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Aerofuturism: Vectors of Modernity  
in Nineteenth- and Twentieth-Century Literature and Culture

A Dissertation submitted in partial satisfaction  
of the requirements for the degree of

Doctor of Philosophy

in

English

by

Alan Richard Lovegreen

June 2014

Dissertation Committee:

Dr. Rob Latham, Chairperson

Dr. Steven Axelrod

Dr. Jennifer Doyle

Dr. Sherryl Vint

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The Dissertation of Alan Richard Lovegreen is approved:

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Committee Chairperson

University of California, Riverside

## Acknowledgements

This project would not have been possible without the assistance of a diverse network of scholars, as well as the ancillary support of enthusiasts, friends, and family. First, I wish to thank UC Riverside's English Department for the funding and the opportunity to pursue this unique research. Many people directly or obliquely contributed to the development of this dissertation, including, but not limited to: Jon Adams, Matthew Bond, John Briggs, Jill Cantonwine, Teri Carter, Geoff Cohen, Melissa Conway, Adriana Craciun, Tina Feldmann, Kimberly Hall, Jeff Hicks, Katherine Kinney, Farah Mendlesohn, Kathleen Moore, Linda Nellany, Josh Pearson, Cynde Sanchez, Phillip Serrato, Linda Strahan, Kelle Truby, Peter Vanek, Jerome Winter, Mark Young, and Susan Zieger.

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Trevor Paglen's photographs *They Watch the Moon* and *Untitled* are used with the courtesy of the artist; Metro Pictures, New York; Altman Siegel, San Francisco; Galerie Zander, Cologne. A condensed version of Chapter Two is forthcoming as "The Air-Body Complex: Posthuman Bodies & Aerial Futures, 1904 – 1916" in *The Tower of Babel Vol. 10: Science and Science Fiction (La Torre di Babele Vol. 10: Scienza e Fantascienza)*. An overview of the research methodology and findings that informed Chapter Three was published previously in a methods essay entitled "Aerofuturism in the Archive" in *The Eaton Journal of Archival Research in Science Fiction*. Frank R. Paul's *Air Wonder Stories* cover artwork is reproduced with the acknowledgement of the Frank R. Paul Estate. Frank Monaghan's "Democracy (Assembling the Future)," republished by Paul Mason Fotsch in *Cultural Critique*, No. 48, is reproduced with the permission of the University of Minnesota Press. The capture of the photograph "Futurama" is used with the permission of the Estate of Margaret Bourke-White as licensed by VAGA, New York, NY. All other figures are from nineteenth-century and earlier source material and as such are covered by the fair use section of U.S copyright law, section 107.

My family has tirelessly supported my research, with my parents unendingly encouraging me to pursue my academic goals. Our wonderful cat, Sabrina, offered consistent advice and company. The birth of my daughter coincided with the genesis of the first pages of this dissertation, and the birth of my son overlapped with the final weeks of writing; both did and continue to inspire. Finally, I am indebted to my wife, Rory, who has been a perpetually sage coach, a patient proofreader, a spirited listener, and an incredible companion throughout this process.

Dedicated to Rory and my growing family

And Isä

Abstract of the Dissertation

Aerofuturism: Vectors of Modernity in  
Nineteenth- and Twentieth-Century Literature and Culture

by

Alan Richard Lovegreen

Doctor of Philosophy, Graduate Program in English  
University of California, Riverside, June 2014  
Dr. Rob Latham, Chairperson

In *Aerofuturism*, I argue that the protean aviation technoculture of the nineteenth and twentieth centuries produced a unique discourse network used by authors, painters, futurists, scientists, engineers, and policymakers to mediate and amplify public anxieties about the human body and its relationship to the surrounding built environment. Each of my four chapters covers a specific chronological period in the evolution of aerofuturist discourse.

Chapter One synthesizes representations of the bird's-eye view in late nineteenth-century painting and photography, providing the optic background for the remainder of the project, and then arguing that the aerial tropes mediate colonial views of subaltern groups. I analyze Ignatius Donnelly's *Caesar's Column: A Story of the Twentieth Century* (1890), and Mark Twain's underappreciated parody of balloon narratives, *Tom Sawyer Abroad* (1894).



Chapter Two shows how visionaries in the early twentieth century used aerial space to theorize nascent forms of eugenic posthumanism. Writers such as Charlotte Perkins Gilman, Alfred W. Lawson, Filippo Tommaso Marinetti, and Algernon Blackwood all illustrate how an emerging air-body complex complicated contemporary discussions of evolution and problematized the pervasive eugenic tropes of the period.

In Chapter Three I examine two aerofuturist phenomena that bookended 1930s American culture: the floating cities featured in Hugo Gernsback's air pulps alongside the aero-cities of the 1939 New York World's Fair. I argue that the shift away from dystopian urban aerofuturism involves an unconscious occlusion of the brick-and-mortar dwellings of the former world in preparation for a coming global air war.

My final chapter considers aerofuturism's dormancy in the nuclear age and the Space Race, and its 1970s reemergence as retro-aerofuturism. Critically examining the way that authors like J.G. Ballard juxtapose aviation with eco-topian short stories, I tie their nostalgic narratives to ecological pressures emanating from the environmental movements of the period. The chapter is followed by a short retrospective coda that suggests the next stage of reanimating and recreating aerofuturist structures.

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## Introduction

“Our Future is in the Air”

–Pablo Picasso (np)

“The poets of fire, water, and earth do not produce the same kind of inspiration as does the poet of the air.”

–Gaston Bachelard (36)

In his 2010 exhibition *Unhuman*, Trevor Paglen’s photographs of drone aircraft and classified military installations reveal what appear to be novel aerial perspectives. One print, “Untitled” (2010), features a U.S. Predator military attack drone legible only as an off-center focal speck, a small, blurry fuselage cross-section adrift in a cottony sky (*Fig. i.1*). The elusive visual clarity of the aircraft reflects the controversial use of drones in contemporary warfare and surveillance, and offers the final haunting perspective its target may glimpse during the last seconds of life. However, as journalist Jonah Weiner notes, these particular images of drones “mean less [...] as a new technology for killing than as a new technology for seeing, reconfiguring our sense of vision and distance” (57). In other words, some of the critical weight of Paglen’s aerial photographs is tied to cartographic acts that show limits of the “visual communication and the annexation of space” (Weiner 60).<sup>1</sup> In another chromogenic print of Paglen’s named *They Watch the Moon* (2010), the subject installation is framed from the reverse of the sort of angle offered in “Untitled”; instead, *They Watch* projects an elevated, oblique, night-vision-

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<sup>1</sup> See Butler for a discussion of camera-guided remote-operated smart bombs as an aerial and global view of an incorporeal killer.

green view of the famed National Security Agency's Sugar Grove facilities in West Virginia (Fig. i.2).



Figure i.1: Trevor Paglen, "Untitled," 2010. C-Print.  
Figure i.2: Ibid, *They Watch the Moon*, 2010. C-Print.



Figure i.3: J.J. Grandvill, *Gulliver Sighting Laputa*, 1835. Woodcut.  
Figure i.4: George Catlin, *Beautiful Prairie Bluffs above the Poncas*, [...] *St. Louis*, 1832. Oil on canvas.

The technological innovations that Paglen captures in *Unhuman* are all recent affairs, part and parcel of a modern day revival in airborne visual and audio surveillance. However, the use of a clearly aerial perspective to grapple with the pressing anxieties of contemporary culture has a long and significant history in transatlantic culture; the same

usage of aerial vision and distance to reconfigure meaning, which Paglen's photographs are designed to employ, has been a space to reconcile social dilemmas on a grand stage that has existed for centuries. See, for instance, J.J. Grandvill's woodcut illustration from the 1835 publication of *Gulliver's Travels* (Fig. i.3). Offering the same approximate viewing angle and matching the fixation with aerial objects as Paglen's image of the hovering drone, both convey the importance of aerial visibility in their respective cultural moments.

Likewise, George Catlin's *Beautiful Prairie Bluffs above the Poncas*, painted almost two centuries prior to Paglen's hillside photograph of the Sugar Grove campus, is a precursor to that same downward gaze, with both works invested in the way that unseen landscapes affect modes of human observation. Paglen and other contemporary artists that produce like aerial visual media seem, on one hand, to be aware of this longer historic scope, describing his influences to include "specific historical photographs and gestures" (Curcio np), but on the other hand the insinuation that his drone photographs offer a new way of seeing and reconditioning current scopic and spatial forms of knowledge ignores the long history of aerial visual culture.

This dissertation is concerned with transatlantic aerial technoculture, or, more simply, "air culture," in the nineteenth and twentieth centuries. The fascination with flight dramatically influenced culture and art, and is a defining feature of late modernity. On one level, air was known to hold an elemental, psychological quality because, as Graciela Elizabeth Bergallo argues, "air, precisely because it is impalatable, invisible,

and uncatchable, offers a high degree of expressive liberty to those who wish to use it symbolically” (153). Poets over the centuries tapped into this power of poetic inspiration. Just as the breath of the muse was imagined to be a force that would overwhelmingly enter a poet’s mind during reverie, poets like William Butler Yeats wrote of the effect of air space upon their cognition: “From dream to dream and rhyme to rhyme I have ranged / In rambling talk with an image of air / Vague memories, nothing but memories (“Broken Dreams” 39-41). Across the English Channel, French poet and playwright Guillaume Albert Apollinaire’s “*L’oiseau et le Bouquet*” (circa 1915) matched Yeats’s exploratory words, drawing an intersection between unique bird-shape concrete poetry and calligrams (Bohn 76), while cubist Pablo Picasso was similarly, continually haunted by the idea of air. Picasso’s works frequently rely on a thematic overlay of weather, bulls, and airplanes, a pattern that bears similarity to what Robert Wohl describes as the history of flight, an endeavor that “takes us deeply into the human psyche and the sensibility (12).<sup>2</sup> Other literary giants were no less affected. Aerial weather systems dramatically affect the minds of Proustian characters, as Eve Kosofsky Sedgwick argues in *The Weather in Proust* (2012). These writers — Apollinaire, Picasso, Proust, Yeats — and so many others support Wohl’s view that the history of aviation must be “integrated into the historical and spiritual narrative of the West” (12), a challenge that, in some ways, would later achieve an almost totally perfect postmodern blend of shamanism, cult science, fairy tales, and rocketry in Thomas Pynchon’s *Gravity’s Rainbow* (1973) and *Against the Day* (2006).

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<sup>2</sup> For additional scholarship on the influence of aviation on Picasso’s work, see Gasman.

The growing technoculture of balloons, dirigibles, and, later, fixed-wing aircraft in the nineteenth and twentieth centuries even more radically affected values, identities, and ideologies, building on top of the longstanding poetic tradition of air culture. As such, the fascination with flight would become a “winged gospel,” as Joseph Corn writes of the particularly vibrant strand of American air culture (45), and airship scholar Henry Cord Myer agrees that the power of flight is a pervasive system, noting that “as long as airships flew, their passage had a powerful psychological impact upon the multitudes that turned out to see them” (81). Drawing from the excitement of flight and new visions available of the earth, a transatlantic air culture of writers, painters, architects, inventors, and likeminded thinkers shared a fascination for what was possible in air space and flight, generating a vibrant discourse that resonated across state lines and oceans, and then echoed down through the centuries. In turn, that discourse of aerial futures was employed to mediate vital cultural concerns.

This project is not another aviation history. Any given library contains a few dedicated, sagging shelves of aviation monographs. Such existing aviation chronicles provide useful, if linear historical metrics (passengers, payloads, production runs, operating ceilings, wingspans, service years, and beyond), but I rely sparingly on such histories, as they often overlook the cultural nexus of aerial vision, popular culture, and flight technologies. As my primary focus in this dissertation is the understudied visions of the aerial future in the nineteenth and twentieth centuries, I draw instead on a different type of scholarship and utilize a different methodology; this project builds atop the



interdisciplinary mix of emergent air culture criticism — what some have named “critical air studies” — that has surfaced across adjacent scholarly fields in the last few years.<sup>3</sup>

Over the years there have been occasional attempts to discuss air culture beyond simple aviation chronicles. Laurence Goldstein’s *The Flying Machine and Modern Literature* (1986), Dominick Pisano’s *The Airplane in American Culture* (2003), and A. Bowdoin Van Riper’s *Imagining Flight: Aviation and Popular Culture* (2004) all provide surveys that are informative, although their scope and critical depth are sometimes lacking. More critically invested works from the early 1990s, include Stephen Crary’s *Techniques of the Observer* (1990) and Paul Virilio’s *War and Cinema* (1989), both expose distinctively scopic conditions related to aerial viewership in their respective centuries of study (the nineteenth for Crary, the twentieth for Virilio).

More recent critical scholarship on air culture includes Clare Brant’s 2011 article on aerial letters and eighteenth-century ballooning literature, which describes the way that epistolary writing functions affected the perceptions of aeronauts. Fantasy illustrator John Howe has amassed a rich global index of paintings and the underlying psychology of “Ships in the Air” that is available on the web (2011). Adnan Morshed draws fascinating connections among aerial vision, the culture of flight, and the built environment of the mid-twentieth century. Regarding twentieth century literature and culture, Marit J. MacArthur’s 2012 work on the phenomenology of flight and the poetics of passenger flight related to global space address effects of the so-called “golden age” of

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<sup>3</sup> I became aware of this phrase after reading Christopher Schaberg’s call for papers for a special edition of the journal *Criticism* on “critical air studies” in November 2012.

jet aircraft passenger flight. Also concerning the unique modes of temporal experience related to air culture is Christopher Schaberg's recent article on time and jet travel, "Flying Objects, Sitting Still, Killing Time" (2012), which complements MacArthur's approach, and Schaberg's book *The Textual Life of Airports: Reading the Culture of Flight* (2011) discusses the epistemological possibilities of airport terminals. In suit with MacArthur and Schaberg, Peter Adey's book-length work *Aerial Life: Spaces, Mobilities, Affects* (2010) approaches the social and cultural conditions related to global air travel, which Adey and his colleagues Lucy Budd and Phil Hubbard previously published in "Flying Lessons: Exploring the Social and Cultural Geographies of Global Air Travel" (2007). Additionally, although the above state-of-the-critical-air-studies union does not begin to include the widening gyre of scholarship on drone aircraft, many of the same scholars have contributed to that field too, with most works of merit discussing the body politics of the use of unmanned aerial vehicles (UAWs) to attack targets in the Middle East.<sup>4</sup>

While the immediate focal points of this project are four distinct visions of aerial futures that occur at certain points in the nineteenth and twentieth centuries, it is my hope that this dissertation will also provide a resource for future scholars of critical air studies, offering a synthesis of the existing critical-air-studies scholarship while producing innovative cultural work. For example, the sluggish temporality of flight cited by 1930s aviators is a condition that I align with similar time dilations chronicled in the diaries of

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<sup>4</sup> For a recent journal issue dedicated to critical perspectives on UAWs, see "Game of Drones."

balloonists in the late eighteenth century. In another case, I track the way that urban visionaries in the interwar period prior to World War Two heralded the bird's-eye view as an enhanced method of visualizing future urban cityscapes, and tie its expression of bird's-eye viewing to the way that 1860s cartographers and photographers used the bird's-eye view to capture oblique angles and attempt to represent urban perfection. Near the end of the dissertation, in yet another example of historical interconnectedness, I argue that select postmodern writers strapped some of their favorite characters to rockets and fated others to aerial entropy in ways that mirror, perhaps subconsciously, the posthuman themes arising in the early twentieth century.

The majority of the texts under study are works of speculative fiction from nineteenth and twentieth century literature and culture. Frequently set in an imagined aerial tomorrow, these narratives are works of *aerofuturism*. The term is a forgotten phrase that has, as of late, been relegated to obscurity. Aerofuturism appears so infrequently throughout the twentieth century that it has not yet merited an Oxford English Dictionary entry, and when the word does make an appearance it is in the occasional scholarly work on Futurism, where the term is used to describe the Italian *Aeropittura* art movement and *Aero-Danza* style, or in the occasional aside by Steampunk enthusiast who stumbled upon or created the term aerofuturism anew.<sup>5</sup> And yet the obvious portmanteau construction of aerofuturism makes the word immediately

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<sup>5</sup> See Berghaus, "From Futurism," 206 for a discussion of *Aerodanze*; and *International Futurism* 162, 382, 392, 436, and 446, for uses of the term "aero-future" related to *Aeropittura*. For a recent steampunk appropriation of the term aerofuturism see the web entry by (the handle) Lord\_K, entitled "S.A.M. #7: Aerofuturism."

legible to scholars and non-academics alike. To employ aerofuturism is to discuss the future and its mode of aerial knowledge formation. The term also has existing brethren that name other cultural art movements, including Futurism and its offshoots, and the more recent emergence of astrofuturism, and then afrofuturism.<sup>6</sup> Aerofuturism is a readymade critical term for the study of speculative aerial environments, a concept sorely missing in the field of critical air studies that, as the air culture scholarship reveals, is highly weighted toward nonfictional aspects of air space, aerial viewership, and flight phenomenology.

Aerofuturism is not just a stylistic form or the happenstance pairing of flight technologies with speculative environs; it is a mode of expression that is intrinsically wired to a utopian critical consciousness. To incorporate aerofuturism is to convey a dialogic feedback loop that, especially in the nineteenth and twentieth century cultural works that I discuss, produce a system much like that which Friedrich Kittler calls a “discourse network.” I routinely use Kittler’s phrase “discourse network” throughout the course of this project to reference a succinct philosophical definition that Kittler himself most clearly articulates: “the network of technologies and institutions that allow a given culture to select, store, and process relevant data” (369).<sup>7</sup> This is aerofuturism: a historical register, an active discursive system that connects flight technologies with

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<sup>6</sup> For a book-length critical study on afrofuturism, see Womack. For a book-length critical study of astrofuturism, see Kilgore.

<sup>7</sup> Kittler’s approach is heavily invested in the theories of knowledge that arise in post-structuralist thought. For an overview of the way that Kittler assimilates the philosophical approaches of Jacques Derrida, Gilles Deleuze, Félix Guattari, and Jacques Lacan, see the book review by Thomas Sebastian.

poetic catalogs of memory; and, a system that catalogues tropes of science fiction and other speculative literature while looking to see what cultural visions of future civilization reflect about current paradigms. The use of this discourse network in the texts and historical moments covered in the following chapter is to process and mediate the high tribulations of tomorrow.

Other visionaries and critics envisioned this same kind of discourse network but render it in more organic terms as an aerial literary dialogue that crossed oceanic and methodological boundaries. For instance, Hugo Gernsback pronounced in 1929 that his magazine *Air Wonder Stories* was part of a grand narrative network that included Edgar Allan Poe's 1844 "balloon hoax," (a newspaper column which falsely claimed that a balloon had crossed the Atlantic in three days), Jules Verne's adventure ride into the unknowns of Africa in *Five Weeks in a Balloon* (1869), and H.G. Wells's ominous predictions of how European nations would attack each other through air power in *The War in the Air* (1908). Aerofuturism is precisely this idea that Gernsback tapped into (either unwittingly or purposefully).

While the texts under study are primarily novels, I also discuss speculative fiction "narratives" in landscape painting, architecture, and other forms of cultural expression.<sup>8</sup> Drawn from American, British, and European sources, many of the works discussed in the following pages are clear examples of the established (albeit plastic) genre of science fiction. For any materials or themes that are technologically exploratory but not directly

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<sup>8</sup> For a detailed chronology of the history of airships in literature and visual culture, see Lowe. For a collection of contemporary air art, see Geoff Manaugh's *Landscape Futures*.

aligned with an institutional definition of science fiction, I use the abbreviation for speculative fiction, broadly construed: “SF.”<sup>9</sup> My project also shadows select developments and literary transfers of science fiction/sf. I identify less-obvious contact points and influences of aerofuturism that parallel with, for instance, Edgar Allan Poe’s “Balloon Hoax” (1844), which inspired Jules Verne’s world-traveling narrative *Five Weeks in a Balloon* (1863), a tradition of the aerial fantastic that informs the balloon adventuring in Ignatius Donnelly’s *Caesar’s Column* (1890) and Mark Twain’s *Tom Sawyer Abroad* (1894); these influenced the aerial futures that marked the stories published by Wells, and later Gernsback.<sup>10</sup> Such subgenres of science fiction became the source material for the retro-aerofuturism pastiches that appear in the proto-Steam-punk works of the 1970s; the Gernsback brand of science fiction would influence the so-called Golden Age of science fiction that led up to World War Two, and its specific patterns would be lampooned in William Gibson’s “Gernsback Continuum” (1981), which overlaps the trajectories of aerial science fiction heritage with those of the contemporary moment.

All four chapters draw out specific threads of aerofuturism as they relate to viewing frontier landscapes and erasing (or mediating the impact of) ethnic groups of color. Often the texts of the aerial future will carefully posit a dual approach to such

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<sup>9</sup> Lowercase “sf” is used to designate institutional or genre-specific narratives. The uppercase “SF” is used more broadly.

<sup>10</sup> For more on Poe’s influence on Verne, see Goulet 48. The argument that *Caesar’s Column* is a transition figure between the *Voyages Extraordinaires* of Verne and the pulp fiction of the 1930s ‘father’ of American Science Fiction Hugo Gernsback has been made previously; see Ruddick xxxvi.

relationships, on the one hand illustrating a utopian bird's-eye view of native bodies that situates them as timeless, romantic primitive features of the landscape, and on the other hand providing the critical distance so that those native people appear equally disposable, erasable, or to be otherwise non-necessary components of a technological utopia. For instance, the narrator's overt claim in Alfred Lawson's *Born Again* (1904) that he finds all men equal despite their color is countered by the novel's pronounced Anglo-Saxon futurians who are aligned with white Greco-Roman statues, as well as the novel's racial rendering of the problematic "ape-men" of the narrator's present, which perpetuates the primitivist tenets of the use of the bird's-eye view aerofuturism to equally distance the populace from subaltern groups in late nineteenth century thought.

Aerofuturism in this project is often directly tied to technological utopias, and each chapter discusses the "utopian" and "dystopian" elements in the fiction under study. Sir Philip Sidney's sixteenth-century explanation of a utopia as a rhetorical tool of virtue, which he used to shed light on Sir Thomas More's *Utopia* (1516), is still a staple of most current scholarship, as detailed by Manuel and Manuel in their introduction to *Utopian Thought in the Western World* (1979). A number of scholars have offered various ways of naming the functions of a utopian system that move beyond Sidney's framing, however. Tom Moylan argues, for instance, that there is a method of examining the 1970s revival of utopian narratives that offers the idea of a "critical utopia," a narrative that provides an Enlightenment-spun critique paired with postmodern metacognition to evaluate the role of the state even though some contemporary texts, as Moylan admits, produce a de-centralized state and thus shift the high target of a given utopia's rhetorical

abilities (Baccolini and Moylan 2). I find that Moylan's idea of critical utopias is a useful way to discuss utopian literature far earlier than the postmodern turn. Perhaps more suitable to this project is Ruth Levitas's more concise analysis of the operative value of the idea of utopia, arguing that the ability to catalyze change (à la Sidney's rhetorical system of virtue) is often overshadowed by utopia's alternative functions as a "bearer of consolation or a vehicle of criticism" (14). My approach to aerofuturism as a discourse network is comparable to the latter functions that Levitas offers, as aerofuturism in this dissertation utilizes utopian/dystopian dynamics not only to assess the role of the state but to tender comfort and allow for critiques of the social mores of the day.

I have approached this project chronologically, framing each chapter within a set number of years, and generally following a linear timeline within the body of my chapters. There are obvious limitations associated with this approach, but it is an effective system for cataloguing the variety of trends and interdisciplinary materials covered in this project. Each chapter faces a different juncture in Western culture where aerial sf is used as a site of clear vision and prophesying. The aerial visions, in turn, produce a discourse that allows culture to interrogate a particular paradigm shift. Moreover, all chapters follow roughly the same developmental trajectory, opening with an example culled from a primary work, moving into the thesis of that chapter, and then illustrating that particular brand of aerial fantastic produced a discourse network that allowed for the mitigation of pressing cultural concerns, all the while providing contextual materials to bolster the historical, cultural value of the argument at hand.



Despite the chronological backbone to this study of air culture, my methodology resists reading cultural change as a linear function of technological determinism. Instead, I stress a more dynamic circulation of ideas via aerofuturism, patterning my method after those of contemporary technoculture scholars such as Stephen Crary and David Nye. After all, while it may be tempting to imagine that the developments in flight technology (larger, more advanced planes and dirigibles) directly affected and compelled visionaries to give special thought to air culture (that innovations and technology spurred those ideas of the singularity of the aerial scope, and that culture in response reacted by producing utopian sky cities and aerial dwellings), my dissertation consistently argues that contemporary Western culture was always already actively seeking a new aerial perspective that would radically redefine the relationships between air culture and the concerns for the world of tomorrow.

Chapter One argues that aerial vision, aerial time, and colonial discourse appear in speculative fiction and painting in the nineteenth century in complex ways that provide a discourse for mediating anxieties regarding subaltern bodies. The chapter opens with an involved overview of the history of the bird's-eye view, in part to set up the framework for the entire project; the bird's-eye view is integral to the way that air culture in nineteenth and twentieth centuries allowed for special properties of sight and seeing. I then illustrate how nineteenth-century aeronauts of transatlantic fame described the views from above as containing a certain type of aerial motion. Often this aerial motion reads as one of immobility, as the referents of moving across a terrain are geometrically muted. In contrast, I compare aerial motion to the more common forms of transport in the

nineteenth century, and interrogate the notable deficiencies in air travel scholarship within the critical works on travel literature. My inclusion of excerpts by Vincent Lundari, Charles Green, and John Wise all support how the bird's-eye view specifically allows for a unique appreciation for deep history and time commensurate with the wide visual field of the view from the air. I argue that these appreciative moments of special time and vision produce a multidirectional conduit for exercising deeply rooted anxieties, and that culture in the nineteenth century used this conduit to work through the imagined fates of future iterations of subaltern cultures. The primary readings in this chapter include the bird's-eye view imagery of Great Plains Indians in George Catlin's frontier paintings, as well as the modes of flight in Ignatius Donnelly's utopian work *Caesar's Column* (1890), and international aerial encounters in Mark Twain's Vernsian parody *Tom Sawyer Abroad* (1894). All three texts use a bird's-eye view to express powerful concerns for blurring of the mapped world and the fate of subaltern humanism in the nineteenth century.

Chapter Two examines a number of historically remote texts published between 1904 and 1916 that reveal deep cultural desires for a posthuman rejection of the body. Tracking how the spread of fixed-wing flight produced a protean field of aviation culture, I investigate how writers and other visionaries of this period used aerofuturism to mirror the changing understanding of aerial possibility by envisioning similar protean possibilities for the human form. These texts feature a variety of ways that air exposure would heal diseased or wounded bodies, and many allow a clear separation from literal flesh and bone. I argue that feminist author Charlotte Perkins Gilman's article "When we

Fly” (1907) and the forgotten aviator-author Alfred W. Lawson’s *Born Again* (1904) both illustrate visions of uniform bodies that match the period’s strong interest in eugenics, and I demonstrate how such themes of eugenics also emerge in Filippo Tommaso Marinetti’s novel *Mafarka the Futurist* (1910), where the son of the titular King Mafarka is born with the body of an aircraft. Gilman, Lawson, and Marinetti’s speculations draw upon evolutionary language culled from nineteenth-century conceptions of the body, and offer wild possibilities for transcending the human form entirely. British horror writer Algernon Blackwood creates an even more abstract representation of this type of corporeal aerofuturism, and I show how his novella *The Promise of Air* (1913) and his short story “The Wings of Horus” (1914) allow his protagonists to achieve new ontologies that reflect Henri Bergson’s 1907 theory of creative evolution. Here, again, the evolutionary transformations achieved in the aerial registers allow metaphysical departures from the ailments of the flesh, and the promise of tomorrow is either that of prosthetic bodies or a posthuman mental state decoupled from the human frame.

Chapter Three examines a powerful strain of city aerofuturism that emerged in the 1930s, and was used by urban planners and science fiction authors alike to ponder the fate of the urban built environment. I discuss two aerofuturist collectives of the decade, beginning with the air cities and air homes that dwarfed the pulp fiction serials of the late 1920s and early 1930s, and concluding with the cities of the future imagined at the New York World’s Fair of 1939. The fanstastic aerial photographs and dioramas, paintings and novels, pulp fiction and political letters produce a budding technoculture that rechanneled the American frontier philosophy and, I argue, offered a psychological

distinction between the Byzantine building structures of the historic city and tomorrow's futuristic metropolises. The chapter tracks the frontier mentality in flight narratives, and then illustrates the continuation of the same discourse network in the air pulp fiction that Gernsback incorporated into his magazine publications of that period. These imagined futures reflected the concern that the new aerial paradigm of flight and aviation would make imminent the certainty of annihilation of existing cityscapes. Using the views of French urban planner Le Corbusier on the way the "airplane eye" allowed for new city planning, I move between the early 1930s and the late 1930s, illustrating how the apocalyptic fate of the air cities in the early thirties predicted the coming air war. Chapter Three concludes with the way that prominent city designs of the future at the New York World's Fair of 1939 rejected the historic ties to the past built environment that the air pulp fiction examined earlier in the decade. The two large air-viewed structures, Democracity and Futurama, the fair's two enormous cities of tomorrow, illustrate, ultimately, a developing understanding that rapidly modernizing cities of the future would come only after the leveling of the historical built environment.

My final chapter tracks the way that aerofuturism reemerges after a long period of inactivity during the global Space Race of the 1950s and 1960s. After astrofuturism took aerofuturism's place as the postwar discourse network of prominence, the tropes of the aerial future remained muted until after the moon landing and the rise of postmodernism. The nostalgic pastiches of air culture in the early 1970s marked the beginnings of this new form of old futurism: retro-aerofuturism. Retro-aerofuturism informed, and heavily influenced, the simultaneous rise of the Steampunk genre, and it expressed a discontent

not only with the limits of technocultural utopianism, but also aired a sense of loss over the protean possibilities of futurity in the face of looming globalization and ecological ruin. Exemplary of this trend are Michael Moorcock's *The Warlord of the Air* (1973) and J.G. Ballard's aviation novelette "The Ultimate City" (1976) and novel *The Unlimited Dream Company* (1979), all of which express the failure of the new ecological utopianism that emerges with the new environmentalist consciousness of the 1970s.

In a final coda, I look to the recent emergence of new aerial optics through military uses of drone aircraft and articulate how aerofuturism is still relevant today, still providing an active discourse network in current culture. The last two centuries of aerial tradition inform the way that we envision cutting-edge technoculture: wing suits, military airships, drone aircraft small and large, and the abundance of satellite imagery. There can be little doubt that the skies of tomorrow will be anything but an active space for cultural expression and the deployment of new technologies that, as always, reflect upon those looking up from the ground below.

## Chapter One

### The Nineteenth Century and the Bird's-Eye View, 1830 – 1900

“It exhibits an almost birds-eye view of an extensive country”

–Horace Walpole, *Anecdotes* (146)

“Our age is ocular”

–Ralph Waldo Emerson, *Nature* (328)

Drifting through the clouds near Taborah, Tanzania, Jules Verne's three globe-traveling aeronauts in *Five Weeks in a Balloon* (1863), Dr. Samuel Fergusson, his manservant Joe, and crack shot Richard Kennedy, all experience a strange visual paradigm:

At the height of six thousand feet, the density of the atmosphere has already greatly diminished; sound is conveyed with difficulty, and the voice is not so easily heard. The view of objects becomes confused; the gaze no longer takes in any but large, quite ill-distinguishable masses; men and animals on the surface become absolutely invisible; the roads and rivers get to look like threads, and the lakes dwindle to ponds. (96)

This aerial view, or the bird's-eye view, offers a visual disruption of the proportion and resolution of the terrain. As the mass of threads and ponds below slowly become legible, the fliers' reorientation offers a restoration of preexisting visual sight, but it also provides new moments of insight:

The doctor and his friends felt themselves in a very anomalous condition; an atmospheric current of extreme velocity was bearing them away beyond arid mountains, upon whose summits vast fields of snow surprised the gaze; while their convulsed appearance told of Titanic travail in the earliest epoch of the world's existence. (96)

This condition that gives Joe, Kennedy, and Dr. Ferguson pause deserves a second glance. They see more than the shifting level of detail commensurate to their rising viewing angle and the shifting atmospheric conditions; at the same time, the three fliers also comprehend a distorted experience of temporality and an expanded global awareness, both in direct response to the bird's-eye view of the topography below. In that moment of seeing, the aeronauts find their views of the world (and worldviews) briefly replaced with a new contemplative vision of global terrain and its epochal history.

For the purpose of this current chapter, the importance of this uncanny visual moment in *Five Weeks in a Balloon* lies in what happens next. Descending through the clouds, the trio observe yet another intriguing image of the terrain below where, “in the clayey soil [...] [where] the bones of men and animals that had been half-gnawed away, mouldering together in the same dust” (99), another image of longevity. Soon the balloon is grounded and secured, Joe and Kennedy set off in pursuit of game hiding in the nearby forest. They stalk a herd of game and shoot an antelope, cooking its tenderloin over a crackling fire. Then, a rifle report from the direction of the balloon recalls the

hunting party to the landing zone. When they reach the clearing, the two aeronauts find a startling sight:

“Good God!” suddenly exclaimed Joe.

“What do you see?”

“Down there! look! a crowd of blacks surrounding the balloon!”

And, in fact, there, two miles from where they were, they saw some thirty wild natives close together, yelling, gesticulating, and cutting all kinds of antics at the foot of the sycamore. (102)

Joe and Kennedy’s first impression is subject to the same obscured bird’s-eye visual paradigm experienced in the balloon earlier in the day. Their sighting angle is a moderately oblique view, looking “down” upon the balloon from a high vantage point, high enough to know, anyway, that there is not merely a group of natives approaching the balloon, the group is “surrounding” it (102). The two-mile distance between Joe and Kennedy’s elevated view and the action surrounding the balloon mirrors the distorted long-range focus that came about during the anomalous aerial view experienced earlier in flight.

As Joe and Kennedy close in on the landing zone they realize that while indeed the threat is genuine, the “blacks” are something other than bloodthirsty natives. The attacking force is, in fact, an enraged troop of baboons. Verne’s adventurers easily avoid a direct confrontation with the primates, firing their rifles and then taking to the air. Once aloft, the three fliers wax pragmatic about their recent peril:



“That was an attack for you!” said Joe.

“We thought you were surrounded by natives.”

“Well, fortunately, they were only apes,” said the doctor.

“At a distance there's no great difference,” remarked Kennedy.

“Nor close at hand, either,” added Joe. (103)

The casual acceptance that baboons and African natives are easily interchangeable is not surprising. Numerous examples in the literature of the nineteenth century employ the same blanketing colonial gaze that simplifies and dehumanizes existing indigenous groups by identifying them with primates. No matter the path of travel, as Franco Moretti argues, such African colonial romances are linear tales that on one hand posit “white men, their guide, technology, and a discolored map. On the other [hand] [...] Contemptuous confusion of the natural and the human, which conveys the ultimate message of colonial romances: Africans are animals” (58-60). And such tropes of primitivism maintained transatlantic resonance well into the twentieth century.

An abundance of established scholarship on the troubling (but common) nineteenth-century colonial vision seen in the above excerpt of *Five Weeks in a Balloon* already exists. There are many influential studies in the field, including Bret Benjamin's *Invested Interest* (2007), Michael Denning's *Culture in the Age of Three Worlds* (2004), and Gayatri Chakravorty Spivak's *A Critique of Postcolonial Reason* (1999). Additionally, Uday Mehta's *Liberalism and Empire: A Study in Nineteenth-Century British Liberal Thought* (1999), Franco Moretti's *Atlas of the European Novel, 1800-1900* (1998), and

Mary Pratt's *Imperial Eyes: Travel Writing and Transculturation* (1992) also contribute to the critical work on the influential concept of the aerial view and gaze theory. In the critical readings of nineteenth-century literature these scholars and their ilk acknowledge the historically complex cultural treatment of those primitive inhabitants subjugated by colonial adventuring. Moreover, there tends to be a very direct relationship between the method of envisioning the population of an alien culture and the method of mapping out an unknown geography. Robbie McLaughlan provides the useful framing term "colonial cartography" to describe the tendency to perpetuate the vague sense of foreign geography so that society can feel equally comfortable about the unknown culture of subalterns (99-122). Like all varieties of aerofuturism, colonial cartography offers a subtle coping mechanism for which to address a pressing, controversial topic of that contemporary moment.

What interests me about this particular exchange in *Five Weeks in a Balloon* is the way that the uncanny experience of aerial vision intersects the novel's understanding of colonial cartography, and how the moment just prior to the balloon's touchdown facilitates a vision of global, epochal scope that is quickly juxtaposed with colonial act of mis-seeing native bodies. None of these scholars listed above spend any prolonged, explicit time on the intersections between aerial adventuring and neo-colonialism, but the twin acts of seeing in *Five Weeks in a Balloon* suggest that the air provides a new form of awareness of place and time, one with a longer, geologic scope. Moreover, the view of the bodies and culture of African tribes in conjunction with this long-range, deep-time perspective allow just enough distance for the readership to satisfy any curiosities while

still maintaining their distance from such subaltern groups. Would these natives be simply a threat to Western adventurers, or would they be treated as stock creatures, used and romanticized like the antelope that Joe and Kennedy shoot? Verne's novel poses these questions within contemplative moments that seem to accept a broader worldview and context of long histories; later in *Five Weeks in a Balloon*, Dr. Ferguson looks down upon the earth as a moonscape, wondering whether it is possible for the African terrain below to instead become the center of future civilization (Ruddick xxxiv). It is through the bird's-eye view of the ground and culture below that writers such as Verne facilitate such opposing ideas about what will become of the inhabitants of colonized land. The bird's-eye view allows for the distanced view of a mapmaker, and the epochal gaze allows the adventurers to appreciate the seeming timelessness of the continent's landscapes, while also appreciating both the primitivist reading of Africa's various ethnographic groups and also casting them in the same futilist primitivism that distances the trio from engaging with the native inhabitants as anything but inhuman subjects. These atmospheric "air" elements of the following narratives allow for a dialectic vision that both memorializes and subjugates the native bodies that appear on the landscapes below.

This chapter interrogates how the proximities of aerial vision, aerial time, and colonial visibility like those in *Five Weeks in a Balloon* crop up in transatlantic speculative fiction and painting in the nineteenth century. There is a trove of scholarship covering the nexus of colonial mapping, primitivism, and travel literature in that same historical period, but it gives insufficient coverage to the importance of the aerial gaze

(and this despite the integral, transatlantic role of the bird's-eye view in the areas of mapping, visual culture, and spectatorship during that period). Viewing geographical or like spaces from a bird's-eye view is more than just a unidirectional gaze from an elevated position upon an objectified field. The bird's-eye view is frequently part of a visual constitution of the awe-inspiring appreciation for deep history and time commensurate with the wide visual field. It is not simply a linear approach to mapping and visual representation like Alan MacEachren imagines of the geographic environment as one interpreted by the cartographer, who then generates that interpretation on a map, which is then viewed by the map's recipient (4). Instead, the bird's-eye view is a more complex, compound loop of seeing and discursive capacity that allows for the geographic environment to appear as blank, plastic sheets below aerial visionaries, who then project how the landscapes below will map out for native inhabitants living on those colonized expanses.

I open this chapter with a multi-century, directed history of the bird's-eye view, and proceed with the way that this particular outlook captivated Western society leading into the age of balloon flight. Since the special properties associated with aerial visibility appear in all four chapters of this dissertation, I take considerable time to establish the way that the bird's-eye view affected culture leading up and into the nineteenth and twentieth centuries. Part of my aim is to supply sufficient attention to the scopic conditions of aerial viewership and its cultural impact on the nineteenth century, for what scholarship does exist is often bound to narrow histories of photography and

cartography.<sup>11</sup> Additionally, this first section includes an extended reading of bird's-eye view imagery of Great Plains Indians in George Catlin's frontier paintings, an analysis germane to the current chapter's discussion of the bird's-eye view's insights on visualizing subaltern futures.

Section two assesses the tropes of aerial motion in the nineteenth century, working through ideas of slowness that scholars have identified in travel accounts of rail and pedestrian culture. This approach provides a foil to the unique temporality of flight displayed in the literature and culture of the same period. I then interrogate the notable deficiency of critical studies of aerial accounts in the field of travel literature scholarship, which has long overlooked the importance of flight. My examples are of nineteenth-century aeronauts who describe the conditions of aerial motion, including Vincent Lundari, Charles Green, and John Wise (a transatlantic spread of famous Italian, British, and American fliers, respectively). Their experiences of aerial vision and aerial time gained from the bird's-eye view support the readings in the final section of the chapter, where the speculative fiction of the nineteenth century use the same type of visual paradigm and motion to exercise and mediate contemporary anxieties regarding the fate of subaltern bodies.

The last section is devoted to two late-nineteenth-century texts that, like Verne's, use the bird's-eye view to express deeply rooted concerns for blurring of the mapped

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<sup>11</sup> For general observations on the flier's perspective, see Virilio. For a formative argument regarding the cultural systems that camera technologies responded to and replicated, see Crary.

world and the fate of primitive humanism in the nineteenth century. First is the role of the visuals garnered from airships in Ignatius Donnelly's utopian work *Caesar's Column* (1890), and the chapter draws to a close with the geospatial asides drawn from the balloon-narrative parody of Mark Twain's *Tom Sawyer Abroad* (1894), both works that might be considered proto-Steam-punk; *Caesar's Column* more for the techno-urban streetscenes, and *Tom Sawyer abroad* more for the malaise of its awkward boy aeronauts and their loss of innocence.<sup>12</sup> (Chapter Four discusses the connection between Steam-punk in the Postmodern Era.)

Any optic system is always subject to distortion, and although the aviators of the nineteenth century believed that they had attained an angel's view of the ground below, their characterization of those people living less industrialized existences in foreign, colonized terrains were if anything less dimensional due to their heightened access to bird's-eye view. My goal instead is to illuminate the aerial-visual and aerial-temporal tropes that exist in late nineteenth century, and illustrate how their discourse yielded new insight into the fate of primitive groups that the civilized world threatened. The operative system that bird's-eye view allowed, in its vast scope of geologic earth and the strange suspension of normative temporality experienced during balloon flight allowed (at least in the eyes of those living in the late nineteenth century) for a discourse regarding the fate of such subaltern groups.

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<sup>12</sup> For a discussion of the loss of innocence in the text see Nevins 10.

Catlin's paintings and the selections from the three novels under study in this chapter are early forms of aerofuturism. The romanticized present and future landscapes dotted with subaltern bodies are viewed with the transformative power of the aerial view and aerial time that – like all aerofuturism – allows for mediation of a pressing cultural concern. In this case that concern is the future of their subaltern subjects. I also contextualize these works with speculative concepts in painting, optic culture, and popular culture. There are, after all, many rich nineteenth century narratives that include the literature, bird's eye views, and utopias. Edgar Allan Poe's "Balloon Hoax" (1844), originally published in the *Baltimore Sun*, offers proto-science fiction in its wild claim of a lighter-than-air traverse of the Atlantic Ocean.<sup>13</sup> Mary Shelley's fascinating early SF work *The Last Man* (1826) submits a clear critique of her modern culture. However, the texts that I focus on most directly in this chapter provide the thematic treatment of the bird's-eye view as a system of new vision that coincides with a system critique — specifically, the use of the bird's-eye view to produce a discourse of colonial cartography that calls into question the future of subaltern bodies in nineteenth-century culture.

Although aerostats, balloons, and dirigibles ushered in new ways to see from elevated perspectives, and they frequently become the platform for viewing the bird's-eye view in the nineteenth century, this opening chapter is not a history of ballooning. A variety of aircraft heavily influence the rise of the bird's-eye view in the nineteenth century, certainly, but the relationship cannot be reduced to a technologically determined model of cultural change. New innovations do not simply appear, and culture does not

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<sup>13</sup> The first nonfictional airship crossing of the Atlantic would not take place until 1919.

simply respond to them; instead, new techniques of observation complexly reflect existing desires for those same types of vision. My approach to this chapter and dissertation is to identify the way that the bird's-eye view offered a proto-aerofuturist discourse network through multidirectional streams of influence. Those influences are generated amidst the contact points of the bird's-eye view, the trans-Atlantic culture obsessed with visual representation, and the tropes of motion that come from these lofty vantage points. Through these contact points come understated and complex expressions of time that allow for the expressions of concern regarding the fate of primitive, colonized cultures. Aerofuturism here forecasts the future as envisioned from the air. The threat is a fate of extinction, and that the natives and their ways of life will disappear from the ground below. (Time dilations will also appear again in the tropes of 1930s city aerofuturism discussed in Chapter Three, and concerns for removing inferior human bodies from the populace crops up again in Chapter Two.)

All texts under study here are treated as speculative fiction and as early works of aerofuturism. In other words, the uniquely aerial views and experiences in these books provide a space for exercising and critiquing pressing concerns of the given cultural moment. (Each subsequent chapter follows the same general method of inquiry.) In addition to affecting expressions of aerial motion, cartographic uncertainty, and concerns of primitivism associated with balloon flight in the nineteenth century (the current chapter), the bird's-eye view is integral to the later modes of posthuman aerial embodiment in the early twentieth century (Chapter Two), a subsequent mediating influence of the aerofuturist city designs of the 1920s and 1930s (Chapter Three), key to



the decline and retro-activation of aerofuturism in the ecological movements of the 1960s and 1970s (Chapter Four), and resurges anew, as marked by the project's coda on the emergent brand of aerofuturism offered by the intersection of Steampunk narratives, modern drone surveillance, and the US military's renewed interest in balloon projects. Chronologically organized, the upcoming chapters all focus on techno-futurist trends, and all similarly rely on the unique visual clarity associated with flight. Flight offers the opportunity to circulate, modulate, mediate, and sometimes suppress anxieties about the fate of humans and environments in the present and future. In particular, the middle section of this chapter provides an historical overview of the visual culture of the bird's-eye view not just to introduce the concept chronologically, nor simply to facilitate the argument of this chapter, but to ultimately create a thematic blueprint of the trends in visual culture surrounding the bird's-eye view that will be regularly indexed throughout all ensuing chapters.

#### The Bird's-Eye View of Modernity

The bird's-eye view and its role as a discourse mechanism allowing for special insight belongs, but as of this writing is rarely included, on the critical lists of nineteenth-century visual culture paradigm shifters. As F.O. Matthiessen notes, "the special stress that the nineteenth century put on sight is evinced by some of its outstanding creations, the perfection of Herschel's telescope, the invention of photography, the development of open-air painting, the advancing power of the microscope" (51). Other paradigm shifters beyond Matthiessen's above inventory include Ralph Waldo Emerson's formulation of a

transparent, all-seeing eye-ball, Louis Daguerre's photomechanical imaging, Jeremy Bentham's panoptic prison blueprint (and Michel Foucault's subsequent critical use of the concept), and the painting trend of Impressionism; some of my initial examples of this aerial-visual condition in the nineteenth century are found in both nonfictional and fictional balloon travel accounts. What Verne's novel touches upon is how bird's-eye view perspectives were knowable to denizens of the nineteenth century. They were staples of optical expression in a period whose inhabitants were obsessed with visual culture. Adding to these technologies, the visual expression of the bird's-eye view was integral to the shifts in visual culture in nineteenth century. Ralph Waldo Emerson's 1836 oration "Nature" channels this interest in an elevated, visual culture in his memorable passage regarding a complex, elevated orb that channeled his Transcendentalist philosophy. Emerson wrote of a nature that he believed few would access:

Standing on the bare ground, — my head bathed by the blithe air, and uplifted into infinite spaces, — all mean egotism vanishes. I become a transparent eye-ball; I am nothing; I see all; the currents of the Universal Being circulate through me; I am part or particle of God. (39)

Emerson's own striking symbol of the transparent eye-ball — frequently cited as a keystone structure in Transcendentalist thought and American Letters — illustrates that the bird's-eye view in visual culture was more about a simple response to innovations in lighter-than-air flight; the ability to see the terrain below and experience a deep

appreciation for the world ecology was as important as the balloon culture that offered those visuals in the first place.

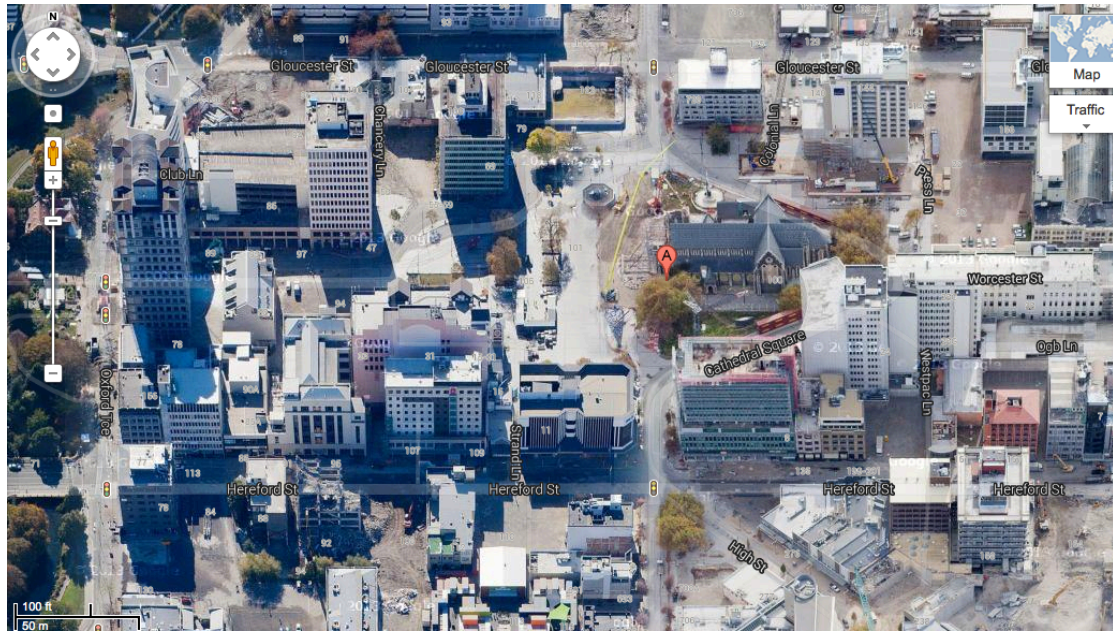


Figure 1.1: “Christchurch.”-43.530855 N. and 172.636937 E., 2012. Satellite image.

The interest in the bird’s-eye view was not, however, isolated to the nineteenth century. Across the millennia the bird’s-eye view fascinated Western civilization. Although this chapter’s primary focus is the way that aerial vision in the nineteenth century was used to more clearly speculate the possibilities for the fate of subalterns in a transitional time in Empire building and decline, that future visual experience of the bird’s-eye view has over time become increasingly influential to popular culture. Accessible today through the windows of commercial airliners, visible through the high-rise windows of office buildings, and commonly replicated through web-based mapping software, bird’s-eye aerial views are available across a broad variety of media. The image below (*Fig. 1.1*) offers such a contemporary bird’s-eye view gathered from satellite images. Framing a

cityscape, as bird's-eye views so frequently do, the image of Cathedral Square in Christchurch, New Zealand approximates the depth of field and resolution of a perspective that in essence imitates what a binocular creature might see during flight.

The viewing angle rests at an indeterminate point somewhere between the horizontal ground level seen by pedestrians, and the vertical, overhead view typical in many map projections.<sup>14</sup> Aerial perspectives may be ubiquitous today, but when they were culled from observers perched in a frail car dangling beneath a gas-filled balloon rising into the nineteenth century sky, they felt wholly unique. Despite the way that the same optic angle's sensation held a long history in Western visual culture, this and all subsequent chapters, set in various decades of the first three quarters of the twentieth century, observe the same conviction that the air-view provides a totally new experience to those in that time period. Long before late eighteenth- and early nineteenth-century aircraft and cameras allowed for first-hand access to bird's-eye views, thinkers and dreamers across continents circulated representations of such vantage points. Bird's-eye views were conceived and replicated at least as early as Classical antiquity, and pre-historic examples such as the 4,000-year-old cave painting in northern Spain bear some of the same spatial characteristics (Govan np).

Although raised perspectives that share scopic and ontological similarities to the bird's-eye view were in circulation as early as prehistoric times, this dissertation tracks the iteration that stems from fifteenth-century Western mercantilist and colonialist

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<sup>14</sup> For an overview of aerial photography in the twentieth century, see Newhall.

systems mapping systems that define the visual representations of modernity.<sup>15</sup> In the early modern period, civic leaders, military personnel, and explorers relied on bird's-eye view cartographical visions of oblique or cavalier viewing angles in part because, as David Buissert asserts in his discussion on paintings of cities in the fifteenth century, they allow "the artist to convey some impression of the vertical dimension, by indicating the tallest and generally most significant buildings (xi). Some of the earliest examples of the bird's-eye view, as the curators of the Amon Carter Museum of American Art note in a presentation titled "Texas Bird's-Eye Views," include the German physician Hartmann Schedel's *Nuremberg Chronicle* (1493). Likewise, Georg Braun and Frans Hogenberg's collection *Civitates Orbis Terrarum* (1572) offered exemplary medieval mappings of cities from the bird's-eye viewing position. Note the similarities in visual geometry between the contemporary image of Christchurch pictured earlier (*Fig. 1.1*) and Michael Wolgemut and Wilhelm Pleydenwurff's woodcuts of medieval cities in Schedel's *Nuremberg Chronicle* (1493) (*Fig. 1.2*), both of which demonstrate the same angular cityscape vistas. These early modern prints show the detail and orientation of building broadsides, relative heights, and spatial orientation associated with bird's-eye view. Bird's-eye views then, as today, were peculiar axonomic visions, a blend between horizontal perspectives and vertical profiles (Pollack 118). Medieval maps drawn from

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<sup>15</sup> Not surprisingly, the history of ballooning in Western culture has a parallel history that stretches back at least as early as fifteenth-century experiments across Europe. See Griggs.

the bird's-eye view allowed outsiders and travelers to gain spatial understanding of civic areas prior to arrival.<sup>16</sup>



Figure 1.2: Michael Wolgemut and Wilhelm Pleydenwurff, "Constantinople," 1493. Colored woodcut.

In a 1653 map of London, the mapmakers imagined that the aerial view would act as a guide to the individual characteristics of the city corridors and shall aid "Cuntry men In the famous Cittey of LONDON by the helpe of wich plot they shall be able to know how farr it is to any Street" (np). Beyond acting as a guide to the unfamiliar, bird's-eye view maps during this period were methods of conveying the specific, authentic character of a municipal area, with emphases and omissions on a given map heavily influencing the outsider's impression of that city, as well as influencing the sense of civic importance for

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<sup>16</sup> For more on the history of mapping spanning from medieval to modern satellite images, see Buisseret's *From Sea Charts to Satellite Images* and *The Mapmaker's Quest*.

those living within its walls. (This specific relationship between the bird's-eye view and visualizing the city will arise more prominently in the coverage of futuristic cityscapes in Chapter Three.) As Western civilization moved closer to true aerial suspension made possible by balloon technologies, then, the same optic appreciation for cities and counties led to the same view being imposed on other subjects, such as landscapes and landforms.

And yet in the years leading into the nineteenth century there arose a unique appreciation for the view from above that entered the cultural discourse contemporaneously with the rise of ballooning in the late eighteenth century. Certainly a measure of the excitement surrounding bird's-eye views came from technologically determined responses. With fledgling aeronauts experiencing the air-view first-hand, gazing out over long stretches of city and country, they and spectators alike found that the air view perspective gave rise to a host of new sensations. Inevitably, written accounts of such visual paradigms would spread amongst the crowds that watched the new airships. In time, the proliferation of the aerial visual culture in the nineteenth century would come to define, as this dissertation traces, specific elements of visuality that would impact speculative culture and fiction leading well into postmodernity.

In the case of the bird's-eye view and the developing late-eighteenth century culture of ballooning, the prototypical moments of aerofuturism such as Verne's, and the examples to follow, sidestep what were during their contemporary moment lively debates over whether aspects of aerial voyaging and visuality were plausible scientific futures or merely whimsical expressions of contemporary play (Keen 43). The concern that the

century's new mastery over the environment and fabrication techniques coming out of the Industrial Revolution would lead to a disconnect between humanity and the natural environment, primitivism and futurism, were concerns subsequently expressed in the using the bird's-eye view.

Early aeronauts found the oblique representations of landscapes transfixing. With the accessibility of the bird's-eye view dramatically shifting following the early balloon ascents in Western culture, the first of which is normally attributed to the French Montgolfier brothers' successful flights in the early autumn sky of 1783, aeronauts were able to see the earth from true aerial-visual platforms. Subsequently, the bird's-eye view perspective rapidly spread through the social consciousness as an evocative form of visual knowledge. Almost as soon as humans were aloft they were reproducing the views and accounts of flight in newspaper columns, in epistolary asides in written letters, in paintings and sketches, and in photographs. Flight-oriented popular culture blossomed, with satires, skits, poems, and theatrical productions proliferating well into the 1830s (Brown 51). Tellingly, the Oxford English Dictionary's first entry on the "bird's-eye view," used by Horace Walpole in a 1782 collection describing George Vertue's landscape paintings, is also recorded only a year prior to the Montgolfier's ascent, demonstrating that the concept of aerial visual culture was already clear and present prior to the technological ability to achieve such perspectives *a priori*. Subsequently, what one might call a technocultural "long nineteenth century"<sup>17</sup> of aerial

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<sup>17</sup> The term and concept of a "long aerial nineteenth century" is analogous to an historical approach to time based more decisively on cultural events rather than the standard 100-



perspectives arose with the Montgolfier brothers' first ascent, and lasted until the advent of fixed wing flight often credited to the Wright Brothers circa 1903.

The cultural excitement surrounding the first balloons lifting into the eighteenth-century air flowed unhampered into the nineteenth century. Images of flight and flight visuality continued to burgeon, with the excitement moving in transatlantic trajectories. Despite the long delay leading up to 1830, when Charles Durant became the first American to successfully raise a balloon over domestic soil, the interest in the bird's-eye view drawn from balloons during the first few decades of the century in North America were highly influential, spurring landscape painters to simulate bird's-eye views in paint.

#### Early Aerial Views in George Catlin's Landscape Paintings

American frontiersman painter George Catlin is perhaps the most prominent early visionary of such new bird's-eye views of the Western frontier. Best known for his portraits and village views of Native American tribes, Catlin's landscapes cast an equally evocative eye over the natives of the Great Plains. By the early 1830s, Catlin's completed canvasses were composed with intent to preserve and memorialize the culture of the Native American tribes that he romantically gazed upon, and he believed that his work would produce a more dignified imagery of Indians that would effect social transformation. As John Hausdoerffer persuasively articulates in *Catlin's Lament* (2009), Catlin sought to produce far more than a new, more dignifying kind of Indian imagery.

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year markers drawn from the Gregorian calendar. Other examples include the "long nineteenth century" and the "short twentieth century." Fernand Braudel and Eric Hobsbawm, among others, popularized this critical approach to historicism. See Braudel. See also Hobsbawm.

He sought a social change in consciousness through recording and conveying those images. Notably, it was a low oblique angle – a bird’s-eye view – that produced the “change in his consciousness” that informed Catlin’s ethos. Catlin claimed to have experienced a change in consciousness when overlooking the intersection of the Teton River and Missouri River in 1832 (Hausdoerffer 51), and though he was looking upon buffalo (not tribal Indians) when he had this change in consciousness, his philosophical shift toward a role as historian and protectorate of Native American tribes seems to have informed many of his subsequent landscape paintings (recall the green landscape perspective of Catlin’s from the Introduction, *Fig. i.4*).

As Hausdoerffer points out, Catlin also imagined new possibilities for the American frontier and the native inhabitants living upon it in an imagined flight over the terrain of the West. Catlin notes that he once dreamt that he was “lifted up upon an imaginary pair of wings” and, in his reverie, sees how the “world turned gently around” (qtd by Hausdoerffer 53). As his dream sequence returns him from high-altitude views of the Pacific and Atlantic oceans, Catlin recalls the western plains, and describes buffalos being slaughtered and Indian cultures vanishing [along with them]” (Hausdoerffer 53). When the reverie concludes, Catlin has relinquished the geographic and socio-ethnic perspectives, concluding that the eco-systems and cultures of Native Americans are doomed. He subsequently wrote of the shared plight and the ethical dilemmas accruing with expanding wool trades and the disappearing tribes. Catlin expressed his remorse over the dwindling buffalo and cultural extinction of tribal Indians, dwelling “long and so strong” as his heart “bleeds for the fate that awaits the remainder of their unlucky race,

which is long to be outlived by the rocks, by the beasts, and even birds and reptiles of the country they live in” (*Letters and Notes* 31). It is in his landscape paintings that Catlin’s fatalism and shifted ideology is most clearly expressed. The same elevated look at Native Americans tiny forms against fertile, promising landscapes that Caitlin painted in “Brick Kilns” (*Fig. 1.3*), which also appears in other paintings his such as “Beautiful Prairie Bluffs above the Poncas, 1050 Miles Above Saint Louis,” “Big Bend on the Upper Missouri, 1900 Miles above Saint Louis,” and “Blackbird’s Grave, a Back View, Prairies Enameled with Flowers” (all 1832 paintings), employ the bird’s-eye view in a way that intensely focuses on Native American bodies, broadly sympathetic renderings that, like Catlin’s equally sympathetic portraiture, countered the primitivist, colonialist, expansionist ideology that imbued the frontier spirit in North American Anglophone culture.<sup>18</sup>

Catlin’s fanciful renderings of Native Americans looking over “Brick Kilns, Clay Bluffs 1900 Miles above St. Louis,” for instance, illustrates the relationship between cartography and the native inhabitants of those terrains (*Fig. 1.3*). “Brick Kilns,” a fantasy painting drawn from Catlin’s formative ventures into the deep western territories of the Western frontier in 1832, squeezes together a number of different visual elements into one tight array. Softly-sloping red pumice hills, clay bluffs overlooking the Missouri River punctuated by cavernous spires, and several tiny figures of Native Americans, are

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<sup>18</sup> A few years earlier, Catlin also painted an evocative canvass titled “Bird’s Eye View of Niagara Falls” (1827), which despite its name offers a nearly vertical perspective.

all all are arranged carefully against the transitional planes on the left edge of the painting  
(*Catlin's Notes* 281).

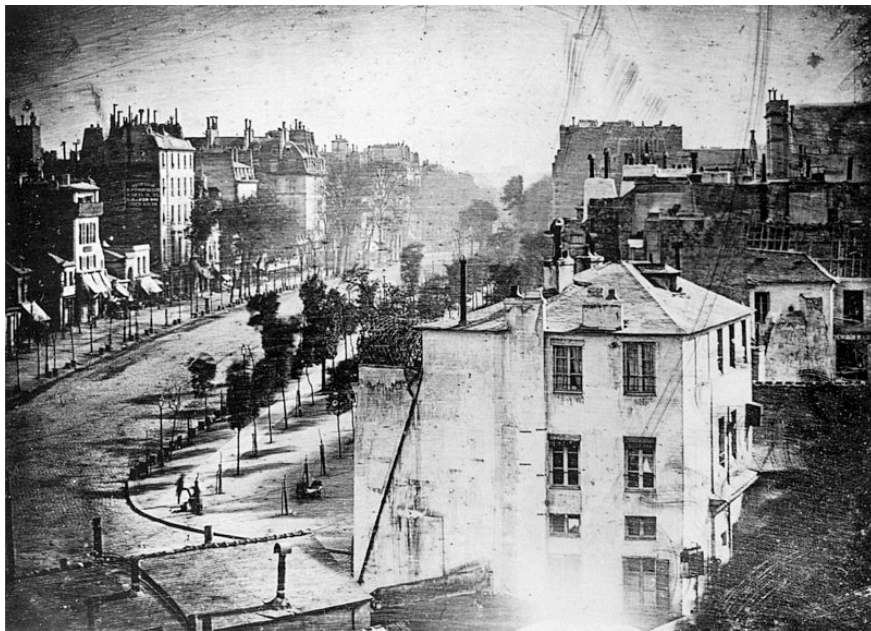


*Figure 1.3:* George Catlin, “Brick Kilns, Clay Bluffs 1900 Miles above St. Louis,” 1832. Oil on canvas.

The subject and title of Catlin’s painting reference the hill formations and bluffs that dwarf the Native American bodies, but Catlin uses his contemporary moment’s appreciation for bird’s-eye views with painterly points-of-view in North America art to valorize the Great Plains tribes in a pastoral, idyllic frame set against the unique topography of the New World. With the bluffs and volcanic extrusions in clear focus, the bodies of the tribal Indians are dwarfed against a clear cross-section of geologic time, marking their time as ephemeral against the backdrop of deep time. Catlin’s aerial visuality produced a fictionalized version of the existing landscape to reveal a epochal

history that elevated the foreclosed possibilities for an oppressed, colonized subaltern culture.

Visual angles like those Catlin experimented with in the Western frontier mimicked new camera technologies emerging on the other side of the Atlantic. Innovations in photo-chemical reproductions captured the view from above with new precision, beginning with Louis Daguerre's prototypical bird's-eye view of "Boulevard du Temple, Paris" (ca 1838), which looks down upon the eponymous city street. It is not difficult to see the parallels between Daguerre's photo and the same sloping perspective that marked the city maps of modernity (*see Fig. 1.2*).



*Figure 1.4:* Louis-Jacques-Mandé Daguerre, "Boulevard du Temple, Paris," ca 1838. Daguerreotype on copper plate.

Daguerre's detailed photograph, though taken from a balcony and not a balloon, captures the same aerial perspective that was until that point only re-imagined by artists. His pioneering work would soon give rise to a plethora of bird's-eye view photographs.

Other various camera technologies emerged and evolved in the coming decades. Soon balloon photographers such as Gaspard-Félix Tournachon and Wallace Black were ascending to higher viewing elevations to take aerial city photos of suburbs outside of Paris in 1858 and Boston in 1860, respectively, both revealing cityscapes mirroring the unique, oblique bird's-eye view.

Coinciding with the American Civil War, and in part developing more quickly due to the wartime pressures for innovations that yielded new tactical advantages, the use of the optical benefit of the bird's-eye view gained from elevated observation platforms, which Thaddeus Lowe and others employed in balloon surveillance regiments, signaled an evolutionary step toward new modes of aero-viewing. Following the end of the American Civil War, as photo apparatuses moved from a wet plate process to gelatin emulsion, the new celluloid film techniques allowed innovative photographers to affix cameras to anything capable of lifting its weight: kites, pigeons, and balloons (Baumann np).

Many of the bird's-eye view paintings and photographs in the nineteenth century focused on one subject: cities. These city views go by a number of other monikers: perspective maps, panoramic maps, aero views, although they are catalogued as panoramic maps by the Geography and Map Division of the Library of Congress. Additionally, the city maps in the nineteenth century, especially in the pre-Civil War period in North America, featured a much higher viewing angle and higher level of detail than earlier iterations that more closely resembled the geometry and scope of Renaissance

city maps. Following the Civil War such bird's-eye view maps would evolve to reflect a higher viewing angle and commensurate level of detail, mirroring an impact of increased ballooning culture, and possibly a new appreciation for the level of scrutiny that could come from above. One possible explanation for the higher viewing angle is that humans were flying higher and more adept at quickly capturing images from their newfound lofty perches. Post-war panoramic bird's-eye-view maps were often commissioned in order to generate civic pride, and would be placed in visible civic areas, and their level of detail required significant additional labor investments (Dempsey np). It is also possible that the increased angle portrayed in panoramic maps was tied to the new pressures of spectatorship related to the way that the idea of the city was become increasingly exposed and, as Michel Foucault argues in his seminal work *Discipline and Punish*, subjects internalize a panoptic mode of being seen.

As the century wound to a close, balloon events and new aero-visual flight possibilities remained in the center of the public eye. In 1897 S. A. Andrée's fateful disappearance on his arctic balloon expedition made headlines worldwide. The next year aeronauts would ascend to an astonishing 27,000 feet above London, and so too would the great European pioneer of ballooning Eduard Spelterini cross and photograph the Swiss Alps by balloon. Not all or even most aerial events were such large public or charged military affairs that made national headlines. Throughout the entire century, aviation displays were frequently local affairs. With balloon and flight experiments consistently cropping up across the map and over the decades, it seemed as though every city block had the potential to yield the visual circuitry of the bird's-eye view.

## Aerial Time and Late Nineteenth Century Travel Literature

If nineteenth century flight reveals, as the previous section describes, the way that the aerial view (bird's-eye view) evoked illustrated globalized scope, this next section describes how that aerial view also offered powerfully impressions of experiencing what I call aerial time. Again, these were often the result of visual experiences of landscapes that encouraged meditations on grand scale of time, like those accounted for during the “anomalous” sequence by the three aeronauts in *Five Weeks in a Balloon*.<sup>19</sup> Here I contextualize aerial travel accounts utilizing the bird's-eye view within the broader contours of travel writing, as criticism on travel literature provides relevant foils to the way that motion and time are experience. I also argue that since aerial travel literature is not a firmly established subgenre in critical texts, nor catalogued formally in the archives, it needs to be placed into a framework of like experiences. While thick stacks of aviation histories find space on even the most humble library shelves, there is little space or even acknowledgment of the field of aerial travel literature.

Critical works on the intersections between motion and visual culture in travel writing of the nineteenth century have been concerned with the binary shift between carriage travel and railway transit, best illustrated in Wolfgang Schivelbusch's formative and in many ways still definitive work on the subject, *Railway Journey: The*

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<sup>19</sup> Views of the earth captured from the basket of a balloon were frequently seen as something other than true landscapes, the late-nineteenth-century art critic Philip Gilbert Hamerton argues. See Newhall 12.



*Industrialization of Time and Space in the 19<sup>th</sup> Century* (1972).<sup>20</sup> While many nineteenth-century aeronauts wrote of almost poetic senses of displacement, the significant scholarly attention has been given to the multisensorial experiences of traveling by carriage, and how those experiences are muted or eschewed through railway travel. High profile nineteenth century authors such as John Ruskin penned jeremiads on how rail travel displaced the landscape or at the least transformed it into a blur (Schivelbusch 53-58). The shift to traveling by rail, Schivelbusch notes, left behind the “continuous sequence[s] of impressions” viewed through the carriage window for the projectile-like skipping across landscapes and destroys the relationships between the traveler and the traveled space (92-93). Not all travelers felt that motion and time were negatively reshaped through rail travel, Schivelbusch notes, as midcentury railway riders experienced “all the variety of mountain and ravine in pleasing succession” (96) and rail travel “brought into an esthetically pleasing perspective [...] a new landscape [...] where

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<sup>20</sup> Travelogues related to flight have been overlooked and, in many cases, deemed too insignificant to be given the same attention that megalith forms of mass transit that use roads, rails, and ocean passages typically receive. For instance, only a brief entry on balloons in the thousand-page tome *Literature of Travel and Exploration: An Encyclopedia* (2003) acknowledges, for instance, that dirigibles and aerostats were “used for shorter excursions but not for common travel” (72). The surface-level coverage of air travel in the *Literature of Travel* is the standard, with most other comprehensive histories and scholarship giving only fleeting treatments to air travel and aerial perspectives. Critical studies such as *Travel Writing: The New Critical Idiom* (2011), the *Cambridge Companion to Travel Writing* (2002), *Perspectives on Travel Writing* (2004), *Travel Writing: The Self and the World* (New York: NY: Psychology Press, 2002), all suffer little to no treatment of aerial travel. Likewise, little attention is given to the aerial-visual aspects of travel in *Clipping the Clouds: How Air Travel Changed the World* (2008), *Imagining Flight: Aviation and Popular Culture* (2004), or even earlier records such as *Air Travel: A Social History* (1972). All this despite how during the late eighteenth century and all of the nineteenth century the bloated expanses of balloon envelopes rose up for crowds on seemingly every city street corner.

the motion of the train through the landscape became the landscape itself' (Schivelbusch 60). Aeronauts experiencing aerial time, in contrast, drew from the condition of the slow, almost static view from the basket of a balloon in flight felt that the bird's-eye view offered a notably different cognitive experience, one much different than that offered by a railcar at full steam or a carriage drawn by a horse's ambling gait. In contrast to ground-bound forms of motion, the visual gaze available from the basket of an aerostat at altitude evoked a more comprehensive appreciation for the terrain, and garnered particular reception for the human placement in a historical, geographical milieu. It is this retrospective element that fliers, writers, and dreamers fleetingly hint at in their various travelogues, and it is the beginning of a new optical system that prefigured the ecological appreciation (a recurring theme that culminates with the image of the earth from space and the environmental movements of the 1970s that would come, as discussed in Chapter Four).

Flight literature, and especially the writing involving flight visuality tied to the bird's-eye view, deserves to be recognized as a vibrant form of travel writing (just as the optic of the bird's-eye view deserves recognition for its important role in the shifting nineteenth century visual culture). There is a connection between the experience of flight, with many fliers experiencing a matchless sense of time dilation that is directly connected to an experience of the bird's eye view, and the way that the view of landscapes real or imagined holds a renowned sense of ontological depth. Again, these dilations convey time and motion far differently than those expressed by travelers in normative travel literature. Thus in obvious ways the innovations in flight contributed to

the new discourse of bird's-eye view visuality, as travel writing as a genre "like all literature, responds to new technologies. The means and speed of motion affect the way people experience their travel as well as write about it" (178), as Tim Youngs agrees in the more recent *Cambridge Introduction to Travel Writing* (2013), though his comments preface an entry on cybertravel and the entire survey ignores balloon travel and aerial experiences entirely.

Clare Brandt's recent writing on letter writing and eighteenth-century ballooning gives the requisite attention to the nexus of flight innovations, travel literature, and epistemology, noting that the root term of early floating craft, aerostation, means to go "voyaging through the air" (171). Moreover, Brandt also describes how the air appeared to be "relatively featureless medium" that lacked "the cultural constituents expected from travel accounts" (171), obliquely offering one rationale for the lack of attention given to air travelogues in the critical discourse. The shallow scholarship on air travel and interconnected discourses of aerial-visual culture in critical and historical works dealing with travel culture are surprising given the wealth of poignant travel literature dealing with flight, and they also overlook the way that aerial accounts include many of the basic features that are routinely cited as crucial tropes in standard travel literature. One example, which Brandt touches upon in her study is the relationship between actual travel and the epistolary form of the travel literature: "letters provided an established genre of witnessing for aeronauts and spectators," Brandt reveals, writing on the aerial letters and eighteenth-century ballooning, with "the presence of an addressee enabl[ing] transportation of a reader into the realms of the air" (170). In other words, accounts of air

travel were both disseminated and encouraged the concept of speculative travel, the latter creating a surrogate experience of the bird's-eye view; and, reader proxy — often imagined in popular culture to be mere escapism — is one of the defining attributes of travel literature.

So while balloons may not have moved the same number of bodies from point to point as railway cars and carriages did, the denizens of the nineteenth century gave arguably more attention to those fleeting moments and trajectories of aerial travel. The relationship between spectators and fliers was also perhaps more intimate than those between train passengers and those receiving or seeing off travelers from a railway platform. Often this familiarity connecting fliers and fans meant that the ascension of a local aeronaut would bring the flier public acclaim. In turn, an aeronaut who publicized the raising of a balloon would dictate the potentially unruly crowd's response to the material object that facilitated such aerial inscription; success was met with jubilation, and failure was met with contempt and sometimes annihilation. Enraged spectators might tear apart a balloon that failed to ascend, and then threaten the overzealous aeronaut with bodily harm. Stories of the vengeful mob would reverberate in the next morning's dailies, would move through the hum of murmurs and gossip in local venues, and would become the focus of journal entries about the failed flight. Such was the case with one of famed English aeronaut Charles Green's unsuccessful balloon ascents, which ended with a mob destroying his balloon and forcing Green into hiding until nightfall disperses the rabble (Upcott 37).

And travel literature itself flew. Balloonists would shower crowds below with ephemera: pamphlets, leaflets, memorandums, and confetti. Occasionally letters were dropped attached to tiny parachutes, and in wartime notes were sometimes tied to bullets and slid down mooring cables. Some notes described other aerial exploits. Others simply listed the date and event on simple halfsheet keepsakes. Aeronauts would furiously journal their impressions from the air, and groundlings looking to the skies would excitedly pen their observations into journals, newsletters, and letters to extended family. The chronicles of such balloon ascents had their own particular style of writing often gloriously chronicling the minutia of wind speed, shifts in cloud formation, in many ways stylistically similar to seafaring accounts. Reading those accounts, one might imagine that that playing out ropes, releasing ballast, adjusting gas tanks, and the other many mechanisms required for flight dominated the entirety of flight. Not all of these accounts were dry, detailed captain's logs. Wedged within those narratives are the occasional poetic description of the bird's-eye view and its long-distance perspective of the landscapes below, with those fliers experiencing these vistas finding that that they were struck with equally long thoughts of their place in epochal history.

The disjunction between motion and temporality emerges, as Brandt describes, as the highly visual experience of the bird's-eye view affected the way that flight shaped knowledge. Ballooning offered new contemplative moments, Brandt agrees, citing Italian aeronaut Vincent Lundari's awed reflection upon his first ascent in England: "Thus tranquil and thus situated, how shall I describe to you a view, such as the antients [sic] supposed Jupiter to have of the earth" (Brandt 181). Lundari wondered this aloud,

rhetorically probing the way that the bird's-eye view profoundly transformed his concept of his place in the cosmos. Brandt imagines that Lundari's difficulty in specifically describing the aerial view comes in part from the practical challenges of achieving the aerial view, as "balloons needing tending, and cloud [often] obscured the view," but she also gestures at the more important aerial visual knowledge that prevented landscapes from "entirely map[ping] onto aerial views" (Brandt 182). Lundari's wonderment was one shared by many aeronauts and fliers. Aloft they found their worldviews radically reconfigured by the sensation of deep time drawn from the bird's-eye view, with threads channeling "deep time" and prototypical of "deep ecology" (the latter term will resurface in Chapter Four's discussion of ecology and the postmodern revival of aerofuturism).<sup>21</sup>

Accounts by aeronauts both major and minor reveal this impression of deep historical scope and powerful appreciation for one's place in nature. A memorandum dropped from a balloon ascending above the English river city of Norwich in 1839 articulates the same concern in its retelling of the experience of previous flights:

[A]s they continued to approach the coast, numerous vessels upon it [...] were a striking feature in the grand panorama; whose ensemble of sublimity and beauty none but aeronauts can wonderful and so eminently calculated to impress on them a sense of man's insignificance and of God's greatness in nature's work (Crawshay 67)

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<sup>21</sup> Geologist James Hutton's concept of "deep time," which in turn inspired the more recent term "deep ecology" popularized by Arne Næss in the 1970s. Both terms are still in wide use. See Hutton. See also Næss.

The panoramic bird's-eye view of the leaflet reveals awe intricately connected to the vision of the earth below, the feeling garnered from being able to access that view, and, in this case, a sense of theistic connectivity. It was not an uncommon spiritual reflection to behold when gazing down upon the earth's surface from the air. Emerson's iconic transparent all-seeing eyeball is perhaps the most well known example of how the visual knowledge the bird's-eye view perspective on the ground below affected culture.

Part of that unique aerial experience came from the special way that fliers experienced a time dilation from the bird's-eye view. This slowdown is essentially overlooked by the binarisms of motion and the relationship with terrain that existing visual culture scholarship imagines between foreground/panorama, landscape/geography, and connected/disconnected modes of understanding transit. Aerial views reconfigure the viewer's travel epistemologies through a spatiotemporal travel experience wholly unlike those associated with grounded forms of mobility. Prophesiers of the aerial environment drew on the way that these elevated, oblique bird's-eye view perspectives of the terrain below issued distinct forms of visual knowledge, and they imagined civilizations of both probable and fantastic design. Returning, finally, to the way that the temporality of aerial knowing and the angular importance of the bird's-eye view allowed for a special sense of vision, the following readings illustrate the use of aerial vision and aerial time to read and reassess the fate of mapped native bodies under a colonial gaze.

Aerial African Romanticism in *Caeser's Column*

Nearing the fin de siècle, writer and amateur politician Ignatius Donnelly tapped into this rich culture of aerial vision (and aerial time) to assess the future of global civilization in his utopian novel *Caesar's Column* (1890). A dystopian counterexample of the Edward Bellamy's influential utopian novel *Looking Backward* (1888), *Caesar's Column* is a heavily political work written contemporaneously with Donnelly's failed race for a seat in the U.S. Senate (Yanarella 198). The novel is centered on a society organized by plutocratic futurism, and Donnelly composed *Caesar's Column* in the traditional epistolary style of utopian writing, and follows the decline and model of social degeneration and post-Darwinian biology (Ruddick xxviii-xxix). Donnelly's narrator, an Ugandan shepherd named Gabriel Weltstein, tells of his experience of the then-futuristic New York City of 1888 and the brief rise of the rebel leader Caesar Lomellini, for whom the novel is named.

Caesar's vicious overthrow of the oligarchy signifies, as Nicholas Ruddick notes, the biological revision of a civilization into savage forms (xxx), and Caesar at multiple times in the novel suggests that he identifies with black rebels and, later, as Ruddick also notes, becomes "negroid" (xxx). Caesar represents a symbol of African American uprising, and his Brotherhood directly represents African American and globally suppressed cultural subgroups. As the Oligarchy's leader, the Prince's spy informs, the Brotherhood is composed of groups where "former masters have kept them in a state of savagery, instead of civilizing and elevating them" (97). As a result, the spy continues, they are as "barbarous and bloodthirsty as their ancestors were when brought from Africa, and fit subjects for such a terrible organization" (97). The spy's interlude



conveys the cultural hydraulics at play in the novel and the contemporary moment of the late nineteenth century, an early conceptualization that the oppression of African American slaves in the post-Emancipation United States were contributing to a form of Global South, where other subjugated cultures worldwide were amassing to revolt against similar conditions.

The novel's approach to these social and racial pressures are viewed more clearly in its memorable scenes of air travel that bookend the high action of the plot. In *Caesar's Column* aircraft do more than just move characters from one place to the next, they facilitate aerial events that evoke sense of deep time and aerial vision that, as a result, allow a new way of looking at the exploited subalterns, and obliquely speculating about their global fate. For instance, the first major air voyage that carries Weltstein from Africa to New York at the novel's opening, signifies, as Jean Pfaelzer notes, the historical, modernizing transformation from agrarian culture to industrialized cityscape (123). Upon reaching the futuristic New York City Weltstein observes that the cosmopolitan city's transit relies heavily on airships, with one type tied to tram-style on cables spanning oceans by metallic balloons and secured to "huge floating islands of timber [...] anchored to the bottom of the sea" (11), whereas the independent air-lines are "huge cigar-shaped balloons" that move with "tremendous speed and force" (11).

Also during his approaching flight to New York City, Welstein marvels at the way the city materializes:

As we approached it in our air-ship, coming from the east, we could see, a hundred miles before we reached the continent, the radiance of its millions of magnetic lights, reflected on the sky, like the glare of a great conflagration. [...] That marvelous earth-force which the Indians called “the dance of the spirits,” and civilized man designated “the aurora borealis,” is now used to illuminate this great metropolis [...] Man has simply made a temporary loan from nature for which he pays no interest.

(9-10)

Weltstein aligns the city’s character with a juxtaposition of the untamed/civilized binarism of Western science and Native American spiritualism, setting up the pattern for the remainder of the text’s concern for the fate of indigenous, non-industrial culture. The novel features both the erasure of the natives and participates in an aerofuturism that threatens them with that erasure. The city’s magnetic power is explained as part of grand circuit that flows back into an earth source, which plumbs a similar concept of epochal history seen in Verne’s *Five Weeks in the Balloon*, in Catlin’s paintings, and in the accounts of Green, Lundari, and Wise. Moreover, the narrator’s airship experience directly imports the lens of a panoramic city view that mirrors the nineteenth century bird’s-eye view paintings of municipal areas. New York’s characterization at the novel’s opening as “The Great City” is, by the end of the novel revealed as a false utopia in comparison to the Ugandian “Garden in the Mountains,” as Nicholas Ruddick notes, forecasting the same sense of urban blight that will recur in the 1930s city aerofuturism

covered in Chapter Three (xxvi). Additionally, the bird's-eye view allows for the motion of a fast-moving viewing platform to render a near-stasis experience.

No matter how fast the airship is moving, the panoramic view from above lacks an associated sense of velocity, in a novel where technologies are frequently observed as being swift. A mechanized meal delivery system selected by knobs and allowing diners to be “speedily served” (12), Weltstein is taken aback by a coach approaching under the “rapid speed of [...] powerful horses” (12), and the victims of poison bombs dropped by airships hastily flee. Later in the novel an even hastier flight will similarly gloss over any sense of speed. This lack of motion and change experienced in concert with the visuals of the bird's-eye view allow for the contemplative experience that the Weltstein describes in his account. (Chapter Three also notes cases of aerial perspectives that betray retarded motion and perspective of flight directly contrasting the speed of industry and mechanical design.)

The polished exterior of the city, equally evocative in design and makeup, is quickly revealed as a thin veneer for an urban center controlled by a tyrannical ruling class. Airships play a key role in the character of the city and the policing of the citizens, with the oligarchy's armed forces commanding thousands of aluminum dirigibles – popularly known to the denizens of the book as The Demons – with payloads of poison gas bombs that can be precisely deployed upon crowds. Also of high importance is the design of the city itself with latticework of walkways, glass roofed streets, electric

elevators, smokeless trains, and trains that cross “diagonally over the city, at a great height, so as to best economize time and distance” (10).

Forced into hiding after a misunderstanding with public officials, Weltstein eventually comes to support a socialist underground movement named the Brotherhood of Destruction. The novel’s middle section lopes off into a romantic side story, and then brings Weltstein to the forefront of the Brotherhood’s global revolution. As the Brotherhood of Destruction overthrows the existing elite class, poison gas bombs rain down from above, and in the streets crowds ruthlessly exterminate city officials and the rich alike. With the city in flames and anarchy reigning, Welstein takes to one of the mobile aerial vessels, returning to the flying ship that allows a new form of vision of the city and allows transport back to a romanticized, pastoral existence. Floating away from the rioting streets of the upturned New York City just as its scorched-earth social Darwinist denizens direct gunfire skyward, the airship allows the visual spectacle of the dissolving urbanization of the industrialized city, and then nothing but the Atlantic. Soon the shores of European cities come into view, and after crossing the Mediterranean Welstein and Max find the quaint picture of a caravan making its way across the Saharan sands below:

They have heard nothing, in these solitudes, of the convulsions that rend the world. They pray to Allah and Mahomet and are happy. [...] They live and die as their ancestors did, ten thousand years ago — unchangeable as the stars above their heads; and these are even as they shone clear and

bright when the Chaldean shepherds first studied the outlines of the constellations, and marked the pathways of the wandering planets. (229)

Here again is the same timeless scale seen from the air in Verne's work and noted by the various aeronauts of the nineteenth century, all holding a wide view of temporal appreciation for the terrain below. By referencing the Chaldean shepherds, Welstein romanticizes the less-industrialized Hellenistic culture. Earlier, he prophesied of a future where such simple cultures visible from the aerial spectacle: "though civilization should commit suicide, the earth would still remain, and with it some remnant of mankind; and out of the uniformity of universal misery a race might again arise worthy of the splendid heritage God has bestowed upon us" (181-182). The race that Welstein imagines may rise again is not one generated from Western civilization, it is drawn from the population of pastoralists and like groups that have been the subject of colonization, and it is these populations that he looks fondly upon from his bird's-eye view of the land. Aerofuturism here illustrates nostalgia for "primitive," non-Western cultures, even as it shows their limitations and, as in the example of the "blacks" that attack the landed balloon in Verne's novel, amplifies the inconsequential mark that such tribes make upon the landscape of Western modernity.

Despite its directed critique of modern culture and the elite (colonizing) oligarchy model that brought the technological utopia of New York to the ground, the novel closes as the Swiss colonizers weep over their lost homeland, but quickly embrace life in the pastoral idyll of their Ugandian refuge; they build large walls, arm themselves,

establish a new constitution, and pursue an insular existence cut off from the outside world. The demon airship is housed in a shed, waiting to be used if the township wishes to make contact with the outside world. Five years later, as described in an extract from Welstein's journal, the demon takes to the air again to assess the world outside, finding that the majority of the human race has been eradicated, with the airship going hundreds of miles without seeing a human. As Welstein notes, the next generation "will be simply barbarians, possessing only a few dim legends of the refinement and wonderful powers of their ancestors," and his people will wait for the proper moment to restore the civility and culture of the former inhabitants (239). The last words of the text look down with the approving gaze of providence: "And so mankind moves with linked hands through happy lives to deaths; and God smiles down upon them from his throne beyond the stars" (241), concluding the novel with yet one more aerial gaze that allows for the circulation and critique of the primitive romance of African colonies, and simultaneously reinforces the same troubling "imperial eyes" on the subalterns below.<sup>22</sup>

#### Jim's Body and the Balloon in *Tom Sawyer Abroad*

Within a few years of the publication of *Caesar's Column*, Mark Twain's second adventure including Huck Finn, Tom Sawyer, and Jim took to the air. A balloon tale that openly parodied Verne's *Five Weeks in a Balloon*, *Tom Sawyer Abroad* relies on the frame narrator of Huck Finn.<sup>23</sup> But the tale sharply contrasts the boyish ramble of *The*

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<sup>22</sup> See Pratt.

<sup>23</sup> Twain would also pen a short story that includes an unsavory criminal protagonist named Jean Mercier who throws a fictionalized Jules Verne from a rising balloon.

*Adventures of Huckleberry Finn* (1885), and illustrates older boys that bicker and, sadly, troublingly reduce Jim to a minstrelsy functionary; this transition is fundamentally tied to the epistemologies of flight and bird's-eye views revealed from the balloon's meandering aerial path.

Although first published in a children's magazine, *Tom Sawyer abroad* offers aerial time characterized by silence, emotional vacancy, petty arguments between Huck and Tom, and the degradation of Jim's friendship with Huck. A many critics have noted, the strained social triangle between the boys and Jim in *Tom Sawyer Abroad* reveals the devolution of the boy's friendship. Little emotional development appears in the novel, which is defined by the empty space around the balloon just the same as it is the empty emotional content of its characters. Alex Feerst agrees that there is a true barrenness in the story's action and its emotional resonance (508). (The same pattern of purposelessness experienced by boy aeronauts would be replicated more than a century later in the retro-aerofuturism of Thomas Pynchon and others, as discussed in Chapter Four.)

Mark Twain conceived of an airship tale at least as early as 1868, but was halted by the publication of *Five Weeks in a Balloon* (Gerber 242). As others have pointed out, Twain, like Donnelly, was heavily influenced by Verne's writing, and there are a remarkable number of similarities that crop up in Twain's work, including the aerial

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Mercier will later admit that his anger stemmed from Verne's history of sending him on dangerous missions as a surrogate traveler, only to then concoct wild tales (lies, Mercier argues) based on Mercier's exploits. See Twain, "A Murder."

exploration of Africa, similarities of characters between Twain's trio and Verne's, the experiences of sandstorms, and instances of characters jumping from balloons (Gerber 243). Huck opens the burlesque tale with the trio's travel to St. Louis, where Tom believes that he can best his rival Nat Parson, as Tom imagines he is competing with Nat to be the most widely traveled and acclaimed figure from their haunts in the fictional town of St. Petersberg, Missouri. In St. Lewis they stow aboard an elaborate airship about to cast off on a global tour. As one might expect, the balloon then lifts skyward, sending the boys and Jim on yet another adventure, this time riding the lazy currents of the wind.

The bird's-eye view perspective on their itinerant journey provides an overview of the geographical uncertainty, due in part to the conniving mad Professor's emotional turn that results in the attempted murder of Huck, Jim, and Tom. The Professor's own disappearance over the side of the balloon leaves the lads and Jim to fend for themselves as they drift over a landscape with puzzlingly alien features. Carried over Egypt and then Africa, the boys' treatment of Jim exudes traces of a colonial nineteenth century worldview, and they appear in sequences distinctly connected to terrain and racial territories.

First, the balloon's flight provides aerial time, that sense of time dilation felt in the other texts covered in this chapter. Huck from the start feels as the balloon lifts off that "the city went dropping down, and down, and down, [...] [and] we didn't seem to do nothing but hang in the air and stand still" (264). As the tale continues onward, the



conditions of aerial visibility and disruption of perspective arise, this time as comedic relief. Tom imagines that the various states of the United States below must be colored like they are on the maps he has seen, and soon the inability to properly see from the air will affect one of the most humiliating moments of Jim's literary life. From the static space comes the most troubling component of *Tom Sawyer Abroad*, the loss of Jim and Huck's kinship, and the resulting minstrelsy of Jim.

Jim's treatment throughout the novel is problematic, as his friendship ratified at the end of *The Adventures of Huckleberry Finn* is seemingly lost. The devolving relationship is most clearly conceived when the balloon lofts over Egyptian soil and the trio stumbles across the Sphinx. Huck and Tom land Jim on the Sphinx's head, wrapping his body in an American flag "to protect him, it being a foreign land" (330). Jim is thus put on display, responding to Tom's desire to enjoy those "effects and perspectives and proportions." The result is an act of mimeses, with Jim standing on his head and kicking his legs in the air, a performer wrapped in the fabric of American culture, positioned atop the Sphinx by two white youths keen on a show.

Sharon McCoy notes that a wide range of scholars have taken issue with the way that, by this point in the novel, the character of Jim appears to be little more than "a mask of his former self, cavorting grotesquely for the boys' edification and amusement, doing Tom's bidding without complaint" (McCoy 71). McCoy notes that it is the use of blackface and minstrelsy that define this troubled character dynamic, and that by the end of the tale Jim has resceded into his mask, arguing that "If Jim wants to keep the tenuous

protection the boys offer, he must retreat behind the mask,” since Tom has won Huck to his side, and that near the novel’s end, when the boys decide to leave Jim atop the Spinx, Jim “cavorts in appalling fashion for their entertainment and edifications about perspective” (85-86). The scene that McCoy takes issue with is one that redefines Jim’s body through the view of colonial cartography that, importantly, relies bird’s-eye elevation inspires a discussion on the visual nature of proportions.

Moreover, as the boys whisk away, their conversation shifts to the way that the distance provides a new aerial knowledge of racial ballast. Tom notes that “Julus Cesar’s nig---s didn’t know how big he was, they was too close to him” (330), hinting that the aerial perspective might allow a different view of slave bodies in the same moment that it might also realign the gaze of the enslaved with their oppressor.<sup>24</sup> Tom’s remarks, ignorant as they may be, cannot be divorced from what was the subject of the boys’ gaze only moments ago — Jim, performing a minstrel act while shrouded in an American flag. Following Tom’s aside the balloon drifts far from Jim and his desert stage. As they leave Jim behind the narrative expresses one of the more somber moments in the romping tale, with Huck chronicling:

We sailed off further and further, till we couldn’t see Jim at all any more,  
and then that great figger was at its noblest, a-gazing out over the Nile  
Valley so still and solemn and lonesome, and all the little shabby huts and

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<sup>24</sup> Tom’s description of Caesar’s slaves reads as more of comment on American slavery than the history of the Roman Empire; he speaks of Caesar’s “nig----s” as slaves (presumably African natives).

things that was scattered about it clean disappeared and gone, and nothing around it now but a soft wide spread of yaller velvet, which was the sand.

(330)

Only after dwindling size and eventual erasure of Jim's body do Huck and Tom access the "noblest" version of the Sphinx that the bird's-eye view provides, and the diminishing size of the foreign bodies below makes them similarly unreadable. When they boys return they find Jim under attack, with unknown assailants firing rifles up at his flag-wrapped form. The boys swoop to his rescue without appreciation for the mortal danger that Jim faced, with the only show of concern being Tom's indignation over the gunfire, which sourced solely from his desire to have the attackers "apologize for insulting the flag." Jim is left in a degenerative state — his friendship and possibilities for life beyond a slave on the run reduced simply to a dream available on the tight real estate of a raft drifting down the Mississippi River. Mark Twain's lampoon of Verne's novel draws on the same speculative environment made available by aerial views and aerial time in *Five Weeks in a Balloon*, reducing the subaltern bodies seen from the bird's-eye view into little more than a sinister blackface caricature that mimics Verne's colonizing gaze but directs it upon domestic bodies and flag-symbolic orders. Here Twain is satirizing Verne, clearly, but showcasing his own cynicism regarding the possibilities for elevating such primitive individuals in society. The action takes place on the nearly "blank" spread of an untamed colonial landscape, and in Twain's narrative he illustrates futile possibilities for the denizens of Egypt (who do not respect the American interlopers) just

as he also illustrates the futile possibilities for Jim's sustained role as a free man in the narrative world of Tom and Huck.

The works of Catlin, Verne, Donnelly, and Twain illustrate the early lineage of speculative fiction that uses the distance allowed by the alien landscape (a type of travel literature) and aerial discourse network to reveal the uncertainty of how an increasingly globalized world would address the multitudes of subaltern bodies. With the increased clarity of the bird's-eye view came greater appreciation for deep time, and yet the increased fidelity of the elevated visual paradigm illustrates multiple futures for the slaves and colonized groups of ethnic color. Catlin's landscape paintings reveal the same bifocal look that both memorializes and subjugates the native bodies of Native Americans. In Verne's novel a colonial gaze reduces natives to the stereotypes of uncivilized creatures inhabiting what was at that time the "dark continent." Donnelly rejects a technocratic oligarchy and romanticizes that return to agrarian society, but does so by sidestepping the question of existing, rooted Ugandian populace of the 1880s that his main character represents. Finally, in the case of Twain, the cynical reduction of Jim to a minstrel puppet and the troubling reduction of Jim's body to the obscured, covered body of slavery suggests a Mark Twain uncertain that the promise of Huck's friendship with Jim that was ratified in *The Adventures of Huckleberry Finn* was but a fleeting moment in time.

All of these views intersect with the increased clarity of the bird's-eye view, and show that the appreciation for new vision of the aerial perspective in the nineteenth

century created a space to test out possible futures that would, in the end, foreclose the possibilities for the indigenous and subaltern bodies across the Atlantic. Balloon narratives concerned with subaltern bodies would be written in the new century, notably *Buffalo Bill's Air Voyage, or, Fighting Redskins from a Balloon* (1905). What would come in the first decade and a half of the next century would be a related type of vision that more starkly forecast the erasure of ethnic bodies from the reproductive population. Evolutionary themes would direct the use of aerofuturism into the realm of posthuman bodies, and in the narratives covered in the following chapter, it seemed as if the problem of subaltern and otherwise damaged bodies would be given a new possibility of genetic cleansing.

## Chapter Two

### The Air-Body Complex, 1904 – 1916

“Our consciousness will fly to one another, as light flies across the universe unerringly from sun to sun — bodies of light.”

–Alfred Lawson, *Born Again* (183)

“Human activities, physical, mental, spiritual, too, were increasing speed. [...] They were passing from earth to air.”

–Algernon Blackwood, *The Promise of Air* (97)

Humans are coming to the age of the “aerial man,” Charlotte Perkins Gilman wrote in a *Harper’s Weekly* article in 1907. She was convinced that the transformative power of flight would prove equally transformative for human bodies of future generations. Evolving flight abilities would be a catalyst for “lifting of the standards of humanity” (1664), Gilman argued. Her hope was for a future where air space would produce a new egalitarian zone, one dissimilar from disjointed subjectivity that Gilman offered in the confinement of a former nursery’s peeling wallpaper in the *The Yellow Wallpaper* (1892), published a decade and a half prior to “When we Fly.” Instead, air space provided a “new sense of association” and “freedom to follow the subtle calls of the spirit,” which Gilman imagined would be offered to all vis a vis tomorrow’s aerial man (1664).

Gilman’s concept of “aerial man” reflects a new use of the bird’s-eye view to visualize new possibilities for the human form. Aerial man, she claimed, would embody

something evanescent: “a butterfly, psyche, the risen soul” (1664), and so Gilman’s semantics also suggest gendered forms which complicate the larger humankind-wide umbrella of the masculine pronoun “aerial man.” Gilman’s aerial man is a totalizing construct, and the mixed usage of gender signifiers suggests that aerial bodies would, by nature, somehow include both forms of gender, but also perhaps escape the problematics of existing gender codes; would affect all bodies in like fashion, and that gender codes blending binaries and producing a striking aerofuturist image of human transcendence beyond bodily ills that rearranges that reductive Cartesian view of the human body.

Gilman’s aerial man as a gendered symbol of tomorrow’s humanity is part of a unique trend in aerofuturism that crops up in the first decade and a half of the twentieth century.<sup>25</sup> Such is *corporeal aerofuturism*, the idea of new embodiment that channels the fascination with an existing aerial visual culture with the hope of overcoming limitations, and generating new possibilities for the human body. Corporeal aerofuturism is yet another recirculation of pressures generated — but not uni-directionally determined by — the growing global proliferation of aviation technologies. Larger dirigibles and longer-range aircraft in turn allowed more fliers to experience novel views and new worldviews. These aerial futures are speculative works communicating and critiquing contemporary social concerns about the human body, and they allowed thinkers to speculate about wild possibilities for human existence. Within the works of corporeal

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<sup>25</sup> The date range of 1904 to 1916 encompasses some of the best examples of corporeal aerofuturism, although there are plenty of earlier and later examples of such. Flying automata in Lytton’s *The Coming Race* (1871) prefigure the concerns of flying bodies, posthumanism, and the superiority of a seemingly biologically distinct group of humans.

aerofuturism discussed herein are traces of an increasing cultural interest in discarding the frail human form, revealing a burgeoning idea of posthuman thought. Such wondrous transformations and elusions of the human body imagined by aerofuturist thinkers in the new century express specific cultural concerns regarding both the idea of human evolution and the period's fascination with eugenics.

Perhaps Daniel Carter Beard's illustration, "Evolution," printed in the first edition of Mark Twain's *A Connecticut Yankee in King Arthur's Court* (1889), forecasts this blend of evolutionary theory and bodily change. Beard's fanciful meeting of animals and their evolved human forms possibly puns on the slang usage of "bird" in the nineteenth century to indicate "An exceptionally smart or accomplished person (freq. ironical)" (OED). The ironical sketch of humans at the beginning and end of the many steps of evolutionary variation is modeled after the style of the ubiquitous, controversial nineteenth century images of biological evolution.<sup>26</sup> Cheekily mapping out the ironical d/evolution of both a dog and a stork into modern human equivalents, all in graphic support of protagonist Hank Morgan's system of free trade, Beard's alignment of the stork with the well-dressed modern man opposite the canine's tattered final incarnation of an open-handed beggar forecasts the way that elevated perspectives related to flight and the evolution toward flight-capable bodies were becoming a transformative motif for bodily change leading into the new century.

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<sup>26</sup> See Hopwood.



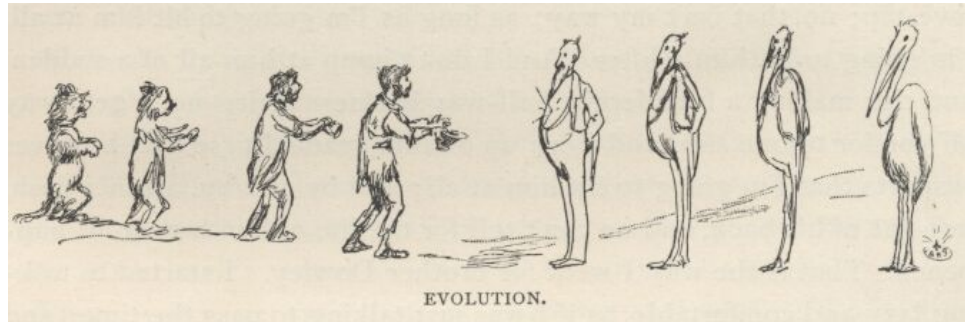


Figure 2.1: Daniel Carter Beard, “Evolution,” 1889. Pencil on stock.

The ridiculed evolutionary trajectory of imagined hereditary lines and good breeding that inform such transformations in Beard’s illustration, a view that Twain would more directly express in his sarcastic 1903 essay, “Was the World Made for Men,” however, would not be lost upon many of the futurists concerned with bodies and evolution in the early twentieth century. Instead, thinkers and authors in the new century offered how the “new” aerial perspective allowed for an equally “new” visual paradigm of omnipresent, omni-aware viewership that allows for natural selection to weed through any bodies that were foreign, non-white, or otherwise “alien.” The works of twentieth century corporeal aerofuturism perpetuate the social and racial hierarchies that powerfully defined the nineteenth century, and their re-appropriation of the various trajectories of aerial invisibility and flight-articulated social and biological evolution illustrated by Beard in works by Twain in his 1890s tales appear in the works of twentieth-century authors on both sides of the Atlantic.<sup>27</sup>

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<sup>27</sup> Similar themes emerge in the lost dime novel serial “The Seven-Headed Monster” (1907) in which, as Everett Bleiler discusses, a lost race of blond people living on a Nepalese valley control a life force and fly in machines “aided by the lift from a gaseous residue [...] [while they also] wear suits inflated with the [same] gas” (*Science-Fiction: The Early Years* 124).

These aerial tomorrows revealing powerful yearnings for new bodily realities that seemed attainable in the upper registers of air space crop up across literature, painting, acrobatics, photography, and other media. The works discussed in this chapter occur between the frame years 1904 and 1916, a time span selected to include many poignant examples of this brand of corporeal aerofuturism. This period of time was a powerful, exciting, and unique technocultural moment when, as A. Bowdoin Van Riper notes, “the aircraft had become viable but not yet technologically mature” (12). Such was a time when the idea of the aircraft still seemed “protean,” and “capable of assuming any form and taking on any function” (12). Alongside this protean field of aviation was an associated protean understanding of the human body. Regarding the 1904 starting point, even though Robert Wohl makes convincing case for using 1908 as the critical turning year when aviation-bred visions of the future came to a new maturity, this chapter begins four years earlier to account for both Lawson’s and Gilman’s aerofuturist projections, respectively published in 1904 and 1907, and its scope extends until the approximate heart of World War One.

Among the scholarly work about embodiment and space that touch upon corporeal aerofuturism and the air-body complex, critical dance studies, disability studies, and theories of posthumanism lend a number of useful perspectives. For instance, Peta Tait notes in her work on high wire walkers and acrobats, the intersection of body policing and aerial zones betray how “aerial performance became a type of knowledge generating a distinctive discursive history” (7). Tait shares a useful framework to discuss the similarly discursive system that organizes corporeal

aerofuturism. Producing such a discursive network, corporeal aerofuturism allowed thinkers to examine the body's shift into posthumanity. While the examples in this particular chapter are more grounded in spheres of phenomenological activity than they are the technological embodiment, I also consider the way that corporeal aerofuturism implies many of the same early concerns that modern posthumanist scholars find in the post-corporeal networks. Lastly, the attention given to the human body in this chapter also covers similar perspectives examined by modern disabilities scholarship. Disability studies generally focuses on representation, identity politics, and labor values, and so the critical work of disability studies also provides a useful range of approaches to the essence of corporeality that is probed in air-body complex aerofuturism of the 1910s. For instance, Lennar J. Davis has argued that even recent thinkers such as the postmodernists have been unable to “theorize a partial, incomplete self” (Mollow np), and the aerofuturist of the new century attempted in many venues to see what the disconnect between a stable subjectivity and the body would look and feel like.

In this chapter, I first examine aerofuturist trends woven into the works by the forgotten aviator-author Alfred W. Lawson. I argue that his narrators and odd evolutionary designs that allow for bodily flight betray a desire for the posthumanist transcendence of the physical human body. Lawson generates a system of body normalization and an aerial caste system, blanketing crucial issues of bodily difference in the name of “evolution” while channeling contemporary discussions regarding the removal of inferior hereditary material from the population. Lawson and Gilman's visions hint at a supremacy of uniform bodies, and I illustrate how such themes of

eugenics emerge in Filippo Tommaso Marinetti's novel *Mafarka the Futurist*, a wild tale of a king who immaculately conceives a son whose body is articulated for flight.

After working through these early iterations of corporeal aerofuturism, I discuss two additional authors whose works perpetuate the eugenic promise of aerial posthumanism. The abstract representations of corporeal aerofuturism poignantly dominate two tales by British horror writer Algernon Blackwood, and I argue that in his novella *The Promise of Air* (1913), and his short story "The Wings of Horus" (1914), Blackwood's reliance on the transformative method of aerofuturism allows his protagonists new ontologies evocative of Henri Bergson's 1907 theory of "creative evolution." These texts feature the myriad ways that air exposure would heal the sick or ailed body and, even more radically, allow an ethereal disconnect from literal flesh and bone. Blackwood envisions full evolutionary transformations where the aerial registers allow full metaphysical departures from the ailments of the flesh.

#### The New Century and the Air-Body Complex

As covered in the previous chapter, early twentieth century projections of bodies in the air were indebted to the culture of the bird's-eye view, a visual, ideological system that canopied the previous century in thought and innovation. While the concept of elevated vantages fascinated nineteenth century imaginers and their predecessors, the idea and innovation of scopic possibilities mimicking a bird's-eye view leading up to the early twentieth century made aerial topographies ever more accessible to the groundling public. The specifically visual nature of these trends of birds-eye viewing came in sync

with the photographic developments that allowed for the reproduction of elevated images; photographers eager for new perspectives anchored their cameras to birds, kites, balloons, dirigibles, and fixed-wing craft (Baumann np). Elevated perspectives of the bird's-eye view proffered a heightened sense of importance, and twentieth century observers perceived that their ability to gaze down upon the earth produced a breathtakingly new visual paradigm — even though the perceived newness of this view was a well-worn trope in the long history of aerial mapping and speculative cartography.

A decade and a half into the next century, the aerial observer had shifted into the aerial photographer, as geographer Paul Baumann notes, and Paul Virilio similarly argues that by 1914 aviation was “ceasing to be strictly a means of flying and breaking records [...] it was becoming one way, or perhaps the ultimate way, of *seeing*” (17, italics Virilio's). Such early twentieth-century concerns regarding aerial perspectives perpetuated the same culture of visuality occurring within the 1890s aerofuturism that I discussed in the previous chapter. However, before the maturation of aerial visuality that Baumann and Virilio cite, between the turn of the century creative period following the turn of the century and preceding the explosion of war-enabled aerial-visual systems, was a decade or so of wild possibilities emanating through aerofuturist discourse networks. Most striking of these radical new ideas were those that speculated that flight would allow access to new conditions of human corporeality.

In visible ways the dream of flight affected even the most tangential pockets and trimmings of the human body, seen for instance by the outrageous fad of airplane hats in

women's fashion, a style which crossed the Atlantic earlier than any aircraft (Maksel np). Many air-body experiments during these years were situated in actual flight, such as the nascent stunt of in-flight wing-walking on acrobatic aircraft, feats which were performed at least as early as World War I by Ormer Locklear (Ronnie 17). Such acts took human bodies into the sky in plain view, and exposed the stunt persons to establish a more direct bodily connection to the air, without the frame of an airframe to mediate. Likewise, entertainers were pursuing ever more thrilling spectacles of tightrope walking, such as Ringling Bros. & Barnum & Bailey's high-wire maven Bird Millman O'Day's jaunt above Broadway Avenue in full aerial suspension, an act that graced the cover of the February 1917 issue of *Popular Mechanics*. As performances of aerial-bodily living permeated Western culture, a perceived mutability and possibility for bodies simultaneously arose in a number of stirring speculative works.

Vogue airplane clothing and bodies suspended in aerial environments were only a few of the ways that the protean aerial technologies inspired new images of the human form in the new century. Mark Selzter has argued that the turn of the century was marked by a "machine-body complex" that regulated an opposing market culture and machine culture, as outlined in his influential book *Bodies and Machines* (1992). In turn, the thematics of corporeal aerofuturism interrogated in this chapter produce a similar, smaller cultural mechanism in the early twentieth century that regulates what I call *the air-body complex*. This apparatus, which arises through aerofuturist discourses, mediates between mitigating problems of aging and the degenerating human forms, and the more radical, final solution offered by eugenic systems that were circulating at the same

historical moment. The air-body complex is a wild form of posthumanism that mixes aerial realms, prostheses, pragmatic thought, evolutionary changes, and a new century's techno-spiritualism.

Alfred W. Lawson's Sageman and Alti-man

For Alfred W. Lawson, the aviation celebrity of the 1910s who designed what is often considered the earliest form of passenger plane, the dreams of flight were also dreams of bodies undergoing remarkable change. Lawson's early aerial utopian fantasy *Born Again* (1904) was inspired by the period's trend of utopian literature. Influenced in obvious ways to Edward Bellamy's *Looking Backward* (1888), Lawson's yarn is a phenomenological test bed for corporeal aerofuturism. *Born Again* is the story of a bumbling nineteenth century protagonist named John Convert who is miraculously transported to the cultural region known as Sageland. Sageland is the requisite, blatant titular utopia of intelligence, existing thousands of years ahead of Convert's time. There its inhabitants are freed from the squalid conditions of living like the "ape-men" of Convert's contemporary moment. However, upon Convert's arrival there is but one Sagelander left to receive him; the beautiful guide Arletta has devoutly postponed her own death hundreds of years in order to enlighten Convert (and, as is common in utopian literature, the reader).

Corporeal aerofuturism becomes the mode of travel, of sharing insights, and of the evolution of the human race. In one case, when Arletta telepathically converses with

Convert regarding earth's fate, she reveals that her peoples' advanced corporeality allows for a new type of visualization that does not require external bodily stimuli:

Mind sight is an occult force [that][...] eliminates both distance and obstruction and exposes to view the object sought even if it is located on the opposite side of the globe. Any mind, if sufficiently strong, can contract distance and bring any mundane scene within its range while penetrating solid matter [...] to make a hurried survey of the earth's surface in order to obtain an exact idea of present conditions.

Furthermore, by the subtle concentration of our mind forces together I shall convey to your inner vision the actual scenes witnessed by myself, and you shall act as my mental consort on a trip around the world. (42-43)

Through Arletta's extrasensory powers Convert learns that he will be able to share her evolved cognitive-optical aptitude, a method of seeing that allows them to telepathically move — fly — over the earth's surface. At the most basic level of the text, the aerial "survey" that Arletta plans for herself and Convert is a narrative tool that conveys the look of the utopian future to the reader. The metaphysical flight also acts as a romantic instrument for the pair, since Convert must tellingly subject himself to the role of "consort" as he travels by way of Arletta's psychic conveyance. However, their plan of aerial surveillance also reflects ongoing developments of balloon and aircraft surveys that allowed planners and aeronauts the vantage point of the bird's-eye view, developments that Lawson would have been directly involved with due to his work in the aircraft



design. Through the bird's-eye view that Convert experiences with Arletta he is able to tap directly into the Lawson's contemporary cultural fascination with aviation technologies of visualization, and the utopian novella more generally reflects the period's growing appreciation for the critical air culture whose denizens looked to understand flight as a revolutionary mode of human experience.

The bird's-eye view appears in the novel not only in relation to expressions of flight. Optical *perception* in the novella is also frequently a source of intrigue, including the moment when Convert experiences an insular "projecture" after arriving in Sageland. The room that Convert wakes up in is a spherical shape with a skyward aperture, the walls painted with an ultra-high level of detail that at first glance resembles a natural backdrop, with similar examples of perception change a recurring theme in the book. Likewise, at one point Convert finds himself resting on what appears to be an opaque pane of glass, frosted over from the centuries, that represents the nature of optic clarity that his seer's position enables.

Speaking to Convert's curiosities, Arletta reveals that the Sage-men had a "continual desire to remain in the air as long as possible," which eventually yielded evolutionary results where man learned to fly (135). The Sage-men then surpassed their physical evolution of flight, as Arletta points out, in that their most recent generations preferred to eschew the crudeness of wings or other prosthetics in lieu of an evolved extra-corporeal telepathic power of flight. The importance of the Sagelander method of cognitive flight is most clearly illustrated through Convert's method of participation

when Convert connects to Arletta's mind in order to see Sageland from the air. As Convert learns, if a person is advantaged the appropriate evolutionary outcome in Sageland, distances can be "contracted," and solid matter can be "penetrated" (42-43). These new possibilities for accessing the material world are crucially defined using the language of the immaterial substance of that seems to clearly be airy in nature (much like earlier thinkers described æther) but the new evolution of the Sagelanders is also always already coded through an experience of aerial flight matching that of Lawson's contemporary aviation scene. Through the promise of flight the Sage-men offer advanced human cognition via the aerial perspective sans the aid of flight systems or aircraft (note the continued trend of the default masculine pronoun despite the posthuman subject manner). This is in direct opposition to the need for physical flight, as Arletta directly states that human bodies are irrelevant when she notes how Convert's kin, the ape-man, "devote[d] his time to the construction of machinery with which to carry around his decaying and almost useless frame" (134), a statement as much an indictment of the human machine as it is the machines human creates through material innovation.

Arletta's ability to link to Convert's subjectivity to share her flight and reveal the new topography of the future begins with a simple, thrilling gaze into the protagonist's eyes. Immediately Convert finds that through this truly aerofuturist experience, a "meteoric flight [had] commenced, and quicker than it takes to relate [the experience he] was high up among the clouds and peering down at a familiar landscape" (38). From this vantage point is a future where human bodies were so evolved that flesh and bone is only the most crudest conduit of experience.

Lawson publically affirmed on multiple occasions during the first decade and a half of the century that great phenomenological changes to human bodies were coming due to the new paradigm of flight culture. He imagined that aircraft would allow access to special properties of the air that would shift the way that human bodies function. Years after publishing *Born Again*, and following the publication of his early aviation magazine *Fly*, Lawson became a learned pilot who increasingly tracked the culture of flight. Later he would make even more overt claims about the future effects of flight on human bodies. The most famous of these aerofuturist assertions, or projections of what he deemed “airlogical advancement” (Faunce 197), came in the October 1916 edition of the magazine *Aircraft*, where Lawson forecast a future filled with passenger planes and flight paths. Part and parcel of such airlogical advancement meant, according to Lawson, that humankind’s ultimate transformation would be into an ascended race. Drawing upon the same Latin root “altus” (high-range) shared by the word “altitude,” Lawson dubbed the novel’s new race of humans “alti-man,” Lawson imagined that humans of the alti-man caste would fly, harvest food, live, and control lesser “ground-men” that remained on the terrestrial surface (Corn 41).<sup>28</sup> Moreover, Lawson further declared in his *Aircraft* article, “long yachting voyages will be made not to visit other lands but to spend long periods at higher altitudes,” and he continued that “It will be discovered that the air at different heights contains various therapeutic qualities and that cures for almost any human ailment can be affected by residing at certain altitudes for certain lengths of time”

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<sup>28</sup> For a similar reading of alti-man’s terminology see Faunce 195-201. See also the OED’s entry on “alti-.”

(Faunce 199), reinforcing the possibility for new health facilitated through corporeal aerofuturism.

In the case of Lawson, his predictions about the future of airborne civilization reflect a cultural interest in curing the ills of the human body through air that were reflected in other aerial musings of the period. Contemporary thinkers and social groups on both sides of the Atlantic had believed for some time that air was a freeing substance that could cure a variety of ills. The idea that elevated air would produce advanced humans is predicted in the opening pages *Caesar's Column* when Gabriel Weltstein writes of the Hotel Darwin Hotel of 1988, which pumps down “the pure, sweet air from a higher region, several miles above the earth” for its guests. Noting how all hospitals of the city (again, in the imagined New York City of the future) share the same aerial ducting, Gabriel imagines that they would be able to “diminish the mortality of the sick one-half; for the air so brought to them was perfectly free from bacteria and full of all life-giving properties” (16). He also finds that the hotel’s elevator is a marvelous structure capable of raising guests atop ballroom-sized, piano-accompanied platforms to a roof boasting “a glass-covered tropical forest, filled with the perfume of many flowers, and bright with the scintillating plumage of darting birds; all sounds of sweetness fill the air” (12). These technologically facilitated “ecotopian” structures initially offer the perfect blend of nature and built environment, yet are quickly turned to decadent, oligarchic structures, as the narrator grows to reject the urban sprawl in exchange for a return to his brand of colonial-romantic pastoralism.

The structures of *Caesar's Column* reflect architectural choices in nineteenth and early twentieth century sanatorium design frequently situated residents carefully in airy, correctly ventilated environments. The pursuit of such “light, air, and openness,” as Paul Overy names the trend, powerfully shaped sanitarium theory and modernist architectural planning. Given the properties and presumed health benefits of the air, it is not surprising that aerofuturists would consider the way that human bodies would react to such conditions, and at least one journalist in the 1920s believed the next logical step would be a type of aerial sanatorium whose elevated oxygen would heal all ailments (Corn 39). In his article in *Aircraft* Lawson likewise argued that radical change would occur after humans had spent enough time in the miraculous bathyspheres in the air:

The alti-man of the future will have become so reconstructed physically and anatomically by long sojourning in the upper air that he will not require artificial oxygen respiration and will have so adjusted himself to that particular altitude that it will be impossible for him to go below a certain depth of the aerial ocean. (Faunce 199-200)

Lawson's depiction of alti-man exudes corporeal aerofuturism, and his talk of “reconstruction” is tied to the belief that alti-man will be the product of a natural evolutionary progression. Through the future civilization in *Born Again* reveals an upward progression of the body and mind that is paired with increased flight abilities, the Sagelanders' bodies include strange mutations. Convert notices that Arletta has no teeth. The rationale is that generations of Sagelanders consumed only an “aeriform” (reduced-

vegetable) diet that was absorbed by “scientific, cleanly and healthful method of inhalation” (101), which eventually produced a toothless race.<sup>29</sup> Oddly enough Convert, ever true to his name and the clunky romance of the novella, concludes that Arletta’s smile is all the more beautiful without hindrance of teeth. Arletta’s subsistence-by-inhalation and lack of teeth generate a macabre subtext in *Born Again*. With her toothless mouth and elongated toes, the latter explained as the evolutionary outcome of rejecting shoes, the bodies of Sagelanders are radically malformed by the standards of the twentieth century. Their morphology reflects an articulation of grotesque body configurations that result from this evolutionary changeover, and thus *Born Again* carefully positions its narrative into a complex inquiry of what sort of future will be shaped by the controlled hereditary progression of bodies.

#### Eugenics and Air-Body Perfection

The reveal of Arletta’s non-normative features, which are also coupled with *Born Again*’s inadvertent racial asides that will be discussed later in this chapter, reflect the social politics of normalized bodies and discussions of eugenics that helped define the Western world of the new century. The fruits of aero-evolution seen in Lawson’s utopia

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<sup>29</sup> Obscure author Kenneth Folingsby’s *Meda: A Tale of the Future*, which saw a limited production run in the early 1890s, includes a late-nineteenth-century precursor to the Sagelanders’ evolution of normative humans’ dietary, cognitive, and aging standards. The future race of humanoids that the novel’s narrator in Edinburgh creates called Scotonians have no digestive system and consume electric currents in the high atmosphere; their heads are, as Everett Bleiler catalogues, “hypertrophied, their mental powers have increased, and they float about controlling electricity and magnetism by power of will [...] [living] from one hundred and fifth to two hundred years” (*Science-Fiction: The Early Years* 257-58).

also express an additional complication that affects the larger discourse of corporeal aerofuturism. In granting Arletta features of bodily transcendence and bodily decomposition, Lawson produces a vision of this aerial posthumanism that would reject the frailty and diversity of bodies. Subsequently, corporeal aerofuturists like Lawson consistently use imagined futures related to the air to abscond from bodily concerns while also critiquing the process that eschewing the body requires. As a result, although the hopes and expectations for aerial embodiment in the early twentieth century are wild and exciting on a phenomenological level, the aerofuturist works of Lawson rest on the assumption that bodies and sensory experiences are reducible to a single subjective model, and as such are complicit in not only ignoring distinctions of sex, gender, or race, but also re-inscribing a power system that privileges a standardized form of the body.

Moreover, despite the utopian promise of a future in Sageland that is more metaphysical than material, the physical, laboring body is never completely disowned. This is especially the case with the Sagelander's mode of telepathic flight that allows Convert to access skybound experiences without undergoing bodily ascension. At one point near the story's conclusion, Convert uses the telepathic mode to access the sensations of other persons' corporeal realities. In one telepathic sequence, Convert reveals that he "transmigrated from one thing into another, in a seemingly endless procession of lives, experiencing all the peculiar sensations of the many bodies [he] temporarily inhabited" (109). Such access to other bodies allows Convert a form of aerial *flâneurism* that unifies people and geographies worldwide by normalizing all bodies into a single category.

Still, the ideal standard form of the body in *Born Again* and other aerofuturist works is often aligned with the traditional default codes of maleness, whiteness and the supremacy of a certain Western hereditary intelligence. These dreams of flight, which lionize not just an optic but also a broad experience, are impossible to separate from the role of corporeality, flight, and femininity as expressed through the aerofuturist discourse. *Born Again*, despite Convert's vocal admission that all men are his kin, "be they white, black, red, yellow or brown," contains a racial subtext that daylights the virulent side effect of encouraging an evolutionary pattern that refines and improves racial select characteristics (9). Arletta conveys to Convert the truism that there is indeed a "Natural Law," which includes a principle that "plainly shows an evolutionary tendency of all living particles toward a final state of complete intelligence" (120), and the metamorphoses that have led to the Sagelanders' final incarnation separates them from the inferior race of "ape-man." Here the aerofuturist discourse continues the connection between whiteness and flight seen in Chapter One, where the dialectic carefully balances the themes of erasure and romanticism. While the critiques of the "ape-man" may be selected for its general evolutionary analogy of progress from chimpanzees to humans, Larson's selection of such an intentionally dehumanizing term — associating humans with creatures that are sub-human — insinuates that the evolution into a socialist-leaning utopia requires the rejection of inferior racial groups of humans. (It also mirrors the same aerofuturist concern in the balloon narratives covered in Chapter One.) The Sageland body is the only standard form, and all other dying out over centuries of



imagined progress, and the more general view of race elevation was perpetuated by other contemporary aerofuturists in Lawson's historical moment.

Before examining additional aerofuturist examples of eugenics and the Air-Body Complex, it should be repeated that the bodies under discussion are written as if the evolutionary process will culminate in the elision of difference. In this way, corporeal aerofuturism rejects the body binaries that Donna Haraway expresses in *A Cyborg Manifesto: Science, Technology, and Socialist-feminism in the Late Twentieth Century* (1985), where she theorizes a post-gender cyborg model that comes from a different historical record than that of Western culture.<sup>30</sup> Aerofuturist visions of moving beyond corporeal existence cloak the sexual and racial struggles that plagued the twentieth century in United States and broader Western culture. Haraway and other scholars discussing posthumanism, such as N. Katherine Hales, share a broader feminist-Marxist critique of the power system that disguises the distinctions between bodies and their labor. Viewed in concert with the existing frameworks of feminism and Marxism, the aerofuturist works cited throughout this chapter illustrate an overt erasure of sexual and racial difference, but that the authors, sometimes, do so in order to critique the acts of reducing bodies and minds to a certain sameness that obscures the significant racial and sexual unevenness. This all seen in a period in America marked, for instance, by Jim Crow laws, a women's suffrage, and forced sterilization.<sup>31</sup> Perhaps the air-body complex

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<sup>30</sup> See Haraway's revised, republished form of her argument in *Simians, Cyborgs, and Women*.

<sup>31</sup> For a history of involuntary solution, see Reilly. See Spruill for an overview of the women's suffrage.

is a mollifying agent that keeps larger concerns for difference at bay, but it may also be a more menacing projection of a future where those differences have been totally normalized into a single white body.<sup>32</sup>

The works of aerofuturist corporeality in the early twentieth century also exude the related, then-current social doctrines adapted from Darwinian biology that developed regarding miscegenation and eugenics. Reproductive controls that streamlined bodily difference were not new concerns for Western thinkers, and the intersections between eugenic and occult discourses were noted at least as early as the 1840s by utopian communities in America and Britain (Ferguson 30). As for the turn of the century, the concern for an impending decline based on the mixing of races was of high concern to Imperial Germany in the first decade of the twentieth century (Allen 31), saw serious development in Britain (Young 2), and, in America, informed Madison Grant's popular 1916 work, *The Passing of the Great Race* (1916). Such concerns are reflected in the way that *Born Again's* characters have moved away from the human form, and Lawson's characterizations recall the same blueprint of eugenic thought that had been circulating for more than half of a century in the United States. Case in point, many of the boldly authoritative passages from Andrew Jackson Davis's 1850 work *The Great Harmonica, Being a Philosophical Revelation of the Natural, Spiritual, and Celestial Universe* could just as easily be spoken by *Born Again's* Arletta, including the following one:

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<sup>32</sup> This same concern for ejecting difference by offering a singular body structure of the future tomorrow is of crucial importance to theorists working within the fields of disability studies and posthumanism.

If man is physically in the state of freedom, it would be absurd for any individual to remain with black skin, with a defective cranium, with a weak physiological structure; because he could, and probably would, change those peculiarities of his organization, when and as he desired; and he would not supposing him to be in a state of physical freedom, be under the necessity of breathing air to sustain life, of eating material substances to preserve bodily strength. (213)

It is precisely that type of “state of freedom” that led to the advancement of Arletta’s brand of Sagelanders. Evolution has reorganized bodies to exist off calorie-laden vapor and eliminated their teeth, which can be read as both a distinguishing and disfiguring feature of all Sagelanders, but the language of Convert’s era also perpetuates the language of primitivism associated with racial exclusion. Lawson’s selection of the term “ape-men” as a consistent expression of the lesser human form as ape-like critiques the late nineteenth-century social fabric with the same wide brush of African-American caricature used to paint the African-American body with ape-like features. Although Lawson seems to have wholly intended for *Born Again* to be ripe with positive possibilities for the future, the strange juxtaposition of disfigured and empowered future humans who look disgustedly back upon the ape-like primitivism of the nineteenth century that is directly aligned with racial diversity is clearly problematic. Arletta does not overtly call out the Sagelanders’ racial characteristics in *Born Again*, but Convert cannot help but notice the Anglo traits in a futuristic *tableaus vivant* of the long-gone Sagelanders, where each man not only “appeared to be buried in the depth of thought —

serious thought — notwithstanding every physiognomy plainly showed that the utmost happiness and contentment existed within each,” but also that the “skin of their faces, hands and feet was as white as snow, transparent, and backed by a beautiful pink” (31). After appreciating their pure whiteness, Convert reveals that his first thought was that the Sagelanders were “the gods” (31), clearly drawing from Greco-Roman mythology and its associated history of marble sculpture in the West.<sup>33</sup>

The Greek revival that marks the Sagelanders’ whiteness also appears in another work by Charlotte Perkins Gilman, her utopian text *Moving the Mountain* (1911). In it a vision of 1940s America projects a society that appreciates the human body and rears children “in an atmosphere of lovely form and color, statues and pictures all about them” (150). It is by way of airships that the citizens in the future 1940 of *Moving the Mountain* travel, and aboard these ships the characters attain the space where they can converse regarding the future’s “social consciousness” (179). One of these air trips yields the backstory of the fictional 1940 where thirty years of aviation growth culled a race of flying men, at which point it is explained:

all the children are given full physical development and control [...] a sort of Hellenic revival — a recognition that it [is] possible [...] to rear as beautiful human beings as walked in Athens. When women were really free of man's selective discrimination they proved it quite educable, and learned to be ashamed of their deformities (145).

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<sup>33</sup> For a discussion on the way that Greco-Roman revival sculpture was laced with concerns for miscegenation in nineteenth-century culture, see Kasson.

Back in Sageland, as Arletta walks Convert through the ways the bodies, minds, and ideologies of his paradigm have evolved into their final humanoid incarnation, she serves convincing him that his own reality is deeply troubled, Convert then reverts back to his present day. When Convert returns from the future to the original present of the narrative — the Sageland interlude turns out to be some sort of parallel dream world — he changes back into his “working clothes,” which tellingly “resembled the white duck outfit worn by an African explorer” (177). Convert’s homecoming aligns his sartorial exterior with that of (white) colonial African exploration even though he is among an urban built environment in Buffalo, New York, a final nod to the miscegenation themes interwoven throughout *Born Again*.

The novella then takes a number of strange narrative twists. Convert interacts with a mirror-character Arletta living in his own time but unaware of the Sagelander version of Arletta whom Convert has fallen in love with. By the close of the story Convert and Arletta find out that they both have a *doppelgänger*, but the discovery comes only after the authorities arrest, try, convict, and execute the protagonist Convert for what turns out to be his *doppelgänger*’s murder of Arletta’s *doppelgänger*, foreclosing the possibility to ever again access that future Sageland where cognitive flight is commonplace.

Despite its odd conclusion, *Born Again* fits into that specialized subgenre of utopian literature that, as A. Bowdoin Van Riper argues, materializes in the first years of the twentieth century, connecting the style of forecasting the future that had become a

literary genre in the late nineteenth century to the developments in powered flight that defined the early twentieth. Riper notes how this nexus continued “ushering in what many saw as a new epoch in human history, the ‘air age’” (12), and *Born Again* fits this particular pattern. While the convoluted ending makes for a jarring finale that may well explain why the text has not secured a place in any sort of literary canon, the future that Arletta reveals is a test bed of the potential activated through corporeal aerofuturism.

#### Italian Aerofuturism: F.T. Marinetti’s African Sky-Body

Within five years of the publication of *Born Again*, and a few years after Charlotte Perkins Gilman’s public gesture about the age of the aerial man, came Filippo Tommaso Marinetti’s radical variation on flying bodies in his 1910 novel *Mafarka le Futuriste: Roman Africain (Mafarka the Futurist: A Novel)*. The writing of *Mafarka* was an early step in its author’s long, obsessive history with the new paradigm of aircraft culture, and Marinetti would later compose a number of additional aerofuturist works, including in a prose-poem “The Pope’s Monoplane” and a *Technical Manifesto of Futurist Literature*, both published in 1912 (Pisano 287). In the later, Marinetti would invoke airplane language that urged Futurist poets to make metaphors “lighter [...] and airborne, [and to look] down from on high with terrible lucidity” (18-21), an incitement that Marinetti had previously, figuratively addressed in *Mafarka*.

When he published *Mafarka* in 1910, Marinetti was already well known for an influential avant-garde proposal titled *The Founding and Manifesto of Futurism*, which he wrote just after *Mafarka*, but which went to press first. Marinetti’s novel includes the

same primary themes of corporeal aerofuturism seen in Lawson's work: the view of the human body as a complex, disease-threatened mass of material, the provocative speculations of a human form capable of flight, and a violent indictment of non-masculine bodies across racial and sexual divides. *Mafarka*, as scholars over the years have noted, is a tale saturated with pervasive misogyny, nationalistic pugilism, and violent colonialism associated slavery, all in their own ways iterations of Marinetti's Futurism movement (Blum).<sup>34</sup> For instance, the novel's setting in Africa mirror's Italy's then-recent emergence as a nation-state that had begun its own brand of colonialism, especially in Africa (Diethé ix). When the air-body complex in *Mafarka* surfaces following the decision of the story's eponymous king that he will birth a son himself, what unfolds is a outlandish immaculate conception that blurs the codes of maternal and paternal physiological processes.

King Mafarka encounters a woman of shadowy origins named Coloubbi, who claims that the king once loved her as a youth. Coloubbi is intoned as the mother figure to Mafarka's offspring, although the king transfers his essence into his son through a mystical birth sequence, and the shift for the king help him pursue an existence "liberated from the human mass and ungainliness" (Marinetti 143), all illustrating the ways that *Mafarka* relies on the core corporeal aerofuturist trend of moving away from the physical body through flight. Coloubbi's body is similarly coded through the language of flight, and as King Mafarka throws himself at the inviting temptress, he notices that her body

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<sup>34</sup> See Diethé's introduction to *Mafarka* for an overview of the misogynistic and nationalistic themes in the novel. For an extended coverage of Marinetti's Fiction and Modernism, see Blum. See also Berghaus, *Futurism*.

itself seems pulled skyward: “her pretty stomach seemed to have an elusive voluptuous lift towards the sky [...] were those young breasts not going to take flight?” (165). Similarly, King Mafarka’s son Gazourmah is cloaked in the language of flight, with one description of him as a “chick that will soar” (148), and another describing how his father has built an “invincible giant bird who[m] possesses big flexible wings” (143). Just as Gazourmah’s birth is unconventional, so too is his body, a semi-metallic structure assembled by Mafarka. There is scaffolding involved with the “construction” of Gazourmah which, along with the metric of his twenty-foot tall form, suggests the production of an aircraft. Furthermore, the progeny’s body is described through the language of an airplane, his mouth featuring “beautiful wooden lips” (196) whose description uncannily suggests a two-blade propeller. Additional aviation allusions come when he must shake his father’s embrace, as Gazourmah intimates aircraft movements, shaking his body “from side to side” (197). Gazourmah’s body is capable of “sudden climb[s] of a hundred cubits” (202) and he is able to float “languidly on his broad, orange-hued wings, glazed gold by the morning light” (202), all ethereal actions that link Gazourmah to the period’s — and Marinetti’s — creative projections about the future of the human body altered by aerial conditions.

Modernism scholar Cinzia S. Blum argues that Mafarka’s son’s solitary birth, frees the king from “weakness, disease, death, emotions, and gender” (69) of normative coupling. Blum’s reading aligns Mafarka’s mechanized son, whose figurative body is part and parcel of an airplane fuselage, with an evolution into a realm of air, light, and openness high above disease and, in this case, bodily difference (69). About his



particular post-corporeal form, Gazourmah voices how he is “no crawling man who strives at night to push his puny tortoise head outside the immense carapace of the firmament [...] [with] lungs that are huge and adapted to the unbreathable atmosphere” (205). The aerofuturist longing for a disease free, sky-borne sphere of living that marked Lawson’s works are replicated in this transition, and by freeing himself from the gender constraints of being male — a rare instance of an early twentieth-century character wishing that he was able to conceive, albeit without procreative sexual intercourse — Mafarka also repeats that same corporeal aerofuturist normalization process that excludes bodily difference.

Returning to Gazourmah, his few pages of life in the text are punctuated by a memorable conversation with the “mocking breezes” and the synthetic child responds to the personified wind that he will “stretch out on you [...] bite your lips, and deflower all of you, oh lovely mocking breezes” (qtd by Spackman 60). Even while his physical being is coded as a machine, Gazourmah’s airplane-body is understood as patriarchal, masculine, and, as Barbara Spackman has noted, in line with his father’s expressed intention to birth a son without direct contact with the vulva (60). It should be obvious that this is simply another instance in a story marked persistent, disturbing occurrences of rape, slavery, bigotry, and warmongering, but the important feature is that the bodily ascension of Mafarka’s posthuman son, which some have considered a cyborg (Spackman 54), perpetuates the same concerns that corporeal aerofuturist tomorrow that others in the Western world were intimating; tomorrow’s air future provided the promise

of release from disease and inferior human bodies, but also reinforced the dramatic measures that would be required to attain such lofty goals.

### Algernon Blackwood's Air Phenomenonology

This chapter concludes with two examples of prewar corporeal aerofuturism that come from the annals of supernaturalist writer Algernon Blackwood. Known best as an influential weirdist with a style reminiscent of Edgar Allan Poe's, Blackwood composed a number of stories in the early twentieth century that illustrate how corporeal aerofuturism offered an alternative to bipedal embodiment. Blackwood's overlooked novella *The Promise of Air* (1913), and his short story "The Wings of Horus" (1914) both illustrate human bodies that are increasingly burdensome, with the potential for flight transformations to offer radical relief from the requirements of the human form.<sup>35</sup>

The *Promise of Air* follows a young Joseph Wimble, a Cambridge scholar who disappoints his family by marrying a local corn chandler's daughter, through his courtship, marriage, fatherhood, and midlife transformation. Aerofuturism is nearly a character itself in the tale, as Wimble is obsessed by a fantastical idea of aerial embodiment. For Wimble, his desires are articulated as powerful longings for bird-like transformations. His ache seems transferable, as his wife Joan is first afflicted by Wimble's obsession. She shares his passion for a world of flight, and then following the

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<sup>35</sup> *The Promise of Air* fits uncomfortably in modern conceptions of the Blackwood canon. Perhaps the book's lack of more typical Blackwood features, such as murder, mayhem, or occurrences of ghostly haunting, push it to the wayside. The novella does not warrant mention in the 2001 biography by Michael Ashely, entitled *Algernon Blackwood: An Extraordinary Life*, and when *The Promise of the Air* is included in anthologies or collections it tends to be lumped in with more Algernon's more traditional horror stories.

birth of their daughter, also named Joan, Wimble's aerial cravings are organically transferred to young Joan in name and in spirit both. Wimble's wife takes on the name of "mother" for the rest of the novella, and young Joan adopts her father's desires for elevated living.

The title, *Born Again*, overtly refers to the book's particular futurism, where humans have been subject to radical bodily and cerebral evolutions. These evolutions of the human body and mind, which are in part an early attempt to articulate the "natural laws" that Lawson would later incorporate into his quasi-religious, quasi-economic belief system, Lawsonomy, reveal the belief that powerful air intrigues would produce a more harmonious future for humankind.<sup>36</sup> Regarding Wimble's particular desire to fulfill the story's suggestive "promise of air," he believes that aerofuturism is indeed the next step in human development. As the story's narrator summarizes:

The Kingdom of the Air became for him a symbol of an existence higher than anything on the earth; air stood for a condition that at present was beyond the reach of humanity, but that humanity one day would achieve. His imagination figured this glorious accomplishment as the next stage in evolution. (8)

Here the same language of an "evolution" that marked Gilman and Lawson's prognostications is directly replicated in the narrator's description of Wimble's condition.

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<sup>36</sup> *Born Again*'s title also more obviously refers to the protagonist's new birth into a utopian reality, betraying Lawson's own nascent socialist ideologies, and it also foreshadows the book's bizarre ending involving murderous *doppelgänger*.

In fact, the evolution expressed by Wimble mirrors the form that Henri Bergson theorized in his 1907 work *L'Évolution créatrice* (The Creative Evolution). Wrapped in the period's rhetoric of controlling ethnic and cultural traits, this aerial science fiction imaginary not only tested the promise of the upper register of air space, but also circulated an early form of posthumanism. In foreseeing this "kingdom of the air," Wimble imagines a new order that will someday alter the fabric of humanity for the better, and his remarks read much like Gilman's provocations on the age of the aerial man. While Gilman's theories were intended to showcase the way that aviation would provide a springboard for improved social conditions, Wimble's speculations match those found in Lawson's *Born Again*, as both authors' protagonists reveal a future where the essence of flight and air itself is a metaphysical apparatus that facilitates profound mental transformations.

Instead of visiting or speculating about a future where humans have evolved, the characters in *The Promise of Air* demonstrate an early stage in the aerial embodiment conversion process. Blackwood's distinct use of aerial language in *The Promise of Air* provides this transformative effect. The story is overmastered by a vocabulary of flight posited both through character dialogue and the narrator's own rhetorical flourishes. Wimble and his wife's bodies "float" (11), "fly," (14) "land" (29), and "soar" (26). Minds and souls "rise" (45), and characters live in "tiny cages" (181) or experience their feelings being "swept" (199). Voices are "fluted" (26), and human tones "twitter" (49) and "warble" (26). Ideas are "alive and wingy" (58), or are best secured "by the tail" (97). And so the descriptors continue, with various conjugations of "air" appearing more

than 300 times throughout the text. The downtrodden have “the wind up [in them]” (160). Characters “preen [...] [their] wings” (67-68), or are “like a bird showing its under-plumage” (85). Some characters embody an “unearthly airiness” (70). Wimble accesses sight as the “bird's-eye view (81) and later encounters “fluttering shadows [that] danced across his mind” (95). Joan thinks of “everlasting wings” (273) and seeks “a promise of wind-borne freedom” (176).

Wimble tries to explain this overwhelming aerial lexica, calling for how ““A new language is wanted,”” which reads as if Wimble was providing a meta-cognitive voice-over for Blackwood himself. It is ““a flying language, with a rapid air vocabulary, condensed, intense”” (93). Whereas Arletta and Convert’s exchanges in *Born Again* revealed the general idea and expression of what aerial posthumanist embodiment would *look* like, the persistent aerial vocabulary in *The Promise of Air* reveals a more personal, sensory effect of the air-body complex, and readers of *The Promise of the Air* know what the transformation would *feel* like through the constant references to flight. All of Wimble’s pervasive detail that would, for instance, “ar[i]se” (101), and thoughts that would be “birdy” (179) or otherwise of “a flock” (93), of “bird-quality” (127), or of a “bird-world” (126) recirculate not just supernatural possibilities of transformation but also act as a heroically sustained symbolic order whose ultimate effects are those of the

air-body complex, mediating the struggle between aging bodies and the cultural desire to reject the fleshy form.<sup>37</sup>

Although Wimble's constant use of flight language seem to be product of a mind unmoored, the *Promise of the Air* uses its saturated rhetoric to further reveal the aerofuturist suggestion that future humans will modify their bodies through aerial discourse, freedom, insight, knowing, symbolic organization, and vision; moreover, air space acts not only as a language, a phenomenology, or even an insatiably plumbed symbolic register in *The Promise of Air*. Specifically, Wimble's overt projections of bodily evolution connect too larger air-obsessions related to the general condition of his physical body. In one of Wimble's persistent mental intrigues with flight, his reflection in a mirror reveals Wimble's distaste with the corporeal self:

It all seemed familiar to him, long, long ago, before this enormous physical frame had walled him down to the ground and weight had handicapped aspiration so distressingly [...] 'There's something wrong,' he realised. 'Why should I need such a mass of stuff to function through? I'm supposed to be more intelligent than animals or things.' He thought of a swift — and sighed. Size and weight were so out of proportion to the role he played on earth. (8)

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<sup>37</sup> Blackwood's conceptualization of the air realm as something ostensibly knowable that exists beyond the reality of everyday people is likely also reflection of his occult interests in magic and, perhaps, Blackwood's experimentation with hashish; Blackwood would experiment with the latter while living in poverty in North America. See Booth 159.

Wimble's Platonic lament over his physical size and weight being unnecessary for the requirements of the tall order of the mind might normally read as an existential crisis of the body, an ethereal predecessor to Franz Kafka's novella *The Metamorphoses* (1915), where the insectile transformation of salesman Gregor Samsa illustrates a quite different form of evolution, as Samsa's grotesque, unreadable bodily form alienates attempts at subjectivity in an enclosed space. Yet the language of Wimble's distress regarding his material body and its hindrance upon his mobility underscore that more pressing concern about the corporeal limitations seen in other works covered earlier in this chapter.

Wimble's daughter Joan airs similar concerns for the weakness of the human form as she laments the body in a later passage. Saddened at her mother's reduced physicality, daughter Joan decries that the problem is "Age! The age of the body, of course. But why should [my mother] be old?" (162). Responding to her own query, Joan draws on yet another flight register to propose that "Somewhere about her [mother] — at the corners of her mouth, flickering in her opaque eyes [...] the bird lurked in her surely. In spite of this heavy crawling, there were wings tucked away in her somewhere." (162-163). Joan's critique of her mother's body projects Joan's own fears about herself, since she shares both her mother's name and, early on in the story, seems to have absorbed her mother's airiness. Joan's distaste for the aging body also links her attitude to that of Marinetti and his futurists across the Channel, since their futurism lionized what was "new" and discarded what was old — bodies and people included. Combined with her father's speculations, however, Joan's critical view of her mother's ailing form powerfully

articulates the early twentieth century belief that air space would truly allow for a physical transformation.

The *Promise of the Air* tellingly repeats the same pattern of flattening bodily difference into a unified epistemology that was noted earlier in Gilman and Lawson's selected works. The foreword to the 1938 edition of *The Promise of Air* by Pulitzer-winning author and Lucy Stone League feminist Zona Gale speaks to this particular cultural relevance of Blackwood's work, noting that when he discusses "the organism of the [human] race," the obvious inference is, she maintains, the "universality of the race" (v). It is not surprising that Gale is partial to an egalitarian reading, but her comments merely reinforce the way that *The Promise of the Air* flattens the separation between the human body and mind as if both were one standard operating unit, as seen earlier in the works of Gilman and Lawson:

Bodies, responding to a swifter, happier, more careless attitude of mind, will gradually grow lighter, more sensitive; become less dense and earthy; until at last we shall feel with everybody everywhere. No longer separate and cut off from others, divided as earth is divided, we shall win this immense increase of sympathy and be everywhere we want to be, every-at-once, as Joan put it. (183)

Here again are the trends of normalcy and bodily sameness, and Blackwood's characters feel that this evolutionary move will be a uniting force that allows not only for a type of



global harmony, but the language of people being “everywhere at once” will actively connect all humans through a form of discourse network.

The characters of *The Promise of Air* sometimes reference the discourse network of aerofuturism through flight musicality; “flow, fly, flow” is a lyrical refrain repeated throughout the novella. First appearing as a lyric that Joan sings in Chapter IV (44), Blackwood even notates a few bars of the song via a musical stave embedded in the text. That the musical stave for the song “fly, flow, fly” is notated with the G-clef, which not surprising since Blackwood dabbled with the violin. See also Blackwood’s use of song in the short story “The Willows” (1907), where the narrator notes of the Hungarian Danube setting. Near the conclusion, the narrator and his Swede companion find a corpse, realizing that the humming sound that has been haunting them is more malicious than they had imagined: “At the moment [they] touched the body there rose from its surface the loud sound of humming — the sound of several hummings — which passed with a vast commotion as of winged things in the air about us and disappeared upwards into the sky, growing fainter and fainter till they finally ceased in the distance. It was exactly as though we had disturbed some living yet invisible creatures at work” (*Ghost Stories* 51). In *Marfarka*, Gazourmah’s own literal wings are similarly “more alive and resonant than two harps, and in a rapturous delight he amused himself by modulating these harmonious cadencies, alternatively letting the vibrations ebb away” (205), and ratifying the way that flight full transformed not only Gazourmah’s physical body, but also his conscious being.

A year after the publication of *The Promise of Air*, Blackwood retrenched his corporeal aerofuturist leanings with the short story “The Wings of Horus,” but with a more menacing ending reserved for those obsessed with bird-like corporeality. Published in November 1914 and subtitled “The Romance of Hawk Man and the Dove Girl,” Blackwood’s story is of a Russian man whose medical ailments have led him to reside in a cosmopolitan hotel in Egypt to treat his neurasthenia. There the main character, named Binovitch, reveals his obsession with flight. The story opens with a line that could easily be pulled from *The Promise of Air*, “Binovitch had a bird in him somewhere [...] he had a bird’s eye view of everything (129). What the term means to Binovitch is that he quite literally is transforming into a bird-like apparition, a transformation that takes place over the course of a single evening, and the real action begins when Binovitch declares to other hotel guests that he ““could fly if [he] wanted to”” (131). His grand claim comes in response to a conversation on airmen whose biplanes over the desert had evoked the interest of other hotel guests. Binovitch maintains that indeed, he can fly, ““but without all that machinery and noise. It’s only a question of believing and understanding”” (131). Around midnight, as many of the hotel’s patrons are looking to retire around, a bizarre flapping sound can be heard. Binovitch, meanwhile, is in the throes of a vivid dream, it ““was gorgeous. He skimmed the Nile at lightning speed. Dashing down headlong from the height of the great Pyramid, he chased with faultless accuracy a little dove that sought vainly to hide from his terrific pursuit be-neath the palm-trees”” (131). As the short story progresses, the dove, Binovitch’s sexually charged object of prey in his dream, becomes both the name and symbol for his romantic interest, Vera.

After a dramatic woodcut in the original publication, where an oversized bird in flight engulfs the arm of a young Vera, the titular Dove-girl of the story, the tale reveals the unfortunate failure of Binovitch, whose flight is cut short as he falls to the ground amidst the dining room's watchful guests, the failure of his posthuman elision of the body concluding with his Icarian fall from grace. The aerofuturist discourse channeled such fantasies that were drawn from the unique view made available from the air, and yet their narrative conclusions critiquing such fantasies, just as Hayles and Haraway do, reading them as wayward dreams produced by a society obsessed with the unlikely technocultural possibilities that came with air travel.

Blackwood, Gilman, Lawson, and Marinetti all toyed with a new type of aerial body that offered relief from human aches and pains. One might imagine that this hope for an aerial future where the body would be transformed into something greater would resonate even stronger in the post-Great War culture of scarred and injured soldiers. But it appears that the possibilities for aerial posthumanity following the war years declined, perhaps because those droves of mutilated soldiers returned home from the battlefield and produced a new cultural subgroup of disabilities and prosthetics. France's relationship with postwar casualties is particularly instructive in this regard. With French soldiers bearing the lion's share of the war's injured, estimated to be 3.2 million wounded or killed (Lyford 3), the postwar needs of the disfigured spurred a plethora of new prosthetics that helped, as Amy Lyford writes, to "aestheticize trauma," and the wide ranges of surgical moulages of the day provided the path, as Lyford notes, to both bodily and national reconstruction (48). England and Europe would have seen similar, if

perhaps millions fewer injuries, but with the large number of veterans returning to civilian life in the Western world, returning with injured bodies and minds, the drift of the postwar culture seemed to befit the treatment of such bodies and minds into society. (Aerial bodies return again periodically through the century, especially in postmodern novels like *Gravity's Rainbow* (1973), where one character is grafted into a V1 rocket and sent streaking toward the American homefront, or another character's procreative acts mirror bodily the landing zone for other V1s lobbed across the English Channel, only to have his narrative slowly dissipate into the textual ether of the novel.)

*The Promise of Air* offers a conduit between these prewar posthuman possibilities and city aerofuturism in interwar (predominantly American) culture; Wimble articulates that the excessive flight verbiage in *The Promise of Air* is born of the same complicated relationship between flight, the body, and coming *avante garde* art movements, imagining that "A city seen from an aeroplane resembled a cubist picture. This new sight seemed a bird's-eye view, again, though using — going back to — the primitive, naked, savage sight, yet a stage above it higher, a tumultuous rhythm in it" (103). Blackwood's insight regarding the relationship between cubism and aviation mirrors, and may be directly referring to, Picasso's three still-life collages paintings in 1911 whose titles reference the a popular saying, seen in French military pamphlets advocating air superiority in warfare; then-popular French saying that "the future is in the air."<sup>38</sup> In any case, the protagonist of Blackwood's novella loosely prognosticates how in the later

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<sup>38</sup> For more on the suggestive nature of cubist geometries and aircraft design see Penrose 170-171. For a detailed reading of the language and contents of both "the future is in the air" paintings see Frascina 155-157.

1910s and 1920s, the Italian Futurism movements would splinter off its *Aeropittura* branch, reinforcing the role of corporeal aerofuturism as a powerful discourse network that linked conversations about aerial futures across literary, artistic, and international divides into the coming decades.

## Chapter Three

### Air Cities, Fantasies, and Trajectories, 1929-1939

“Aviation is the only form of transportation which operates in a medium which knows no frontiers but touches alike all countries of the earth.”

–Franklin D. Roosevelt, “Letter” (518)

“The airplane indicts the city.”

–Le Corbusier, *Airplane* (100)

Cecil White’s pulp-fiction story “The Empire in the Sky” (1930) follows a lone aviator who stumbles across a post-apocalyptic society living in aerial cities. The tale unfolds as a wild storm presses pilot Althestan Speare to fly his airplane above its known operating ceiling. From his raised perspective, Speare spots a mile-wide cubic structure in the clouds, and he lands his fuel-starved aircraft atop the cube’s deck, guiding his plane through a set of automatic hangar doors. His description of the event is notable in that he perceives the doors as a “roof” that he can shelter his plane in — an early hint that the value of the floating structure is in its architectural features (420).

Speare deplanes, organizing his equipment in the style of an adventurer preparing a temporary encampment. By cataloguing ammunition, stoves, and lights, Speare produces a list that reads as if “he was a well-equipped Robinson Crusoe,” an analogy that superimposes a wilderness image upon the ship’s interior (420). Speare’s subsequent moves of exploration and improvement are indelibly tinted with the gaze of a Crusoe-like outsider. He moves beyond his limited bivouac and explores the byzantine interior

of the cube, littered with rusty machinery and heaps of skeletons. The subdivided supercube reminds Speare of the grand cities of antiquity and the feel of being in Rome or Troy. Accordingly, Speare speculates that this floating object is indeed a city, and he briefly considers the giant floating cube “a titanic castle,” struggling to explain not how the cube-city is kept aloft, but instead how its architecture fits within the known historical framework of Western cityscape design (421).

Speare’s wonderment over his aerial built environment channels a distinctly American brand of city aerofuturism that fascinated — and discursively linked — futurists, designers, engineers, and policymakers in the 1930s. Rapid developments in airframe and dirigible technologies in the late 1920s made flight technologies one of the defining instruments of period, and from that aviation popular culture came a new aerial paradigm regarding the future of the built environment.

In this chapter, I discuss two urban aerofuturist registers that roughly bracket the decade of 1930. On one hand is a grouping of the air cities and air homes like those Speare encountered, which crop up in the pulp-fiction serials early in the decade. On the other hand are the utopian architectures of ascension at the 1939 New York World’s Fair. Both of these registers manifest across diverse media, including paintings, dioramas, pulp fiction, aerial photographs, novellas, and political discourses; and the interwar aerofuturism that informs these designs connects popular, political, and technological cultures. Invoking the American frontier ethos and its suspicion of technological speed, these registers also severed the tethers between sleek future cities, composed of steel, iron

and glass, and the historical brick and mortar of the former world. These imagined futures re-circulated but also rendered invisible the public anxieties bound up with the emergence of a new, threatening air-to-city dynamic.

The chapter is organized into three sections. In the first part, I argue that the sky cities in the aerofuturist pulp sf of the early 1930s forecast dystopian possibilities for the future built environment. In addition to Cecil White's "The Empire in the Sky", I discuss Lowell Howard Morrow's short story "Islands in the Air" (1929) and Ulf Hermanson's "The House in the Clouds" (1930). All offer similar treatments of the phenomenon. All present fantastic floating environments that inevitably become locations for articulating how the brick-and-mortar structures of terrestrial civilization will fail. Additionally, I consider how H.P. Lovecraft's novella *At the Mountains of Madness* (1931) offers a parallel fantastic vision of flight-observed cityscapes to address the concern that otherwise utopian aerial spaces would in fact threaten human societies. Their use of sky cities as narrative structures relies on the legacy of nineteenth-century American frontier notions of airspace that correspond to those invoked by contemporary authors and politicians. Also identified are the way that these aerofuturist visionaries utilize the sf trope of time dilation experienced through the phenomenology of flight, a unique feature that better configures airspace for a place capable of sustaining stationary living environments. Lastly, I discuss how the way that such aerial cities were conveyed to the public required a certain suspension of scientific skepticism, using foundational sf editor Hugo Gernsback to illustrate the importance of "scientifiction" upon interwar aerofuturism.



In section two, I use the French city planner Le Corbusier as a transition figure, moving from the early 1930s to the late 1930s. During this period the apocalyptic fate of the city in pulp sf channeled real concerns related to an approaching aerial war. The city from the air threatened, as Corbusier describes, the “spectacle of collapse” (5), and his words would prove to be darkly accurate prediction of the coming war years, where the obliteration of dozens of major European and Asian cities would be determined largely by air force; the use of aircraft and rockets brutally reshaped nearly every major city in Europe during WWII, and, of course, in the world-changing pinnacle of this trajectory, the atomic weapons loosed from the bomb bays of high-flying American aircraft annihilated Hiroshima and Nagasaki.. Leading up to that period, the city viewed from the air in Western culture was utterly crucial to the city planners and designers like Corbusier who envisioned the power of the bird’s-eye view as a paradigm-shifting “airplane eye.”

Le Corbusier’s views provide context for 1930s global air culture, and his works ground the final part of this chapter, which focuses on similar future built environments at the New York World’s Fair of 1939. I focus first on the pervasiveness of aerofuturist media at the World’s Fair, and then argue that Democracity and Futurama, the fair’s two enormous cities of tomorrow, obscure the destructive conclusions that aerofuturist sf discourse revealed earlier in the decade. What the chapter suggests, ultimately, is that these large-scale changes in the imagined cities of the future represent a growing understanding that the promise of rapidly modernizing cities of the future was intrinsically tied to the destruction of the historical built environment, a global reality that was all too dominant for the war years leading into the 1940s.

## Sky Cities and Aerofuturist Pulp Fiction

With the onset of the Great Depression, as Richard Pells notes, American writers felt were better able to experiment with a variety of social philosophies (96), and this sociality is exactly what visionaries toyed with in their aerofuturist speculative fiction.. Moreover, artists recognized how that sky, as Jaques Gubler has noted, has a seemingly primordial power of revelation (197). In response to this elemental drive, a singularly American brand of aerofuturism cropped up in the 1930s sf subgenre of air pulp fiction. Written largely for an adolescent male readership, the genre glorified the nature of aerial combat, and the dozens of heady, outlandish titles hint at their content: *The Lone Eagle*, *Aces*, *Airplane Stories*, *Air Wonder Stories*, *Dare-Devil Aces*, *Flying Aces*, *Flying Age Traveler*, *Flying Model*, and so on (Robinson and Davidson 139). Few of these magazines move beyond escapist adventure-fiction formulae, but some do drift into the realm of speculative fiction, and within this subgroup is an additional demarcation of works that I consider *aerofuturist pulp fiction*.

Aerofuturist pulp fiction, like much of the technology-oriented pulp fiction of the 1930s, is nearly unexplored in existing scholarship on twentieth-century fiction, as Everett Franklin Bleiler and Richard Bleiler note (*Science Fiction: The Gernsback Years* viii). The set pieces of aerofuturist pulp fictions are aerial realms flooded with dirigibles, zeppelins, airships air-cities, with jet-pack--enabled aviators, mad scientists, and the other stock aerial figures inhabiting them. Aerofuturist pulp fictions drew some of their influence from the Edisonades of the eighteenth century and early nineteenth century,

although aerofuturist pulp fiction often relies on the alternately sage or crazed engineer-innovator as a foil to the young adventurer who uses the miraculous technologies to save the day; Edisonades proper are more in line with the Tom Swift adventure line of boys' fiction, or the *Franke Reade* series, both juvenile adventure books, which rely on a sole young inventor.<sup>39</sup> These tales are also heavily utopian in philosophical outlook and in narrative plotting. Grand possibilities for the future are often conveyed through a first-person narrative perspective typical of the utopian genre, although the aerofuturist pulp fiction frequently produces dystopian realities, with fantastic sky cities turning out to be little more than mirages.

Perhaps the epitome of the utopian aerofuturist pulp fiction is the cover of the November 1929 edition of *Air Wonder Stories*, which features an evocative Frank R. Paul cover illustration of a floating city bristling with skyscrapers and hovering in a zeppelin-laden sky (*Fig. 3.3*). The first edition of *Air Wonder Stories* also includes floating structures tied to the short story "Islands in the Air" (*Fig. 3.2*). The short story "Islands in the Air," and stories like it, consistently deploy similar blueprints of life aboard airships and airbases. Such successful floating cities of 1930s sf, however, are quickly reduced to marginal spaces incapable of sustaining civilization. Each begins as a sketch of a wonder-city of utopian potential in the sky, and their hopeful visions are turned to reveal bleak endings of disorder and destruction. By moving rapidly from utopian to dystopian built environments, the aerofuturist pulp stories addressed contemporary anxieties about the future of developed cityscapes.

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<sup>39</sup> The term "Edisonade" was coined in 1993. See Clute.



Figure 3.2: Frank R. Paul, "Air Wonder Stories Issue 1," 1929. Oil on board.

Figure 3.3: Ibid, "Air Wonder Stories Issue 3," 1929. Oil on board.

Lowell Howard Morrow's aerofuturist short story "Islands in the Air" opens with a series of floating landscape structures. These islands are the primary objects of interest for these stories relegated to the literary-historical dust-bin for their egregious technical deficiencies of flat characters, boilerplate plot, and clunky writing. The plot involves a reclusive innovator of these floating islands who reveals their promise to his young aviator, and hastily they realize that the arch nemesis has copied the design. An air battle between the two aerial built environments ensues, and in short order the tale moves to a fateful collision of both islands, which sends the remaining prototype wheeling into the cosmos. The protagonist survives to tell the tale, but only due to a plucky female pilot who swoops in to his rescue.

Women often serve as transitional figures in aerofuturist pulp fiction, providing not only romantic developments with the pilot-heroes, but also becoming last minute saviors, bearers of crucial intelligence, or as figures of intrigue. Althestan Speare's adventuring aboard the strange aerial craft in "The Empire in the Sky," which this chapter opened with, reaches a critical junction after Speare wakes under the gaze of a beautiful woman. He learns that Dhera, *le belle mystérieux*, is an Atlantean, and the enormous cube that is one of ten city-size chunks of bedrock that lifted skyward as Atlantis proper went to its watery grave. Before any further sort of romantic development occurs between the pair, the pulp story turns into a blustering conflict between Dhera and other pugilistic Atlanteans aboard their floating cubes; in a dystopian twist mildly reminiscent of Gulliver's encounter with the Laputans aboard their flying island, the narrator finds that Speare's arrival has placed him on Dhera's side of a centuries-long Atlantean aerial civil war. Appropriately, Speare "goes native," supporting Dhera in her battle with the warmongering group of Atlantean survivors. Bumping up against the magazine's word count, no doubt, the tale abruptly ends with the frame narrator describing a strange plane found floating in the ocean months later. Stamped on the peculiar craft is a seal featuring two figures, king and queen, which the story's narrator surmises are most certainly the victorious Althestan and Dhera.

The warring nature of the Atlanteans in "The Empire in the Sky" conveys the polished first impression of an aerial built environment that reveals a dysfunctional interior unfit for social harmony. Such a binary opposition between the surface and deep material is the essence of aerofuturism — the discourse network oscillates between the

extremes of optimistic futures that suggest better living through technology and brooding images of technologically driven destruction. This common narrative trajectory in aerofuturist pulp stories projects new futures policed by an air culture that reflect in turn contemporary cultural anxieties, political developments, and international tensions during the interwar period. The specific fear that the aerofuturist pulp tales betray entails that the threat of aerial warfare would soon be extended to non-combatant urban environments. Today, the early 1930s pulp fiction appears remarkably prescient in this regard, and 1930s readers would have felt that they had been warned by these stories. These monitory predictions seem especially poignant in retrospect in the wake of the leveling of Guernica by the German and Italian air forces, the *Luftwaffe* and *Regia Aeronautica* respectively, in 1937, in a horrific act widely understood as the first aerial assault against a civilian cityscape.

Nevertheless, while “The Empire in the Sky” ends in battle, its dominant impression of airspace, though, is that it is an exploratory expanse capable of sustaining advanced civilizations. Moreover, despite the warring nature of some of the Atlantean survivors, and decrepit infrastructure of their cities, these Atlantean sky-cities are carefully characterized as part of an historic aerial built environment, as well as, paradoxically, a frontier-like expanse of opportunity. Within this aerial space, the protagonist Althestan Speare understands that there is continuity with traditional building techniques, and yet somehow these aerial environments also concurrently embody a virgin wilderness for the adventurer. These are two powerful thematic threads in the aerofuturist double-helix (wild country/historic cityscape), a narrative arrangement that

crops up not only in “The Empire in the Sky,” but also in many other early aerofuturist pulp stories such as Lowell Howard Morrow’s “Islands in the Air” (1929) and Ulf Hermanson’s “The House in the Clouds” (1930).

### The Sky Frontier in the 1930s

The frontier lens that Speare imposes upon the interior of the Atlantean sky cube is a typical response to aerial built environments that many other pulp fiction aviator adventurers of the period mirrored. Accordingly, aerofuturist pulp heroes explored airspace and elevated platforms as new, unmapped geographies, drawing upon a distinct frontier logic associated with North American colonial expansion. In no way was the perceived spatial understanding of how the aerial view, as Christine Boyer notes, “appeared to make national boundaries obsolete” (Boyer 198). Imagining airspace as a new frontier, a space without boundaries, was also the result of a more pervasive American cultural identity system that not only reinforced the frontier idea as a crucial part of the country’s formative background, but also perpetuated the need to actively produce new geographical frontier spaces. Other examples that parallel conceptualizing airspace as a vast frontier include the reconfiguring of Alaska as the Northern frontier by writers like Jack London and airspace the subsequent rhetorical positioning of outer space as the final frontier by the Kennedy administration to initiate the space race, and so on. Such Western frontier geographies of North America were, however, believed to be spatially extinct by 1893 when Frederick Jackson Turner discussed their fate in his “Frontier Thesis.” Certainly, by the beginning of the twentieth century, the fantasy of the

Western frontier had moved completely into a symbolic plane of dime-store novels and pulp fiction and, later, the Westerns of film, radio, and television. Air zones, too, were just one of many such surrogate frontiers that perpetuated this cyclical American narrative of colonial expansion after those native spaces had been already explored and occupied.

The weight of the frontier spirit on American identity affected generations of people long after the geographic reality of that frontier had dissolved. The perception of airspace as a rogue frontier without spatial obligations was in question at least as early as 1908, the year that the Oxford English Dictionary first recorded the use of the term “airspace” to describe the legal idea of carving up airspace into a particular zone; in this usage, the American Political Science Association suggested that “as the airspace comes under the domination and control of man, it is embraced within the jurisdiction of law” (np). In turn, a decade later, following the Great War, the international Paris Peace Conference of 1919, European and American governments found themselves ready to agree on the political lines of flight across the troposphere; this moment was the approximate beginning of an ideological shift in the way that air was conceived as a territory.<sup>40</sup> The Great War introduced citizens and soldiers alike to the military uses of modern fixed-wing craft and balloon divisions, and the signers of that peace treaty responded to such developments by outlining how flight over a neighboring nation-state would subsequently become a breach of international law.

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<sup>40</sup> The phrase “lines of flight” is suggestive of Deleuze and Guattari’s theory of virtuality and rhizomatic representations of knowledge. Their usage has little to do with aerial flight, however. See Deleuze and Guattari.



In spite of the postwar 1920s emerging concept of airspace as an internationally divided idea of airspace, the sky was naturally difficult to impose boundaries upon, even though aerofuturist pulp fiction did suggest that floating beacons would someday provide that sort of latticework. Aerial dimensionality was also increasingly regulated from the 1920s onward through emerging regulatory apparatuses. The Air Commerce Act of 1926 gave the Secretary of Commerce the role of “fostering air commerce, issuing and enforcing air traffic rules, licensing pilots, certifying aircraft, establishing airways, and operating and maintaining aids to air navigation” (Senguttuvan 192). Another such hegemonic regulatory apparatus came in the emergence of airmail — an epistolary network of air postal lines such as the French *Aeropostale* and the United States airmail, both of which regulated and controlled the way that communications were tethered to aerial lanes; also, air mail allowed for an early form of what would today be called neo-colonialism. Similarly, the series of Federal Air Mail Acts marked by the Hoover administration’s 1930 law eliminating competitive bids for commercial carriers of mail followed by Franklin Delano Roosevelt’s Air Mail Act of 1934 that illustrate the way government intervention had already begun to articulate and interfere with the relationship among flight lines and conveyance of parcels through this unrestrained space.

Soft-power regulatory apparatuses such as airmail lines become a concern in the aerofuturist pulp stories, and their appearances became a catalyst for uprising.<sup>41</sup> An early

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<sup>41</sup> I am using Joseph Nye’s concept of soft power political persuasion. See Nye, J. *Bound to Lead* (1990) and *Soft Power* (2004).

precedent is Walter Gilling's "Bandits of the Stratosphere," which depicts an international Postal Board continuously attacked by air pirates. The power made available by controlling letters through sky transport was also evident prior to the nineteenth century, as suggested in Balthasar Anton Dunker's 1784 "Aerostate de Poste" etching (*Fig. 3.1*), which is thought to have been generated only a year after the Montgolfier's success (Crouch np). Dunker's image is a harbinger of aerial futures that suggests how citizens in 2040 would travel from France to China or Japan (Crouch np). Dunker's fantastic image is akin to Rudyard Kipling's Aerial Board of Control featured in "With the Night Mail" (1905) and "As Easy as ABC" (1912), both prologues to the epistolary aerial command of 1920s airspace. More contemporaneous with the aerofuturist pulp fiction under study in this section is H.G. Wells's future history *The Shape of Things to Come* (1933), which imagines the way that a "Dictatorship of the Air" would emerge as the sole surviving governing body after a fictional world war.<sup>42</sup>

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<sup>42</sup> In the April and May 1928 issues of the serial *Amazing Stories*, R.E. Lawler and Frank R. Paul would both illustrate wildly different utopian cityscapes that depicted the future environment imagined in H.G. Well's tale. See Bleiler and Bleiler, *Science-Fiction: The Gernsback Years* 610-611.



Figure 3.3: Balthasar Anton Dunker, “Aerostate de Poste,” circa 1784. Etching on paper, colored.

Although the contradictory essence of the frontier spirit would continue to circulate as new aviation technology opened up new dimensions of travel, 1930s aerofuturist pulp-fiction visionaries continuously imagined the aerial future as latticed by the same regulatory government and systems. Even when air sieges are avoided or mitigated, the air pulp fiction forecast rigidly enforced airspaces where aircraft are, for example, in the case of Edward Earl Repp’s *Air Wonder* story “Beyond Gravity,” corralled by magnetic sky grids (114-131, 83).<sup>43</sup> Similarly, Lowell Howard Morrow’s pulp tale “Islands in the Air” features an innovator who speaks of visual beacons that

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<sup>43</sup> Repp’s use of popular cowboy-frontier jargon to name this sort of regulation “corralling” may have been more than a coincidence. As the Bleilers note, he was “a one-time newspaperman, and later became a scriptwriter who produced many low-grade Western motion pictures” (Bleiler and Bleiler, *Science-Fiction: The Gernsback Years* xxii).

“should shine in the element through which they pass” (33), guiding aircraft in the same way that road lanes organize traffic patterns.

### Metropolitan Continuity & the Trope of Aerial Slowdown

While aerofuturist pulp stories replicate and critique the language of aerial frontier, they also colorfully posit and problematize global futures of the built environment. The dual utopian visions (new country/old city) that are conveyed through such works of American aerofuturism are also always paired with a dystopian counter-schema. For instance, the built structures of “The Empire in the Sky” are always-already imagined within the context of historical metropolitan design. This pattern of cities in the sky carrying over design traditions from the historical cities built on terra firma is repeated in numerous aerofuturist pulp tales. As the Parisian Alberto Santos-Dumont predicted in 1905, future air-ships might include a control car that would be a “floating house,” where passengers would “dine,” “watch the stars rise,” hang “between the constellations and earth,” and “pass frontiers” (Van Riper 22). However, in 1930s pulp aerofuturist fiction, each fantastic floating structure eventually maps back to a belief that the historic brick-and-mortar structures of civilization would fail due to the future of air power.

Ulf Hermanson imagines a similar abridgement of older architectures on a smaller scale in his pulp story “The House in the Clouds.” In Hermanson’s short aerofuturist tale, the aerial built environment is discovered through plot conventions similar to those in White’s “The Empire in the Sky.” Centered on a pilot perpetually haunted by a chance

encounter with an incredible structure in the clouds, “The House in the Clouds” provides a found homestead where the exploring pilot makes the acquaintance of a “mad” professor; this sort of hermit designer in aerofuturist sf is a relatively common trope, and those involved with floating environments in aerofuturist pulp stories are often self-styled “Professors,” a naming act following the tradition of balloon aerialists of the nineteenth century. Upon the pilot’s introduction to the aerial foundation of the professor’s dwelling in “The House in the Clouds,” the building design is a mash-up of gear and girder architecture, where “a section of a modern steel construction bridge” connects the home’s aerodrome with the features of a single detached home (516). This important combination of old designs and new architectures also represents the philosophy of its creator, which is illuminated as The Professor gives Banston a Captain Nemo’s tour of his floating home.

During the Professor’s walkthrough, the aviator queries why the marvelous technologies that keep the homestead afloat have not been shared with the world at large, so as to “promote transportation, help trade, and speed up everything” (519). The Professor tartly answers the presumptive flier that such acts “would speed up everything,” and chides Banston: “We have no need for speed; on the contrary we must slow down” (519). The Professor’s insistence on resisting the impulse to speed up mechanical actions in his aerial dwelling serves specific purposes in the narrative concern for interrogating technoculture, but it also taps into a larger temporality of languid slowness that permeates the aerial structures of aerofuturist pulp fiction. Time dilation provides a narrative logic that allows for a new type of vision. Recall how Chapter One

argues that the visual slowdown allowed grander sense of perception, and Chapter Two alluded to a similar function within the utopian time portal mode of transit to the utopian world of Sageland. Here, however, the heightened slowdown effect that The Professor glorifies is tied to building aerial homes and cities in the sky that appear stationary. Such a crawling movement cannot help but appear counterintuitive when compared to the rapid velocity that ground-dwellers would normally associate with careening through the air. Accordingly, in “The House in the Clouds,” The Professor mounts a critique of the unavoidable condition of speed aligned with aviation technology in the popular imagination, and his fears of speed and velocity belie a concern with the way that architectural Modernisms of flight invoke a break with the established city dialectic, by way of slowing down the space-time of the built environment.

The lethargic motion in “The House in the Clouds” is wrapped up in anxieties over the future of the built environment, and the technology that keeps the Professor’s futuristic sky-home aloft is, tellingly, given little detail or attention. Instead, the characters’ actions in “The House in the Clouds” hearken back the features of the home that connect back to known structures and grand building projects. Within his house in the clouds, the Professor’s otherwise Steampunk-anticipating mix of gauges and gadgets are juxtaposed with one sole piece of art: “an old castle in the Renaissance style with a great park in the foreground in which were seen people slowly walking in couples dressed in the garments of centuries ago. [...] the only picture of its kind hanging there

among blueprints and electric meters” (518).<sup>44</sup> Here again is the visual reference to how the Professor finds “life as it should be, slow and thoughtful,” (518) and “The House in the Clouds” at once evokes both the pressing desire for permanent structures, while still critiquing the damaging effects of the speediness of modern times. These ideas bear a trace of the long-term Garden City model of urban planning crafted by Sir Ebenezer Howard in the late nineteenth century, a city design that encouraged slower forms of transit such as walking; additionally, social groups in the early twentieth century continuously invoked a growing concern about the speed of automobiles as a threatening change in street life.<sup>45</sup>

The stationary features of aerofuturism become a key ingredient for those imagining floating stages of aerial anchorage, continuing a tradition set by the artistic predecessors to 1930s aerofuturist authors. These blurring brush strokes of *Aeropitturist* painters, whose works I described in this project’s introduction for their new aero-bodily realities, also produced speed effects in their art that relay uncanny frozen displays of cities sighted through air visibility. Recall the layering of visual planes and aircraft in Tullio Crali’s painting *Notturmo Bombardamento* (1930), which illustrates the aerofuturist perspective of a city uniquely visible through an aerial gaze, as well as showcases the destructive possibilities of that technological paradigm that reorganize the visual logic of space.

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<sup>44</sup> For a working definition and more thorough discussion of Steampunk, see Chapter Four.

<sup>45</sup> See Axelrod. See also Tichi.

Likewise, a number of aerofuturist sf stories rely on the slow sensations of visceral insight and immobility experienced through flight. (These conditions are reminiscent of the special conditions of flight, temporality, and prophecy covered in the balloon narratives in Chapter One.) Such surroundings invoke an epistemology of slowness and heightened awareness. Ultimately, this knowledge of stasis while suspended in the air lends a longer historical perspective to aerial experiences. The feelings of immobility in the sky, though, were by no means limited to characters existing in speculative fiction — many of the air pulp fiction and nonfiction authors were pilots that drew their experiences from flight. In William Seabrook’s 1933 nonfiction travelogue, *Air Adventure*, he struggles to overcome this basic contradiction of knowable motion: “fair fields, forests, rivers, and cities [...] [were] sliding under us with seeming languid slowness though really at about one hundred and twenty miles an hour but it was all so comfortable, so easy, smooth, that it failed to convey any hard consciousness of reality” (202). Dueling with contradictory nature of experiencing the mixture of speed and stasis, Seabrook’s descriptions are an important experiential marker for aerial environments in the 1930s popular imaginary. The integral relationship between crawling speeds and slowed temporal effects in flight generates the sensation of being stationary in a medium otherwise defined by unchecked acceleration. This space allows for the calm placement of bodies into lofty aerial positions that are static enough to homestead upon.

The aerial slowdown effect runs counter to the way that recent critics have read Modernist works and artistic production during what was considered a estranging Machine Age defined by the disorientating onset of technological speed and acceleration.



Cecelia Tichi and Lisa Steinman have persuasively argued that the modernist gear and girder fascination roused John Dos Passos, William Carlos Williams, and others to write on the accelerative forces seen in poetry and painting in the 1920s and 1930s, yet give almost no attention to aviation machine-culture.<sup>46</sup> Marit MacArthur agrees that there is a fervent speediness in the aerial representation of flight spanning roughly the same period, and perhaps they do not find evidence of the same type of time dilation in flight because of their narrow sampling of works.<sup>47</sup>

In contrast, the various pulp fiction stories, sf novella, travelogue, and other works covered in this chapter de-emphasize the importance of acceleration and speed. On a phenomenological level this trope of slowness relates to the way that objects viewed from significant height seem to move quite slowly, and this is especially the case from views experienced from within a moving aircraft or balloon. The trend of slowness and aerial experience may also be informed by the Standard Time Act of 1918, the first time that the four time zones established in the 1880s by the U.S. Railroads were fully embraced at the national level. In any case, this slowdown (described earlier in my discussion of balloon narratives in Chapter One) relates to the transmission of aerofuturist discourse in the following way: the “counterflow” time experience known through flight within aerofuturist works allows for the idea that aerial space is not only a place that can feel slow and stationary, but that this sensation also produces an understanding of aerial

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<sup>46</sup> Such accelerative forces seen in poetry and painting have been deemed inherently Modernist constructions. For literature, see again Tichi, who does refer to the speed experienced in flight on pages 211, 241-2, and also makes passing mention of the “camera eye” in Dos Passos’s *Big Money* (1936). For painting, see Steinman.

<sup>47</sup> See MacArthur 67-70, 273, 78.

environments as permanent enough to build in. This aerial stasis, then, in a medium that is otherwise defined by feelings related to speed and acceleration, allowed sf writers, artists, and planners to transmogrify airspace into an imagined stable aerial environment where permanent dwelling — homesteading, to use frontier language — could occur.

Homes and cities referenced by and through such an environment could indeed rise into the speculative air, and so even when pulp fiction writers try to convey speed and a built environment in the sky, they often use a language of slowness. Thus, the counterintuitive aerofuturist desires and sensations of sluggishness in the air allowed for an idea of aerial homesteading, and link back thematically to the frontier mythos tapped by cultural czars and the mass public alike. Such is the case with the overblown language from a battle scene in Edmond Hamilton's short story "Cities in the Air," which also features an implicit sensation of slowdown:

city after city was rushing from all quarters of the compass, from every part of the European Federation, until they filled the sky [...] a single gigantic city [...] an endless plain of clustered towers of metal [...] a titanic plain of towers and streets of metal, crowded with millions. (540)

These enormous aerial cities are led by the sky city of Berlin, and before the pulp story's conclusion they join with a European Federation and similar-sized Asiatic Federation to declare war on America. Like Lovecraft, Hamilton's xenophobia in his earlier fiction is

well established, and he is a poster-child for hack writing.<sup>48</sup> Postwar readers would have no trouble finding this early 1930s work to be akin thematically to Wells's *War in the Air* (1908) and *The Shape of Things to Come* (1933), both eerie predictions of coming global conflicts; some with longer memories might even have recalled George Griffith's fantastic airship war tale *The Angel of Revolution* (1893) and its sequel, *Olga Romanoff* (1894). But embedded within "Cities in the Air" is overt language mirroring contemporary pre-WWII socio-political tensions using the motif of aerial time dilation. Seemingly the only way the story's narrator can understand an aerial built environment is through slowdown, and these sky cities, despite "rushing" far and wide, are experienced as spectacle that, to the narrator's eyes, "filled the sky," and can only be visualized as a "single gigantic city" that "stretched in mid-air as far as the eye could reach" (540). Their visual conglomerate appears to the narrator "an endless plain of clustered towers of metal," yet Hamilton's steady, all-encompassing vision of an aerial metropolis perpetuates the same visual reality of experiencing stasis within the air (540). Later, after the opposing sky cities have shelled each other, they are continually rendered as a visual "eternity" in a "motionless battle" that frames this built environment in immobility (540).

H.P. Lovecraft issues a more hysterically menacing but still ploddingly leisurely aerial temporality in *At the Mountains of Madness* (1931). Situated within the recollections of geologist William Dyer, Lovecraft's tale is the scientist's story of a barren frontier Antarctic flight experience that comes after Dyer's survey team meets a dire fate, and the flight leads the inquisitive scientist to an ancient city in the ice.

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<sup>48</sup> For an overview of Hamilton as a hack "world wrecker," see Gombert's eponymous annotated monograph.

Lovecraft preys upon readers' imaginations of aerial exploration to reveal the narrator's loss "of all that peace and balance which the normal mind possesses through its accustomed conception of external Nature and Nature's laws" (46), and the novella continuously weights aircraft flight with psychological terror as the narrator and his unfortunate graduate student drone through an apocalyptic snowscape of alien design. Notes Dyer, "As we flew above that tangle of stark titan towers my imagination sometimes escaped all bounds and roved aimlessly in realms of fantastic associations — even weaving links betwixt this lost world and some of my own wildest dreams"(46). His flight reveries are juxtaposed with the frozen creatures that slaughter Dyer's expedition, monsters whose membranous wings adorn grounded bodies that also seem in a mode of suspended flight.

Aircraft flight in Lovecraft's novella affects both cognition and temporality for Dyer. The geologist painstakingly records time in his journal: hours between wireless transmissions, hours spent unloading and unpacking, wait times required for mundane tasks, future objectives to be accomplished after landing, hours spent in the air, the longevity of their radio batteries, and other clocked minutiae. Here Lovecraft uses temporality to obsessively catalogue exploratory hours that reflect his characters' psychological landscapes *à la* Edgar Allan Poe in "Ms. Found in a Bottle" (1833) and in *The Narrative of Arthur Gordon Pym of Nantucket* (1838). Dyer's concern for time and the overlooked value of limbo that he and his surviving student experience while in pursuit of their lost expedition members leads, tellingly, to a fantastic cityscape frozen into a grand Antarctic alpine range. In an illustration by Howard Brown that appeared

alongside the original publication of *At the Mountains of Madness*, Dyer's small arctic encampment is placed in the foreground, with the alien city high on the page and in the background. Dark adjacent hillsides create a visual break between the camp and the city, and the perspectival positioning of both, juxtaposed with the dark chasm between, produces the illusion of aerial lift.

*The Mountains of Madness* reveals the same trends of an aerofuturist perspective seen in pulp fiction. The climax of the short story is a barren mega-city only accessed via the atemporal experience of aircraft flight. Even the aerial utopianism of this city is rapidly undermined, as the abandoned corridors reveal pictographs chronicling a history of the winged alien culture. Dyer's exit from the futuristic built environment is plagued by terror and compressed time, powerfully circulating those peculiar forms of aerial slowness linked to the design of future cityscapes and suggestive of the same aerofuturist dominant sensibility that characterizes the sky cities of pulp sf.

#### Hugo Gernsback's Aerofuturism

The exemplary stories of air cities and air homes described above, with the exception of H.P. Lovecraft's novella, were all published by sf publisher Hugo Gernsback, and it is important to understand the cultural promotion that Gernsback brought to bear on the stories and their perceived plausibility. Although flying cities and dreams of aerial living in the 1920s and 1930s were the shared imagination of the popular culture, Hugo Gernsback was a heavily influential proponent of what theorists refer to as "reality effect" of 1930s aerofuturism. Gernsback, who published a considerable amount

of serial format aerofuturist short fiction of the decade, constantly emphasized how “real” the science behind his publications was. His optimism regarding the realism and scientific potential surrounding aerofuturist views is starkly evident in the editorials of his short-lived, eleven-issue serial *Air Wonder Stories*. The serial, a monthly whose first issue went to press just before the 1929 stock-market collapse, openly combined two seemingly “opposite” disciplines of science and science fiction, and Gernsback, who acted as the magazine’s editor-in-chief, continually claimed that its contents were not simply fantastical tales meant to entertain, but also posited scientifically possible futures and could educate adolescents to grow up to be future engineers and scientists. His consistent assertions that the reading audience would be convinced of his stories’ believability relies on their presumed extrapolation of what Darko Suvin terms the “*novum*”: plausible, rational technologies that do not yet exist but which cognitively persuade the reader to accept the narrative.<sup>49</sup>

Gernsback purportedly vetted all stories using an editorial board with credentials in aeronautical engineering; they provided, as he noted in his introduction to *Air Wonder Stories* Volume 1, a “guarantee to [...] readers that the scientifically impossible [would] not be published” (5). Since these writers were all “trained in science and mathematics,” they were thus “prophets who w[ould] mirror the future of aviation better than the best aeronautical authority” (5). Such a trained editorial board would, in theory, allow *Air Wonder Stories* to openly combine those two famously “opposed” disciplines of science and fiction, previously disparate fields of speculative work that then more than ever

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<sup>49</sup> For a detailed analysis of *novum*, see Burling. See also Bould and Miéville.

becoming extremely interrelated into what he termed “scientifiction”.<sup>50</sup> *Air Wonder Stories* was titled like many of Gernsback’s like-named pulp fiction magazines of the period, with *Science Wonder Stories*, *Wonder Stories*, *Amazing Stories* all gracing the magazine racks in the later 1920s and early 1930s.<sup>51</sup>

Accordingly, the adventures within *Air Wonder Stories* were not only intended to thrill, they were designed to be openly didactic. The issues of *Air Wonder Stories*, like many of Gernsback’s scientific interest magazines of the period, dedicate nearly as much ink to descriptions and columns on real aviation technology as they do the speculative worlds of flying men and air cities.<sup>52</sup> As discussed in this project’s introduction and previous chapters, Gernsback envisioned too that *Air Wonder Stories* would continue the

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<sup>50</sup> Even so, Gernsback ran into the same problem that plagues sf as a larger genre: such attempts to mix storytelling with “hard” scientific discourse sometimes resulted in mixed reactions from readers dubious of a future where, say, massive air islands float in the sky by way of a “gravity repeller” pressed into the ground below. As one reader responded tartly, there are some laws of science that are “rigid, and inflexible” (*Air Wonder Stories* Vol. 3, 186).

<sup>51</sup> *Air Wonder Stories* and *Science Wonder Stories* were consolidated into *Wonder Stories* starting June 1930 and ending in 1936. *Wonder Stories* was sold and rebranded in 1937 as *Thrilling Wonder Stories*.

<sup>52</sup> Hugo Gernsback’s influence on the formatting and layout decisions of his magazines also contributed to the larger aerofuturist discourse network. For example, the foremost issue of *Air Wonder Stories*, which contains the short story “Islands in the Air,” prompts readers to answer elementary aviation questions such as “What is the best way to take-off when there is wind?” The answers to these short quiz questions, which were typical of many pulps of the period, asked readers to test their aviation knowledge and search the magazine for the answers. Questions covered a meld of popcorn investigation and “hard science questions.” In *Air Wonder Stories Vol. 1*, Gernsback openly queries the reader, “what would be the advantage, to air travel, of islands in the sky?” (88). These question and answer columns created smaller discussion channels supporting the larger aerofuturism discourse network, and despite readers showing the occasional skepticism generated by Gernsback’s cavalier approach to hard science, these questions encouraged speculative thought; additional reader letters in subsequent issues would produce an echo chamber for aerial sf.

aerial literary dialogue that crossed boundaries between science and speculation, a conduit that included Edgar Allan Poe's 1844 "balloon hoax," Jules Verne's *Five Weeks in a Balloon* (1869), and Wells's *The War in the Air* (1908).

The aerofuturist stories scattered throughout Gernsback's serials all function around large set pieces in the air that use more or less plausible future technologies, and the given floating city or oversized zeppelin often acts as a setting for narrative. Aerofuturist pulp stories can be distinguished from other tales in that they reflect the "hard" region of science-related believability, and they are limited to the air; they do not go to outer space, nor do they tunnel through the earth. They generally avoid space-time and multi-dimensional travel. Yet the pulp tales were also were structured to inform readers of real gear and girder fabrication material, as each issue dedicated myriad pages and lengthy footnotes to the science, the stories, and the fields germane to aviation. Despite Bleilers' assertion that this period of Gernsback's science fiction "was cut off from the realities of the day" (*Science Fiction: The Early Years* xiv), the content of Gernsback's magazines are often directly engaged with pressing international conflicts, open warfare, and massive destruction of these fantastic aerial structures — concerns, as it were, that plagued the domestic and international political bodies of a living air culture. Gernsback's careful editorial shaping of aerofuturist themes and visions in the early 1930s provided an organizational portal for readers to access the trends of the greater aerofuturist discourse.



Despite Gernsback's titular promise of wonder (*Air Wonder Stories*, *Science Wonder Stories*, *Wonder Stories*), the proffered marvel of aerial possibility within his magazine's aerofuturist discourse frequently turns to disaster narratives. This is especially true regarding Gernsback's specific editorial choices that pushed authors to make their pulp stories thrilling for their audiences. The market for tales of purely optimistic aerial living would neither excite nor look germane to a Depression-era audience envisioning a future as a war in the skies. On a practical note, Gernsback's need to successfully publish stories that required a certain type of adventure also affected what sorts of selections and suggestions he made as an editor, and it is clear that his pulp fiction narratives' frequent shifts to dystopian finales are made to thrill audiences. Yet Gernsback's editorial introductions that accompany all stories in his serials are also uniformly positivistic, suggesting that the technologies described are possible and desirable, and rarely are any of his remarks cautionary, though the stories would seem to warn readers of destructive aerial futures.

In spite of the utopian possibilities of the sky, the aerofuturist pulp stories litter the sky and ground with fallen craft. The endings of *At the Mountains of Madness*, "Cities in the Sky," "Islands in the Sky," and "The Empire in the Sky," end with decrepit alien cities, fallen air cities, obliterated air platforms, and the post-apocalyptic Atlantean society limping along in the heavens above, respectively. In another *Air Wonder* aerofuturist pulp fiction story, Henrik Dahl Juve's "The Sky Maniac," the story's hero is gifted with time travel that allows him to leap ahead to view an "air barge" city of the future. The barge, which houses a research university, is quickly subject to inter-air

warfare that prompts “a shapeless mass of building material that bristled with bent and twisted steel girders. Scattered far and wide over many acres were fragments, as crumbs from the central mixture, catapulted away by the flailing, tortured beams and girders as they struggled to settle down” (296). Similarly, in *Air Wonder Stories* Volume 7, George Allen England “The Flying Legion” describes a trophy-hunting business tycoon in a skyscraper-sized airship that viciously attacks the Middle East. Air-barges become shapeless masses in Henrik Dahl Juve’s “The Sky Maniac,” a skyscraper-sized airship that viciously attacks Middle Eastern cities in George Allen England’s “The Flying Legion.” Even William Faulker offers the devolution of an urban environment when buildings “float” in the “garbment” of a city that itself “dissolves” in his 1934 novel *Pylon* (Gilbert 193-194).<sup>53</sup> Upon the death of the novel’s aviator, the special features associated with vision are turned moot as the eye demonstrated “vision without contact,” “eyes hot-blank and dead,” “the membrane and the fiber netting and webbing the unreckoning and dismayed” (qtd by Gilbert and Zeitlin 197). And the list of cities viewed and destroyed from the air goes on, although within a short amount of time the aerofuturist popular discourse would internalize the destructive possibilities inherent with viewing cities from the air. The most marked examples of this transformation come in the brick and mortar scale models of the future that hundreds of thousands experienced at the New York World’s Fair of 1939.

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<sup>53</sup> Stuart Gilbert and Michael Zeitlin argue that description of the New Orleans-inspired city in *Pylon* bears similarity to the floating island in Joyce’s *Aeolian Island*, as well as the post-Pompeian city of the dead. See Gilbert and Zeitlin.

## Airplane Eye, The Urban Planner, and Annihilation

To fully grasp the extent to which Democracy and Futurama's utopian visions of the future radically diverged from the earlier dystopian prophesying by pulp sf, one must recognize the crucial role of the city planner across both registers. In the sf production of aerial societies within the dialectic of the known cityscape, such as those in White's "The Empire in the Sky" and Hermanson's "The House in the Clouds," futurists underscored the way that "seeing" from an aerial method of viewing was aligned tightly with modern aviation-assisted urban planning. And while many of the aerofuturist pulp fiction authors of the early 1930s based their aerial cities on designs of antiquity or alien otherness — such as Atlantis in Cecil White's "The Empire in the Sky" and H.P. Lovecraft's eldritch city in *At the Mountains of Madness* — they are just as often the brainchild of a modern innovator, a recurring character who operates the aerial urban space like a city planner.

Leading up to the World's Fair, whose Democracy and Futurama exhibitions were envisioned by renowned urban designers, a number of the famed city planners of the 1930s had imagined future built environments that were remarkably aerofuturist; these planners had responded to the effects of an emergent lexicon that spectators and aviators were using to discuss the seemingly novel way of seeing from on high. Nouns such as "air-scouting" (aerial reconnaissance), "airview" (an aerial photograph), an "air-corridor" (a route in the air where aircraft are restricted, especially one over a foreign country), and "airtourist" (the idea of an aerial consumer), are just some of the many coinages that surfaced in the 1910s and 1920s. The expansion of such aerial vocabularies

associated with vision suggest just how important the view from above was becoming, and travelers and pilots alike even claimed that flight itself could improve one's vision, and that the aviator's gaze was often charged with special intensity and focus (Corn 39). In many ways the view of the city was tied, then, to urban dwellers' abilities to rationalize and understand the broader counters of urban space.<sup>54</sup>

These traits and their ideology were robustly adopted within the field of city planning, and the special properties associated with this view from above – called “airplane eye” by many – provided a novel way that designers could both see and reveal the possibilities for future cityscapes; when Sherman M. Fairchild's Aerial Camera Corporation systematically reproduced a photomosaic of the boroughs of New York City, he ushered in a new era of the aerial survey, and with it an explosion of related aerial cartographic materials. Looking through such aerofuturist optics, seers were elevated to an aviator's perspective of Olympian heights, and the god's-eye metaphor was not lost on the city planners who, as Adnan Morshed notes, were aligning themselves with the traits of the aviator-heroes featured prominently in American culture, which included those that had narrated the adventures seen in aerofuturist pulp fiction (77-79).

To some degree “seeing” the future from the air was itself an empowering destructive force that was as important as criticizing and enshrining the same end, an idea that modern critic Paul Virilio discusses as the “logistics of perception” related to viewing and flight; Virilio furthers this concept with the term “eyeshot,” a prediction that

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<sup>54</sup> See Axelrod 63-113.

the future of warfare relies on seeing as its own form of weapon (3). The Modernist and “Purist” 1930s French city planner Le Corbusier was even more frank in articulating the relationship between aerial sight and bombsites. In his 1935 photobook *Aircraft*, he argues how “the airplane eye reveals a spectacle of collapse” (100). Le Corbusier’s statement encapsulates two crucial tenets of the aerofuturist city planner of the 1930s that affect how the design atmosphere Norman Bel Geddes and Henry Dreyfuss’s visions should be read today.

Le Corbusier’s translated word “spectacle” is one whose ambiguity produces a complex meaning; the Oxford English Dictionary includes it as “an arranged display, a certain scrutiny, the sight of an exhibition, the means of seeing” (OED). For Le Corbusier, all of these definitions intrinsically linked to the visual element of air culture were inherently implied within the aerial gaze’s implied imminent threat to the integrity of built environment. For one, his airplane eye was informed by developments in 1920s aerial mapping and photography, which contributed to what scholars, Crary, Deriu, Morshed, and others have signaled as a marked change in aerial representation in the late 1920s. From this elevated view, however, city visionaries also found that the permanence of cities was now tragically flawed. French aviator Francesco De Pinedo noted that “moats fail and walled cities yield their secrets now that men fly” (Deriu 199-200), while Le Corbusier saw the view from above as an “indictment” of the city (100). The view of the city from the air was even more abject to internationally renowned aviator Charles Lindberg, who felt that the modern metropolis sighted from the air was a stage of blight. Late in life, he would describe how his desire to avoid gazing upon a city

during flight would affect his approach habits, and he once confessed that he would regularly “bank and let a wing blot out the expanse of buildings below while [he] looked Westward to the mountains or Eastward to the sea” upon reaching New York City (Crouch 214).

In line with Pinedo, Le Corbusier, and Lindberg’s rhetoric about the city as viewed through “airplane eye,” are the more overtly damaging predictions of the aerofuturist sf covered earlier in the chapter. As a type of popular culture weather vane, the sf pulp fiction consistently denied the utopian first impression of the aerofuturist built environments by plot developments that spiraled into decline and fall. These dangers of visualizing the city through aerofuturism were not unrecognized by Le Corbusier. Throughout the 1920s and 1930s, he had found an indelible relationship between “seeing” the future city from the air and foreshadowing a dark dystopian tomorrow for current built environments. Le Corbusier invoked the opposing destructive-constructive binary potential of aerial structures that the pulp tales and others proffered earlier in the decade while, on the other hand, the sanitized architectural plane atop which the city planning visionaries of the 1930s expected to build covered the destructive possibilities under over-polished urban features of tomorrow.

Le Corbusier’s belief that “airplane eye” allowed for a new vision of the city was always dependent upon a sense of visceral optical reality, and always suggested, like he does in *Aircraft*, how “Cities must be extricated from their misery, come what may. Whole Quarters of them must be destroyed and new cities built” (108), buttressing his

epigram with a photo of the demolished Parisian street of Haussmann Boulevard. Aided by the heightened optic position, Corbusier indicates not just that there are possibilities for new variations of present architectures, but also that cities will “arise out of their ashes” as part of the utopian/dystopian potential of city building (96). Accordingly, Le Corbusier claimed in *Aircraft* that “the airplane eye reveals a spectacle of collapse” (5), a gesture mirroring the concerns of the aerofuturist pulp of the early thirties. Corbusier’s use of “airplane eye” encapsulates two important aerofuturist features of the decade. First is the belief that experiencing air through mediatory technologies of flight would bring new conditions of vision and social change. Indeed, Le Corbusier’s word “spectacle” suggests not only an optic device used for a consolidated method of viewing, but also connotes a fantastic visual display. Secondly, Le Corbusier reminds viewers that such aerial-visual technologies would bring forth a “collapse,” inducing the destruction of civilization from above. And for an urban planner like Le Corbusier, the idea of civilization is nearly always synonymous with the concept of the city, and so “collapse” reads overtly as the destruction of the metropolis. Moreover, Le Corbusier’s framing not only reinforces how the aerial machine culture that defined the modern era would help frame the crucial conditions of seeing the future, but also reference how airspace emerged as a built environment with its own unique characteristics related to land planning and futurist thought.

There is something else interesting about the latter condition that Le Corbusier reveals in his epigram on the airplane eye as the harbinger of both vision and oblivion. Although his words in *Aircraft* suggest that the techniques and systems of aerial

visualization would help tear apart the social fabric of the future's cityscapes, such a dystopian lens is the polar opposite of nearly all of Le Corbusier's prewar urban visions, which include the utopian promise of making cities that were "White Cathedrals" again, the re-imagined right-bank side of Paris becoming mired with master-planned city punctuated by cruciform towers, and the dream of the high-density Radiant City whose skyscrapers would convey people from high-rise to high-rise via aircraft. To wit, Le Corbusier requalifies the same rhetoric of citywide destruction that, as in war, became "the hellish laboratory in which aviation becomes adult" (9). While Corbusier clearly never openly showed a desire for the loss of life and utter ruin brought by the air war spanning 1939-1945 and beyond, his vision of the future city was complicit in imagining a frontier-like clearing of land to start anew.

Within the early aerofuturist pulp stories, readers would access the same type of contradictory desires that Le Corbusier articulated in 1935. Pulp sf explored this dynamic belief by working through the opposing forces of "constructive" utopianism and "destructive" dystopianism by exploring the fictional possibility of aerial societies. Utopian perfection is always dependent on the specific gaze of the subject and it is always a veneer that papers over material instability and struggle. Perhaps there should be little surprise at how quickly the "wonder" within the aerofuturist discourse is stripped away from the future in the sky. The market for stories that simply sketched out the rough dimensions of optimistic aerial living without discord would likely neither excite nor look germane to a Depression-era audience that saw the future as a war in the skies akin to that which H.G. Wells prophesied in *The War in the Air*. Again, this is the



dominant culture of 1930s city aerofuturism in which the discourses exchange the anxieties between the shining metropolis of tomorrow and its equally futuristic scorched earth through imaginary aerial relays.

#### Aerial City Visions and Visionaries of the New York World's Fair

Le Corbusier's musings reflect a Western concern for the way that fantastic aerial vistas to project the future would not be relegated to the readership of pulp sf and travelogues. However, the American city visionaries of the built environment like industrial designers Henry Dreyfuss and Norman Bel Geddes would similarly lionize the use of an aerofuturist "airplane eye" to craft the cities of the future. But their mass-appeal designs of aerial spectatorship would reveal the sanitized countenance of tomorrow's cityscapes, marking a popular movement away from the dark realities of aviation warfare's effect on urban environments, exchanging the present for even more fanciful pictures of the future evolution of the metropolis.

If there was a consolidating moment that connected late-1930s spectators with the early 1930s aerofuturist sf concerns regarding flight and the city of the future, it came in the grand utopian relief of the New York World's Fair of 1939. Envisioned and built in the style of the grand exhibitions of progress such as London's Crystal Palace (1851-1854), the Chicago Columbian Exposition (1893), and other large fairs of international scope, the fairgrounds were located on Flushing Meadows Park, New York and celebrated American national identity by displaying the cutting edge of technology that posited grand visions of the future. Howard Hughes's record-setting 1937 flight around

the world, for instance, was made in part to promote the fair. Hughes renamed his plane *New York World's Fair of 1939*, and at each stop Hughes delivered invitations to the fair to the countries where he landed (Porter 408-409, 417). Moreover, the World's Fair also included a large number of structures and design elements that were unmistakably aerofuturist. The motto of the fair reinforced how its design, "Building the World of Tomorrow," hundreds of thousands of fairgoers would marvel over the same entrancing scopic conditions of flight that the air pulp fiction authors had explored earlier in the decade (Wurts 3).

Given the number of people that flocked to the 1939 World's Fair, it can be assumed that readers of aerofuturist pulp sf would be in attendance. This most certainly was the case for those present at the first World Science Fiction Convention, whose inaugural gathering was also held there in New York in 1939 in order to complement the timely futurist vision of the concurrently running world's fair ("World Science Fiction Convention Homepage"). One example of an sf crossover spectator is Frank R. Paul, mentioned earlier for his role in producing aerofuturist art that graced the covers of Gernsback's magazine, who was the first Worldcon's guest of honor ("List of World Science Fiction Conventions"). Moreover, many attending Worldcon in 1939 would have been readers of the Gernsback serials that included aerofuturist narratives, and these same sf convention participants attended the World's Fair during their time in the city.

What both sf enthusiasts and the common fairgoers would have noticed were the two enormous architectural structures at the fair, Democracity and Futurama, scale-model

experiences of sanitized cities of tomorrow. Drawing upon the type of aerial aesthetic embedded deep within the psyche of 1930s audiences through the pulp tales and other aerofuturist portals, these two enormous fair attractions grandly gestured toward new built environments by allowing spectators literally to see the city of the future. From elevated positions, audiences were turned into flying spectators who would view powerful reconfigurations of the same designs that had characterized the earlier sf city aerofuturist trends of the decade.

Before examining the discursive relationship between the two architectural behemoths of aerofuturism at the 1939 World's Fair and the sf city aerofuturism of the early 1930s, it needs to be emphasized that the fair's designs and material objects were also saturated with aerofuturist sensibilities; earlier I noted that it was not simply the stories that Hugo Gernsback published that contributed to the aerofuturist discourse, it was his entire editorial approach that supported the culture of the new aerial paradigm. Likewise, at the 1939 World's Fair, even some of the simplest ephemera exuded the same blend of abstract aerofuturism that defined the fair's large exhibits. David E. Nye, among others, has noted how the language of the Fair's program expressed its architectural orthodoxy, in that "no imitations either of historical architecture or of permanent materials" would be permitted (136). This mass aerofuturist blanketing can be seen in the design of Gilbert Rohde's Community Interest Focal Exhibit, which betrays the same utopianism, frontier themes, and scopic conditions that defined the discourse earlier in the decade.

There were five different sets at the Community Interest Focal Exhibit, spanning from colonial American technologies to the Industrial Revolution to a future display — Focal Exhibit #5 — that showed, as Joseph Cusker writes, “context in which the new man was expected to operate, a modern housing project representing his restored sense of community” (8). This final set consisted of a puffy cloud-like framing of a simple flat field whose edge was a horizon cutting across the bottom of the display. True to the exhibit’s theme of scopic knowledge, two clusters of small square buildings rest near the horizon-line. Both sets of minute buildings reside under a surrealist sky with clouds of the same blotchy irregular shapes that surround the exhibit’s frame. Each cloud bears a lightly sketched object. “Man Freed in Time and Space,” reads the exhibit’s text, and the focal point of the print is one large cloud located in the approximate center of the image, a splotch that sports a five-point star hovering on its edge. From that star a dashed line cuts diagonally down to an eye on a staff, which gazes not at the source of the star and its line of sight but out, like the eye of Horus, at the viewer. As the observer looks into the exhibit’s space as an aerial spectator, the display has the natural space of air between eyeball and exhibit, and the layout itself produces an aerial position that allows a gaze down upon that frontier-like field. Here the air and ground are, in the tradition of scopic aerofuturism, visibly knowable as a frontier space.

To return, for a moment, to the power of the frontier identity in American air culture, it bears noting that the earlier characterization of air that previously allowed Americans to code aerial spaces as an ideal American frontier ideal space of “unlimited” resources, ripe for exploration and exploitation was as virulent in 1939 as it was in the

earlier years of the decade. The difference is that aerofuturist pulp fiction reminded their readers that this airspace in the 1930s was already a contested geo-national arena where thrilling possibilities for exploration had already been compromised by a variety of political regulatory acts. Aerofuturist features at the fair, in contrast, replicated a sentiment best illustrated by President Roosevelt's reassuring gesture to an air transportation forum in 1939. In his letter, Roosevelt noted how aerial space was a global "medium which knows no frontiers" (100), a reiteration of that cyclical American tendency to generate frontier environments where none were geographically available. In this case, Roosevelt's reference to the geometric vastness of the sky contributing to its frontier identity repeats that same romantic frontier vision of the sky wilderness that by that late date no longer existed. Hence the continued drive to characterize aerial vistas with optimistic possibilities of frontier-like expansion and homesteading, despite a steady progression toward legislating sky spaces, featured distinctly American tendencies. Joseph Corn characterizes this drive as one lionizing a "winged gospel," an almost religious belief that modes of flight offered in part by airplanes and dirigibles could radically shift values, identities, or ideologies (45). This promise of air culture as a frontier with limitless opportunities is clear and present in Focal Exhibit #5.

Fairgoers attending Focal Exhibit #5 would witness the display's hidden machinery lift that building structure and associated dwellings up into the engineered sky (Cusker 7), and through this pattern of ascension Focal Exhibit #5 simulates an aerial gaze. The display compresses 2D and 3D geometries guiding the spectator's literal eye to make contact with the eye affixed upon the staff, which also directs the viewer to

follow that odd eye's gaze up into the clouds. What is important to note is that the airview of this civil dreamworld relies on the audience's innate understanding and internalization of the longer history of aerofuturism, as well as the promises of a new reality that such an elevated perspective references. Rohde's design also suggests syntactically, and perhaps unwittingly, that the reality of aerial vision in the late 1930s aerofuturist discourse still drew on the early 1900s posthuman corporealities where humankind could thusly be "Freed in Time and Space" (as explored in Chapter Two); lastly, the image's slow mechanized lifting of a cloud-bound homestead offers the same slowed temporality that marked other aerofuturist works from earlier in the decade. Lastly, Focal Exhibit #5 reflects how common iterations of aerofuturism were at the fair, and illustrates that the denizens of the 1930s already knew how to read such images within the context of space, time, geopolitics, frontier ethos, and the built environment of tomorrow. It is within this atmosphere of aerofuturist design that the central aerofuturist experiences at the fair were constructed, in unmistakably massive architectures of ascension.

#### Cities of Tomorrow: Democracy & Futurama

Two dominant architectural aerofuturist expressions of the built environment at the New York World's Fair of 1939 defined the nature of aerofuturism in that period. Equally grandiose urban visionaries, Henry Dreyfuss and Norman Bel Geddes, designed the two structures that were named Democracy and Futurama, respectively. Both were meticulously designed dioramas that placed fairgoers into a position of aerial

spectatorship over idealized future cities. Although dioramas were not an uncommon way of expressing national representation at such world's fairs (Nye 141), Dreyfuss and Bel Geddes's large panoramic exhibits were impressive structures that shared incredibly provocative aerofuturist possibilities of the built environment to fairgoers in the 1930s. And in contrast to the complex concerns of the aerofuturist sf of the early 1930s, however, Futurama and Democracy reconfigure – and extricate themselves from – the problems of aerial ruin raised by the earlier sf pulp fiction.

Housed within the fair's large iconic Perisphere that, entwined with the Helicline and juxtaposed by the sky-puncturing Trylon, produced the visual centerpiece of the entire fair, was another equally impressive city seen from the sky. Newspapers of the period described it in aerial terms, including “a floating bead,” “a floating bubble,” “floating sphere” (Rydell 127-128). In Dreyfuss's Democracy, fairgoers were treated to a massive utopian scale cityscape predictive of America in 2039. The structure allowed approximately eight thousand viewers per hour to peer down at the scale city (Rydell, Findling and Pelle 94), and spectators would be rotated around the set on two enormous moving rings that girdled the large spherical shape of the Perisphere's interior (Wurts and Appelbaum 3). The sounds and views of Democracy were, as guidebooks described, the “symbol of a perfectly integrated, futuristic metropolis pulsing with life” (Rydell 131). At night, Democracy would project a thousand marchers in the sky, presumably marching for democracy (Rydell, Findling and Pelle 94), but also reinforcing the bodily ascension of citizens into an aerial arena. Designed with considerable attention given to aviation's place in the city, a brochure explained:

The double-decker streets with airplanes landing on skyscraper roofs are missing. They are missing because they aren't needed. In this version of the city of the tomorrow, there is plenty of room, and buildings are low, and airplanes land at the terminus. (Seldes 11)

Democracy's centralized aerial terminus reflected the importance of flight in the city of tomorrow and mirrored the spectators' view of the mega-diorama from the Perisphere's panoramic, bird's-eye-view perspective. Also projected on the vast shell of Democracy's spherical enclosure was a hazy frontier periphery, a 360-degree rendering of a natural landscape, which reinforced Democracy's place situated on unbroken, untamed landscape. Through this visual narrative, Democracy created the same frontier-specific homesteading experience that defined the early-1930s pulp speculative fiction, but was silent on what must transpire for these new frontier landscapes to emerge, ignoring the aerial warfare that was threatening cityscapes across the Atlantic.

Those viewing Democracy were thus afforded a panoramic nature of tomorrow's city, a replication of that same compact American geo-political frontier identity, the internalization of the bird's-eye view, and the nature of tomorrow's cityscape. Harkening back to the panoramic city views that matured in the 1860s into distinctly American visions of the built environment (as described in Chapter Two), Democracy also offered the same type of slow, methodical experience that defines other frontier-specific homesteading narratives in early-1930s pulp speculative fiction.





Figure 3.4: Frank Monaghan, “Democracy (Assembling the Future),” 1939.C-Print

However, Democracy differed from the frontier narratives in its ultimate message, for its scale city represented an urban environment that was “no longer a plan-less jumble of slum and grime and smoke,” instead it showed how a planner’s and spectator’s aerial perspective recognized the possibility for “the good life of the well-planned city” (NYPL *Biblion*). In this way, Democracy paired both the frontier imaginary with the perfection of the master planned metropolis of the future.

Like Democracy, Norman Bel Geddes’s design of the General Motors (GM) Transportation Zone entitled Futurama allowed spectators to experience a grand airview of the city of the future. The eighteen-minute ride, in which 600 spectators could be seated at a time, was a complex conveyance that arched over a meticulously designed “wonder world” scale city of the future: the future of 1960 (Morshed 75). For GM, Norman Bel Geddes had imagined this illusive world to underline a simple premise,

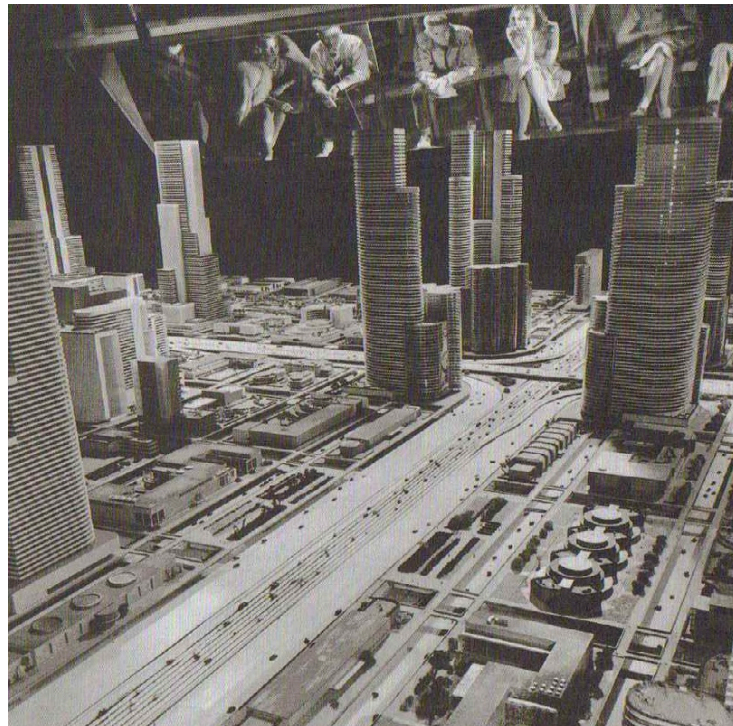
namely, that the Depression's stagnant automobile industry was due only to inferior systems of roads (Rydell 133). Even more clearly an aerofuturist city of tomorrow than Democracy, Geddes's vision sat fairgoers in comfortable seats where they could similarly observe the city and country of tomorrow through massive dioramic modeling; the ride slowly "flew" fairgoers above the towers and roads of the diorama at varying proximities, and a chair had a speaker that piped in a voiceover explaining the features of the scale-built environment below (Wurts and Appelbaum 20). Thus, although this city was not elevated in the same fantastic way that the aerofuturist pulp fictions' sky cities were, Futurama spectators were placed into that same position of aerial spectatorship informed by the decade's aerofuturist discourse.<sup>55</sup>

Futurama's exhibition pamphlet, notes Adnan Morshed in his insightful article on the ride entitled "The Aesthetics of Ascension," shows how the Futurama experience would allow for a surrogate experience of flight that offered, as Geddes put it, "a new kind of civilization [...] a vision of new frontiers" (77). Geddes's euphoric waxing about the future of the air and new frontiers reads much like President Roosevelt's comments about the freedom of the sky, and links Futurama to the same frontier imaginary featured in the aerofuturist pulp tales. Again and again, this language of the frontier is recycled in

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<sup>55</sup> This was not the first world's fair with a grand scale model that envisioned a view from above. Val Gough and Jill Rudd have noted how the \$500,000 scale model of the Panama Canal featured at the San Francisco Panama-Pacific Exposition of 1915 with "what appeared to be an aerial view," and likely influenced writers such as Charlotte Perkins Gilman. See Gough and Rudd 43. See also the discussion of Charlotte Perkins Gilman's speculations about the aerial man of tomorrow in Chapter Two.

the World's Fair's grand architectures, as if new ground were suddenly available for massive building projects.



*Figure 3.5 Margaret Bourke-White, 1939, C-Print. Photo © Estate of Margaret Bourke-White/Licensed by VAGA, New York, NY.*

It was not by coincidence that Futurama replicated the broad strokes of aerofuturist thought. Geddes took care to note futurist trends, and his personal library included works by aerofuturist visionaries Le Corbusier, Marinetti, and Wells (Morshed 83). Regarding Futurama, Geddes openly remarked that he wished spectators to experience the orderly city of the future from the perspective of an aircraft. Even the small souvenir pin presented to those exiting the “flight” reinforced the aerofuturist experience. As Adnan Morshed notes, the pin claimed the importance of viewing and understanding the world of tomorrow in its text “I have seen the future” (74). Thus, Bel Geddes’s gleaming GM Futurama showed not only glowing projections of the city of the

future, but also illustrated how to access such futures through positively elevated positions of aerial spectatorship.

These two enormous portents of the aerofuturist city, Democracity and Futurama, were saccharinely earnest in their tones. A far cry from the sensationalist type of predictions underlined in the speculative pulp fiction of the decade, the experience of the Perisphere was received as a brilliant spectacle. For example, fairgoer Edmund Gilligan wrote in “Report of a Subway Explorer of His Trip to a Magic City” that to enter the Perisphere was to “ascend [...] between gleaming walls of steel, feeling a strange sensation, one of rising to infinite height above the earth” (Zim, Lerner and Rolfes 39). Here, as Gilligan continues, eyes “turn downward and there is the theme of all these wonders, the community of the World of Tomorrow — Democracity, a mighty metropolis” (Zim, Lerner and Rolfes 39). Gilligan’s awe of these structures continues as he reaches Futurama where, before even reaching the seats that provide “ninety blocks of the city of the future,” he reveals how:

there is an illusion by lighting effects of looking out into infinite space. Seemingly suspended in the air is an enormous map of the country, more than 100 feet long [...] the map changes before the eye and tells the story of the highways and horizons of the present.

(Zim, Lerner, and Rolfes 40)

The vast “horizons” and “infinite space” of tomorrow quoted above were a sanitized variation of frontier spaces, on which cities may be built without any concern for the

historical city dialectic, and here again is the vision of the American version of the frontier future. Gilligan was hardly alone in his headiness. Contemporary radio broadcaster H.V. Kaltenborn noted that passing the oversized, vocalized statues that marked the Fair's entrance to the Perisphere revealed a most utopian scene, especially after seeing "the march of men and women, singing their triumph, [that] is the true symbol of the World of Tomorrow" (Zim, Lerner and Rolfes 54). Likewise, a contemporary feature in *Life Magazine* intoned the language of the frontier myth in describing how Futurama literally made "the land greener than it was in 1939," because "Men love their fields and gardens better and more wisely" (Zim, Lerner and Rolfes 54); the latter note draws upon the trends of the City Beautiful movement of the late nineteenth century that were seen in particularly clean relief at the 1893 Chicago World's Fair. Those witnessing Democracy likewise saw a "vision of the sky" that later critics would describe, without any sense of irony, as a "secular apocalypse" (Zim, Lerner and Rolfes 54).

But apocalypse was missing from the fair. Futurama, Democracy, and the fair at large all replicated an idyllic imagined future, betraying an important omission — the power of the aerial optic was one of destructive futurism, one that aerofuturist pulp fiction had shown great concern for in relation to the built environment. The desirable city of the future articulated in Democracy, or the eight-minute ride that was Futurama, decoupled aerial spectators from the larger conversations and fears raised in the aerofuturist discourse network of the 1930s. Why would Futurama and Democracy in all of their heady predictions render the future from the air with such rose-colored lenses?

Furthermore, what does it say about American culture that fairgoers lapped up this homogenized, oversimplified, and sanitized vision of the future built environment that eschewed the complexities of aerial living conveyed through discourse network by many artists and visionaries that came before? To answer these questions is to interpret an important cultural change that the shift in the aerofuturist dialectic reveals. The devolution from utopian/dystopian cityscapes to totalizing utopian aesthetics began first and foremost with key city planners channeling the importance of aerofuturism in constructing the city of the future.

Crafting the ride of Futurama as a flight, Geddes tapped into what Adnan Morshed describes as the role of a “heroic, flying spectator” (Morshed 77), an ascending figure who saw the world with Enlightenment organization of the future through a new type of visual logic (Morshed 77-78). Morshed argues that in the Futurama exhibition the method of seeing was as important as what audiences were actually viewing or that utilizing the aerial gaze was crucial to a the fairgoers’ understanding of the future; it is an approach that seems consistent, considering Bel Geddes’s other large exhibition at the fair, the overshadowed Crystal Gazing Palace, the “Peep Show of Tomorrow,” which was a literal variation on that ascending figure of the period. In the Crystal Gazing Palace, an elevator would lift a partially nude woman, perched atop a “crystal” podium, into a mirrored capsule. The mirrors would reflect her body in a dazzling array, and augment her striptease, multiplying her image over 800 times to the hundreds of spectators watching her body gyrate from above (Rydell 139). Clearly, Geddes prioritized the

architecture of the viewing experience and the spectacle of the elevated body in his displays; Futurama simply put into motion another polished body of the city of the future.

Where the prominent planners of the 1930s differed from those figures that defined the aerofuturist pulp tales, however, is their total annihilation of any trace of the historic built environment. Aerial views of cities allowed urban planners, as Jeremiah Axelrod, Christine Boyer, Adnan Morshed, et al., note, a better method of organizing the city. Yet while the aerofuturist pulp fiction of the built environment was in constant conversation with the ancient models of city living, the 1930s generation of European and American planners of flesh and bone acted more like backroom city architects — they drafted the world of tomorrow onto large blank sheets, and produced scale models abstracted from existing terrain or urban center. Instead of crafting Byzantine cities whose streets and civic nodes somehow mated to the existing features of the city (and all the while fearing the destructive force of dirigibles, zeppelins, and bomb-carrying aircraft) like the pulp tales, the visionaries of the 1920s and 1930s offered radical futures where the terra firma of tomorrow was cleared of all existing towns and cities. Planners like Corbusier argued that the impetus for crafting such bold, abstracted future cities were corrective measures, or moves that illustrated how to best relieve urban denizens of the existing congestion and disease of traditional built cityscapes. In a sense these planners' designs were utterly utopian, featuring none of the messiness associated with grafting old and new girders and roadways. And the same city visions were also post-apocalyptic to future retrospective critics in their expectation that the world of tomorrow could at once be accessed through aerofuturism's visual perspective without addressing the discourse's

opposing destructive-constructive binary potential of aerial structures that pulp sf and others had offered earlier in the decade.

Returning to The Professor from “The House in the Clouds,” the villainous homeowner offers up a fictional character attempting to reign in control of a humble built environment of the future. Despite crafting a futurist aerial structure, his designs still consistently rely on a consistent expression of the connection between the past and present. While the professors and inventors of the aerofuturist yarns relied on designs that continued a conversation between city designs of history and city designs of the future; however, the Modernist city planner visionaries of the 1930s expounded a totalizing, new vision of living. In other words, the mass ground-clearing mechanism that early aerofuturist works had envisioned was accepted, internalized, and obscured through omission as visionary city planners featured at the World’s Fair imagined vast, impossibly pristine frontier-like topographies they could impose their designs upon. In some ways, this is entirely fitting for the self-aggrandizing position of the city planner, who was one of the few privileged enough to fly over or otherwise view these elevated perspectives of the urban spaces they lived in.

Ignoring the grim necessity of breaking new ground from the detritus of former built environments, and brushing aside the likely role of aircraft weapons in clearing such grounds were not the only ways that the 1930s city planners reconditioned city aerofuturism. Their plans of the cities of tomorrow from a bird’s-eye view embodied a weaponized aircraft-granted mode of vision. Though the cityscapes imagined at the



World's Fair may not have been lifted into the sky by wondrous propulsion systems like in aerofuturist pulp fiction, the World's Fair designs, and, more importantly, the way that these futuristic cities were viewed, rearticulate the key concerns that the sky cities of the 1930s raised years previously. The fair's proposed utopian futures, based on better living as experienced through flight, also produce a surprisingly optimistic experience given how aware 1939 audiences were of the destabilized global war stages in Europe and in Asia.<sup>56</sup> Yet little or no content of the New York World's Fair speaks to these larger international concerns of the air war and its impact. Le Corbusier's nihilistic lens in *Aircraft* offers the meeting place between the two poles of the aerofuturist discourse, but also runs counter to the highly utopian aerial designs that other key city futurists of the period unveiled in public places through the end of the 1930s. As Corbusier began to see the aesthetics of ascension as an increasingly grim view of the future of existing cities, exhibits that allowed spectators such a utopian airplane eye perspective were available late in the decade to visitors at the New York World's Fair of 1939.

What differed too is that the aerial view, for Le Corbusier, showed an aerofuturist or *Aeropitturist* spectacle of rigid, overly-engineered cityscapes that were "machined," as seen by his reconfigured 1933 city plan for Algiers in *Towards a New Architecture* (Çelik 76), or in the cruciform master plan for Paris, which saw aerofuturism not as the shining light of the city of the future, but as an additional perspective that reinforced his visions of the city in collapse. On many occasions, Le Corbusier would show an absolute

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<sup>56</sup> Sf author J.G. Ballard later offered an incisive retrospective on the way that Nazi Germany and Soviet Russia offered their own utopian architectures and ideals leading into the war years. See Ballard, "A Handful of Dust."

commitment to destroying cities of the recent past. The aerial view, again, allowed him to discuss such a complete perspective: “Take an airplane. Fly over our 19<sup>th</sup> century cities, over those immense sites encrusted with row after row of houses without hearts, furrowed with their canyons of soulless streets. [...] The architects of the past hundred years did not build for men, they built for money” (Boyer 100). The sky-view, unlike the continuation of past metropolises as seen in Gernsback’s *Air Wonder Stories*, was not an escape from the clogged urban sprawl of the metropolis, but a call to fix what Le Corbusier saw as urban problems arising from a failure of culture to adapt appropriately to the Machine Age (Pinder 63). Le Corbusier, writing with French cubist Amédée Ozenfant, also openly dismissed the basic principles of Cubist architecture by constructing “not by deformation, but by formation” and asserted that “Impressionism, Futurism, and Expressionism are all forms of expression that avoid the fact of creation – durable, humane, and compatible with plastic work” (Pinder 67). Le Corbusier seemed to forget this conception when imagining plans for future cities with the master planner’s airplane eye.

So although planners like Le Corbusier and Norman Bel Geddes considered that the construction of the city of the future would necessitate the type of functional gaze achievable through lifted bodies, and their visions are utopian in imagining the clean-slates of metropolises built in perfect, idyllic ranges uncluttered by previous growth. Both suggest that modern thought at that point in time was desiring, on some level, to raze existing cities and construct anew, presided over by the master planner visionary as a form of urban design regent.

## Utopian Tomorrows, Utopian Yesterdays

With city aerofuturism adhering such two different “entertainments” occurring at either end of the decade (illustrated pulp literature often read in solitude, a grand airplane-style conveyance arching over an enormous scale model of the future), the role of city planner visionaries complicate the visual politics of how the Futurama and Democracity mega-dioramas critiqued the conceptual future of the built environment. In his article on the aesthetics of ascension in GM’s Futurama, Morshed touches upon so many of the same contact points and even specific examples: the air pulp fiction, Le Corbusier, avant-garde art, and even the cursory gesture toward the cover of the November 1929 *Air Wonder Stories* as indicative of this aerial gaze. Yet even he overlooks what is missing from the visionary experience of Futurama, which is the nihilism of the *Aeropitturists*, and the more ominous subtext of Le Corbusier’s *Airplane*. Morshed sidesteps the implications of why such overwhelmingly optimistic brush strokes of Futurama were relevant to 1930s audiences who also knew of aerofuturism’s darker trends and, like those experiencing and later remembering Futurama, he reduces the ride’s motives as simply germane to the decade’s “unbridled optimism” (74), a strangely totalizing claim of a generation that knew perhaps the worst economic depression and civil unrest in the history of the country.

However, it is clearly that brand of optimism that fairgoers took away from the fair. Democracity and Futurama’s popularity suggest that some key shift had occurred within the aerofuturist discourse between the beginning and the end of the decade.

Audiences at the start of the decade had not yet seen the long years of economic strife, and so their visions of the future were still connected, tangibly, to the city designs of the past. But as the years passed perhaps the cities and histories of the past would seem too responsible for the collapse of the metropolis. It may not have been startlingly new, naïve optimism that permeated the cultural response to the World's Fair. Perhaps instead the dawn of a new day seemed reassuring because it did, just like Le Corbusier imagined, rest on the cloaked premise of clearing the built environment for a new frontier. The promise of Democracy and Futurama may never have been about a new life in the air, but how the perspective of an air view could produce the sort of psychological distance required for citizens to accept the likelihood of the destruction of established cityscapes.

To be fair, it is difficult to fully diagnose what separates such different forms of entertainment. The engineered atmosphere of the World's Fair was hardly one of danger and destruction, and certainly corporate GM would never have supported a Futurama of the Le Corbusier or pulp sf brand, where audiences would perhaps see or hear of the apocalyptic city-leveling acts necessary for the building of perfect metropolises of the future. Also, it is understood that these are imperfect comparisons — the modes of narrative and expected audience of Futurama would be significantly different from those that Gernsback would use and publish his aerofuturist pulp fiction for. Despite any such problematics relating the medium of a canvas, to an eight-minute ride, and to the traits collected in pulp fictions, there remains an important fissure between the aerofuturist discourse network and the way that Bel Geddes and Dreyfuss purposely replicated “airplane eye” designs in the same way that Le Corbusier and the pulp sf serials had

imagined. Bel Geddes's and Dreyfuss's master planned cities of tomorrow, however, were so precisely built on those seemingly blank geographic slates of the future that they plumbed an imaginary frontier of unbroken ground, silently erasing the city of the past as well as any possibility for revision of existing historical cityscapes.

The city-leveling reality of the war years produced just the sort of destructive effects to cities worldwide that pulp sf had predicted, and both planners such as Le Corbusier and Bel Geddes as well as the hundreds of thousands of fairgoers seem on some level to have desired. New locations for urban perfection were made from cities cleared by aircraft-dropped munitions in Europe and Asia. Such widespread apocalyptic sea changes to the developed environment, however, functionalized elements of loss and annihilation with the airplane eye. If Le Corbusier's predictions serve as a prescient outside litmus of optical aerofuturism's role in utopian built environments, the utterly destructive forces of the war and its Cold War sibling wore down any gleaming hopes of utopian aerial futurism. For Le Corbusier, his expectations that the modern era would produce great transformative achievements in city building were destabilized by a war torn globe, and by the 1960s, the same year that Futurama's city of the future was imagined to take place, Le Corbusier felt that such dreams of progressive air development would not materialize for many centuries to come. As for Bel Geddes's hopes for the cities of tomorrow, they would be mostly remembered as prophetic for their predictions of highways and superhighways, but his master planned urban environments designed by that powerful city planner with Superman-like sight from above would never come to pass. As the 1930s closed and the black whiffs of anti-aircraft fire clouded international

skies, the pulp fictions, the superstructures of fair America, and the complex brand of distinctly American aerofuturism were already yesterday's impossible tomorrow.

## Chapter Four

### Retro-Aerofuturism, Steampunk, and Global Ecologies, 1971 – 2000

“The whole bucolic landscape of Garden City, this elegant but toy-like world of solar sails and flower-filled gardens [...] cried out for a Pearl Harbour”

–Halloway in “The Ultimate City” (11)

“[These are] Amassless optical volumes – focused luminous vibrations suspended in the air [freed][...] from the clichés of the physical world and challenging the imagination”

–Eduardo Kac (np)

Stepping aboard *The Rover*, an aging airship with a thick hull, flaking paint, old-fashioned engines, and unsophisticated electronics, the protagonist of Michael Moorcock’s *The Warlord of the Air* (1971) gives an account of the aircraft’s vintage elegance:

A particular feeling of satisfaction began to creep over me. [...] I was beginning to like the idea of flying in this battered old tramp of the skylanes. She had a certain style about her and there was nothing fancy about her fixtures. She had something of the aura of the early pioneer ships. (87)

Oswald Bastable’s appreciation is not artful nostalgia. A time-traveler from the turn of the century unceremoniously transported to the year 1973, Bastable has arrived to an

alternative future where the major Imperial nations in place at the fin de siècle have been preserved. Civilization has sidestepped World War One and all subsequent wars of global scale. Worldwide postcolonialism has been deferred. And yet, this uncanny version of time routes back to the same discouraging outcome: Western civilization persistently finds its way back to an aircraft dropping an atomic bomb on Hiroshima.

Bastable's admiration for the old airship, as well as the narrative framing of *The Warlord of the Air*, channels sf aerofuturism tropes established in earlier centuries (and in earlier chapters). His impression of *The Rover* as a pioneer vessel replicates the consistent aerial frontier language, seen in the likes of 1930s city aerofuturism, in the corporeal futurism of the early 1900s, and before that in the balloon narratives of the late nineteenth century. Additionally, the novel's utopian first-person and frame-narrator echoes Bellamy's *Looking Backward*, Donnelly's *Caesar's Column*, Lawson's *Born Again*, and also many texts of 1930s air pulp fiction, rebooting aerial aesthetic and aerofuturist discourses that, at the time of publication, had been lying dormant for the better part of thirty years.

In this final chapter I study the way that retro-aerial futures like Moorcock's in *The Warship of the Air* purposefully undercut the promise of arcadian colonial romance of eco-cities renewed in the emerging environmental or "green" movements of the 1960s and 1970s. Retro-aerofuturism illustrates the viability of such cities as already-foreclosed possibilities for Western civilization. First, I account for the dramatic absence of aerofuturism following World War Two, pointing to the cultural obsession with nuclear



power and space exploration that drew attention away from aviation technoculture. A type of atomic aerofuturism concerned with irradiated air and mutated bodies arose during this period, which I briefly describe, and during the years leading up to the post-Apollo spaceflight era, aviation-centric aerofuturism never reached total extinction. Like many sf and science fiction subgenres in times of disinterest, aerofuturism floated in the backdrop, waiting for rediscovery.

When aerofuturism returned as retro-aerofuturism, the aerial discourse offered a way of looking critically at the 1960s and 1970s environmental movements concerned with the human impact on the biosphere. Retro-aerofuturism offered a discourse for the disjunction between the technological utopianism of air and space, and the reality of the cities of the future and their global ecologies.<sup>57</sup>

Moorcock's text features an uncomfortable view of aircraft as machines that disturb tranquil settings, and the airship described in the opening sentences of this chapter subsequently offers the view of an anarchist base camp that problematizes the environment-conscious communal living and "ecotopias" of the period.<sup>58</sup> I then offer a brief overview of similar ecotopian themes in Thomas Pynchon's *Gravity's Rainbow* before moving on to the final section of the chapter. In addition to Moorcock's novel,

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<sup>57</sup> Authors such as Ballard and writers of creative non-fiction such as Norman Mailer, as well as a host of other sf writers that were part of the so-called "New Wave," had already been projecting deep suspicion on the heady public interest in astrofuturism, however.

<sup>58</sup> I use the term "ecotopia" broadly to refer to any pastoral, utopian city or environment that channels the environmentalist mentality that arose in the 1960s and 1970s in the United States. The term "ecotopia" first came into popular use following from Ernest Callenbach's 1975 novel of the same name.

the way that Thomas Pynchon's *Gravity's Rainbow* (1973) uses rocketry and flight systems to express the postmodern dissatisfaction with current technologically empowered society. Pynchon also uses language of the global ecological network that draws on contemporary culture and forecasts NASA researcher James Lovelock's world-theory that the earth is a single, complex ecological organism as described in *Gaia: A New Look at Life on Earth* (1979). He also sympathizes with these Gaia-type narratives of global ecological inclusion in *Gravity's Rainbow*.

Moorcock and Pynchon are joined in their thematic use of aircraft to convey dystopian views of eco-cities of the future in J.G. Ballard's "The Ultimate City" (1976) and *The Unlimited Dream Company* (1979). In reviewing J.G. Ballard's aircraft motifs and ecological psychogeographies, I offer a new perspective on Ballard's use of ecotopian themes, adding to existing sf scholarship. Ballard, like Moorcock and Pynchon, illustrates the vibrant use of retro-aerofuturism to allow both cynical and utopian-hopeful readers coping mechanisms for the pending failure of their environmentalist desire for a future. This chapter also adds to contemporary critical assessments of Steampunk literature, contributing a new way of looking at proto-Steampunk themes for their patterns of futurism that move beyond the mixtures of wistfulness and technocultural laments. Significantly removed from the industrialized, capitalist, free-market system; retro-aerofuturism modulates the way that culture looked upon the various post-1960s ecological and environmental movements that included ecofeminism, green movements, environmental justice, animal rights movements, and the

“anti-globalization” movement.<sup>59</sup> From this review of select retro-aerofuturist texts, finally, I transition toward the project’s coda, which exposes some ways that aerial futures are yet again producing new paradigms in the borderless surveillance and military state of the post-9/11 global milieu.

### The Postwar Decline of Aerial Futures

The deployment of weaponized fire balloons (launched in Japan), or the tethered, anti-V1 rocket “barrage balloons” (protecting English cities), along with the perpetual ascents and descents of unmanned rocketry during World War Two, plus the countless aerial dogfights and industrial-scale bombing runs, all realized the dystopian visions of 1930s city aerofuturism. It was the obliteration of landscapes, bodies, and cities on August 6, 1945 that marked a watershed moment for aerofuturism. The symbolic promise of air was radically altered with the atomic conclusion of World War Two. A new form of air culture would follow related to broadcast culture and nuclear experimentation in the years to come. Through the air, nuclear power held a penetrating, iconic cultural influence.<sup>60</sup> Following the detonation of “Fat Man” and “Skinny Boy”

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<sup>59</sup> The environmental movement did have a significant impact on industry and culture, paving the way for the federal Clean Air Act (1963) and Clean Water Act (1972), among others. But the radical measures of the ecotopian visionaries of the 1960s and 1970s remained the stuff of dreams; the most impassioned and extreme measures were relegated to minor political groups such as Greenpeace, or radical “direct action” environmentalism groups such as the Earth First!, Earth Liberation Front, or Sea Shepard. Edward Abbey’s *The Monkey Wrench Gang* (1975) offers an unconventional narrative that targets the land developer mentality of Southwest United States by way of a rag-tag team of vandals and minor revolutionaries.

<sup>60</sup> Following the singular nuclear bomb blast that annihilated Japanese terra firma, Emperor Hirohito’s radio surrender broadcast to a nation that had never before heard his

above Hiroshima and then Nagasaki, respectively, atomic representations of earth-shattering events bloomed in popular culture. Murals and kitsch art of iconic mushroom clouds began to appear on what seemed like every street corner, while their atomizing kin bloomed over atolls in the North Pacific and along the long, militarized expanses of the Nevada desert. In this new Atomic Age, a subgenre of atomic air culture rose from the shadows. Filtered through a post-fallout haze, the new threat of incoming nuclear missiles, irradiated bodies, and crumbling cities became tomorrow's cultural disquiet. Simultaneously, visionaries were firmly shifting to outer space as the locale for tomorrow's narrative.

While some aesthetics of flight culture persisted in the 1950s and 1960s in public structures, art, and design, with the designs of Streamline Moderne and the offshoots of Googie, Mid-Century Modern, and Populuxe designs that maintained the look of aerofuturist architecture, the aerofuturist aerial city designs and aviation chronicles of the 1930s and 1940s were by and large exchanged for tropes of space flight, Martian colonies, and interplanetary fiction in the Cold War years. Sf author Arthur C. Clarke optimistically wrote in 1951 that the ability to move closer to the cosmos might provide a path away from humankind's "present tribal squabbles," continuing that "In this sense, the rocket, far from being one of the destroyers of civilisation, may provide the safety-valve that is needed to preserve it" (qtd by Kilgore, 119). Accordingly, the cultural

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voice; Don DeLillo juxtaposes these same two aerial acts in *Underworld* (1997) when he recalls that the radio culture of the "shot heard round the world" of the concluding home run of the final 1951 World Series game that arced around the globe occurred the same day that Russia detonated its first atomic weapon. For more on the iconic atomic culture of the period, see Ulrich.

enthusiasm for spaceflight would almost entirely eclipse the importance of aerofuturism for several decades.<sup>61</sup> Science fiction author and critic Adam Roberts agrees that during this period “air travel became less central to science fiction, as it seemed mundane and old-fashioned in contrast to the exciting prospects of space travel” (11). The pursuit of sending humans into outer space moved the cultural focal point from the bird’s-eye view to the astral optic, as reconfigured V2 rockets began capturing images from space in 1946. Sputnik’s circumference of the globe in the October sky of 1957 further drew eyes spaceward (and from space back down upon the earth).

Then, in August 1959, the American Explorer 6 satellite completed the first visual feedback circuit between earth and space, with its own all-seeing eyeball matching the satellite-watching human viewers below. What followed were vast exteriors of space travel and interplanetary life that flooded the sf imaginary. The same sf that was

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<sup>61</sup> There are a few examples of aerofuturism in this period, including dirigibles-bound islanders in Poul Anderson’s Mauri series (pace his 1959 story “The Sky People”) or, later, the parallel globalist critique of neo-imperial installations of airports in Walter Abish’s *Alphabetical Africa* (1974).<sup>61</sup> Anderson’s Mauri Series, which includes *The Sky People*, depicts an anti-nuclear culture living aboard airships and covertly undermining the ability of the world below to industrialize. In another novel, *The Boat of a Million Years*, Anderson repeats the concern of the Mauri series, that someday “no true wilderness [will be] left, anywhere on earth, unless in the human heart” (366) Sharing a similar global vision of terrain transformed by capitalistic globalism is Walter Abish’s *Alphabetical Africa* (1974) via airport productions that provide not simply the view of colonial cartography into sharp relief, but also illustrate the anxieties surrounding a totalized geography resulting from continued aerial mapping, and aerial mapping and air conduits as systems of soft (discursive) colonizing forces. Mirroring main characters Allen, Alva, and Alex are moves of private corporations to construct airports. The airport-oriented acts of nation building also reflect, in obvious ways, the de-colonizing, post-colonizing shifts of bodies and edifices, as seen by Queen Quat (who worries that she will be unable to actually procure enough paint to physically paint over her nation-state of Tanzania).

previously concerned with the way that the sky allowed for new views of terrains, colonization, posthuman bodies, and built environments transitioned to the narrative spaces of galaxy quests, Martian encounters, and moon landings. Moreover, in the postwar years space exploration became the new cultural conduit to channel the American frontier myth, and the endless possibility of the cosmos for exploration overshadowed the aerial frontier culture. Indeed, outer space was the “final frontier,” as the opening voice-over to the televised *Star Trek* series (1966-1969) pronounced, which, in turn, was riffing on John F. Kennedy’s famous 1960 Democratic National Convention speech later known as the “New Frontier Speech.”

Although this chapter focuses on the flight-based narratives that emerge after the fading of the space-race cultural dynamo, there was a concurrent “Atomic Age” of the 1950s and 1960s featuring a type of unique atomic frontier imaginary aerofuturism. These were narratives of irradiated air, and were populated with mutated bodies and post-nuclear-fallout (a trend which obliquely recalls the 1910s brand of aerial posthumanism discussed in Chapter Two). There is already a healthy body of scholarship focused on these trends of corporeality and mutation across atomic aerofuturism.<sup>62</sup> Films such as *Godzilla* (1956) reflected overt fears of radioactive metamorphosis and vocalized

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<sup>62</sup> Some critical works covering bodies and nuclear holocaust includes Keith Booker’s *Monsters, Mushroom Clouds, and the Cold War* (2001), Paul Williams’s *Race, Ethnicity, and Nuclear War* (2011), and Daniel Cordle’s *States of Suspense* (2008). For an overview of containment culture in popular culture, see Nadal.

anxieties regarding Japanese and American cultural and national identities.<sup>63</sup> Also, as Ferenc Szasz describes in his work on Golden Age comic books, the postwar comic book scene was littered with atomic origin stories of superheros with altered bodies. A cityscape treatment of posthuman bodies comes in Ray Bradbury's short story "There Will Come Soft Rains" (1950), where an automated house has outlived its former occupants, whose post-atomic-bomb shadows are burnt into its walls and foundation. Likewise, the witnesses of the American bomb tests at the Pacific Proving Grounds who suffered damaged tissues and organs are nonfictional examples of how the threat of radiation exposure was used as a narrative tool to discuss the fears associated with "othered" bodies. Later, prominent examples in postmodern literature of corporeal atomic aerofuturism emerged in Pynchon's *Gravity's Rainbow* (1973), Joan Didion's *Play it as it Lays* (1970) and Leslie Marmon Silko's *Ceremony* (1977), all of which use the symbolic weight of nuclear radiation, mutation, and necrosis to powerfully reconfigure their characters' marginalized bodies.<sup>64</sup> The visions of atomic devastation and social upheaval were the dystopian counterforce to the widespread pursuits of atomic futures based on military technologies massaged into civilian uses; real-world government proponents of this latter "atomic toaster" variety included the so-called

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<sup>63</sup> *Godzilla*, the American remake of the Japanese-produced 1954 film *Gojira*, tells of a giant sea monster who is tellingly jarred from hibernation because of the Bikini Atoll nuclear tests. See Sharp xxi-ii. See also Noriega.

<sup>64</sup> In *Play it as it Lays*, Maria's schizophrenia is tied to an imaginary homestead that is erased as part of a nuclear missile test range. In one scene, Maria's body begins to absorb the essence of Vegas strip radiating through her body like an atomic blast. In *Ceremony*, an empty nuclear mineshaft defines protagonist Tayo's fractured sense of his own racially mixed body. In *Gravity's Rainbow*, nuclear imagery appears throughout the text, and the disintegration of Tyrone Slothrop's narrative near the close of the novel may be a splintered response to the anxieties of the nuclear present. See Dewey 237.

Plowshare approach of the US's Atomic Energy Commission, which for decades explored the domestic effects of nuclear bombs used for construction, civil engineering, and mining.<sup>65</sup> But despite the technological advancements that scientists and engineers imagined nuclear power could bring to benefit civilization as a whole, the toxic reality of radiation's side effects were legion.<sup>66</sup>

To return to the absence of aviation, aerofuturism during these years, astrofuturism dominated culture for approximately two decades. Aerofuturism, on the other hand, remained buried far beneath the glamour and promise of the moon shot. And yet, almost as soon as Apollo 11's scorched thermal tiles cooled in the deep blue waters of the Pacific Ocean in the summer of 1969, the psychological and cultural energy for outer space had reached its apex. Norman Mailer's wry treatment of the Apollo astronauts in *Of a Fire on the Moon* (1970) offers a timely account of this spaceflight malaise, which Mailer renders with a blistering narrative of the astronauts as hardly more than insipid, automated pieces of a spacecraft that was perhaps more evocative than any characterization of those who flew them. Perhaps, as Mailer suggests, NASA never fully understood how to properly craft a narrative around the astronauts and machines that would come to symbolize America's entry into outer space. In any case, there was a notable decrease in cultural interest in manned spaceflight that occurred only a few years after the moon landing. As an example, notes Apollo astronaut Jim Lovell, during the

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<sup>65</sup> For more on the computation of US strategic doctrine in the 1980s, see Gray.

<sup>66</sup> See Frederic Jameson's articulation of a schizophrenic subjectivity in "Postmodernism, or The Cultural Logic of Late Capitalism." See also Haraway. For recent work on the relationship between nuclear weapons and postmodernity, see Grausam.



spaceflight of Apollo 13, only a year after Apollo 11, the allure of outer space had dulled to the point where none of the commercial television networks would air the live coverage of the astronauts' scheduled "television show," though the networks would soon renew coverage of Apollo 13 after the explosion of the spacecraft's oxygen tank (95).<sup>67</sup>

Ecotopias in *The Warlord of the Air* and *Gravity's Rainbow*

During the prime years of the Mercury, Gemini, and Apollo projects came new visions of the earth from orbit, which in turn prompted new vocalizations of ecological awareness. The environmental movement in the United States gained significant traction in the 1960s following the publication of Rachael Carson's cautionary tale on pesticides, *Silent Spring* (1962), Paul Ehrlich's projections about human overcrowding in *The Population Bomb* (1968), and Edward Abbey's anti-industrialization motifs in *Desert Solitaire* (1968), among others. Photos of the earth taken from spacecraft brought a new visual perspective to this blooming, ecological milieu. The 1968 "earthrise" photo captured from Apollo 8 and, later, the iconic "blue marble" photograph of Earth shot from Apollo 17 in late 1972 would both directly affect thinkers and activists across a wide index of culture.<sup>68</sup> It is almost exactly at this point in time when the aerial fantastic prominently reemerged under the guise of retro-aerofuturism. In the late Apollo years, retro-aerofuturism offered a startling blend of pastiche and nostalgia. Select 1970s retro-aerofuturism amplified the disquiet of the technocultural fatigue and the new ecological consciousness that developed with the proliferation of 1970s ecocriticism.

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<sup>67</sup> See Lovell.

<sup>68</sup> For the appropriation of the earthrise image by environmental movements, see Poole.

Returning to Moorcock's *The Warlord of the Air*, one of the germane features of the text is its use of nostalgic colonial aerofuturist themes and ecotopias, which are part of the same aerofuturist discourse that was occurring in the late nineteenth century, and which in Moorcock's work appear in the form of an allusive pastoral eco-city. In broad strokes, the novella is a Wellsian aerial war narrative within the traditional frame of utopian character discovery and time travel. Its styling, however, in light of Moorcock's alternate vision of the "future" between 1903 and 1973, creates a speculative historical fiction and the novel illustrates the same move toward leveling the flora and fauna of the Western World. Before Bastable ever sets eyes on *The Rover*, he is captain of a colonial expedition in North East India, on an excursion to track down a mysterious priest in an isolated temple in (the fictional) region of Teku Benga. That mission goes awry, and Bastable's deep slumber within the bewitched temple carries him through time to the 1970s ruins of Teku Benga. Stumbling into the sunlight, Bastable finds himself under the gaze of an airship's crew overhead. Finding himself awake in a future where much has changed, Bastable is an immediate novelty, first to the airmen who swoop to his rescue, and then to the citizens of the gleaming, techno-urban London. The city mimics both the new Boston of Bellamy's *Looking Backward: 2000-1887* and the modernized New York of Donnelly's *Caesar's Column*, and the sleep-transportation method of time travel also mimics the way that Julian West is sent to the future in *Looking Backward*.

Soon Bastable finds himself adrift in this brave new world. The time traveler joins the British Air Special Police, a unit designed to track down rogues and suspected anarchists, many of whom are subaltern peoples attempting to escape colonial rule. In

less than a year, a personnel issue aboard his airship leads to Bastable's hasty ejection from the service, and the time jumper is forced to crew aboard a fringe "tramp" airship that hauls dangerous cargo on risky missions. His initial enchantment with the retro features of the airship *The Rover*, right down to the peeling paint naming the ship's homeport of London, can be read as meta-narrative reflections of previous works of aerofuturism. The act of repainting the letters L-O-N-D-O-N on *The Rover*, explained as a necessary step to satisfy the strict registration requirements of the contemporary airship code, is a moment of inscription that roughly forecasts what will be a recursive, metacognitive turn in select works of science fiction in the 1970s and 1980s that will come to be a defining element of Steampunk (Nevins 8).

There is not only nostalgia in the text, there is also a growing sense of loss for the narrator. Scholars have already argued that the *The Warlord of the Air* works operates via a "loss of innocence" (Nevins 8), which fits with how Bastable recounts his emotions that were felt as *The Rover* took to the sky:

For the first time I had a sense of loss. I felt I was leaving behind everything I had come to understand about this world of the 1970s, embarking for me what would be a fresh voyage of discovery. (90)

He could just as easily be describing the technoculture of Steampunk. Yearning for the first years of the 1900s, which in Bastable's case is his true origin, and through the unique characteristics of an antique aircraft, Bastable's sense of wonder is a product of equal parts nostalgia, pastiche, retro-styling, and contemporary critique. Clearly retro-

aerofuturism shares the same basic DNA as Steampunk, that sf subgenre named for its excessive fascination with brassy Victorian gadgetry, as well as a sundry blend of “mechanistic golems, infernal machines, the characters of Jules Vernes, and, of course, airships” (VanderMeer ix). Speaking more broadly on Steampunk literature, Istvan Csicsery-Ronay, Jr. describes how the (clearly retro-aerofuturist) works by Bruce Sterling and William Gibson “focus on the imaginatively possible, a dialectical mesh of fantasies of the Victorians’ social, political, and cultural institutions, as both the Victorians themselves and fin de millennium U.S. techno bohemians might imagine them” (qtd by Perschon 23). Both retro-aerofuturism and Steampunk share a fascination with outdated airships, utopian frame narrators, posthuman consciousnesses, and time travel.

Moorcock’s retro-futurist tale of *The Warlord of the Air* is widely considered to be one of the first Steampunk novels due to the way that it lionizes the “surface elements” of the Victorians, and, as Jess Nevins notes of it and other 1980s Steampunk texts, Moorcock uses “convenient ideological parallels to Victorian England in order to produce contemporary critiques on subjects such as “feminism, imperialism, class, religion [...] and overseas wars” (Nevins 8).<sup>69</sup> Early Steampunk then moved, as Nevins and other scholars tend to agree, into a second generation of Steampunk in the 1990s that used the style and pretense of gadgetry more than ideological freighting of Victorian tenets.

Despite the attempts by Nevins, the VanderMeers, and others to categorize Steampunk’s

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<sup>69</sup> Many of Moorcock’s stories utilize airships and other retro-aerofuturist technologies to support their narratives. *The Warlord of the Air* is the first novella in the *Nomad of Time* trilogy, and Moorcock returns to airship stories in his byzantine *Von Bek* series, among others; see the “Von Bek Series” wiki entry from *Moorcock’s Miscellany* for a complete list of these texts and an overview of their historical and fictional cross-purposing.

evolution, contemporary scholarship has not been able to apply a cohesive philosophy to the subgenre, a struggle that sf scholars have also encountered as they try to formulate a unifying philosophy for the genre of sf.<sup>70</sup>

If Victorian technologies give Steampunk its name, aerial technologies define retro-aerofuturism. The patterns of literary retro-aerofuturism reintroduced the same narrative structures that buoyed up Vernesian balloon tales, Edisonades, and other like youth-oriented boy adventure stories at the turn of the century, allowing for similar critical insights into how such utopian fantasies of aerial gazes, augmented bodies, and cities of the future revealed troubling popular conceits. Writing on the grand airships and other floating tropes arising in the 1970s, Rebecca Onion argues that such visions illustrated that “modern technology was offensively impermeable to the everyday person, [and that there was a desire] to return to an age when, they believe[d], machines were visible, human, fallible, and above all, accessible” (qtd by Perschon 21). Other recent scholarship contends that, like the broader emergent genre of retrofuturism in the 1970s, the anachronistic appeal of such retro-aerofuturist works channeled a mix of regret, loss, and nostalgia that arises in late-twentieth-century culture. Retro-aerofuturism operates within the larger spectrum of sf retrofuturism, which Paweł Frelik usefully explains as “the backward gaze of the [sf] genre” that specifically exploits the tensions between the ideas of the future from our historical past — either fictions or predictions of the time — and notions of futurity expressed in contemporary narratives (206-207). Frelik believes

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<sup>70</sup> For a recent overview of problematics surrounding the search for a unifying genre and narrative structure for sf, see Attebery; see also Kincaid’s review of Attebery.

that the tensions between the referenced elements of historical futurism and the new iterations of contemporary futurism can produce a type of cognitive estrangement, referring to Darko Suvin's concept as a defining characteristic of sf (206-207). Retro-aerofuturist texts offer convenient ideological parallels and contemporary critiques on Greenpeace and ecotopian movements that reverberate with the themes of historical aerofuturist discourse: cities of the future, subaltern bodies, and colonial landscapes. The early works of Steampunk are retrofuturist works that offer a playful and yet pessimistic view of eco-utopian hopefulness that prepares its readers for a future where the ecological dreamworlds are reintegrated into normative models of Western industrialized capitalism. To reemphasize this dissertation's point of view, and to use parallel language as Paul Kincaid's description of science fiction (it is not a genre, it is a set of tools), retro-aerofuturism is not a subgenre; it is another acoustic structure that writers and visionaries use to amplify a given discourse.<sup>71</sup>

Only in more recent years has a specific ecological concern materialized in Steampunk fiction and scholarship (just like in some retro-aerofuturism) gained traction, imagining that, for instance, an airship may become the "perfect green form of air travel [...] [as] airplanes are better suited to military use, and they're better suited for a fast-paced economy (El-Mahtor 385). This greenpunk variant of Steampunk was never the subgenre's driving force; rather, it has been superimposed only recently, almost as an afterthought. Still, as Amal El-Mohtar articulates, "the twin horrors of life are ecological crises and the control of society by economic elites. A steampunk is poised to confront

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<sup>71</sup> See Kincaid, "Review."

both these problems by scavenging the junkyards of history to find the parts needed to construct something new” (390). Perhaps El-Mohtar’s ecotopianism is fitting, but the early tales of retro-aerofuturism, as well as the more recent tomes such as Pynchon’s *Against the Day* (2006), are hardly the rhetorical roadmaps of tomorrow’s futurism. Instead, the retro-aerofuturist gaze from the sky is one yet again featuring racial exclusion, dissatisfaction with the human body, and a bleak outlook for the idea of the metropolis.

The emotional subtext of *The Warlord of the Air*, however, is one defined by emptiness and dissatisfaction with the paradigm of the technological future — the loss of something important from the past. Just as the failed utopian worlds in previous chapters illustrated a quick turn from polished city potential to actual city oblivion (*Caesar’s Column* in Chapter One, *Born Again* in Chapter Two, “The Empire in the Sky” in Chapter Three, et al.), so too does Bastable find that his initial hopes that his “holiday” in this perfect global future will last forever, the raw reality of a globe under high imperial control brings the tale to pugilistic ends. Bastable’s sense of loss is linked to a displacement of time, place, and order, and so the mourning for a time and place since passed (in this case Bastable’s 1903) reads as a typical act of romantic regret that colonial oppressors feel upon looking at pastoral groups and, like Catlin and others imagined in the late 1900s, the disappearance of a primitive people. Bastable will later redirect his lament for time and place upon the arcadian “Dawn City” township of the anti-colonial collective.

As is soon made clear in the tale, the colonizing giants of 1973, which in addition to Great Britain include France, Japan, Russia, and the United States, are harsh Empires that continue to manage their colonies with oppressive, and often vicious treatment. Soon enlightened, Bastable becomes an expat, joins the airships of the revolutionary forces, and, in an ending that bears some similarity to Pynchon's *Gravity's Rainbow* (1973), contributes to the launching of weapons of mass destruction that will rain down from the air; both novels' endings are either overtly or implicitly nuclear in character too, punctuating the lasting events of the text with the threat of an atomic cloud. Before the atomic denouement of *The Warlord of the Air* is a brief glimpse into a type of ecotopia. As the hijacked *Rover* is steered toward the so-called "Valley of Morning," with its double entendre name as both a terrain of a new day and a terrain of loss and mourning, Bastable feels that the airship is disturbing the natural scenery with its mechanized presence. As they near a series of hills, Bastable describes his discomfort: "I felt that we offended such beauty with our battered, noisy air-ship full of so many cutthroats of various nationalities" (112). What follows is purely edenic:

It was a deep, wide valley through which a river wound. It was a green, lush valley which seemed to have no business in that rocky landscape. [...] I saw fountains splashing and nearby were the tiny figures of children at play. [...] it seemed so peaceful, so civilised. (112)

It is, as General Shaw explains to the narrator, the first city of the "New Age."

Inhabited by outlaws, exiles from every oppressed country of the world. The airship



provides the narrator the means of accessing the pastoral Valley of the Morning, a locale that provides a self-sustaining city of the future, and sways the narrator from his former ideologies (which were shaped by his role as colonial enforcer) to a sympathetic outlook aligned with the primitive culture of the oppressed, multicultural “anarchists.” This anti-colonial, eco-critical vision in *The Warlord of the Air* is prototypical of the critical concern found in many texts of early *retro-aerofuturism*. More specifically, the Valley of Morning offers a sort of arcadian retreat akin to the radical communes of the 1960s. The Valley of Morning, with its Dawn City occupied by “coolies” and other émigrés, expresses 1960s commune environmentalism.

Many communes of the 1960s promoted a back-to-nature worldview, collecting the members in ways not unlike The Valley of Morning. If there is one nearly universal feature of the commune culture of the 1960s, it is their similar concern for the environment, as sociologist Timothy Miller concludes (139). Such communes were “notable centers of innovations in alternative energy, installing solar, wind, and hydro power facilities, utilizing passive solar architecture, and taking steps to minimize their dependence on petroleum” (Miller 139). These specific motifs — solar power and anti-petroleum living — are common features in the fictional ecotopias that mirror the nonfictional communes of the period.

The way that the radical outcast groups and their developing ecotopias appears to Bastable in *The Warlord of the Air* bears resemblance to the type of alienated, postcolonial denizens of the 1970s. Founded in West Philadelphia in 1972, the Black

liberation organization MOVE is a prime example of this aggressive postcolonial “green” philosophy and, ultimately, its failures. MOVE’s black membership circulated a vigorous “naturalist” version of green politics, and imagined a heritage with their origin continent, Africa, that they referenced with their alternate collective last name Africa. MOVE founding member “John Africa” (Vince Leaphart) and many of his followers eschewed technology, pursuing an alternative lifestyle that included unvaccinated animals, vegetarian diets, and children birthed without any medical supervision. With many critical of their lifestyle, and because of MOVE’s many encounters with law enforcement (including the death of an officer), MOVE would meet its end in 1985 when airborne Philadelphia police dropped an explosive onto their dwelling, killing a dozen members, including John Africa, in the resulting fire (132).<sup>72</sup>

Authorities similarly threaten the Dawn City and its outcast populace. In the main narrative of the *Warlord of the Air*, no sooner does the narrator comment that he has had his “fill of utopias” than the imperial nations set course for the Dawn City to drop their weapons on the nascent eco-built environment of the future. Besieged by airships from the united colonizing nations, the city becomes the battlefield, and Bastable notes that the conflict damages both the quaint houses and the floral environment that defines the homesteads (139). After the attack, an enraged Bastable takes to the air, flying aboard an airship en route to a drop zone where they will unleash Project NFB (Nuclear Fucking Bomb, perhaps?) upon a massive mooring yard where the largest of the colonial airships moor for repair and replenishment. And then away from the airship’s hold tumbles the

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<sup>72</sup> For a book-length overview of MOVE, see Anderson and Hevenor.

bomb. The expatriates change the world paradigm with the blinding flash of the atomic reaction, and Bastable thinks to himself: “Oh my God [...] I wish the damned airship had never been invented” (150) as the blast kicks him back in time to a 1903 slightly different from that which he left.

The threat of detonating the atomic bomb equally infiltrates the narrative of *Gravity's Rainbow*. There is already in place an abundance of scholarship on Thomas Pynchon, especially concerning *Gravity's Rainbow*. However, Pynchon's ecological critiques deserve a brief mention here, as do some of the basic parallels between his work and *The Warlord of the Air*. Both are reforged historical fictions, conveyed through the air by rocket or by airship, and both carry the same nuclear burden. In *Gravity's Rainbow* the conjunction between nuclear power and flight is blatant and lewd above and beyond that in *The Warlord of the Air*. One of Pynchon's many detached narrator voices intones, for instance, that readers should never forget the image of President Truman with his “control finger poised right on Miss Enola Gay's atomic clit, ready to tickle 100,000 little yellow folks” (588), a reference to the B-29 Enola Gay responsible for dropping the atomic bomb on Hiroshima that is blunted by Pynchon's bawdy juxtaposition of orgasm and atomic annihilation. After all, it is the trajectory of the rocket's arc in *Gravity's Rainbow* that is constantly referenced, and Pynchon erotically channels the aerofuturist elements of bodies and posthumanism in the culminating ascent of a V-2 rocket that contains Captain Blicero's sex-slave Gottfried.

*Gravity's Rainbow* also imitates an eco-consciousness in its various narrators' musings, and provides a critique of Western colonial histories related to technologies of flight.<sup>73</sup> In many cases Western, and often American colonial histories are rendered in the same caustic tone that Pynchon uses for the Axis Powers. While the America of *Gravity's Rainbow* is part of the "intricate needs of the Anglo-American Empire" (129), is part of Take, for instance, Slothrop's uncle, Lyle Bland, a freemason analogue whose origins and purpose represent aspects of American Empire. In one scene, Bland imagines that "he has been journeying underneath history; that history is Earth's mind, and that there are layers, set very deep, layers of history analogous to layers of coal and oil in Earth's body" (589). Bland's musing is suggestive of the connection between the histories of coal and oil and the technologies and politics of heavy industry, with coal providing the energy required for large boilers and, later, electricity-producing powerplants. Oil's role in combustion engines offers a similar trend in human power. Bland is trying to get "beneath" this history, which suggests that he is trying to understand a Gaia-like consciousness of the earth itself, or perhaps that he is simply trying to get his arms around the larger trends in industrial power. Additionally, Bland provides the useful phrase "earth's mindbody," touching upon a life-force philosophy that uses the critique of colonial edifices humanizing the globe. As Bland describes:

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<sup>73</sup> Brian Stonehill notes that these same two passages allude to a Gaia-like understanding of a worldconsciousness, though he imagines that Pynchon is forecasting a type of cyberculture systems network. See Stonehill. For more on the "environmental Pynchon" in *Gravity's Rainbow*, see Schaub.

It's hard to get over the wonder of finding that the Earth is a living critter, after all these years of thinking about a big dumb rock to find a body and psyche [...]. To find that Gravity, so taken for granted, is really something eerie, Messianic, extrasensory in Earth's mindbody." (590)

Bland's speculation that the Earth is a living entity is complicated by his own role as a mover and shaker in heavy industry. Speaking about the Earth's mindbody appears to link to a Gaia-like presence that is integral to *Gravity's Rainbow*. In this "mindbody" passage well as that covering Enola Gay's atomic clut, Joseph Dewey argues the pressing question of Gravity's Rainbow is thus revealed: what sort of future will come from this "a ruined world-Eden where technology has provided so convincing and devastating an illusion of control" (154). It is a complex system of control and pretenses of control that imbues so many strands of *Gravity's Rainbow*, but I find that the systems of colonial critique in the novel overwrite the ecocritical ideology.

The "mindbody" of the earth in *Gravity's Rainbow* is tied to a man (Bland) who is interconnected with the Freemasons, heavily invested, it seems, in the education and ultimate conditioning of Tyrone Slothrop to act as a dowsing rod for launched V-2s, and ultimately a functionary for capitalist growth. In other words, characters like Bland in *Gravity's Rainbow* gesture at the "Earth's mindbody" as they continue to empower secretive, technology-driven colonialist regimes. However, Pynchon also targets the colonial moves made by Britain and other countries on the other side of the war effort. The narrator describes how in America:

Europe came and established its order of Analysis and Death. What it could not use it killed or altered. In time the death-colonies grew strong enough to break away. But the impulse to empire, the mission to propagate death, the structure of it, kept on. (722)

Bland represents that structure that has been “kept on,” a shadowy figure who is responsible for contributing to that same capitalist-colonialist system while lamenting for the Earth that has been forgotten, which is one of the permanent themes in a novel whose narrative arc follows the impact of a rocket to its fateful conclusion.<sup>74</sup>

#### J.G. Ballard’s Aerial Ecologies and Post-Apocalyptic Landscapes

Ballard also consistently anticipates and interrogates the cultural failures of the Space Race and post-apocalyptic devastation, beginning with his famous manifesto “Which Way to Inner Space?” (1962), which rallies against outer space narratives during the heart of the Mercury and Gemini years, and compelled fellow sf writers to focus on character-driven stories located back on terra firma (Luckhurst 13). Sharing his resistance to “hard” outer-space-focused science fiction with other New Wave sf authors such as Moorcock, whom Ballard would work alongside at the sf magazine *New Worlds* in the mid-1960s, Ballard’s publication of a collection of short stories entitled *Memories of the Space Age* (1962) mirrored his manifesto’s ethos, rendering a world with barren NASA launch sites and other patchwork locales on a decrepit future Florida Space Coast

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<sup>74</sup> Robert Maclaughlin and others have articulated the way that the colonial themes of coopting and the gaze of the oppressor work in *Gravity’s Rainbow* and other of Pynchon’s writings. See Maclaughlin.

traversed by a medley of surviving astronauts, engineers, and para-military government enforcers.

The retro-aerofuturist force surrounding (and proliferation of) aircraft in Ballard's work offers not simply a criticism of the limits of the space race, however. Selections of Ballard's texts also critically examine global, ecological futures, as is the case with his first four novels: *The Wind from Nowhere* (1961), *The Drowned World* (1962), *The Drought* (1965), and *The Crystal World* (1966). Sometimes called the "disaster quartet," these novels provide a view of the global future through the spectre of the city. While Moorcock and Pynchon offer allusive eco-critiques via oblique aerofuturist narratives, British author J.G. Ballard overtly uses flight and aviation themes to illustrate his suspicion of the purist views of the eco-cities of the future.

In "The Ultimate City," Ballard's maladjusted aviator-hero scathingly problematizes the romance and perfection of life in a futuristic eco-city. The action of the novel takes place many decades in the future, with the earth reduced to a patchwork of barren sections after the exhaustion of fossil fuels and a significant decline of the human population have led to the rise of ecotopian, solar-power cities.<sup>75</sup> Housed in one such jurisdiction named Garden City is the narrator, a man scarred by the memory of his father's traumatic death, who builds, ironically, an avant-garde solar panel array; Halloway blames his father's death on the medics' inability to transport them to advanced

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<sup>75</sup> For additional readings on the architecture and urban spaces of Ballard's visions, see Prezzavento.

care quickly enough, as the first responders of Garden City rely on slow, ecologically minded modes of transportation.

The novella is modeled overtly after Shakespeare's *The Tempest* (1610), with the protagonist Halloway using a glider of his late father's design to reach an abandoned, insular metropolis. After crash-landing aboard the island, he takes to meandering through its vacated concrete structures — typically bleak Ballard hardscapes. Halloway works with the rogues' gallery of survivors on the island to re-vitalize urban industry. As scholar Umberto Rossi argues, Halloway's quest is for "the spiritual heritage of his father," and ultimately the "longing for transcendence through flight animates the dumb, psychically troubled" mute of the tale (np). The aviation-focus is a consistent trait of Ballard's ecotopian texts, with pilots and airman the typical heroes of Ballard's work, as Roger Luckhurst notes (15). Speaking of his short career in the Royal Air Force, Ballard openly admitted the influence of aircraft on his personal and writerly life, explicitly stating in the film *Shanghai Jim* (1991):

I accept this idea that flight is a symbol of escape, but I think more than escape, of transcendence. It's played a very important role in my fiction. My characters are forever dreaming of runways and looking into those skies, where they can transcend themselves, and from which, of course, in the mid- and late-twentieth century, life and death come in terms of nuclear weapons.



There is no nuclear apocalypse in “The Ultimate City.” Halloway instead meets the automobile-named Buckmaster (Shakespeare’s Prospero) introduces him to Buckmaster’s daughter Miranda, who offers a complex distillation of disenchantment with the 1960s sexual revolution. In little time Halloway has adopted Buckmaster’s cynical outlook of ecotopias as an attempt at an “Arcadia, that timid world of water wheels and solar batteries” (44). In time Halloway’s derision for Garden City as a municipality occupied by “self-denying, defeatist lives of the engineers and architects” (45) is ratified, and his sexual frustration for the eco-friendly flower-child Miranda is troubled by his inexperience with women. Back in Garden City, Halloway had not took to the way that “relations of young people were governed by the most enlightened rules, derived from the teachings of Malinowski, Margaret Mead, and the anthropologists that followed them” (47). His distaste for the sexual freedom and ecofeminism that the culture of the 1960s exuded is clear here. The embittered protagonist is attracted to the “undimmed beauty of industrial wastes” that seem “far richer” than nature could provide with its own form, and “more splendid than any Arcadian meadow” (73). Miranda, offering the image of available sexuality, is constantly “flowering” the city. Without being able to fully reconcile his attraction for the flowering Miranda and his grand dreams that the novella closes with (skyscrapers, airliners, and missile launchers, among other industrial objects greater than any seen in the twentieth century), Halloway’s unshakeable belief is that he will come to terms with Miranda, and help her reforest the city.

For Halloway, the airplane provides access to the emergent ecotopia, as it helps him and others shuttle between the Garden City and the “ultimate” ecotopian city

struggling to sprout from the detritus of the former concrete jungle. The airplane also encapsulates the dreams of his father and modulates Hallway's ambitions for shunning his father's attempts at environmentally focused technologies, and thus it mediates the possibilities and ultimate limitations of the environmental, commune ecotopian trends in modern culture. Hallway lambasts the eco-critical movements of the period and critiques the possibilities for urban renewal.

Destructive urbanization and harsh concrete forms akin to the Brutalism school of architecture (Luckhurst 13) dominate these and other Ballard works, with the Disaster Quartet offering up landscapes reminiscent of that threatened by the city aerofuturism of the 1930s covered in the previous chapter. As Andrzej Gasiorek notes, the chief tenets of the concrete-and-high-rise-centric Brutalism architecture echo Le Corbusier's austere building approaches, and in this way the architectural motifs in the disaster quartet provide a discursive link between the 1930s aerofuturism that Le Corbusier and his architectural designs were part of, while still empowering Ballard's critique of such structures in the postwar cities (122-123).

A slightly less fantastic but equally complex ecotopian cityscape appears in Ballard's *The Unlimited Dream Company* (1979), defined by a dark forecasting of wild tropical environs and inhabitants seen through a wild, oscillating narrative optic. Ballard reveals the macabre foreclosure of proposed ecotopian futures, beginning with the narrator's opening admission of impulsively commandeering a small aircraft to escape authorities, and then asking himself: "In the first place, why did I even steal the aircraft?"

(7). The reader knows better, of course, that Blake's near-fatal, rape-like embrace of his fiancée forced him to flee authorities, and the theft of the aircraft was both a getaway plan and, thematically, the fulfillment of his lifelong obsession with flight. Blake's rhetorical question about stealing the aircraft is the lead-in to his new corporeal self, as the opening and thematic treatment of Ballard's narrator echoes that of the contemporary British writer William Golding's *Pincher Martin* (1956); both use an unreliable narrator that is likely hallucinating a dreamworld in the last seconds of his life. In *The Unlimited Dream Company*, Blake crashes his aircraft on the outskirts of London's Shepperton and begins a fanciful tale of becoming a demi-god amongst the weird collection of townsfolk inhabiting that London suburb that appears as "some corner of a forgotten Amazon city" (9).<sup>76</sup> Over the course of the novel, Shepperton becomes a semi-primitive eco-cityscape superimposed over the rich psychogeographical illustration of London's built environment.<sup>77</sup> Here, Blake imagines, he can absorb the energies of this neo-Arcadian version of the English suburbs, and even after all of the inhabitants leave him behind, he notes that his flight suit fragments and aircraft sections litter the town.<sup>78</sup>

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<sup>76</sup> Ballard's *Concrete Island* (1974) offers a clearer geographic parallel to *Pincher Martin* and is frequently compared to Golding's novel for this reason; see Stephenson 153-154, see also Kincaid. In *The Unlimited Dream Company*, however, Blake's obsession and consistent return to his aircraft's wreckage in the Thames (the likely site of his death) bears high similarity to the repeated descriptions of the oceanic grave of *Pincher Martin* in the eponymous text.

<sup>77</sup> Scholars have noted that *The Unlimited Dream Company* mimics and evokes William Blake's epic poem *Milton* (1810). See Stephenson 163-164.

<sup>78</sup> Despite the fantastical qualities of *The Unlimited Dream Company* and "The Ultimate City," Ballard clearly patterns the city environments and their architectural character after existing concerns of urban renewal. See Sellers.

It is Blake's dreamlike impressions of Shepperton that gives the cityscape its ecotopian vision:

I moved in and out of the empty streets, a pagan gardener recruiting the air and the light to stock this reconditioned Eden. Everywhere a dense tropical vegetation overran the immaculate privet hedges and repressed lawns, date palms and tamarinds transformed Shepperton into a jungle suburb." (128)

This jungle suburb is interlaced with Blake's recollection that as a child he was enchanted with the school library, a "cornucopia of deviant possibilities [where] in a dictionary of anthropology [he] discovered a touching fertility rite, in which the aboriginal tribesmen dug a hole in the desert and took turns to copulate with the earth" (12). Following suit, Blake's subsequent attempt to "have an orgasm with the school's most cherished cricket pitch" exemplifies the motif of returning mind and body to colonial romanticism, where the colonizing nation's inhabitant "goes native" and draws on the pastoral symbolic order. Later, Blake will refer to some of his erratic actions as a "dervish dance," another reflection of his postcolonial appropriation of subaltern cultural practices, with this particular reference being to the ascetic Persian group that lives in what might be framed as sustainable dwellings.

Readers accustomed to Blackwood's *The Promise of Air* will find the elements of fantastical posthumanism familiar. Blake confesses that he had, from a young age, "thought of [him]self as a new species of winged man" (11). It is Blake's transcendent

corporeal self, with skin that “glows like an archangel’s lit by the dreams of these housewives and secretaries, film actors and bank cashier as they sleep within me, safe in the dormitories of my bones” (9), that allows the narrative to comment about the future of the world, with “jungle suburbs” such as that which Shepperton is becoming. Like the previous treatment of the environment and the eco-city, *The Unlimited Dream Company* offers up the same vision of emptied urban cities juxtaposed with the traits of the eco-cities: “Soon [...] Along the Thames valley, all over Europe and the Americas, spreading outwards across Asia and Africa, ten thousand similar suburbs will empty as people gather to make their first man-powered flight.” (9-10). The colonial and postcolonial motifs that imbued Moorcock’s *The Warlord of the Air* and Pynchon’s *Gravity’s Rainbow* perform roughly the same function in Ballard’s eco-cities, though his critiques of ecotopias and attraction to ruined cityscapes are more clearly foregrounded than any sort of self-awareness regarding the postcolonial nature of his characters’ interactions with those built environments. The solar-powered garden city of the future is a futile dream, existing only as the small surviving territories in a much larger ruined earth, or only becoming possible in the fragmentary flight dreams of a drowned, sexually-aggressive aviator.

#### Retro-Aerofuturism’s Foreclosed Ecotopian Futures

What emerged, then, in the 1970s was an aerofuturist discourse concerned with the vision from the air that, on the surface, was a cultural byproduct of the nostalgia and suspicion about technological utopianism of the period. The selections of retro-

aerofuturist sf from this time do more than simply amplify technological malaise or nostalgia for the protean possibilities of aircraft from earlier in the century. Instead, retro-aerofuturism allowed visionaries to take issue with the new environmentalist consciousness permeating Western society and the way that it romanticized the same subaltern, postcolonial groups that were misidentified in the late nineteenth century, discarded in the aerial sf of the early twentieth century, and absent from the late 1930s New York World's Fair.

These novels and short stories of retro-aerofuturism deploy nostalgia-tinted Edisonades and airship adventures (Moorcock), or alternative psychogeographic histories set in the remaining years of World War Two (Pynchon) or bleak and wild ecotopian cityscapes experienced from and through the air (Ballard), drawing upon themes established over a century and a half of aerofuturism. Through the dreamworlds and proposed futures enabled by vintage flight technologies, they works all reveal a new bird's-eye view of existing cultural paradigms that, through visions of ecotopian, green-commune futures that complicates the same flawed romance with native and aboriginal groups that came more than century earlier; sometimes meta-aware, and sometimes only suggestive, the various uses of retro-aerofuturism juxtaposed a dismal reuse of the same overly romantic subjugation of native populations. In this way retro-aerofuturism, and the Steampunk texts that channel the aviation technoculture, allowed for the more cynical visionaries of the late twentieth century to forecast a future where the failed dreams of the present are fully realized. The discourse network's fatalism at this juncture is one that forecloses the protean fantasies of aerial technoculture, prophesying a future of the

twenty-first century that, if not destroyed by aerial weaponry, would offer the vision from below of a similar bleak tomorrow.

## Coda

### Drones, Dirigibles, and Post-9/11 Aerial Futures

“Frank awoke very early in the morning from a dream of voyaging by air, high in the air, in a conveyance whose actual working principles were mysterious to him.”

–Thomas Pynchon, *Against the Day* (381)

In closing, I offer three contemporary incarnations of aerofuturism and gesture at their possibilities for shaping tomorrow’s air culture. The first is post-9/11 drone warfare. Today’s unmanned air vehicles (UAV) are the aerofuture, a reminder of the way that following September 11, 2001 air culture shifted toward a weaponized aerial surveillance state without borders. Viewed from the ground, UAVs offer a posthuman aerial extension of its operator, whose physical body resides in a guidance center located on the other side of the world. Drones are rapidly coming to define a new aerial colonialism, as the world powers militarize and marshal domestic space, foreign territories, and the bodies and minds of soldiers. As such, UAVs offer the newest form of surveillance and postcolonial punishment from the air, with their proliferation in combat zones set within developing nations further erasing the importance of geopolitical markers and terrain features. Air is digitally rendered and patrolled by countries and states with global reach, corralling airspace more firmly than ever was envisioned by the pulps in their sky-grids and soft power airmail networks.



Drawing on and critiquing the post-9/11 military industrial complex that encouraged the proliferation of UAW use, Thomas Pynchon's novel *Against the Day* (2006) re-animates the retro-aerofuturist tropes of the last century, playfully imagining Tom Swift-styled boy adventurers that belong to an organization titled "Chums of Chance." Housed above an enormous hydrogen-filled airship cheekily named the *Inconvenience*, the Chums bumble their way across the outskirts of the 1893 Chicago Exposition, journey through the center of the earth, and back again, contribute to the nonfictional, unexplained collapse of the tower of St. Mark's Campanile in 1902. Their adventures are the giddy stuff of turn-of-the-century airship stories melded with 1930s pulp fiction mentalities. Here too an ecological outlook of retro-aerofuturism imbues *Against the Day*, and the novel's vision of the world, with its interspace portal from one side to the next, approximates the Gaia theory.

Clearly there are still traces of the retroaerofuturist system and its ecological critique of globalization in Pynchon's recent novel, a work that reinforces the anxieties of cartographic totality in a globalized world.<sup>79</sup> Regarding such global streamings take, for instance, the following narrative aside:

"Speculation began to fill the day. Once it had been enough to know the winds, and how they blew at each season of the year, to get a rough idea of where they might be headed. Presently, as the *Inconvenience* began to acquire its own sources of internal power, there would be other global

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<sup>79</sup> For one, Christopher Coffman argues that *Against the Day*'s use of shamanistic and mystic themes illuminate an ecological ethic. See Coffman.

streamings to be taken into account — electromagnetic lines of force, Aether-storm warnings, movements of population and capital. Not the ballooning profession as the boys had learned it.” (55)<sup>80</sup>

Here the theme of globalism, or interplaneterity in *Against the Day*, is revealed, tied to the constant interface between crew and nation-state, and between airship and air mapping project, reinforcing the same closing portals of opportunity, and offering a retrospective on the way that the future might have turned out differently (although Pynchon suggests that, despite these paradigm crossroad moments, that Western civilization would always gyrate toward the same outcomes).<sup>81</sup>

Finally, there is the blithe example in the frequent flier Ryan Bingham, the main character of the 2010 film *Up in the Air*. Bingham’s life is an aerial latticework laid across the culture and topography of the United States, and he concludes the film by describing the general populace: “Tonight they’ll sleep. The stars will wheel forth from their daytime hiding places, and one of those lights, slightly brighter than the rest, will be my wingtip passing over.” As his non-diegetic remarks reach the audience, the camera reveals a smooth forward flight through clouds, and the film’s credits crawl up the frame;

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<sup>80</sup> I am indebted to Jerry Winters for pointing out this particular passage, and also sharing the way that he had tracked the prevailing theme of planetarity in the novel.

<sup>81</sup> At one point the Chums, under the command of Randolph St. Cosmo, encounter a series of other airships that create a Teslaian electromagnetic mapping project that spans aerial grids. The mapping project incites the airship adventurers to race each other to locate and register the aerial points of intersection, with the concept of aerial grids referencing the types of aerial control imagined in the pulp fiction of the late 1920s and early 1930s. While *Against the Day* reflects the fantastical environments of the protean air cultures of yesterday, it also expresses a dour fatalism that the environmentalist designs of the contemporary culture were already a foreclosed possibility.

this cloud shot is a reverse of the film's opening montage, where a similar aerial vantage point that are quickly traded for sprawling landscapes and cityscapes, seen one after another from such bird's-eye views. The aerial perspective of *Up in the Air* mirrors Ryan Bingham's nomadic character, but his parting words also reinforce the aerial circuit between groundlings and fliers that is paradigmatic of the continued future of aerofuturism. When Bingham notes that to the prospective, slumbering viewer an aircraft becomes a "wingtip passing over," he redirects the gaze of those on solid footing back up to those who are looking down from above. Within this gesture of a circuitous relationship between aerial viewers and aerial viewees is a sign that the forward-looking discourse of air culture – aerofuturism – remains an animated conduit of cultural expression in the twenty-first century.

Today the bird's-eye view is as ubiquitous as ever, with satellite map-driven software available to groundlings, and host of different UAVs that range from military aircraft-sized iterations to insect-scale garage jobs lifting up into the air. Some of these new technologies offer the potential for surveillance platforms and weaponized threats from above, as do new ventures with balloon technology such as the U.S. military's recently canceled Long-Endurance Multi-Intelligence Vehicle program. But just as importantly, airspace is populated by a wider range of human-made technologies than ever seen before, visible, for instance, with the recent development of skydivers using the webbed body prosthetics of wingsuits to mimic flight. The view from above, ever alluring, extends the same bird's-eye view of history and culture that dramatically shaped the airview of the nineteenth and twentieth centuries. It is this dream of flight that

remains integral to Western civilization, and the discourse network of aerofuturism continues to provide a unique space in which visionaries and critics alike echo the complex, imminent possibilities for ethnographies, bodies, cities, environs, and cultural movements. Perhaps Blake's final vision from *The Unlimited Dream Company* details the importance of aerofuturism the best: an apparition of the populace rising into the air, suspended over the earth, and celebrating a final conjunction between the living and the dead.

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