to be built at the margins of the airport. Tiberghien's essay shows the link between this work and the artist's *Alogon* series – produced around the same time as the work on the airport – whose title refers to the Greek term for irrational numbers. His analysis connects the shifting scales disclosed by flight, and a Pascalian understanding of the incommensurability of differing 'orders', to what Smithson would describe as the 'world that cannot be expressed by number or rationality' of *Spiral Jetty*.

The final chapter, by Mark Dorrian, considers the rise of Google Earth, analysing it in the context of the company's holistic ideology and its stated mission to 'organize the world's information and make it universally accessible and useful'. Dorrian reflects on the agency of image capture devices and of the programme's interface in the construction of a world picture that, while underpinned by a recognisable cultural image, at the same time presents us with something radically new. It is a picture that seems to offer us a new kind of political map, one that is no longer primarily structured by boundary lines and coloured territories, but instead through a politics of image resolution, this in turn being linked to – among other factors – national legislation governing data release that pertains in the specific countries in which satellite imaging companies are registered and out of which they operate. Dorrian suggests that the unprecedented mass availability of satellite imagery has led to a newly intensive mediation of the terrestrial surface by aerial images according to the logic of commercial branding. Today hybrid 'mashups' of text, diagram and photographic imagery – phenomena previously entirely virtual – are realised as physical constructions on the ground which has itself become a media surface, this testifying to the mass migration of the eyes of consumers into space. Under these conditions the elevated eye can no longer be thought of in terms of coolness, objectivity and detachment, but has to be reconceptualised as something that, by its very presence, produces concrete material effects.

Our goal – to sum up – is for this book to offer a way of thinking about its topic, and a range of material, that will be of importance and interest to image-based research across the humanities and social sciences and that will stimulate new theoretical approaches and directions for research. Moreover, it tries to do this at a time when the aerial view has become virtually ubiquitous. In recent years we have seen an ever-increasing cultural appetite for aerial views, as well as an extraordinary efflorescence of technologies to produce them. Today the aerial view pervades popular and consumer culture, while at the same time its uses and

the key epistemic role it plays across a range of discourses – scientific, aesthetic, political, military – have continued to expand. Through this episodic historical study of the pleasures, powers and anxieties of the aerial view, we hope that new kinds of understandings of the development of our contemporary visual culture can come into focus and that new critical possibilities for thinking about it will be opened.

NOTES

1 László Moholy-Nagy, *The New Vision: From Material to Architecture* (New York: Brewer, Warren and Putnam, Inc, 1932), p.178.

1

Intimate Communiqués

Melchior Lorck's Flying Tortoise

Marina Warner

The bird's-eye view gives a vantage point of great power; from this height and synoptic angle, hitherto unknown experiences and information can be unified and displayed. Paradoxically, however, this heroic and often vast vision can also give access to small, personal glimpses of private scenes, and so become a vehicle for gaining entry to secrets – and for transmitting intimate communiqués to the viewer. Furthermore, an aerial viewpoint defies the laws of time and space, and gives the narrator a chance to fly free of these constraints. It is significant that the *Tales of a Thousand and One Nights,* which were first translated in Europe by the French scholar Antoine Galland at the beginning of the eighteenth century, associate such views from above with the power and knowledge of flight, brought about on behalf of humans by magic – either by djinn or by enchanters' devices. The vantage point magic makes possible grants the flyer superior powers – to see farther, to know and control more. The magic carpet, which figures in some of the tales, acts as a vehicle for the characters' transport – in both senses, as travel and as rapture; and it has since been established as the pre-eminent figure – the richest and most versatile metonym – for the workings of the imagination itself. On the part of the narrator in the story (and beyond him or her stands Scheherazade, who is telling all), the carpet bodies forth a literal, dream pun on flight of fancy on the one hand, and the rush of enhanced knowledge – enlightenment – on the other. More generally it also comes to stand for the book, play or film, in relation to its readers or audience, for they themselves become transported on a fantastic