AERIAL AFTERMATHS

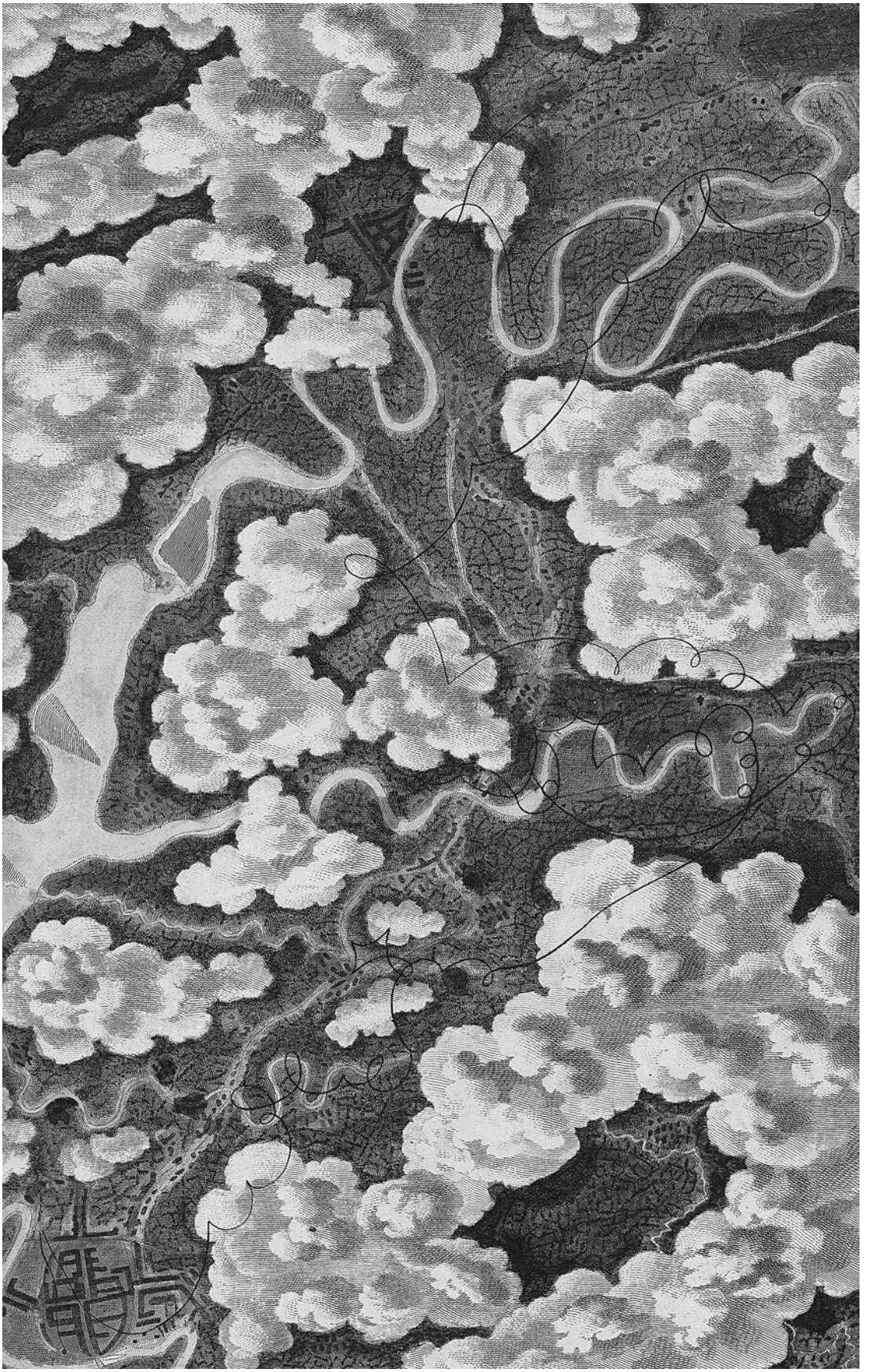
WARTIME FROM ABOVE

CAREN KAPLAN

AERIAL AFTERMATHS

NEXT WAVE: NEW DIRECTIONS IN WOMEN'S STUDIES

Caren Kaplan, Inderpal Grewal, Robyn Wiegman, Series Editors



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CAREN KAPLAN

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For Sofia

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ACKNOWLEDGMENTS

When did this book begin? Watching the "television war" in Indochina unfold when I was young? Looking on as the new twenty-four-hour cable news stations helped to produce the mythology of precision warfare by transmitting "smart bomb" footage during the First Persian Gulf War? Answering the phone on the morning of September 11, 2001, when my friend Jenny called to tell me to "turn on the television"? Feeding my infant daughter with one eye on the news as the "shock and awe" invasion of Iraq took place in 2003? These mediated experiences have led me to wonder what happens to a society that proposes a war with largely hidden costs and damages to those who wage it. Losing the ability to understand the costs of war at a distance leads to a similar loss of recognition of conflict and violence "at home." Although people in the United States "see" more than ever thanks to conventional and social media linked to the proliferation of communicative devices and networks, we do not always see clearly what we have lost or sense what remains imperceptible. This book emerged over a long period of time as I pondered the unseen as well as the seen, the ways in which spatial and temporal distance render some people, places, and things sharply visible as targets while missing entirely other worlds of possible affiliation and recognition. There were many people who assisted and inspired me in the process of turning this inquiry into a book. Fasten your seat belt (or skip what comes next if you are impatient) because I have a lot of people to thank.

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INTRODUCTION
Aerial Aftermaths

> A new visual culture redefines both what it is to see, and what there is to see.
>
> —BRUNO LATOUR, "Drawing Things Together"

> The world is a mobile texture of these distinctions between seen and seeing objects. It is the stuff in which the inner folding, unfolding and refolding takes place which makes vision possible between things.
>
> —MICHEL DE CERTEAU, *The Practice of Everyday Life*

More than a decade after the collapse of the World Trade Center towers, one can get a shiver down one's spine reading the first line of Michel de Certeau's iconic chapter "Walking in the City" in *The Practice of Everyday Life:* "Seeing Manhattan from the 110th floor of the World Trade Center" (de Certeau 1984, 91). These twin towering structures signified both the glamor and the rapacious global reach of the metropolis whose southern endpoint they anchored as well as the struggle for the soul of neighborhoods in the midst of rampant gentrification.[1] In a city of many "sights," the towers were themselves objects to be seen, their distinctive silhouettes readily identifiable in the skyline of their era. The towers also offered spectacular views—unobstructed sight lines from the South Tower's observation deck could stretch to fifty miles on a clear day. Observing New York City far below from a platform over 1,300 feet in the air induced in de Certeau a "voluptuous pleasure" in "seeing the whole," to read the city from a distance like a "solar Eye," "looking down like a god." This textualization of the great metropolis through aerial viewing

convinced de Certeau that New York, unlike its more ancient European counterparts, continually "invents itself," showing little regard for the past or the future. From the 110th floor, he wrote, the present is perceptible as excessive energy, a "universe that is constantly exploding." On an early autumn day in 2001, spectators looked *up* at the World Trade Center towers as the past and the future converged on the present. The view from the towers themselves in their last hours is not one we want to invite into our minds. Years later, far into the "war on terror" that permeates the aftermath of this event, rereading de Certeau's writing on aerial views, the towers that became tropes of political extremism of all kinds return to their earlier status not only as the *n*th degree of muscular urban architecture but as platforms for a specific kind of observation and practice of perception—distant, remote, abstract. Their apocalyptic fate hovers around de Certeau's musing on the disembodied effect of being lifted so high into the air—a weightlessness, he argues, that dissolves the spectator into a reader of a spectacular view "and nothing more" (92).

That view from an observation deck that now no longer exists prompted de Certeau to contrast aerial observers to the city's walkers, who "operate below the thresholds at which visibility begins," making use of "spaces that cannot be seen" (93). De Certeau's walkers "write" the urban space rather than panoptically "read it"; "neither author nor spectator," the city's walkers resist representation to make city life through everyday movement. A decade and a half after the towers collapsed, after the war on terror and its tributary violence and security practices have convinced many of us that nothing remains potentially "unseen," de Certeau's poetic conception of an embodied network of "moving, inspecting writings" that "compose a manifold story" of everyday life that evades the "planned and readable city" through an "opaque and blind mobility" could suggest a romantic fantasy (93). In this opposition between powerful panopticism and subterranean resistance, which is as old as modernity, at least, aerial views play a villainous role. Seductively pleasurable and all-empowering, the view from above promises to reveal all to the state or to any other entity that can mobilize the resources to produce these kinds of images. Against the totalizing view that produces representation, unruly and random mobile networks keep moving, evading the search beams of the God's eye, building meaningful places through layers of memories stitched together by embodied quotidian practices. This book argues that the history of aerial views—whether observed from towers or mountains or hot air balloons or planes, whether incorporated into cartographic surveys or panoramic paintings—troubles

this conventional divide between power and resistance in the storyline of visual culture in modernity. I would suggest that we move beyond de Certeau's evocative opposition between "seen and seeing objects" to consider the possible presence of the unseen or unsensed, not to resort to identification or to construct a romanticized alterity but to let go of the desire for totalized vision that requires a singular world, always already legible, along with its oppositional counterpart. If the cultural history of aerial views conveys any lesson at all, it may be the recognition of the violence always already inherent in pursuing both desires.

SPECTACULAR AFTERMATH

> We have seen the Twin Towers collapse hundreds of times on TV. The steel and glass skyscrapers exploding like a bag of flour, the dust and smoke pluming out across Manhattan. But never like this, from above.
>
> —Philip Delves Broughton, "Dramatic Images of the World Trade Center Collapse"

In February 2010 a "trove" of aerial photographs of the collapsing World Trade Center towers was broadcast on ABC television news and circulated widely online (see plate 1). These previously "unseen" images, according to an Associated Press (AP) report, offered "a rare and chilling view from the heavens of the burning twin towers and the apocalyptic shroud of smoke and dust that settled over the city." The photographs, taken on the morning of September 11, 2001, by Greg Semendinger, a New York Police Department (NYPD) aviation unit helicopter pilot, had been sitting in an archive maintained by the National Institute of Standards and Technology (NIST), the federal agency that was put in charge of the investigation of the twin towers' collapse. After ABC News filed a Freedom of Information Act request, 2,779 photographs (including Semendinger's) stored at NIST on nine compact discs were released, and a small number of Semendinger/NIST images were disseminated to the public in two batches. In the parroting nature of contemporary news culture, all subsequent stories about the distribution of the Semendinger/NIST aerial images pushed the same angle—the NYPD helicopter contained the "only photographers allowed in the airspace near the skyscrapers on Sept. 11, 2001"—with the accompanying headlines: "9/11 photos show day from different perspective" and "8 years later, the pictures still shock" (Ilnytzky and Long 2010, 2).

Aerial observation is reputed to offer a field of vision radically different from the point of view that is available from the ground. Simultaneously

perceived to be abstract and realistic, once channeled into a medium like a sketch, painting, or photograph, the "view from above" invites decipherment. Usually associated with utilitarian state, military, or municipal projects (reconnaissance, surveying, cartography, urban planning) or modernist aesthetics (abstraction, minimalism, objectivism) or a specific genre of contemporary narrative landscape photography, aerial imagery is inevitably tied, historically and technologically, to modes of passive and powered aviation as well as methods of mechanical production and reproduction that structure the possibilities and constraints of the imagery. Due to the flattening effect on perception of three-dimensional objects generated by extreme height, most military aerial reconnaissance photography has been believed to be useful only to specialized analysts in time of declared war or to be of historical value solely to scholars or "niche" art collectors (Sekula [1975] 1984, 33). Yet this very quality of the aerial image can generate dynamic interest as the viewer attempts to "see" clearly what appears at first glance to be "unseeable." The history of aerial imagery itself reveals the emergence of "ways of seeing" that underscore the uneven and varied nature of embodied observation in modernity, as well as the instability of vision's primacy in Western culture (Berger 1972, 7; Jay 1994).

The first eyewitness accounts of the view from above generated by the advent of human flight did shock and fascinate as they circulated in late eighteenth- and early nineteenth-century public culture. Emerging in an era of near-constant revolution and warfare, "prospects" sketched from balloons and the elevated perspectives exhibited in panoramic rotundas joined bird's-eye views, war maps, and estate surveys to entertain as well as to inform. This early version of what James Der Derian (2001) now calls the "military-industrial-media-entertainment network" gathered together the latest scientific inquiries into optics and chemistry with developments in landscape art and surveying practices along with emergent culture industries to bring wartime into everyday life, representing war at a distance in contrast to thriving European metropoles "at peace." Paul Virilio has argued that the powerful combination of the airplane and the practice of photography in the early twentieth century inaugurated new intensities in this historical evolution of visual culture, bringing the mode of warfare observation into perception itself (1989, 19). Perception, however, is not a stable thing, and neither is warfare. Both human flight and photography along with cartography made possible new dynamic interplays between "seen" and "unseen" elements, establishing the ambiguities of aerial observation while intensifying the links between these practices and the waging of war.

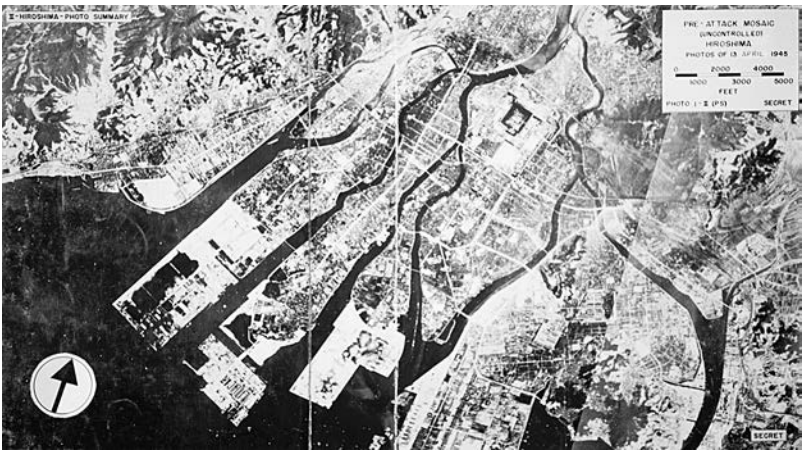

FIGURE I.1 Pre-attack mosaic view of Hiroshima, Japan, April 13, 1945. U.S. War Department.

Perhaps due to the inherently ambiguous nature of aerial imagery and its mostly ephemeral, utilitarian function in military practice, only a few views from above hold iconic status in the public record of catastrophic and violent events. Thus, Davide Deriu has argued that while many genres of photography have been linked to memorialization following traumatic, violent events, aerial photography has usually been excluded (2007, 197). Perhaps it would be more accurate to say that public disclosure of aerial imagery postattack or after a catastrophic event is a more recent phenomenon linked to increasingly globalized media industries and the availability of multiply sourced imagery.[2] Until the coincidence of the ramp-up of visual technologies that became associated with the war on terror after 9/11 and the advent of social networking with its intensely rapid circulation of digital imagery,[3] along with the unquenchable thirst of news outlets for information product twenty-four hours a day, the "God's-eye view" of violent scenes was either classified as "secret" by the military or released on an extremely selective basis (for example, high-altitude reconnaissance images of Hiroshima "before" and "after" the U.S. attack by atomic bomb) (see figs. I.1 and I.2). For most of the twentieth century, aerial photography of traumatic or violent events was usually associated with official surveying, documenting, and conducting of surveillance and reconnaissance rather than the capturing of images at the "human" level of individualized suffering that is usually associated affirmatively with photojournalism. Today, any major event is accompanied by aerial imagery that displays the size of the demonstration, for example, or a satellite image of the location of interest.[4] Ubiquitous aerial

FIGURE 1.2 Post-attack mosaic view of Hiroshima, Japan, August 11, 1945. U.S. War Department.

imagery now saturates global media as well as social networking practices, reworking the distinction between distance and proximity in reporting the scale of violent or significant events.

Arguably, at the cusp of the turn of this century, that structuring distinction between remote documentation and humanist portraiture still held firm. There are numerous examples of ground-level photojournalism in the 9/11 visual archive.[5] For example, around the time of the fifth-year commemoration of the attacks in New York, two collections of photographs taken by photographers on the ground were published, both titled *Aftermath*. In *Aftermath: Unseen 9/11 Photos by a New York City Cop*, former NYPD detective John Botte memorialized the first responder as a kind of everyman whose noble heroism reflected not only the grievous loss of places and people but also the official neglect of those, like Botte himself, who suffered from post-traumatic stress or from health problems linked to the toxins that permeated the air and soil around Ground Zero. Botte's black-and-white photographs were taken primarily at ground level, but the book includes several images shot from an early morning helicopter flyover on September 13 (Botte 2006, 100). Professional photographer Joel Meyerowitz's *Aftermath: World Trade Center Archive*, originally published in 2006, was republished in 2011 for the tenth anniversary with the support of the National September 11 Memorial and Museum. The museum's link to Meyerowitz helped to position the photographer not only as a celebrated visual chronicler of the ruination of part of lower Manhattan but as an almost official mourner of individualized vic-

tims. Both books draw on conventions of photojournalism, landscape photography, and portraiture while making claims for documentary authenticity and nationalist exceptionalism. It is in works like these that the concepts of the tantalizing "unseen" and the "archive" come together to produce a "spectacular aftermath"—a hegemonic discourse that deploys imagery to reinforce the division between war and peace, suggesting that state violence is rational, predictable, and confined to a proscribed space and duration. Whether in the authorial projects of Botte and Meyerowitz or the *Here Is New York: A Democracy of Photographs* exhibit that invited nonprofessional photographers to contribute images linked to the events of September 11, 2001,[6] the imperative to "see all" centered around visual artifacts, demanding that we "look" as closely as possible to reveal the ground truth of an iconic experience for all humanity—a spectacular aftermath.[7]

Nicholas Mirzoeff has argued, however, that the desire to "see" everything, from the towers' spectacular collapse to the chaos and fear generated at the scene of Ground Zero and beyond, remains a mostly unexamined "exercise of power" on the part of an imperial nation (2005, 3). This waging of ideological war through visual culture must be distinguished from "the right to look," which "claims autonomy from this authority" in inventing a democratic politics of presence and the real (Mirzoeff 2011, 4). Along these lines, David Simpson has argued that the 9/11 dead have been "framed" by a "rhetorical triumphalism and militarism" that must be critiqued through commemorative procedures disarticulated from empire (2006, 89). A somewhat similar impulse powers the critical practice of "forensis," intensive investigations that "reverse the forensic gaze" of states and corporations to challenge "the tyranny of their truth" (Weizman 2014, 11). Thomas Stubblefield has pointed to the paradoxical tension between an event so associated with spectacle and the undeniable experience of "absence, erasure, and invisibility" that pervaded the visual framing of 9/11 representations (2015, 4). These critical practices redirect the work of viewing away from what John Taylor has called the "bazaar of death" in photojournalism—the way in which the media abets the desire to "see all" in violent scenes, inculcating the belief that the lure of the spectacle is a justifiable part of saving the nation (1991, 1).[8] The overwhelming dominance of imagery in the documentation of the immediate experience and memorialization of the attacks on the World Trade Center towers seems in many ways to offer possibilities for the democratizing "right to look" and "forensis" projects. Nevertheless, throughout the first decade of the new century, as "unseen" photographs and moving images continued to emerge and to be offered by the mainstream media and

memorializing interests as unique, authenticating emblems of patriotism, remembrance, and thrilling immersion in a world-class spectacle, the marketplace of images inevitably exhausted the most prevalent tropes of spectacular aftermath photojournalism.[9] Long after the official books, exhibits, and History Channel documentaries had first appeared, what marked the Semendinger/NIST images as newsworthy in February 2010 was their apparent peculiarity of perspective; they are all aerial photographs.

THE VIEW FROM ABOVE

> With flight through the air and now in outer space a reality, our vision of the world and the universe has expanded far beyond our prevision or even imagination. Photography can hold still the fleeting glimpses of the world as seen by flyers: indeed it makes visible, through remote space-borne cameras, what man himself has not yet seen.
>
> —Beaumont Newhall, *Airborne Camera*

Today there is hardly a city or large town anywhere in the industrialized world that does not offer a sumptuous coffee-table volume of images of the locale taken from the air. Or, environmentally conscious versions of these kinds of commodities circulate in print and digital formats, illustrating calendars and daybooks, filling screen savers with color-drenched imagery of beautiful places on earth, often environmentally endangered, as viewed from above. We marvel at the patterns of ocean waves, paths through luscious grass, mountainous dunes, and snow-capped peaks, as well as spectacular shots of bridges, highways, suburbs, and urban cores. Aerial images are so much a part of our everyday life as image consumers, playing with Google Earth in odd moments or glancing at the cable news transmission of a satellite image of someplace where something newsworthy has happened, that we take them for granted. We absorb these views to such a degree that they seem to become part of our bodies, to constitute a natural way of seeing. But we are not "born this way." Just as the idea of a beautiful vista would have seemed unfamiliar or just plain insane to a hardworking farmer before nineteenth-century notions of the sublime and the picturesque permeated an emergent mass culture, the meaning and purpose of an aerial view cropped up in bits and pieces but, until recently, never really cohered. Following this historical thread, one could argue that the view from above is still a fragmentary thing, only barely holding together, despite the vigorous workout it receives in contemporary culture. As the apparent exceptionality of the Semendinger/NIST aerial imagery of the immediate aftermath of the

attacks of September 11, 2001, suggests, in modernity, an elevated view is simultaneously a way of seeing and a sight in and of itself.

It has become a truism to state that the view from above empowers the observer, but how exactly does a subject accrue authority from such an act? There is evidence that a celestial perspective on earthly matters was first expressed as a transcendental aesthetic in ancient Greece. As Denis Cosgrove has argued, in Hellenic culture, the "Apollonian gaze" gathered "diverse life on earth" into a "vision of unity," thereby producing an "individualized," "divine," and "mastering" view from a "single perspective" (2001, xi). Although views from above can be recognized as part of Ptolemy's geographic project in the first century AD or as a viewpoint in classic Taoist Chinese landscapes, it is during the European Renaissance that particular kinds of landscapes, maps, and theatrical settings became realized through the technique of linear (or "single-point") perspective. Thus, elevated or bird's-eye views such as Leonardo da Vinci's *Map of Tuscany and the Chiana Valley* (1502) or El Greco's *View of Toledo* (ca. 1596–1600) established new aesthetics of space as scalar relationships between individuals, towns, and countries leading to the unified "kosmos" of later geographers and artists such as Alexander von Humboldt and Caspar David Friedrich. This view "from the heavens" has powered various representations of not only terrain and individual communities but the Western, modern state as a political institution. According to Astrit Schmidt-Burkhardt, from the French Revolution onward, drawing on Baroque Christian iconography, this "God's eye" became incorporated literally into official state declarations, commercial logos, coins, and paper money (2002, 22) (see fig. I.3). By the twentieth century, the concept of a universal, all-seeing perspective became thoroughly incorporated into colonial, state, and military modes of organization, management, and planning (Scott 1998; Haffner 2013, 2).

In so many accounts of the rise of vision as a privileged sense in Western modernity, the same examples of a dramatic transformation in human observation recur with a regularity that borders on scholarly obsession: the advent of ballooning, railroads, and aviation. From the late eighteenth century on, this narrative asserts, new transportation technologies made possible "unprecedented spatial experiences" that altered profoundly or even "annihilated" early modern notions of time; the sensory perceptions of a material body moving through air, above the earth, provided the experiential difference that produced modernity's sensibilities (Kern 1983, 1–2; Schivelbusch 1986, 33; Dubbini 2002, 5). Beaumont Newhall's iconic discussion of aerial views in *Airborne Camera*, published in 1969, reaffirmed the conventions of twentieth-century attitudes toward the view from above—it is flight,

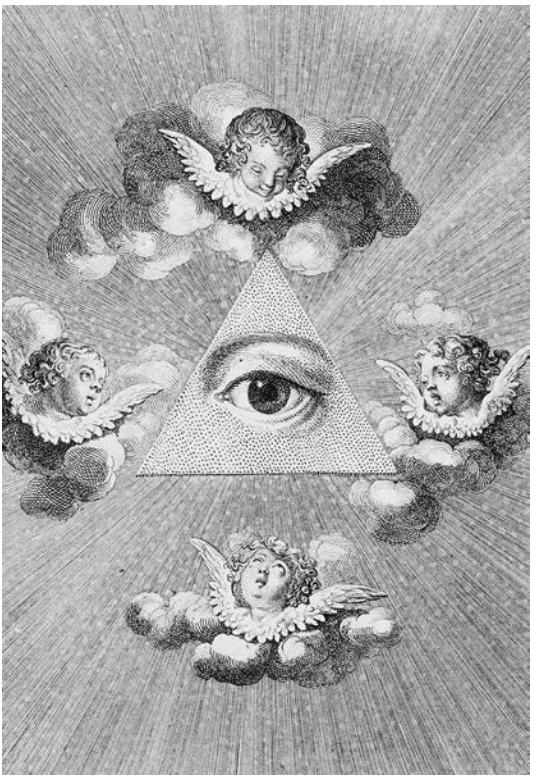

FIGURE 1.3 Daniel Chodowiecki, *As Auge der Vorsehung* [The Eye of Providence], 1787. Courtesy of the British Museum.

embodied movement through the air, that generates a radical change in visual culture. As Newhall writes, although imagined aerial perspectives fascinated human beings through the ages before they could fly, these views were "earthbound": "They show the land seen from great heights, not from points suspended in space. . . . When man at long last was able to ascend into the air he marveled at the sight of the land stretched seemingly endlessly below him" (1969, 11). According to this line of thought, while once confined to the "mind's eye," the sight enabled by flight is believed to have influenced a complete transformation in the ways through which moderns perceived their world, better understood their past, and imagined their future—a visual culture that "changed the landscape itself and the way we design and inhabit it" (Dümpelmann 2014, 1). No longer "earthbound" or moving at a pace determined by the stride of the human body or the usual animals involved in transport, the new technologies of the early industrial age provided "marvelous" or at least completely new perspectives, enshrining vision as a dominant mode of perception.

The well-known and authoritative histories of aviation and aerial views build a seemingly incontrovertible case for this linear progression of bodies-in-motion as modern observers from late eighteenth-century balloons to twentieth-century satellites. Propounding this unified technodeterminism of aerial perception, Richard Hallion has written that once human beings "gazed down on the earth" from the basket of a balloon, their perception of the world was altered "forever":

> It constituted the transformation of perspective, the beginning of a three-dimensional appreciation unobtainable by viewers confined to a two-dimensional surface world. When de Rozier saw all Paris before him, and when Charles saw a double sunset, their experiences anticipated those of rocket pilots 170 years later who climbed high enough to see the curvature of the earth, cosmonauts and astronauts a decade further who marveled at a sunrise and sunset on every orbit, or the crew of Apollo 8 who in December 1968 first gazed back at the frail Earth suspended—as bright and gleaming as the most elegant Montgolfière or Charlière—against the blackness of space. (Hallion 2003, 58)

It is this world-making propensity of aerial views—the sudden realization of both the vast scope and the vulnerability of the earth as seen from above—that fascinates observers and that also begs for rigorous deconstruction. For what can be seen is never just one thing but always an activity undertaken with the constituting purpose of representation—to discern between things, to make distinctions (Law and Benschop 1997).

If the "cosmic view" from above "pulls diverse life on earth into a vision of unity," making an otherwise divine point of view accessible to any human (defined by the terms of Western European Enlightenment thought), its seemingly stable form through the centuries of modernity has produced a powerful set of commonsense attitudes: elevation yields clarity, an overview garners empowerment, and the view from above is a natural result of human ingenuity and technical achievement (Cosgrove 2001, xi). The thrilling attainment of this "cosmic" or "Apollonian gaze," as Cosgrove termed it, is critiqued by some scholars as a key component in Europe's "drive for territorial supremacy" or, more benignly, as a cosmopolitan point of view that unites all people by reminding them of their equality through the visual relations of scale afforded by global imagery (17). Almost all commentators seem to agree that the advent of human flight marks a historical transformation of tremendous degree, and, for many, the importance of the unprecedented nature and mode of viewing is a major part of this important cultural and political shift.

How to convey these new imaginative possibilities and embodied experiences? Beyond the breathless anticipation of the sublime vistas of landscape art to come, practical needs for estate and military surveys met the early modern practices of navigational charts and war maps as well as bird's-eye views of major urban centers to form a corpus of modes of observation based on "real" or imaginary views from above. Along with the advent of flight, the invention of photography seemed almost predestined to move representational practice into the heavens above, giving human beings a way to secure and save the "real" view of the earth, its structures and forms, as an image. Thus, Cosgrove argued that although photographs of the earth from above have been possible only for a relatively short span of time, the "meanings of the photographed earth" were "anticipated long before the photographs themselves were taken" (2001, ix). The technical achievement of aerial photography was a tricky proposition at first—in 1858, after many futile attempts, Félix Tournachon, well known in Paris and beyond as the political cartoonist and portrait photographer "Nadar," succeeded in exposing a wet-collodion plate from a partially deflated hydrogen balloon approximately 262 feet over the French village of Bièvre. The product of this celebrated occasion is lost—the only evidence of its birth is a newspaper account and Nadar's own extended exposition of the event in one of his autobiographies.[10] A set of images of Paris taken from another balloon ten years later usually stands in for the "first" photograph, establishing the narrative of photographic realism as one that materializes the world view of modernity. Along with an iconic shot of Boston photographed from a balloon by James Wallace Black in 1860, these early images are firmly emplaced as foundational cornerstones in an emerging division between the affective "dream" of aerial marveling and the presumed objective recording of the visible by the photographic process (see fig. 1.4).

Given the time period, it should not surprise us that the first aerialists were not only emotionally overcome by sublime views or fully preoccupied with scientific experiments including the perfecting of aerial photography. One of the primary themes running through the early accounts of aerostation is warfare. Once aloft it was not unusual for moderns to muse on the possible ways to incorporate the new science of flight for waging war. Ideas ranged from building enormous balloons to transport troops and arms over obstacles like large bodies of water or mountains to relatively simple platforms for observation. The latter concept was developed by the French, who used an aerostat for reconnaissance at the Battle of Fleurus in 1794. Napoleon disbanded the aerostatic corps soon after it was formed, however, as

FIGURE 1.4 James Wallace Black, *Boston as the Eagle and the Wild Goose See It*, 1860. Boston Public Library.

debate continued throughout the first half of the nineteenth century as to the purpose and effectiveness of an aerial platform for military means and ends. Balloons were experimented with during the U.S. Civil War, primarily by the Union Army (although the Confederates attempted to build some reconnaissance balloons as well), but once again the commanding officers were unconvinced. Most of these aerostatic efforts were stymied not only by the problem of developing a reliable, portable fuel source but by the limited accuracy of navigation posed by lighter-than-air vehicles. Enthusiastic supporters of tethered observation balloons never ceased touting the advantages of aerial views over conventional cavalry reconnaissance, but their advocacy encountered resistance from traditionalists even into the era of the airplane. However, once the major industrialized countries developed independent air wings of their militaries following World War I, the arguments against aerial reconnaissance began to fade away and the close association of the view from above with warfare became definitive.

Throughout the now-established narrative of the emergence of aerial views—the Western classical foundation of a singular world imagined visually as a scene viewed from above, the shock and sublimity engendered by aerostation and aviation, the objectivity of the photographic record versus the

subjectivity of landscape art, and the suturing of flight and warfare through observational practices—a set of primary assumptions obtain. First, the separation between the human body and its environment—whether ground or air—is fundamental and echoes the nature/culture divide that has come to characterize Western modernity. Second, an aerial viewpoint provides a more objective and impartial view of the ground based on the distance between subject and object and the wider scope of inclusion of objects of vision. Third, the confusion engendered by the abstraction produced by aerial views can be overcome by methods of interpretation that will yield a deeper truth, one that lies beneath the surface of the aerial image yet can be realized only through mechanical reproduction and expert analysis of the view from above. As the air-minded Le Corbusier (Charles-Édouard Jeanneret) put it in that optimistic moment in airpower's history between the two world wars, thanks to the increased visual capacities made possible by aviation, the state could now see "in substance what the mind could only subjectively conceive" (Le Corbusier [1935] 1988, 96).

At this point, a structuring contradiction in narratives of the emergence of aerial views begins to become more noticeable. Interpreting reconnaissance imagery led to what Manuel De Landa has described as the "new cult of the detail" (1991, 194); an entirely new lexicon of critical skills was reworked from an assemblage of art historians, artists, photographers, librarians, and others with specialized abilities in evaluating the particular imagery of the vertical reconnaissance image. This army of technicians produced massive amounts of data throughout the twentieth century, contributing to the belief that if a photographic image could reveal "all," then an aerial photograph, intensively interpreted, could reveal even more. But the increased powers of observation augured by airpower generated a modern counterstrategy—camouflage. The cat-and-mouse game of aerial reconnaissance and camouflage probably reached its apotheosis during World War II when entire towns and factories seemed to vanish or move location thanks to the incredible arts of the "camoufleurs." This tension between the seen and unseen troubles assumptions that the first balloonists and the first astronauts shared the same, literally "earthshaking," view. These accounts of the revelation of a stable view, made incrementally and more precisely legible through progressive technical innovation, can be read against the grain to remind us that a visual culture is always in the process of being pulled together even as it never quite holds true.

Satellite imagery and digital computing push this reminder uncomfortably closer to the front of any inquiring mind. What can be "seen" moves

quickly into different questions entirely once the body becomes further displaced by mechanical processes. Charges of altered or "fake" imagery saturate discussions of photojournalism in the digital age, changing the terms of camouflage from "hard"-scape practices to matters of software manipulation. Machines of all sizes that can operate more autonomously to provide views from inside the body itself or to hover from a great height over "inhospitable" terrain extend sight far beyond the operations of a human eye to produce fragmented bits of data that come together as an image only when an operator (or a program) gives specific commands. This kind of high-tech viewing is undeniably linked to earlier ways of seeing, but it is also distinct. Without overvalorizing either a transhistorical human subject or a triumphant technology, a more skeptical inquiry into the significant differences produced in the name of this seemingly simple act of perception—observing from a great height—makes possible many more perspectives on what people think can be seen . . . and when and where as well as why.

WARTIME'S "ROGUE INTENSITIES"

> Caught in the whirlwind of these war times, without any real information or any perspective upon the great changes that have already occurred or are about to be enacted, lacking all premonition of the future, it is small wonder that we ourselves become confused as to the meaning of impressions which crowd in upon us or of the value of the judgments we are forming. It would seem as though no event had ever destroyed so much of the precarious heritage of mankind, confused so many of the clearest intellects or so thoroughly debased what is highest.
>
> —Sigmund Freud, *Reflections on War and Death*

Whether derived from a handheld camera or generated through satellite remote sensing, the visual archive of 9/11 is most often marshaled to reflect an uncomplicated, noble patriotism or universalized bereavement via spectacular aftermath imagery rather than an inquiry into wartime perception. The aerial images pulled back to show just how enormous a blow was delivered to the city's architecture, riveting the mind on the thousands of lives lost and injured. This gaze fastened on what happened in Manhattan, to the city, and by extension to the nation and then the world. Increasingly, the World Trade Center towers, present and then absent, became all that could be seen from an omniscient but nationally specific vantage point, overwhelming the representation of the damage done to the Pentagon in Washington, DC, or the efforts to commemorate the location in Pennsylvania where one of the

commandeered flights crashed into the ground. Scattered among the many things that could *not* be seen by most people in the United States were the results of a massive retributive bombing campaign in Afghanistan. As W. J. T. Mitchell has noted, the invasion of Afghanistan was a "relatively minor engagement in the war of images"—the Bush administration did not find the mountainous terrain of the country to be particularly "target-rich" (2010, 3). But heavy damage was done. Writing soon after that campaign was deemed a "success," Bronwyn Winter asked people in the United States and their allies to "imagine" an "entire country that is one big gaping hole" rather than just one small section of a major metropole: "Take these imagined snapshots of devastation and multiply them throughout the country. Then you will begin to have a picture of what Afghanistan is like" (Hawthorne and Winter 2003, 20). The problem of "seeing" Afghanistan for Westerners, especially for most people in the United States at that time, was not just a question of a recalcitrant consortium of news outlets or even openly biased politicians and pundits who were reluctant to extend subjectivity to a population that shifted from ally against the Soviets to "enemy" in the space of a day. The present expanded, pressing and folding under the colonial history of repeated air war over portions of Afghanistan and neighboring Pakistan, making newly legible targets of vision as well as creating "unseens," new things that could not be sensed or known (Omissi 1990; Satia 2006, 2014, 2015; Zamindar 2014).

In the midst of death and destruction on a vast scale, it is not surprising that so much of the contemporary commentary spoke of mourning and haunting.[11] The spectacular aftermath of September 11, 2001, met the more quotidian struggle of coping with the recognition of what Mary Favret (2010) has termed "wartime"—the aftermath that is always already undeclared war, the endless war that cannot locate a stable origin or believe in a definite conclusion, offering a present perceived through various states of denial, anger, numbness, or engagement. Throughout the modern period, as colonial occupations, economic precarity, population displacements, and so much else established what Keller Easterling has called "dispositional violence," undeclared war has been the structuring truth of officially recognized "peace" (2014, 21). The incomprehensible terror of endless war moves freely, its very mobility an insult to the displaced, who are often trapped in vectors of immobility.[12] These two very different possible aftermaths layered over each other in the months following 9/11, as people struggled to come to grips with violent events of varying scales. Was the attack on U.S. soil an exceptional act, "evil" in nature and spectacular in its representation whether intimate or grandiose, or was this violence dispositional, predictable, accountable, and affiliative?

The unseen or "present absences" of the neighborhood surrounding and encompassing the World Trade Center itself were disturbed to the point of discursive recognition by the collapse of the towers. Less than a year after the attacks, architectural historians and planners like Michael Sorkin and Sharon Zukin would argue that the physical hole left by the World Trade Center could not be addressed in a progressive or meaningful manner without first recognizing its "many ghosts," the earlier "victims" of often violent demographic and economic changes in the city: "From the 1920 bombing of the Morgan Bank to the displacement of the largely Arab community that once thrived on the Lower West Side, to the destruction of an intimate architectural texture by megascale construction, this part of the city has been contested space" (Sorkin and Zukin 2002, x–xi). These lost histories, which could link the city and its trauma to some of the sites that became pushed into "enemy territory" by the nationalist sentiments aroused by the attacks, hover atmospherically in debates about the construction of an Islamic community center in lower Manhattan, for example, or the biographies of migrant workers in the towers (ProCon.org n.d.). Andrew Ross pointed out, soon after the towers' collapse, that the site skirted the northern boundary of the old "Syrian Quarter," a once-vibrant mercantile district that provided a place of settlement for immigrants from, in addition to Syria, "Lebanon, Palestine, Iraq, Egypt, and other Arab states" (2001, 122). That community abutted an eighteenth-century cemetery that held the remains of upward of twenty thousand African Americans, many of them slaves (121). Another layer of absents in the present include the Algonquin Lenapes who inhabited the island at the time of the arrival of the Dutch and who were close to extinct by the time the English gained control of the territory. If, as Michel-Rolph Trouillot has argued, the "problem of historical representation is how to represent the ghost" (1995, 147), then the spectacular imagery surrounding the events of 9/11 insistently draws a line between "before" and "after," "living" and "dead," but finds the past always in front of it, so to speak. The "ghosts" are both "us" and "not-us," "here" and "not here." Thus, Mark Wigley writes that what might be most horrifying about the collapse of the World Trade Center towers was "what was already there": "Things that we have been living with for some time were disturbingly revealed. The everyday idea that architecture keeps the danger out was exposed as a fantasy. . . . Buildings are much stranger than we are willing to admit. They are tied to an economy of violence rather than simply a protection from it" (2002, 83–84).[13]

This disturbance of conventions of distance and proximity, the presence of many pasts and places in what we try to think of as the here and now,

constitute wartime, modernity's everyday aftermaths—the undeclared wars that grieve not only the present absences but the absent presents—not so much a matter of ghosts as multiple worlds that a singular worldview cannot accommodate. The English etymology of "aftermath" points to a skip in time, the acts that follow a *math,* the mowing, that leads to the harvesting of a second crop of grass. This link to the cutting of a second crop of grass in meadows that have already been mowed signaled the emergence of the word from the repetitive habits and rhythms of agricultural life. From the mid-seventeenth century, however, a figurative adoption of "aftermath" as "something" that "results or follows" from an event that is "disastrous" or "unfortunate," especially in relation to war, grew in usage (OED 2016). With this colloquial adaptation, the categorical separation of martial temporality into a prelude, duration, and aftermath began to lose the cyclical connotation of a repeating and productive event and to adhere to a more linear trajectory that created conceptual binaries between war and peace, event and nonevent. Yet, particularly in the case of "disastrous" or "unfortunate" events, people may experience aftermaths in ways that refuse to adhere closely to a linear timeline. For some, the past refuses to remain neatly contained and may roam around in the present or hail the future, folding different times and spaces into an unruly or repetitious mode of emotional life. Kathleen Stewart refers to these kinds of energetic slippages and foldings as "rogue intensities": "All the excesses and extra effects unwittingly propagated by plans and projects and routines of all kinds" that "surge, experiment, and meander" (2007, 44). Aftermaths understood as unbounded by the "spectacular" generate just such unpredictable yet repetitive intensities of time and space, disturbing the singular linear or bounded world that we take for "reality" in Western culture.

Echoing the discontinuities and excess intensities of time and space that produce wartime aftermaths, Saidiya Hartman has asked, "How might we understand mourning, when the event has yet to end?" (2002, 758). Responding in a similar vein to the insistent calls for the rapid construction of a memorial on the site of the World Trade Center towers, Laura Kurgan argued in those early months: "Has anyone really asked what it means to build a memorial when you are still in the middle of the war? I think the site itself is the memorial. The site is a mass grave—the site is what it is" (2013, 130). Observing an anniversary of the attacks, Tom Engelhardt asked, "Fourteen years later, isn't it possible to think of 9/11 as a mass grave into which significant aspects of American life as we knew it have been shoveled?" Recounting the losses and harm, the lack of accountability, the terrible destabilizations, the creation of

masses of refugees, and targeted killings, Engelhardt struggles with time: "do you even believe it? Did we actually live it? Are we still living it?" (2015).

A few months after the beginning of World War I, Freud wrote of the "bewildering" disillusionment and "altered" attitude toward death that overcomes the noncombatant during the kind of unprecedented scale of violence that characterized the "Great War" (1918, 3). Wartime's destabilized present and unresolved grief resonate throughout Freud's "Mourning and Melancholia," first published in 1917, as well. In that work, Freud argued that while most mourning eventually lessens, melancholia cannot end, in some part due to the generalized and pervasive nature of the affective experience: the melancholic believes that a loss has occurred but "cannot see clearly what it is that has been lost" ([1917] 1953, 245). Melancholic anomie and numbness toward others, inspired by the bewilderment of a loss that cannot be fully perceived or comprehended consciously, produces worlds of experience and knowledge that are out of sync, almost palpable but, in the case of clinical melancholia, suppressed. Branching out from the narrowly psychological, Derek McCormack has argued that the "experience of space and place" is always "haunted by a noncoincident spatio-temporality in which past and future participate simultaneously and in unpredictable ways" (2010, 642). This sensing in specific places of something different, something else beyond everyday life, something lost, opens perception to *more,* to the unruly production of unexpected disturbances in scales of distance, embodied experiences of locale, and organizations of time.[14] Grief not only attaches to time and space; it alters and re-creates our perceptions of these concepts. Wartime offers innumerable opportunities to sense such unruly intensities.

Despite the efforts of global media and politicians to frame the attacks of September 11, 2001, as exceptional, positioning the United States as an innocent victim in a battle between abstract values of good and evil, the very melancholic "haunting" that structures the representational space of post-9/11 wartime disturbs "homeland security" on multiple levels.[15] Mary Favret (2010) has explored this kind of colonial construction of reality in relation to another time period and nation, reading British Romantic poetry against the grain to argue that the time and space of war throughout the early to mid-nineteenth century was momentously constitutive of everyday life in Britain, destabilizing profoundly the supposed division between home and away, city and country, imperial center and colony, battlefield and domestic hearth. In this period when England was becoming "westernized," as Saree Makdisi (2014, ix) reminds us, over and against its internal and external

colonial "others," war was waged in many places but no longer on British soil. After the defeat of the Scottish Jacobite forces on Culloden moor in 1746, war took place on battlefields far away and, therefore, could be ignored, forgotten, or engaged at a comfortable remove by those at "home." Yet, Favret argues, despite the distance British citizens created through patriotic compartmentalization or seeming indifference, warfare permeated British culture. War's absence became a processual presence through its very remoteness, a "wartime" that became a "persistent mode of daily living" and a "habit of mind" (Favret 2010, 14). The very remoteness of war from its home front structured daily life in Britain as the insinuation of an always already possibility of violence: "War in this era was shown to operate both globally and simultaneously within the everyday. . . . Taken as a ubiquitous system, war was at once unremarkable and nearly imperceptible; something non-evident that could not always be made evident. Felt and unfelt, impersonal and intimate, war became for those experiencing it at a distance a not-fully conscious awareness that could flare up or flicker out" (29).

This affective zone of "wartime," flickering and flaring up, produced an "unsettled" present that dislocated bounded terrain as well as knowledge to extend war into realms "without clear limits" (Favret 2010, 18). Distant, endless war with no limits or endpoint created an atmosphere that Favret describes as "strange and familiar, intimate and remote, present and yet not really here" (15). The colonial wars in Favret's study were often undeclared, with ambiguous beginnings and endings. This kind of warfare folded places and times into uncanny proximity as well as stretched distances further than perhaps ever before. Significantly, Favret argues, a British population that expected daily life to be lived in the absence of the threat of warfare's violence found instead that a "set of disturbing affective responses" insinuated themselves into innumerable quotidian practices; "numbness, dizziness, anxiety, or a sense of being overwhelmed" (11) were not just random, unruly occurrences but a set of responses to the colonial world that Britain could no longer live without but that became increasingly difficult to live with and through. Such disturbances of time and space constitute what Derek Gregory has termed the "colonial present," the continuities across diverse places and time periods that reproduce colonial modes of power (2004, xv).[16]

In Gregory's notion of the "colonial present" and Favret's concept of "wartime," we might recognize the affective environment of the United States today. Specifically, Favret delineates three primary modes of living in the homeland that appear to be immune from war but are constructed foundationally through the endless violence operationalized by liberal political

formations. First, and most significantly for this study of aerial imagery, Favret argues that wartime produces an abstract viewpoint, legible only from a distance, "as from a bird's eye view." This distanced view turns war into an "object of knowledge," discernible through patterns. Second, Favret points out, wartime reduces "human responsiveness" across registers such that "lack of feeling" or "inertia and apathy" become overwhelmingly dominant, generating ever greater "anomie and despair." Favret identifies a third response to wartime, one "suspended between abstraction and numbness," a poetic or aesthetic response that "strives to give form to feeling" and thereby "opens wartime to the present" (2010, 10). Without celebrating or romanticizing the benefits of war or minimizing the traumas of living in a battleground, this acknowledgment of the affective intensities that disturb the everyday experiences of those who might otherwise believe that they are unscathed or untouched folds places and times onto each other while opening up possible affiliations and historical accountability.

Spectacular aftermaths display "what has been lost" over and over in a melancholic campaign to remember, to hold fast to a time and place in ever narrowing registers that generate "unseens" in tremendous profusion as the iconic "seens" settle into monumental commemoration. If the United States after 9/11 is melancholic and "cannot see clearly what it is that has been lost," plunged into the bewildering whirlwind of perceptions that cannot cohere into linear time and bounded space, the spectacular aftermath is one way to try to regenerate certainty and belief in a progression toward a discernible future. But when we ask "are we still living it?," the problem for history is not so much how we might represent the ghosts but how we might sense differently, more remotely, to refuse the perpetration of intimate violence that is unleashed through the liberal political construction of war and peace as mirror images.

REMOTE SENSING: DECONSTRUCTING THE GOD'S-EYE VIEW

> For satellite views of the earth's surface show us not only the weather (if you are trained to read them) but also the following: This is one planet, one life, one world, one dream. This is the view of the globe from the eye of God. This is the promise of earth without its wars and bestiaries. This is our planet, its orbs humming with light and shadow in praise of the benevolent eyes of the celestial panopticon. This is the magic of a revitalized myth of origins, addressing us personally in our domestic spaces and rituals of the every day, but still in possession of its mysterious, inaccessible, distant power.
>
> —Jody Berland, *North of Empire*

Remote sensing is usually associated with a privileging of magisterial vision and an affirmation of the cartographic abstraction that contributes to the expansion and violent enactment of imperial power. According to this understanding, remote sensing can "aestheticize" violence only by objectifying and working against the richly subjective situated knowledges and politics of location that are often proposed as modes of resistance to state power and empire. Derek McCormack has argued, however, that we can understand remote sensing as much more than instrumental alienation—in fact, it behooves us to understand the full range and scales of distance, including intimacy and connection. The conventional binary between distance and proximity and its related oppositions—objective and subjective, global and local, unfamiliar and familiar, strange and intimate—may be culturally and historically specific to Western modernity, but even within that narrow register of human experience, there is ample evidence of greater nuance and possibility than these bluntly contrasted extremes. McCormack asks us to consider remote sensing "not so much as a technology of distanced, elevated image capture but as a set of mobile and modest techniques through which affective materials are sensed without direct contact or touch" (2010, 641). This mode of "worldly apprehension" acknowledges that the relationship between the material and the immaterial is never fully resolved and is therefore productive of ways of knowing and being that do not always square, literally and figuratively, with the Cartesian, bounded subject and may not always operate congruently with the aims of empire and its military and security infrastructures.

There were a number of "eyes in the sky" on September 11, 2001. National Oceanic and Atmospheric Administration (NOAA) geostationary satellites on regular rotation collected high-resolution data that generated images of collapsing and burning towers. Following the attacks, NOAA jets flew five missions over five weeks to help map Ground Zero using aerial photography and Light Detection and Ranging (LIDAR) technology. The International Space Station captured images of the fires and released several of them through the National Aeronautics and Space Administration (NASA). The North American Aerospace Defense Command (NORAD) generated images, as did the air traffic control system and numerous other governmental groups and units. Unlike the imaging activities linked to official and unofficial photojournalism, this varied but powerful infrastructure produced copious data, of which only a small fraction was made available to the public. These few images in the public domain range from satellite images taken from over four hundred miles above the earth to those Semendinger shot as his NYPD aviation unit helicopter fluttered in and around the towers while they burned and col-

lapsed. These iconic aerial views, so often marshaled as visible evidence in the service of the spectacular aftermath, also introduce an acute awareness of a particular kind of time as well as spatial scale, moving from "during" to "just after" and into the prolonged unspooling of wartime in such a way as to refute any easy conclusion.

On September 11, 2001, NYPD Detective Greg Semendinger and his partner, Jim Ciccone, were on routine patrol duty when they heard an early report that a private plane had hit one of the World Trade Center towers. From their position on the ground at Floyd Bennett Field in Brooklyn, they observed something that looked much worse than the impact from a small plane. Boarding their helicopter, they arrived at the scene in a matter of minutes, tasked with lifting any survivors from the roofs of the damaged towers. As Semendinger related to NPR interviewer Neil Conan in February 2010: "We're doing a pattern back and forth, trying to stay out of the smoke, but also have a good view of the North Tower. The South Tower was completely engulfed in smoke. And if anybody was up there, we never saw them." Throughout the brief interview, both men agree that the photos shot with Semendinger's personal digital camera that was always part of his kit "provide a total perspective of what happened that day,"[17] yet most of what Semendinger remembers is that throughout his three-hour shift in the air there was very little that he was actually able to see. Beyond the heavy smoke, Semendinger and Ciccone saw "debris flying from the building" and they "didn't know it was actually people that was jumping until we were told on the radio" (Semendinger 2010).

Smoke fills the images released in February 2010 (see fig. 1.5), moving across the scene as a thin haze or billowing as fires raged to the penultimate obliteration. These photographs of the enormous amount of smoke and dust as the towers collapse still do have the power to stun and amaze the viewer. The images are sublimely spectacular and yet more suggestive than elucidating—we see smoke and infer from that visual information things that we can only barely imagine but now know. No people. The evacuation of the human figure from most aerial imaging is a given. The signs of human life—its infrastructures, for the most part—often can be seen along with the Earth's features and contours, but individual characteristics or even human shapes disappear from view. In aerial views of urban areas, in particular, we know people are contained in the image, but they remain indiscernible, disintegrated into the larger forms of which they are always already a part. The Semendinger/NIST images may show the immediate aftermath of the attacks "from a new angle," but they adhere to the established codes

FIGURE 1.5 September 11, 2001. Det. Greg Semendinger, NYC Police Aviation Unit.

of public reception circa 2001. Speaking of the entire World Trade Center attack and collapse image repertoire, Mark Wigley has observed that no photographs of "broken, bloody, burned, or fragmented people" were circulated or made public (2002, 73). Exceptions to the unwritten rule were the "dust-laden bodies of the survivors" and the magnified, long-range shots of people jumping from the burning towers (73).[18] Wigley reminds us, uncomfortably, that the smoke and dust we see in so many of the photographs are signs of the "simultaneous destruction of body and building and the distinction between them" as many of the occupants were "rendered into dust" by a "level of energy comparable to nuclear blasts or volcanic activity" (73). As the dust cloud billowed out and encompassed the city, Wigley remembers, "we literally breathed our architecture and neighbors" (73).

The satellite imagery also records the ominous presence and mobile powers of this smoke and dust in the days following the attacks. For example, a widely reproduced IKONOS satellite image of Manhattan from the morning of September 12 depicts an area of devastation with the smoke and dust still billowing (see plate 2). Laura Kurgan has worked with this image of lower Manhattan from September 12 as well as one taken from the same elevation of 423 miles above the earth on September 15 (see plate 3). Writing of the first image,

Kurgan comments: "Between a satellite and thousands of bodies, a cloud of smoke drifts" (2013, 131). The smoke had cleared significantly by the time the second image was recorded, but it is still evident as a great plume, more a trace of trauma than sign of a raging inferno. One image conveyed the scale of the attacks through the obscuring properties of smoke and dust, while the other offered a clearer view of the extent of the damage. Each image transmitted an identical message through similar but different views; the limits of the discourse of transparency through the God's-eye view are fully apparent.

For an exhibition on surveillance at the Berlin gallery ZKM that took place only a month after the attacks, Kurgan enlarged the first IKONOS satellite image for a piece titled *New York, September 11th, 2001, Four Days Later,* a work eleven to seventeen meters long and six meters wide that she placed on the floor (see plate 4). She reports that in this emotionally ragged aftermath people seemed to avoid walking on the image: "It was very raw" (2013, 129). Although she offered a close-up view through the extreme enlargement of the image, people were not necessarily able to see much more than the first-responders on the scene. Despite the popular belief that a satellite photo can show us all that there is to see if we can only learn to read it properly, Kurgan asserts that there is both too much and too little to see in this kind of image:

> There is a lot to see in this picture, too much in fact. The density of the detail demands that it be viewed close-up. But there is no single thing to look for and no particular piece of evidence that tells the whole story. And so the entire image is on view here, blown up, too large to see all at once. But the zoom offers no revelation, no instant of enlightenment, and no sublime incomprehension, either. It tells many stories. What has happened? The satellite's sensors capture a mass grave, a record of a crime or an act of war. Unfortunately or fortunately, the image itself offers no instructions about how to understand or respond to what it has recorded in memory. (131)

Kurgan reminds us that, ultimately, "the image is neither the definitive eyewitness nor the record of our incomprehension"; it exists, and, in existing, the image "encodes" the event "by the light that has traveled from the ground to the satellite, captured in an instant as the memory of this event" (132). The satellite images of the aftermath of the attacks on September 11 that were released to the public by commercial providers like Space Imaging Corporation serve as "markers," memorials to the dead. It is the dead who are missing from the photojournalism and official photography released to the public for the most part, except in the ways in which we have not been trained or encouraged to see or to sense. Kurgan observes this present absence,

"beneath or beyond the limits of visibility," arguing that the dead "remain in the image" whether we can see them or not and "demand a certain care or respect" (132–33).[19] As James Ketchum has argued in relation to this work, Kurgan's engagement with the distancing effects of satellite imagery produces an "emotional vacuum" that calls into question "the authority of both cultural narratives and the latest advanced image technologies that continually circulate them" (2011, 180).

In the oblique and vertical aerial images of 9/11 and its aftermath attributed to Semendinger/NIST and Space Imaging Corporation, the primary discourses of representation in general and photography in particular are both emphatically propounded and challenged. No matter how many images are collected, stored, interpreted, and released, these pictures are always after the fact of the terrible moments that could not be imaged in any total way. Always already incomplete, full of what or who is missing, these extreme examples of the limits of the image also offer a way to sense what was always there in wartime's everyday—the dispositional violence of histories.

SAME AS IT EVER WAS: MOBILIZING CRITIQUE IN WARTIME AFTERMATHS

> The Towers keep falling.
>
> —Retort, *Afflicted Powers*

The notion of a world-making visual culture has emerged from some of the most significant social theories of perception and knowledge produced in the nineteenth and twentieth centuries. Just before the start of World War II, Heidegger's formulation of the "world picture" sutured basic processes of understanding to the act of looking ([1938] 1977). That war, at that time, the most fully developed air war of the modern period, raised the stakes in understanding viewing and recording scenes as more than mimetic reflection. Thus, in reference to the air war that was perfected in World War II and that continues to permeate contemporary life, Rey Chow has argued that "in the age of bombing, the world has also been transformed into—is essentially conceived and grasped as—a target": "To conceive of the world as a target is to conceive of it as an object to be destroyed. . . . Increasingly, war would mean the production of maximal visibility and illumination for the purpose of maximal destruction" (2006, 31). Attacking the World Trade Center towers with airplanes as auto-weapons seems to prove Chow's post-Heideggerean maxim—that the world itself, made visible in spectacular ways through the illuminating properties of attack, is the target.

But it was not the "world" per se that was the target on September 11, 2001—it was the United States, reinforcing Grégoire Chamayou's observation that according to Western legal history, "warfare is and should be a *geographically defined object*" (2013, 58). As influential as the United States might be in the society of nations, it is not yet "the world." The attackers identified highly visible symbols as targets—things easily seen and widely associated with *places*. They assumed, rightly it seems, that an attack on singular, highly visible objects would mobilize affective responses across a wide spectrum of seen and unseen subjects and objects, stimulating the "whole" to action, unifying its disparate parts even as the attacks challenged the power and security of those "united" states. The targeting of iconic, easily viewed objects not only ensured spectacular media coverage but also offered to reveal that the "everywhere war" that ensued was already a lived reality for many people on the planet (Gregory 2011). The endless, undeclared wars of European empire had always already deployed a powerful gaze on colonial "others." In a dialectical understanding of the underlying strategy of the 9/11 attacks, the colonized returned the gaze of twentieth-century airpower, utilizing the machines and media that empire had made possible. A less binary postcolonial critical approach acknowledges the vastly uneven and complex differences within and across locations yet still has to reckon with the complete failure of vision to sense the worlds of others.

On the thirteenth anniversary of the attacks on 9/11, the website Space .com featured imagery shot by astronaut Frank Culbertson from the International Space Station in orbit 250 miles above the earth. In Culbertson's video, we hear the self-described "only American completely off the planet" narrate as he is filming: "we can see New York City and the smoke from the fires." Audibly shaken, he continues, "I'm looking up and down the east coast to see if I can see anything else." The video pans, shakes, holds still to zoom in on the smoke rising from Manhattan. After a painful pause, Culbertson concludes with a strangely upbeat message to "the people of New York": "your city still looks great from up here" (Gannon 2014). From "up there," Culbertson actually observed the second tower fall, commenting in a video reminiscence years later that it was as if a "gray blob" had encompassed the island of Manhattan (2014). Working with his Russian colleagues in the space station, Culbertson set up as many cameras as they had on board. Over many orbits of the Earth they photographed as much of the United States as they could. In the aftermath of the attacks, the "only American off the planet," a former navy pilot who counted one of the hijacked airliner pilots as a school friend, continued

to look out the space station's window at a planet in an intensified state of war. He recounts:

> About four weeks after the attack I was looking out the window—I always looked at Afghanistan, which was easy to find at night in the Middle East because there were no lights. Everywhere else was very well lit. I was hearing rumors from e-mail and stuff about who was responsible for this and what our response was going to be. . . . And I was looking out one night and I saw flashes of light in the area of Afghanistan. And what I was seeing for the first time was combat from space. It was the attack of the Third Fleet on the Taliban and the cruise missiles and B-52 bombs and the smart bombs from the aircraft carrier airplanes. (Culbertson 2014)

Situating Afghanistan in the "Middle East" locates Culbertson in a mindset inherited from *before* World War I when Western orientalist scholars designated the Balkans and the Ottoman Empire as the "Near East," and Iran, the Caucasus, Afghanistan, Central Asia, and Turkestan comprised the "Middle East" (Yilmaz 2012). Of course, these designations shifted after the war with the collapse of the Ottoman Empire and the reorganization throughout the twentieth century of imperial administration. Airpower and the emergence of space programs contributed to the viewing of distant places like Afghanistan as distinct from the West yet strategically valuable. For many people living in the United States during the televisual era, their first view of Afghanistan or Iraq had been the "flashes of light" that signal the commencement of combat—tracer fire in Baghdad at the start of the First Persian Gulf War captured in the fledgling network CNN's broadcast or the "flashes" observed from the space station by Culbertson. Rarely, if ever, has the United States been viewed in a similar fashion. Aerial views from planes and satellites are presumed to "see all," but more often than not, the "world picture" that they provide has failed to perceive any traces of what has been rendered impossible to know. There are no coffee-table books filled with photographs of the results of the attack by the U.S Navy's Third Fleet on the sovereign state of Afghanistan in October 2001. We are not immersed in accounts of the heroic efforts of first responders to assist any survivors or ascertain the location of the dead. Civilians bore the brunt of casualties and trauma in the autumn of that year (as they had in the violence of warfare years before and would continue to bear in the years to come). The long arc of airpower, becoming "stratospheric," has observed not simply a general world of potential targets but, in fact, a limited number that have

been designated over and over as legitimate and legible sites of control through violent means. The colonial foundations of wartime *are* world-making and we live in these aftermaths together if not in always the same ways.

AERIAL AFTERMATHS: MAPPING THE BOOK

> Alongside the "war machine," there has always existed an ocular (and later optical and electro-optical) "watching machine" capable of providing soldiers, and particularly commanders, with the visual perspective on the military action underway. From the original watch-tower through the anchored balloon to the reconnaissance aircraft and remote-sensing satellites, one and the same function has been indefinitely repeated, the eye's function being the function of a weapon.
>
> —Paul Virilio, *War and Cinema*

It is a cultural truism in modernity that once a human being looked down from the basket of a balloon, that view was as unique as it was transformational. Flight changed not only the time it would take to travel from one place to another but spatial awareness—the view from above shifted perspectives, altered notions of scale, and produced a new, unified, and all-encompassing worldview. These omniscient powers of the Apollonian gaze are now widely believed to be a benefit of aviation and almost seamlessly attached to military projects. This "watching machine," as Virilio has put it, has exercised its surveillant capacities along a continuum whose notable points include the originary watchtower, the tethered war balloon, the reconnaissance plane, and geostationary satellites to perform "one and the same function," "indefinitely repeated" (1989, 3). If we follow this line of thought, aerial observation is always already a form of waging war—a provocative, generative idea. When I began this project on aerial views, I accepted this narrative at first and endeavored to place my questions about the history of military aerial observation within its discursive structure. However, the more time I spent with accounts of the early years of flight, the more I noticed a tension between those who assumed that aerial views produced an improved vantage point on the "real" and those who found the same view to be confounding, disturbing, or overwhelming. One of the central questions, then, that shapes the inquiry of this book concerns this linear continuum of the "watching machine"—is this narrative the only way to understand the emergence of networked surveillance systems in the late twentieth and early twenty-first centuries? Did watchtowers lead *inevitably*

to war balloons and on to aerial reconnaissance flights, et cetera? To answer these kinds of questions, I found that I had to spend much more time than I had expected thinking through the conventional starting points—military surveys, aerostation, and panoramic paintings—than with the technologies and objects I had assumed I would be investigating: aerial reconnaissance photography and satellite remote sensing. Along the way, I found that warfare did indeed link all these practices but not in the ways in which I had initially assumed. The long wars of the eighteenth and nineteenth centuries can be folded over onto the more recent conflicts not to assert equivalencies or even to create a linear timeline. Rather, the points of continuity and discontinuity between declared and undeclared wars that take place on the same point on a map or dispersed in time and space become legibly meaningful through unusual juxtapositions.

I have introduced the primary themes and concerns of the book with an extended reflection on the aerial imagery of 9/11 as a way to acknowledge my own investment in the study of this important contemporary aftermath. As a feminist scholar in the field of American studies, with long-standing research interests in postcolonial and transnational studies of travel and displacement, I have been drawn to think through the ways the attacks that took place on September 11, 2001, both do and do not inaugurate the next point on the line in the continuum from watchtower to space platform. This introduction interweaves discussion of the primary texts and approaches to aerial views as a Euro-American visual culture in modernity with a consideration of the recently released cache of images taken by Det. Semendinger from an NYPD helicopter just after the World Trade Center towers had been hit by commandeered jet planes. By beginning with the aerial imagery of 9/11, I have endeavored to anchor the book's investigations firmly to the concerns of the present even as the historical sweep of this project reaches back to the mid-eighteenth century. Semendinger's aerial photographs obscure as much as they reveal, raising questions not only of commemorative representational politics in an era of globalized commercial media but also of the ways in which the view from above operates somewhat restively even within the surveillant, nationalist discourses that dominate during the so-called war on terror.

Chapter 1, "Surveying Wartime Aftermaths: The First Military Survey of Scotland," begins with a mid-eighteenth-century military map in order to open up the field of geographical knowledge to questions of realist representation. Early modern European bird's-eye views had offered imaginary vertical perspectives on selected sites—usually cities—while maps remained ceremonially symbolic or narrowly navigational. This chapter explores a

hybrid object—an ambitious surveying project of the entire territory of Scotland using trigonometric measurement as well as other methods—that established the enduring modi operandi of colonial cartography. Inaugurated by the British Army in the aftermath of the defeat in 1746 of the most serious Jacobite rebellion to date, the First Military Survey of Scotland sought to represent vanquished terrain in accurate detail. Moving through a devastated landscape of retributive state violence, the British Board of Ordnance surveyors and draftsmen produced a vertical view of military occupation, representing a formidable terrain as largely "blank." As a key part of the effort to "see all" at a glance, the map offered its selective representational practice as an omniscient view. Yet the dynamics of wartime aftermath operated in unruly ways in the generation of the military survey, sometimes through the aesthetics of the map itself or in the intuitive negotiation of distance that accompanied a military avant-garde practice of coup d'oeil.

Chapter 2, "Balloon Geography: The Emotion of Motion in Aerostatic Wartime," traces two strong narrative threads in histories of aerostation: on the one hand, the sublime and transcendent views from above that produced powerful emotional responses in the first aeronauts, and on the other, the use of tethered balloons to "see all" at a glance and produce an objective, precise mode of military observation. One narrative moves toward an aesthetic of landscape art, while the other grounds the history of military visual culture in an age of airpower. The life and work of a figure like Thomas Baldwin track the uneven emergence of such tensions between art and science, affectivity and objectivity, and civil society and militarism. The author of *Airopaidia*, a book on aerostation published in 1786 containing the first illustrations based on sketches produced while in flight, Baldwin recounted rapturous views as well as dreams of military defense and offense. As Baldwin's account of free flight in the north of England as well as the short history of tethered war balloons makes abundantly clear, the view from above took time to cohere and become legible as both an instrument of war and an inspirational source of evidence for the arts and sciences.

Chapter 3, "*La Nature à Coup d'Oeil*: 'Seeing All' in Early Panoramas," explores another prevalent trope in histories of aerial views, the elevated vantage point of fully circular panoramic paintings. First patented and developed by Robert Barker in Great Britain in the mid- to late 1780s, panoramas have been linked to the general public's enthusiasm for balloon launches and aerial prospects as well as the emergence of forms of entertainment that encouraged a stronger consciousness of national identity in an era of almost constant warfare and rapid colonization. Barker advertised his

first panoramas of Edinburgh and London as *La Nature à Coup d'Oeil*, drawing on the military conception of a comprehensive overview that brings instantaneous insight to amaze and thrill spectators. Disturbing the conventions of linear perspective in the creation of immersive illusory space, Barker offered scenes of cities and famous battles that were so "lifelike" that many spectators were overcome by powerful emotions. Viewing nature at a glance, then, as a collaborative, spectatorial practice, was possible only by altering perceptions of time and space, producing ambiguity along with perceptions of clarity and empowerment in wartime aftermaths.

If the drive to "see all" from a distance circulates most effectively in the truth value of photography, the reconnaissance image epitomizes the "applied realism" of the technology. In chapter 4, "Mapping 'Mesopotamia': The Emergence of Aerial Photography in Early Twentieth-Century Iraq," I draw together the emergence of aerial surveying and bombardment with biopolitical modes of colonial control to deconstruct the prevailing narrative of the birth of airpower in World War I. From the first reconnaissance photography in warfare over Libya in 1911 through the so-called sideshows of the Great War to the postwar Mandate period, aerial reconnaissance and mapping took place in the Middle East and North Africa on a scale that is not often fully acknowledged in Western accounts. Iraq in particular became one of the most heavily mapped regions in the world through a process of producing geographical knowledge that required a representational emptying of the terrain. Like the First Military Survey of Scotland, however, these photographs and survey maps make possible some views of territory while losing sight of others. The lure of a panoramic, total view emerged as a powerful discourse of "air control" that was practiced by the British in Iraq along with aerial bombardment and other violent means long after the end of World War I in the supposed "interwar" years.

The reverberations of these declared and undeclared wars can be sensed in the format of aerial photography not only in its directly military or commercial applications but in the ways experimental and activist artworks engage these histories. Chapter 5, "The Politics of the Sensible: Aerial Photography's Wartime Aftermaths," explores works by Sophie Ristelhueber, Fazal Sheikh in collaboration with Eyal Weizman, and Jananne al-Ani in relation to the history of representations of "desert wars" and "air control" in the Middle East. Ristelhueber's post–First Persian Gulf War photographic installation *Fait* draws on the conventions of the aerial reconnaissance photograph to explore abstraction and ambiguity in relation to asymmetrical warfare. In

The Conflict Shoreline, Sheikh and Weizman produce aerial images as part of a critical forensic practice of gathering material evidence against the Israeli state to assist in Palestinian and Bedouin land claims in various legal and governmental forums. Al-Ani investigates temporal and spatial dynamics of views from above through an engagement with the history of archaeological and military representations of arid terrain from the air. In her multimedia and still photography, al-Ani reworks reconnaissance, shifting the detection of traces of past events and actions into varying registers of what Jacques Rancière terms a "different politics of the sensible" (2011, 105). These works are not positioned as either redemptive of or resistant to military aerial reconnaissance photography. Rather, in drawing purposefully on the format of aerial photography, they call attention to the ways in which images come into being and become instruments for various purposes that can never be entirely divorced from their historical contexts.

In the book's afterword, I review the primary questions and thematics of this project on aerial views in modernity in relation to the spatial and temporal challenges presented by unmanned aerial vehicles (UAVs, or drones, as they are most commonly called) in the extended warfare overseas and at "home" that characterizes the era of the war on terror. In many ways, the entire project of this book is a prologue to considering the observational and sensing capacities of machines like drones. So much commentary on UAVs and the long wars of which they have come to serve as a powerful symbol seems ahistorical or unwilling to question the preposterously seamless linear timeline from "watchtower" to "drone." In bending this book's temporal focus back and forth between parts of four centuries and across just a few of the spaces of European colonial and imperial wars, I hope that I have disturbed some of the master narratives of airpower and visual culture just enough to allow for a glimpse of the possibilities of distance and, with a growing sense of uncertainty, see otherwise between.

NOTES

INTRODUCTION

1 Marshall Berman expressed, soon after the collapse of the towers, the sentiment held by many critics of the World Trade Center: "By now, if we 'speak what we feel, not what we ought to say,' we should be able to face the fact that they were the most hated buildings in town. They were brutal and overbearing, designed on a scale of monuments to some modern Ozymandias. They were an expression of an urbanism that disdained the city and its people. They loomed over Downtown and blotted out the sky" (2002, 6–7). On the other hand, if elite architects, community organizers, and Marxist social theorists despised the tower complex, Mark Wigley finds it significant that "people loved the buildings": "And the deeply felt affection for these buildings cannot be casually dismissed as the delusions of an exploited public under the manipulative sway of corporate image-makers. At some level, an extraordinary identification with the buildings took place that exceeded the expectations of both the boosters of the project . . . and the architectural critics. . . . People experienced the buildings not as part of some distant power but as an intimate and tangible part of the domestic life of a dispersed global community" (2002, 74).

2 For example, Virilio has argued: "Since 11 September 2001, as we've all been able to observe, the media coverage of acts of violence has everywhere expanded. From local delinquency to the global hyperviolence of terrorism, no one has managed to escape this escalating extremism for long. And the accumulation of felonies of a different nature has little by little given the impression that all forms of protection collapsed at the same time as the World Trade Center" (2007, 20).

3 In a piece written soon after the attacks, Barbara Kirshenblatt-Gimblett proudly embraced the term 9/11 as a sign of community and resilience, noting that "9/11 is a way of saying September 11 American-style, with the month first," while also referencing the phone number for emergencies (2003, 12).

Yet the ubiquitous shorthand 9/11 often seems too glib a way to refer to the complex, transnational elements that came together on that early autumn day. As Dana Heller has argued, the term *9/11* has "attained the cultural function of a trademark," one that "symbolizes a new kind of national identification—or national branding awareness" (2005, 3). In this introductory chapter, I will adopt the shorthand term on occasion, but, more often, I will opt for the longer version of referring to the events that took place that day in order to resist, however insufficiently, the commodification and American exceptionalism signified by the shorter term.

4 Lisa Parks points to the emergence in the 1980s of the French company SPOT (Satellite Pour l'Observation de la Terra) and the Soviet company Soyuzkarta as part of a major shift in the dissemination of satellite imagery. Both Parks and Laura Kurgan date a significant transformation in policy from August 1995, when the Clinton administration shared classified satellite and aerial photographs of mass graves and execution sites to the United Nations Security Council and selected three images for circulation to the press. The archive of Cold War corona satellite images had just been opened up, generating public interest in satellite views and, as Kurgan puts it, not only "a reasonable working assumption that major events could be monitored from outer space, but that traces of that surveillance would appear in the public sphere" (2013, 22; see also Parks 2005, 79–80).

5 Frances Guerin and Roger Hallas have argued that the September 11 attacks constitute a "prime example of a traumatic historical event that was and continues to be witnessed through the image in all its many forms." In particular they point to the "repeated return within televisual representation of the event to the video footage of the planes' initial impact and the collapse of the World Trade Center." Significantly, Guerin and Hallas argue that still photography "played an even greater role"—from the images in missing persons' posters to the massive collections like the *Here Is New York* exhibit, as well as the production of "emblematic" photographs that have become heavily associated with the events and their aftermath (2007, 5–6).

6 The intensity of the impulse to document the event through photography in a moment before the widespread integration of smartphones is reflected in part by the reported rush to purchase single-use cameras at the Duane Reade drugstore located not far from the World Trade Center (the manager reported that he sold sixty to one hundred such cameras throughout the first day) (Heller 2005, 8). The result of this desire not only to consume images but to produce them has resulted in the often-repeated opinion that the attacks on September 11, 2001, are "said to be the most photographed disaster in history" (Kirshenblatt-Gimblett 2003, 12).

7 Slavoj Žižek pointed to the intensity of the effect of constant repetition in the media of the same images over and over: "When, days after 11 September 2001, our gaze was transfixed by the images of the plane hitting one of the World Trade Center towers, all of us were forced to experience what the 'compulsion

to repeat' and jouissance beyond the pleasure principle are: we wanted to see it again and again, the same shots were repeated ad nauseam, and the uncanny satisfaction we got from it was jouissance at its purest" (2002, 226–27).

8 Contemporary aftermath aesthetics include highly commodified practices. Heller has pointed to the "dazzling profusion of 9/11 tie-in products, commemorative artifacts, mass media narratives, memorabilia, and kitsch." Beyond the direct reference to 9/11, Heller argues that "products long available to American consumers were refilled with new meanings in the context of the attacks and their aftermath, as in the case of American flag lapel pins and automobile decals, duct tape, and 'I ❤ NY' T-shirts." Hoarding of items connected to the World Trade Center towers, a flooding of New York City souvenirs, postcards that featured the towers, and a flurry of activity on eBay marked the spectacular aftermath of the attacks as deeply as the visual practices (Heller 2005, 3).

9 Among the many responses to the commercialization and conservative tilt to the interpretation of 9/11 imagery, Žižek argued that this national consolidation of a viewing practice of spectacular scenes of horror may reflect the kind of popular taste developed over the previous several decades for disaster movies (2002, 226). The lure of experiences that are thrillingly disorienting, even sublime, may stretch back earlier, before mechanization, to the kind of panoramic spectatorship defined by Alison Griffiths as "immersive" (2008, 2–3). This "overall recognition of the visual appeal of the attacks" may also signal, as Andrew Hill postulates, that such directed violence by networked, nonstate actors broadly understood to be "terrorists" played out as an extreme expression of the objective of twentieth-century art; that is, these acts, in their capacity "to shock and to produce a radical disruption of everyday life," thereby "overshadow and threaten to subsume the work of art" (2009, 10).

10 Nadar recorded his exhaustive preparations and many futile efforts in his memoir, *When I Was a Photographer* ([1900] 2015). After numerous attempts, Nadar realized that the sulfur in the gas issuing from the neck of the balloon was interfering with the chemistry of the photographic process. Once he closed the valve to eliminate the exhaust, aerial photography was born.

11 In a particularly trenchant piece, Catherine Lutz reflected that "we" in the United States "have been doubly haunted . . . because after all of the killing, the bodies are hidden away and denied" (2002, 290).

12 Samuel Weber has pointed out that Freud's discussion of the chaos of war marks the transformative realization in the modern period of the end of progressive history as "succession is replaced by simultaneity": "One could say for Freud, war can be considered to be the continuation of the 'destiny' of the drive, which consists in a struggle to 'occupy' and control targets that it is nevertheless ready to forsake and replace at any moment. The 'destiny' of the drive thus knows neither lasting victory nor enduring peace; but only ongoing struggle marked by an occasional truce" (2005, 50–51).

13 See also Terry Smith's (2006) discussion of the World Trade Center towers and the aftermath of 9/11.

14 For many people who became attached to watching the news on television (commercial-free for almost a week following the attacks), the "nonstop" nature of the coverage and the cessation of any but the most urgent tasks all contributed to the altered time and space following the funeral of a loved one or the anomie of intense shock. As Lynn Spigel has argued, the alteration of television's "normal routines—its everyday schedule and ritualized flow" disoriented many viewers almost as much as the events themselves (2005, 121).

15 W. J. T. Mitchell has argued that since the principle mediation of Ground Zero is "pictorial," the repetition of the display and circulation of such images and ensuing familiarity causes the images to "fail" at a certain level, to leave things open-ended and, therefore, unresolved or unhealed, melancholic. This inability to "let go, to bury the dead" is not so much "incapable of being represented" as overrepresented: "too many representations, too many images and bad dreams, and no way to arrive at a consensus, a communal acceptance" (2010, 81).

16 Gregory explains his usage of the phrase: "In speaking of the colonial present, I don't mean to imply that nothing has changed since the nineteenth century. It may have been long, as historians are always telling us, but not that long. But I do mean to resist those histories punctuated by sharp breaks from one period to another, with their homogenizing sense of Time—always in the singular—and those narratives that celebrate History—always with that imperial capital—as the unambiguous advance of Reason. History is always more complicated than that: always plural, always contested, and shot through with multiple temporalities and spatialities. I speak about the colonial—rather than the imperial—present because I want to retain the active sense of the verb 'to colonize': the constellations of power, knowledge, and geography that I describe here continue to colonize lives all over the world" (2004, xiv–xv).

17 I will not go into an extended discussion here of the authorial indeterminacy of the photographs attributed to Semendinger, but it is important to note that another NYPD detective, Dave Fitzpatrick, took photos during much of the same time period from another helicopter and the NIST may have blurred the lines between the two photographers' output when they released images in 2010. In fact, contrary to the media hype around the release of the Semendinger/NIST images, a large coffee-table-style trade book was published by the New York City Police Foundation with Viking Penguin as early as 2002, titled *Above Hallowed Ground: A Photographic Record of September 11, 2001* and edited by Christopher Sweet (Sweet and NYPD 2002). The book is filled with numerous aerial images taken from several NYPD helicopters in the air that day, including those shot by Dave Fitzpatrick. Most interestingly, Greg Semendinger is not credited or mentioned in *Above Hallowed Ground*. Conspiracy buffs like "Matt" at 911conspiracyTV Weblog argue that the official NYPD and NIST accounts are full

of suspicious gaps and contradictions: there are blocks of time that are unaccounted for, numerous other photographers in police helicopters at the scene whose images have not been made available, and other variables that render the official accounts incomplete at best and obscurantist at worst. See Matt's blog entry, "Case of the Missing Helicopter Photos" (2014).

18 Spigel reminds us that the "everydayness of television itself was disrupted by news of something completely 'alien' to the usual patterns of domestic TV viewing" (2005, 120–21). This disruption and alteration of time and patterns of daily media consumption is reflected in David Foster Wallace's account of his morning on September 11, 2001. In "The View from Mrs. Thompson's," he describes watching the first reports on CBS news with his elderly landlady and her friends in Bloomington, Indiana: "I remember when I came in everybody was staring in transfixed horror at one of the very few pieces of video CBS never reran, which was a distant wide-angle shot of the North Tower and its top floors' exposed steel lattice in flames and of dots detaching from the building and moving through smoke down the screen, which then that jerky tightening of the shot revealed to be actual people in coats and ties and skirts with their shoes falling off as they fell, some hanging onto ledges or girders and then letting go, upside-down or writhing as they fell and one couple almost seeming (unverifiable) to be hugging each other as they fell all those stories and shrank back to dots as the camera then all of a sudden pulled back to the long view—I have no idea how long the clip took—after which Rather's mouth seemed to move for a second before any sound emerged, and everyone in the room sat back and looked at one another with expressions that seemed somehow both childlike and horribly old. I think one or two people made some sort of sound. It's not clear what else to say." Wallace recounts his distrust of his memory after only a few days and his recognition that his senses are altered—both more heightened and less palpable or functional: "Is it normal not to remember things very well after only a couple days, or at any rate the order of things? I know at some point for a while there was the sound of somebody mowing his lawn, which seemed totally bizarre, but I don't remember if anyone said anything. Sometimes it seems like nobody speaks and sometimes like everybody's talking at once" (2001, 132).

19 In "The Instrumental Image," Allan Sekula notes the tension between "human presence" and mimetic realism in the practices of aerial photography that emerged in World War I. As reconnaissance images were captured at one thousand feet above the earth, "the human figure has to be searched out, dragged out of the image": "The anonymity of the combatants and civilians teeters on the edge of invisibility. . . . The human content of the event is valued for both humane and voyeuristic reasons, and yet this content is virtually unknowable. Herein lies the pathos of one sort of estheticized reading. The image consumer experiences a kind of cognitive dissonance in having been caught between the false power and the impotence of the pornographic spectator.

On the one hand, the aerial viewpoint contributes to an illusion of power and knowledge; on the other, little can be known and whatever happened has happened" ([1975] 1984, 45).

CHAPTER 1: SURVEYING WARTIME AFTERMATHS

1 In the interest of brevity, I will refer to the First Military Survey of Scotland simply as the Military Survey throughout most of this chapter.

2 The first draft of the Military Survey was only just barely completed when the Seven Years' War began in 1755 and resources were hastily diverted (Oliver 1993, 9). William Roy received a commission in the army and was transferred to the Continent to assist in surveying projects there as well as to advise on the defense of the British Isles from attack by sea. The maps were held by David Watson until his death, at which point they were given to the Royal Library (and eventually transferred to the British Museum in the early nineteenth century). The National Library of Scotland has an excellent online site with a section titled "Roy Military Survey of Scotland, 1747–1755" that includes the entire map with gazetteers. See http://maps.nls.uk/roy/originals.html, accessed April 13, 2017.

3 The Military Survey had been placed under the purview of the British Board of Ordnance, a complicated entity described by J. B. Harley as "one of the more ancient institutions of the country" as well as a "shambling, complex, and even contradictory organization." The Board of Ordnance came into being in the Middle Ages as part of the Royal Arsenal at the Tower of London, charged to "act as a custodian of the lands, depots and forts required for the defense of the realm and its overseas possessions, and as a supplier of munitions and equipment to both the Army and the Navy" (Harley 1980, 2). "Ordnance" is a shortened version of "ordinance," a word that has many connotations and meanings derived from the impulse to order or to ordain. As Rachel Hewitt reminds us, the word's specifically military connotation is linked to the French word ordonnance, which "denoted an army's arrangement in ranks or lines and most importantly, the 'ordinantia ad bellum,' the military equipment, guns, cannons and explosives" that became the objects of the board's management (2010, 8). During the Tudor period, the board's primary activities concerned "fortification and harbor improvement" to protect the country from coastal invasion (Harley 1980, 2). By the eighteenth century, with the rise of extended deployment of British troops on the Continent and the continuing concern, despite the acknowledged prowess of the Royal Navy, of invasion from the sea, the responsibilities and purview of the Board of Ordnance expanded and began to include a much greater emphasis on the arts and sciences of military topography.

4 At the time of the Military Survey of Scotland, mapping occupied very little of the Board of Ordnance's interest or activities beyond battle maps for immediate use. Once topographical intelligence became more established as a valuable pursuit not only for reconnaissance but for infrastructural nation-building, corps cadets as young as eleven years old were trained in copying topographical maps and