

RGS-IBG BOOK SERIES

**Royal
Geographical
Society**
with IBG

Advancing geography
and geographical learning

AERIAL LIFE

SPACES,
MOBILITIES,
AFFECTS

Peter Adey

 **WILEY-BLACKWELL**

Aerial Life

RGS-IBG Book Series

Published

Domesticating Neo-Liberalism: Spaces of Economic Practice and Social Reproduction in Post-Socialist Cities

Alison Stenning, Adrian Smith, Alena Rochovská and Dariusz Świątek

Swept Up Lives? Re-envisioning the Homeless City

Paul Cloke, Jon May and Sarah Johnsen

Aerial Life: Spaces, Mobilities, Affects

Peter Adey

Millionaire Migrants: Trans-Pacific Life Lines David Ley

State, Science and the Skies: Governmentalities of the British Atmosphere

Mark Whitehead

Complex Locations: Women's geographical work in the UK 1850-1970

Avril Maddrell

Value Chain Struggles: Institutions and Governance in the Plantation Districts of South India

Jeff Neilson and Bill Pritchard

Queer Visibilities: Space, Identity and Interaction in Cape Town

Andrew Tucker

Arsenic Pollution: A Global Synthesis

Peter Ravenscroft, Hugh Brammer and Keith Richards

Resistance, Space and Political Identities: The Making of Counter-Global Networks

David Featherstone

Mental Health and Social Space: Towards Inclusionary Geographies?

Hester Parr

Climate and Society in Colonial Mexico: A Study in Vulnerability

Georgina H. Endfield

Geochemical Sediments and Landscapes

Edited by David J. Nash and Sue J. McLaren

Driving Spaces: A Cultural-Historical Geography of England's M1 Motorway

Peter Merriman

Badlands of the Republic: Space, Politics and Urban Policy

Mustafa Dikeç

Geomorphology of Upland Peat: Erosion, Form and Landscape Change

Martin Evans and Jeff Warburton

Spaces of Colonialism: Delhi's Urban Governmentalities

Stephen Legg

People/States/Territories

Rhys Jones

Publics and the City

Kurt Iveson

After the Three Italies: Wealth, Inequality and Industrial Change

Mick Dunford and Lidia Greco

Putting Workfare in Place

Peter Sunley, Ron Martin and Corinne Nativel

Domicile and Diaspora

Alison Blunt

Geographies and Moralities

Edited by Roger Lee and David M. Smith

Military Geographies

Rachel Woodward

A New Deal for Transport?

Edited by Iain Docherty and Jon Shaw

Geographies of British Modernity

Edited by David Gilbert, David Matless and Brian Short

Lost Geographies of Power

John Allen

Globalizing South China

Carolyn L. Cartier

Geomorphological Processes and Landscape Change: Britain in the Last 1000 Years

Edited by David L. Higgitt and E. Mark Lee

Forthcoming

Globalizing Responsibility: The Political Rationalities of Ethical Consumption

Clive Barnett, Paul Cloke, Nick Clarke & Alice Malpass

Spatial Politics: Essays for Doreen Massey

Edited by David Featherstone and Joe Painter

The Improvised State: Sovereignty, Performance and Agency in Dayton Bosnia

Alex Jeffrey

In the Nature of Landscape: Cultural Geography on the Norfolk Broads

David Matless

Learning the City: Translocal Assemblages and Urban Politics

Colin McFarlane

Fashioning Globalization: New Zealand Design, Working Women and the 'New Economy'

Maureen Molloy and Wendy Larner

Aerial Life

Spaces, Mobilities, Affects

Peter Adey

 **WILEY-BLACKWELL**

A John Wiley & Sons, Ltd., Publication

This edition first published 2010

© 2010 Peter Adey

Blackwell Publishing was acquired by John Wiley & Sons in February 2007. Blackwell's publishing program has been merged with Wiley's global Scientific, Technical, and Medical business to form Wiley-Blackwell.

Registered Office

John Wiley & Sons Ltd, The Atrium, Southern Gate,
Chichester, West Sussex, PO19 8SQ, United Kingdom

Editorial Offices

350 Main Street, Malden, MA 02148-5020, USA

9600 Garsington Road, Oxford, OX4 2DQ, UK

The Atrium, Southern Gate, Chichester, West Sussex, PO19
8SQ, UK

For details of our global editorial offices, for customer services, and for information about how to apply for permission to reuse the copyright material in this book please see our website at www.wiley.com/wiley-blackwell.

The right of Peter Adey to be identified as the author of this work has been asserted in accordance with the UK Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, except as permitted by the UK Copyright, Designs and Patents Act 1988, without the prior permission of the publisher.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Designations used by companies to distinguish their products are often claimed as trademarks. All brand names and product names used in this book are trade names, service marks, trademarks or registered trademarks of their

respective owners. The publisher is not associated with any product or vendor mentioned in this book. This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold on the understanding that the publisher is not engaged in rendering professional services. If professional advice or other expert assistance is required, the services of a competent professional should be sought.

Library of Congress Cataloging-in-Publication Data

Adey, Peter.

Aerial life : spaces, mobilities, affects / Peter Adey.

p. cm. – (RGS-IBG book series)

Includes bibliographical references and index.

ISBN 978-1-4051-8262-1 (hardcover : alk. paper) – ISBN 978-1-4051-8261-4 (pbk. : alk. paper)

1. Aeronautics–Social aspects. 2. Air travel–Social aspects. 3. Human geography. 4. Social mobility. I. Title.

TL553.A34 2010

306.4'819–dc22

2009052085

A catalogue record for this book is available from the British Library.

Set in 10/12pt Plantin by SPi Publisher Services, Pondicherry, India

For us

Contents

[*Figures and Tables*](#)

[*Series Editors' Preface*](#)

[*Acknowledgements*](#)

Chapter One: Introduction

[**Prologue**](#)

[**Overview**](#)

[**Aerial Life**](#)

[**Powering Up Aerial Geographies**](#)

[**The Organization of the Book**](#)

Part One: Becoming Aerial

Chapter Two: Birth of the Aerial Body

[**Introduction**](#)

[**Beginnings**](#)

[**'Handsome Is as Handsome Does':**](#)

[**Disassembling the Aerial Body**](#)

[**The Flesh of the Aerial Youth**](#)

[**Simulation**](#)

[**Conclusion**](#)

Chapter Three: The Projection and Performance of Airspace

[**Introduction**](#)

[**Building a Political Space: Identity,**](#)

[**Boundedness and the Sanctity of Territory**](#)

*Undoing Aerial Space: Post-nationalism and
Projective Power
Conclusion*

Part Two: Governing Aerial Life

Chapter Four: Aerial Views: Bodies, Borders and Biopolitics

Introduction

*Seeing the Wood for the Trees: Targeting,
Administering and Managing Populations*

Techniques of the Observer/Observed

Three-Dimensional Vision

Conclusion

Chapter Five: Profiling Machines

Introduction

Imagining the Pilot/Passenger

Sorting

Modifying

Conclusion

Part Three: Aerial Aggression

Chapter Six: Aerial Environments

Introduction

The Emergence of a Target

Systems, Circulations and Ecological Warfare
Air Conditioning
Conclusion

Chapter Seven: Subjects under Siege

Warning
Introduction
The Anatomy of Panic
Imaginations and Urgencies
Vigilance and the Social as Circuit
Entrainment
Conclusion

Chapter Eight: Conclusion

Environments
Futures
Aerial Turns

Notes

Bibliography

Index

Figures and Tables

FIGURES

- [1.1 Networks of extraordinary rendition](#)
- [2.1 The air scout looks skyward](#)
- [2.2 Air scouts fly their model glider](#)
- [3.1 The meeting of car and spectator](#)
- [3.2 Cars and spectators face the display](#)
- [4.1 The aerial grid](#)
- [4.2 The photomosaics are combined and turned into a map](#)
- [4.3 Representations of the face in ICAO guidelines](#)
- [4.4 Gridding the aeroplane's path](#)
- [4.5 The autocartograph](#)
- [5.1 Crimi's illustration of the Sperry gyro turret](#)
- [5.2 Crimi sees through the gunner's body](#)
- [5.3 The Nazi hypothermia experiments at Dachau](#)
- [5.4 The new smiling TSA screener](#)
- [6.1 A rectangular gelatine block 207 microseconds after impact](#)
- [6.2 Rabbit's hind limb taken 550 milliseconds after impact](#)
- [6.3 The evolution of Maslow's and Warden's systems](#)
- [7.1 Diagramming the siren's influence](#)
- [7.2 Ready.gov's 'Hidden Treasures' map](#)
- [7.3 Recruiting the wardens](#)
- [7.4 The interdependent gas mask 'chamber'](#)
- [7.5 How to combat a household fire](#)

TABLES

- [5.1 Tabulation of the main temperamental qualities desirable in pilots](#)

6.1 The probability of projectiles needed versus their likely success

Series Editors' Preface

The RGS-IBG Book Series only publishes work of the highest international standing. Its emphasis is on distinctive new developments in human and physical geography, although it is also open to contributions from cognate disciplines whose interests overlap with those of geographers. The Series places strong emphasis on theoretically informed and empirically strong texts. Reflecting the vibrant and diverse theoretical and empirical agendas that characterize the contemporary discipline, contributions are expected to inform, challenge and stimulate the reader. Overall, the RGS-IBG Book Series seeks to promote scholarly publications that leave an intellectual mark and change the way readers think about particular issues, methods or theories.

For details on how to submit a proposal please visit:

www.rgsbookseries.com

Kevin Ward

University of Manchester, UK

Joanna Bullard

Loughborough University, UK

RGS-IBG Book Series Editors

Acknowledgements

This book has been in the making for almost 10 years. Since a 2nd year geography fieldtrip to New York in 2000 left me contemplating Heathrow's strange terminal landscape, I've been hooked on all things aerial. This was followed through in postgraduate work and a post-doctoral fellowship under the supervision and mentorship of Tim Cresswell, Deborah Dixon and Martin Jones, all of whom failed to suffer my writing in silence!

Thanks really must go to Kevin Ward and Jacqueline Scott as the book has sailed through the publishing process. I also appreciate the academic and creative freedom that the RGS-IBG series at Wiley-Blackwell encourages.

Conversations and collaboration with colleagues at Keele such as Luis Lobo Guerrero altered my focus and helped broaden my reading and thinking. Zoe Robinson and Peter Knight gave a different perspective on an initial proposal draft, and Barry Godfrey gave a lot of support and helped work through some of the ideas and material on bombing and the Blitz. Other *planeurs* have also been a constant source of criticism, inspiration and support; these include, particularly: Ben Anderson, Jon Anderson, David Bissell, Lucy Budd, Rachel Colls, Dave Cox, Gillian Fuller, Steve Graham, John Horton, Ole B. Jensen, Pete Kraftl, Lisa Lau, Deirdre McKay, Craig Martin, Pete Merriman, Steve Quilley, Mark B. Salter, John Urry and Chris Zebrowski. James Sidaway also kindly sent me his startling image of the networks of extraordinary rendition.

Along the way, various aspects of the book were presented and discussed at many conferences and especially departmental seminars, where discussion added so much to its tone and focus. University venues here included Durham, Bristol, Edinburgh, Manchester and, lastly, UCL, who permitted me a semester of office space and support thanks

to James Kneale. Source material came from consultation of numerous archival collections, including Birmingham, Cardiff and Wolverhampton City Archives; the Modern Records Centre, Warwick; the Hagley Museum and Library; the National Archives; the Imperial War Museum; the British Library; the RAF Museum; the Air League Archives; and the Scout Association Library, whose archivist, Pat Styles, was particularly helpful. I also acknowledge thanks to the ICAO and the Royal Society of the Arts for kind permission to reproduce several figures, and especially the Friends of Liverpool Airport to use the photos from the Alan Thelwell Collection. The book would never have been born let alone reached completion without the generous support from an ESRC PhD studentship, ESRC post-doctoral fellowship and finally an AHRC research leave award scheme funding which gave me a year's worth of writing time.

Aerial Life has been a group effort. Conversations with Grandad and Nanna Searles about the RAF and the war added colour to my documentary efforts. But it was also written sometimes in difficult health and circumstances. Thanks to my wife and our family for their love in helping us see this project through.

Every effort has been made to trace copyright holders and to obtain their permission for the use of copyright material. The publisher apologizes for any errors or omissions in the above list and would be grateful if notified of any corrections that should be incorporated in future reprints or editions of this book.

Chapter One

Introduction

Prologue

Responding to the rapid growth in commercial air transportation and its implications for the personal mobilities and geopolitical relations that follow, French urban sociologist Henri Lefebvre would write that 'space is also being recast' (1991: 351). This book is concerned with the scale and content of that recasting.

1920, the Royal Geographical Society, Kensington Gore, London

A meeting held at the Royal Geographical Society in Kensington Gore, London, brought together geographers and eminent figures who shared interests in the advancement of British military and civilian aviation. Winston Churchill, Hugh Trenchard, Frederick Sykes and Geoffrey Salmond¹ included, the group set about discussing the major milestones passed by a growing British air network and the creeping establishment of new routes in Africa and the colonial territories. Opening the meeting, the Society's President, Sir Francis Younghusband, spoke about the relation between the field of geography and the burgeoning technology of the aeroplane.

We earth-bound geographers are inclined to look with a jealous eye upon these fine gentlemen of the air. For they soar up aloft and glide gracefully over the most terrible obstacles, insurmountable to us geographers. We dislike

them especially for a very nasty habit they have contracted of taking photographs of us from that superior position in which men appear like ants, mountains like mole-hills, and even the President of the Royal Geographical Society appears of very insignificant proportions. But we geographers get our own back upon them in the long run, because they cannot stay up in the air for ever. (Prince of Wales et al. 1920: 263)

As an example of coming to terms with the new sorts of perspectives available from the aeroplane, the meeting was typical. The aeroplane was to develop quite new ways of seeing space and time.² From the aircraft the earth tilted. It became a large canvas as the embodied gaze left the shackles of the terrestrial subject. Quite different people would be necessary to take advantage of these viewpoints and unfettered, frictionless movements. Together, entirely new sorts of space would be born.

On the other hand, the geographers diverged from what are now rather typical conceptions of mobility or air travel in favour of a position that concerned the ground the aeroplane was dependent upon. For Younghusband, it was questions of geography – questions concerning the surface of the planet that earth-bound the airmen.

If they are in an aeroplane they are most anxious that the surface of the earth beneath them is not water, and if they are in a flying-boat they do not want it to be land. [...] They want to know if it is covered with forests or buildings, whether it is hilly or plains, whether it is crowded or free and open, and whether there are communications to their landing-place. They want, in fact, to know everything they can about its geography. (Prince of Wales et al. 1920: 263)

In the end, Younghusband joked, they would be 'glad enough, these haughty airmen, to shake hands with us humble geographers' (Prince of Wales et al. 1920: 263).

At first Younghusband appears to separate the glamorous lives of the airmen – who act on high above from their privileged perspectives – from the existence of the geographer – whose concern is with the terrestrial: with the landforms, patternings and peoples of the ground below. These distinctions are commonplace ‘as separations between above and below, air and ground, bomber and bombed’ are made in representation (Gregory 2010 in press). At the same time, however, the world of the airman is made dependent on the world underneath. New connections between the horizontal and the vertical are brought into being. Like the airmen and the geographer, the two dimensions shake hands. The vertical life of the airmen is tethered to the terrestrial, to the location of their landing place and its local topographical idiosyncrasies, as well as its outer connectivities. The aeroplane is not necessarily liberating or liberated, but it is tied, or what John Urry (2003) might describe as ‘moored’, to an infrastructure on the ground. Both the ground and the air reside together in vertical reciprocity.

1941, Dachau concentration camp, Germany

In *Homo Sacer*, Giorgio Agamben (1998) discusses the work of German Nazi scientist Dr Sigmund Rascher, who in 1941 applied to Himmler to be provided with two or three ‘professional criminals’ for the purposes of his research on the pilot body. The research was commissioned for the Luftwaffe. His experiments required VPs, short for *Versuchpersonen* (human guinea pigs), who could be stretched to the limits and beyond of the human body. His experiments would test their abilities to withstand, adapt to and eventually succumb to the environments of high-altitude flying, or submersion in freezing temperatures – to simulate the conditions of their pilot counterparts should

they crash-land or parachute into the sea. Subjecting a Jewish VP to the equivalent pressure of 12,000 metres of altitude, or hypothermic conditions that could stop their hearts, the tests took the subjects through a range of extreme states of life that would lead, for some, to death.

The documentation of Rascher's work, under the oversight of Himmler and Hitler's personal physician, Dr Brandt, was used as evidence during the Nuremberg trials to convict Brandt and several of Rascher's fellow scientists of war-crimes. (Rascher and his wife were executed by the SS two weeks before the Allies entered Dachau.) Investigated by Major Leo Alexander of the Medical Corps of the United States Army (Alexander 1945), the files emerged in Himmler's cave depository in Hallein, Germany. Now the study of research in medical ethics and the scientific dimensions of totalitarian regimes (Bogod 2004; Poszoz 2002), their evidence gives us explicit insight into the role and imagination of the aerial body.

Our concern here is for the reduction of the *Versuchpersonen* to a bare life. Viewed as non-living or already dead, the VPs were criminals or persons whose animation did not matter; they were 'asocial individuals and criminals who deserve only to die', as Himmler would come to justify their sacrifice.³ Understood as little more than an organism, their use would be one of 'vital importance to the air force' and therefore national security,⁴ avoiding 'a young German aviator' being 'allowed to risk his life'. The VPs tell us about the embodiment of aerial mobilities, the movement of the 'haughty' airmen who must be sustained in extreme conditions. But they also reveal bodies in the shadows, body-subjects quite removed from the aeroplane and the ways we tend to imagine their action.

1998, a cargo aircraft somewhere between countries

Almost 60 years later a series of air travels are experienced and written up by writer Barry Lopez (1999). Lopez had undergone 40 flights with air-cargo aboard various 747 freighters or passenger planes carrying freight. Covering over 110,000 nautical miles, flying in and out of major cities and across the world's continents, Lopez visited Taipei, Rotterdam, Los Angeles, Lima, Calcutta and Chicago O'Hare airports, among many others. He travelled with a bewildering amount of cargo: from cattle and sheep to valuables such as precious stones and watches, to perishables such as flowers, food and newspapers.

Clearly this is not a *moment* particularly unique or worthy of drama, although Lopez's flights are full of little events (severe turbulence especially). His recordings capture the strange worlds of the cargo-hold, dominated by a stillness born out of animation: inattention from the overload of wind and noise; the stench of animal faeces or a fruit's unique odour. Lopez is both enthralled by the atmospheric little worlds of air-transport cargo and bemused by and critical of what they add up to. A museum director in Los Angeles, Lopez is told, found it cheaper for the museum's entire sandstone façade to be quarried in India before being air-freighted to Japan, where it was dressed, and finally 'flown to Los Angeles than to have it quarried, dressed and trucked in from Minnesota' (Lopez 1999: 84). Phone-books are shipped to China to take advantage of cheaper labour forces, who can key in the details at a far lower cost. Rayon blouses are cut in Hong Kong and flown to Beijing to be finished by hand before they are flown back.

Lopez's point is more subtle than a critique of the ridiculously generalized processes many of us call 'globalization'. Clearly it is a classic narrative of the

annihilation of space by time (Harvey 1989; Kern 1983). It is a story of new economics, just-in-time delivery. Yet it is a far more human story than that. For the flights criss-crossing the globe, arriving in and out of cities, loading and unloading, are governed by desire. What planes fly, Lopez suggests, 'is what people imagine they want. Right now' (1999: 85). Flying over the rocket fire and streams of tracer ammunition in Afghanistan, the desire for guerrilla weaponry is nowhere more clear. Demand produced from a want, a need, a lust, jealousy, a most basic and thoughtless emotion, has produced a disturbingly uneven logic of automobile commodity flows. The view 'that people everywhere want more or less the same things' is an illusory one; 'not all the world's cultures can be folded into [the] shape' of a European and Western consumer ethic (1999: 92). Stepping out of the homogenized airport in a place such as Calcutta or Harare, Lopez was witness to 'starkly different renderings of the valuable' (1999: 93).

Lopez's travels also brought him into the cockpit. With lengthy spans alone with the pilot to make conversation, Lopez asked him what he thought of the work of the artist James Turrell, who had built a crater in Arizona near Flagstaff in an attempt to construct what he thought of as the shape and volume of the air. Lopez's narrative cuts back to a recollection of a conversation with Turrell. 'For me,' Turrell explained,

flying really dealt with these spaces delineated by air conditions, by visual penetration, by sky conditions; some were visual, some were only felt. These are the kind of spaces I wanted to work with. [...] People who have travelled to Roden Crater – heavy equipment operators as well as museum curators – say, yes, you do see that the sky has shape from the crater. (1999: 107)

After explaining the motivations behind Turrell's work to the pilot, the pilot duly 'turned around in his seat and said,

“He’s right. I know what he’s talking about. The space you fly the plane through has shape.”

I asked if he thought time had boundary or dimension, and told him what I had felt at Cape Town, that time pooled in every part of the world as if in a basin. The dimension, the transparency, and the agitation were everywhere different. He nodded, as if together we were working out an equation. A while later he said, ‘Being “on time” is being on fire.’ (1999: 107)

* * *

So here we have, some 80 years apart, three rather different apprehensions of time, space, body and the air. For the geographers, the air allows one a greater appreciation of the ground from its high perspective; a greater albeit instrumental respect for geography, even as space is shrunk by the ability to traverse it; a new ‘substance’ of ‘geographical knowledge’ (Wright 1952: 330). From an enhanced position above activities and patterns on the ground, their perspective merges with many familiar narratives of flight as transformer of our senses of space and time, ‘transcending geography, knitting together nations and peoples, releasing humankind from its biological limits’ (Sherry 1987: 2). But geography was not transcended. Space, in its vertical and horizontal planes, is connected. The aeroplane depends upon the geography of the earth for it to survive. Reversing Gillian Fuller and Ross Harley’s (2004) thesis, *life on the ground surely changes that in the air*.

As the geographers make a distinction between the body on the ground and the body in the air, Rascher’s disturbing experiments make another sharp and literal cut. The choice is made between a body whose life is worth nothing – the *Versuchpersonen* – and the body whose life is worth more – the German pilots. The VPs’ rights are suspended. They are

exposed to harsh extremes of high altitude, freezing temperatures, the immersive conditions of aerial space. The issue here is the aeroplane's relationship with an inside and an outside, an insider and an *Other*. The *other* in this case is outside the realm of law, designated by sovereign and scientific power as 'asocial', 'criminal', and, therefore, whether they live or die is of no consequence. In fact if they survived the experiments they earned a pardon – they earned their right to life. The *Versuchspersonen* are in fact the aeroplane pilot's *alter ego*, the airman's *doppelgänger*. They are the *other*, both a by-product and an essential component of the pilot's operations.

Lopez's geographies of flying mark out other sorts of differentiations and productions of space. They are found unevenly in different places and at different times, and they are spaced by collective feelings. Together with Turrell and the pilot's accounts, the aeroplane reveals the shape and dimensions of the spaces it has produced: of unevenly created lines of desire along which commodities and aircraft travel; volumes of space where time is different; contours of expansive vistas, limits, borders and forms.

This book is precisely about the interdependencies identified by the geographers, the sharp and scary differentiations of bodies and subjects produced by the German scientists, and the spaces, shapes and volumes Lopez articulates – the solution within which aerial life finds its suspension. It is concerned with how space has been produced, transfigured and shaped through the technology of the aeroplane, and, as this has happened, how people have been changed too. If as Lefebvre famously suggests, 'to change life [...] we must first change space' (1991: 190), this book is about life changed and threatened by new productions of aerial space and mobility.

Overview

The spaces and shapes of the aeroplane are many and they are diverse. Airports and aircraft have become synonymous with our contemporary mobile world (Graham 1995; Hannam et al. 2006). More of us fly now than ever have before. International tourism is made possible by charter and scheduled aircraft flying between cities and continents. Western societies are made and constituted by air travel, allowing social relationships, networks and associations to be held and maintained, or, conversely, to be *dis*-abled, destroyed and ruined (Cwerner et al. 2009). War in the twentieth century was war waged by the aeroplane. From the air raids of the Blitz to September 11, to the newest unmanned drone aircraft deployed atop Gaza and Afghanistan, aeromobilities provide both promise and possibility as well as dread, terror, destruction and death (Grosscup 2006).

The spaces of the aeroplane, then, are very dangerous and they are certainly curtailed (Sweet 2004; Wilkinson and Jenkins 1999). It is in the spaces of air travel where societies are increasingly regulated as flight has become a dominant means to cross borders (Salter 2003, 2008). Flight is a space which is intensely segregated and hierarchical as well as highly monitored and controlled. The geographer's point is made nowhere more clear as the complex processes of securitization on the ground (in the airport) secure the way for a safe flight free from explosives, guns or hijackers.

On the other hand mobility by air is not nearly always so dark. The top-side of its more concerning implications are the capabilities it brings to connect people together, to join friends, families and associates; to deliver aid and humanitarian assistance; to create exciting experiences and feelings of uplift, exhilaration and joy; and to create jobs, investment and value.

In many respects, aeromobilities are responsible for our current and modern condition and they are conveniently sought as the barometer of the day. They define and undo more traditional conceptions of citizen and territory through mobile post-national citizenship regimes or re-imaginings of nations. Airports' outlet-lined corridors express the relationship of consumer and commodity – brand names provide a welcome familiarity in a space that is often disorientating. The airport terminal is now even understood as the new model of the city. The *aerotropolis* or airport metropolis has become the future of urban existence, posited by John Kasarda (Charles et al. 2007; Kasarda 1991a) as the newest Kondratieff wave (Kasarda 1991b) of economic development, forming an air-cargo industrial complex essential to economies and especially city-states such as Singapore, Hong Kong, Dubai, and destination 'experience economies' (Lassen et al. 2009).

Clearly these issues demand investigation. Yet the study of aeromobilities has remained remarkably asocial and rather fragmented. There are entire journals devoted to aviation medicine. Aviation law even used to be a popular sub-discipline and is now a popular area of practice. Aviation and transport security is an enormous industry with well-funded research agendas. Air warfare has been subjected to its own scrutiny by those concerned with the effectiveness of payloads, or by international human rights organizations working on behalf of punished populations. Transportation research and transport geography examine air travel's relation with policy making, governance, economic transformations, alongside technological change. As we will explore in more detail in the following section, the way aerial mobility has been explored in the literature is as an instrumental device – it is a means to an end.

On the other hand, recent conceptual turns towards notions of 'mobility' and 'flow' have been productive in their

elaboration of the mobile dimensions of existence, serving as some sort of corrective to the manner we have thought about movement before (Adey 2009; Cresswell 2001, 2006a; Urry 2007; Urry and Sheller 2006). More discussion and debate is also generating fruitful relationships between 'new mobilities' and a revitalized transport geography (Dival and Revill 2005; Knowles et al. 2007). While incredibly useful for the analysis of our aerial world, they tend to focus their attention to specific sites such as the airport terminal with convincing empirical detail (Fuller and Harley 2004; Pascoe 2001; Salter 2007a). Others use the airport as a metaphorical comparison to contemporary society (Augé 1995; Castells 1996; Chambers 1994; de Botton 2002; Serres 1995). The result of all of this is a useful, yet necessarily partial and often allegorical perspective on air-travel mobility.

This book tries to break the current mould. It aims to present theoretically informed research that explores what the development and transformation of air travel has meant for societies and the human subject. It argues that air travel is both constituted *by* and expressed *in* a set of geographies, infrastructures, relations and processes that connect both land and air.

Aerial Life

As a key component of contemporary mobile life, aeromobilities have shaped and defined the scope of our movements: the sorts of places we may go; the kinds of violence we may inflict; the scale, extent and manner of our surveillance (Adey 2004a, 2004b; Salter 2004). They alter the shape and sovereignty of the space above us, the way we see ourselves in relation to our country's neighbours, and the possibilities and capacities of our bodily movements. Gillian Fuller and Ross Harley (2004) go as far

to suggest that airports are entirely new kinds of life. *Aviopolis*, they purport, is a 'mix of multiple forms of life' between the earth and the sky. As 'metastable' metaforms, airports 'mix multiple forms of life, matter and information into a series of new and constantly changing relations [...] it is impossible to separate airports from the ecology of its environs' (Fuller and Harley 2004: 104-5). The airport has an anatomy; it terraforms its ecologies - understood as a transversal exchange between nature, culture and technology - giving life to some and death to others. With its 'exoskeletons', circulatory systems of 'arteries' and 'capillaries', the airport is a 'commercial organism' (Harley 2009). In the same vein, International Relations scholar Mark Salter has noted how the operator of Frankfurt Airport City describes its passengers as 'the *homo aeroportis globalis*' - 'a new but by no means rare species' (2008: 11) - a distinctive kind of qualified and consumer-driven life, hybrid and adaptable, a species whose patterns of behaviour are difficult to predict.

Although we could take Frankfurt's claims with more of a grin than any acute interest, their ambition to extend and even replace the city articulates how quite new forms of life, exchange and political community have been produced by the aeroplane. I want to take these 'new forms of life' seriously in three related ways which I shall develop further and in more conceptual terms in the following section and throughout the volume.

1 Firstly, the increasingly central role of air-transport mobilities to our society has led to the genesis of what we could call an 'aereality' - a distinctive kind of mobile society, a 'life on the move' - which the aeroplane has worked to imagine, define and mould (Cresswell 2006a; see also Sheller and Urry 2000 on the car). At the same time, and as already discussed, the aeroplane threatens to destroy that life and other non-aerial forms of existence. Aerial life is