FLIGHTS
of Imagination

AVIATION | LANDSCAPE | DESIGN

Sonja Dümpelmann

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Introduction

Flight, in particular powered flight, which first developed in the early twentieth century, has changed our perspectives on the world, has transformed our perceptions and imaginations of the world, and has changed the landscape itself and the ways we design and inhabit it. This book is about the new horizons that powered flight has provided to professionals designing and planning the built environment, including architects, landscape architects, and urban planners and designers. It deals with those moments during the twentieth and early twenty-first centuries when these professionals developed an aerial imagination and an epistemology based upon aerial vision, and when they realized the opportunities that the new technology offered them in shaping the land. It is about their various efforts in both utilizing and forming the new technology, and in turning the interface between earth and sky into a place where the earth meets the sky.

Altitude and verticality are often associated with knowledge, authority, power, virility, duty, and activity, whereas horizontality can symbolize submission and passivity. Flying meant conquering a new vertical, or, air space. However, perhaps aware of our vulnerability in the sky and of our human destiny, we have only desired flight when we know we can depart from and return to earth safely. After all, as human beings we are bound to earth through death, and only after death—as many religious cultures believe—may we ascend. As Kazimir Malevich, whose work was inspired by airplanes and the aerial view, observed in the 1920s: "His entire life [man] fights for his upright, conscious active position—for the vertical—. . . and he inevitably succumbs—to sleep and finally death."[1] How did landscape architects, architects, and urban planners involved in shaping the built environment work in this field characterized by the tension between the allure of the sky and the new and seemingly limitless opportunities offered by flight and aerial vision, and the gravitational pull back toward the earth

necessitated by their own work and the limiting constraints of the conditions on the ground?

Dealing with both the airport landscape and the aerial view, this book presents the twentieth-century and twenty-first-century landscape as a motor and a product of increased aerial mobility. Examining the relationship between powered flight and the landscape, the book reveals a variety of ambiguities that are also characteristic of modernity in general. Airports were conceived both as cities and as landscapes, and they both instigated and resulted from conceiving of and planning air space on regional, national, and international scales. Planning and designing airports on the ground required that attention be paid to the space above ground. While early powered flight was dependent on nature in the sense that it required certain ground and climatic conditions, the technological development of faster, bigger, and more maneuverable airplanes soon demanded that these natural conditions be adapted to the new technologies as far as possible. Tracing the evolution and conceptualization of the airport as landscape, it appears as both a catalyst and a product of globalization. At the same time, the manufactured airport landscape offers features that act as vernacular counterpoints within an increasingly standardized technological environment. Many designers from the 1920s onward conceived of the airport landscape as a hybrid landscape with contrasting modernist and vernacular character traits and as an expression of what more recently has been called "glocalism." In operation and closed, airports have always been positioned at the nexus between the local and the global, and between nature and technology.

While the airport landscape had to be designed to be experienced on the ground, it also had to accommodate the vertical view. Design professionals in the early twentieth century began to understand the aerial view as a way of knowing that was both disembodied and embodied, abstract and experiential, rational and imaginary, factual and aesthetic, microscopic and macroscopic, detailed and contextual, harmful and essential. Francesco Petrarch's frequently cited self-conscious notation of the land from the elevated perspective of Mont Ventoux near Avignon in the late Middle Ages foreshadowed this dialectic, and the ambivalence, ambiguity, and fluidity of scales that characterized the aerial view in the twentieth century. In the context of this book, therefore, Petrarch's relatively meager portrayal of the actual prospect from the "Windy Mountain" over the Italian Alps, the Province of Lyon, the Rhône, and the bay of Marseilles is less important than the inner conflict in which he found himself. He was torn between the admiration of the bird's-eye view on the one hand, and his devotion to God, his religious duties, and his own soul, past feelings, and motivations on the other.[2] While it is the subjective account and the allegories used in the letter that have led scholars to characterize Petrarch as one of the first human-

ists, the account's setting also makes him a figure of transition between the Middle Ages and the modern world, in which it became common to seek out landscape prospects for both the pleasurable experience and the scientific revelations they offered.

The contrasting qualities of the aerial view, and the fact that it has repeatedly and in various contexts been used to draw attention back to the ground, are recurring themes in this book. For twentieth-century landscape architects, architects, and urban planners, the view from above was both affective and objective, contextual and detailed. It provided control and surveillance, as well as inspiration and freedom for the imagination. It became clear that aerial vision was necessary for both attack and defense in warfare, and that it could support plans for conservation and destruction in urban and environmental planning. In addition, powered flight and progress in aerial photography enabled shifting relatively flexibly, smoothly, and effortlessly between scales.

Before they were first confronted with powered flight and the opportunities it offered, landscape architects' and architects' experience in designing and planning for machine-powered transportation had been limited to the train and the automobile. In the nineteenth century, gardens had been laid out at railroad stations to advertise a town or suburban development. The gardens often exhibited the latest horticultural fads and provided fresh flowers for dining cars and for purchase by passengers.[3] In 1902, the American City Beautiful advocate Charles Mulford Robinson promoted "the railroad beautiful," a network of station gardens and plantings along railroads that he hoped could "have an even national importance, changing the face of the country 'as seen from the car window,' and carrying its influence very far."[4] The railroad also inspired landscape architects to consider how train passengers and observers perceived landscape. The experience of European station gardens, and the fascination with the new means of transportation and its velocity, induced the American railroad garden advocate Donald G. Mitchell to argue in 1867 for openings in screen plantings on embankments so that the train's movement and speed seemed enhanced, thereby heightening the onlooker's experience. At the same time, these "windows" would enable train passengers to view the scenery through which they were passing.[5] The railroad and its increased speed of passenger travel may also have influenced the design of nineteenth-century public urban parks, where scenes abruptly alternated between sublime, picturesque, and beautiful effects; in eighteenth-century landscape gardens, scenes were designed to unfold slowly to the walking or carriage-driven visitor.[6] With the development of the mass-produced automobile at the beginning of the twentieth century, opportunities for landscape architects multiplied. In the United States, they were involved in laying out tree-lined parkways to connect urban public

parks and in designing scenic drives and roads along the Blue Ridge Mountains and in numerous other locations to provide for pleasurable drives between cities, in the country, and to state parks.

In 1922, Charles W. Eliot noted that the automobile also required designs for simple and broad views rather than "intimate and confined views" that could not "be appreciated from a fast moving vehicle." Adopting the eighteenth- and nineteenth-century scopic regime of the landscape garden to the conditions of early-twentieth-century automobile culture meant that openings and vistas through woods or shrubbery had to be wider and farther apart, and "every accent of the prospect and planting" had to be "stronger because of the brief time in which it [was] seen."[7] Comparing the visual experience of automobile travel to that of a movie film and its rapidly moving images, Eliot noted that designs needed to exaggerate details. Skeptical of the effects of "this rush of life and its accompanying slurring of attention to the perfection of details," he asked whether "automobiles and the other concomitants of the rush of life" were ultimately "to govern and control" the art of landscape architecture.[8]

As soon as aviation took off, therefore, the question was how far this new technological accomplishment would influence the practice of landscape architecture and lead to new designs that responded to the aerial view and the technological requirements of flight. In 1910, when airplanes were still taking off and landing on open fields, the balloonist Charles C. Turner mused that in contrast to the automobile, the "flying-machine" would not "necessitate any modification of the landscape". However, by the late 1920s, a new type of transportation hub was developing that comprised an ordered open landing field, hangars, and a terminal building housing a waiting room, a ticket sales desk, and offices.[9] The aerial perspective offered by the airplane was also considered a novelty, especially when compared to the visual experience offered by other means of transportation. A 1920s advertising brochure by the German Lufthansa AG addressed to Americans visiting Europe stressed that air passengers travelling between 1,000 and 5,000 feet (305 and 1,524 meters) above the ground could "observe in one moment from ten to twenty times as much of Old Mother Earth as from the slowly moving train." Furthermore, they would not miss the smallest detail.[10] Writing in the 1930s, Gertrude Stein commented that "the earth seen from an airplane is more splendid than the earth seen from an automobile." For her the automobile was "the end of progress on the earth" since, although it enabled greater speeds, the views it offered were "the same as the landscapes seen from a carriage, a train, a wagon, or in walking": they were horizontal.[11] The earth seen from an airplane was something else: it was vertical.

The development of powered aviation provided landscape architects, architects, and urban planners and designers with a new type of landscape to

work on: the airport. It also offered them aerial views to work with, captured in aerial photographs. Observant, critical designers noted these two developments in the postwar years. In 1948, the influential pioneering British landscape architect Brenda Colvin pointed out not only that airports would become an increasingly important landscape feature, but also that "the new viewpoint" at high altitude and speed could affect the ground plan. She drew her readers' attention to the fact that urban open space, public parks, gardens, and the surroundings of important buildings and airports would "be seen from a new angle and from far greater distances than were planned for in the past."[12] From the aerial viewpoint, verticality on earth mattered less while ground pattern became more significant. Colvin suggested that broad color effects achieved by particular ground plantings and different types of turf, crops, and trees be used to treat airport surroundings.[13] The German-born architect Erwin Gutkind was less specific but equally clear when he proposed only a few years later that the architects' focus of the future would "be airports—not railway stations" and that "the aeroplane has given us a new view, a new vision and a synoptic eye." Echoing Le Corbusier, Gutkind urged his colleagues to act as "self-disciplined rebels . . . worthy of the powers which reason and instinct have placed at the disposal of humanity." He explained: "An entirely new element is introduced into the building of our cities and the re-shaping of our environment. We have the choice whether the aeroplane of the future shall be the unerring instrument, the incorruptible recorder, of INDICTMENT or FULFILLMENT."[14]

This book follows the two developments explicitly noted by Colvin and Gutkind and implicitly present in the work of many of their colleagues during the twentieth and early twenty-first centuries. It consists of three parts that parallel a flight, with takeoff (chapter 1), flight (chapters 2 through 5), and landing (chapter 6). Chapters 1 and 6 deal with the airport landscape and selected developments on the land that have occurred as a direct result of the development of powered aviation. These two chapters frame a middle part consisting of four chapters that explore how the aerial view has influenced our perception of the land and what impact it has had on design and planning, and vice versa.
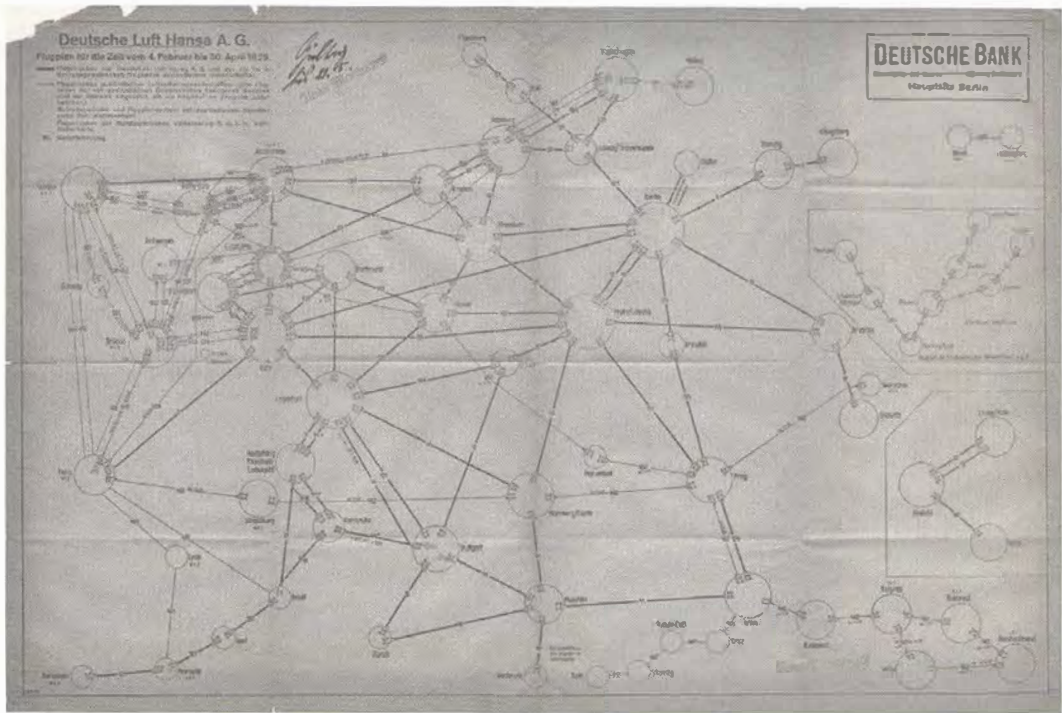
Takeoff

At the beginning of the air age, the layout and design of airports quickly became a concern of airport managers, cities, and pilots, and it attracted the attention not only of engineers but also of landscape architects, architects, and urban planners. They were gripped by the general enthusiasm for aviation that swept the United States and Europe, especially after Lindbergh's 1927 flight across the Atlantic.[15] Although the American architect John

Walter Wood complained in 1940 that "the well-groomed appearance and efficiency of the modern air liners and of air-line personnel is in marked contrast to the confusion and unkempt appearance of many of our airports,"[16] many design professionals had by that time become "air-minded" and strove to take advantage of the new business opportunities the new technological accomplishment offered. The question that confronted them was how to lay out the threshold between earth and sky, and how to design the spaces of transition. They needed to accommodate both modern mobile and immobile standardized technological equipment including aircraft, runways, and radio towers for an increasingly global passenger transfer and make a place that was comfortable, calming, accommodating, and capable of rooting, or "grounding," passengers. As facilities that accommodated the new global culture of flight, airports were the quintessential modern built environment and nodes in increasingly global networks. They were organizing paradigms of a modernity that built upon a new space-time relationship enabled by powered flight.

The cartographic European flight schedules published by Lufthansa in the late 1920s and 1930s that located airports and indicated flight routes and schedules appear as adept representations of this new time-space relationship (fig. 1). Although they were not to scale, they combined a spatial cartographic representation of air routes connecting most of the major cities in Europe with the representation of scheduled flight times along these air routes. The numbers on the lines indicating the air routes were route numbers that could also be found on independent timetables that often also included price lists.[17]

By traveling at higher speeds in the air, the airplane had shrunk space and had fundamentally changed the time-space relationship. A journey from Berlin to London that in 1905 took at least twenty-four hours by rail and ship, in 1932 took only seven hours by airplane.[18] Thus, by the 1930s it had become possible to wake up in Berlin and go to sleep in London on the same day. While mail delivery in the United States from New York to San Francisco had taken four days by train in 1900, it took only twenty-six hours by plane in 1924.[19] The awareness of this new time-space relationship, a part of what was generally described at the time as air-mindedness, led the Los Angeles city planner Carol Aronovici to surmise in 1930 that city planners faced "a new phase of community building which might be called 'time-space' or fourth dimensional planning,"[20] an idea that has recently gained attention again in the form of temporary urbanism and flexible master planning.

Globalization, the new time-space relationship, and the aerial perspective influenced the design of early airport landscapes and continue today to provide landscape architects with inspiration and objectives for their airport

FIG. 1, The 1929 spring schedule and air route plan of German Lufthansa AG. (Lufthansa via National Air and Space Museum [NASM 9A08797], Smithsonian Institution)

landscape designs. Chapter 1 explores early airport ideas, the conceptualization of airports as cities and landscapes, and the role that the vernacular has played in the design of these modern built environments. The universalizing classicist and modernist aesthetics used in the design of many early terminal buildings was often paired with vernacular modernist garden and open space designs. Early airports as a whole, therefore, often gave formal expression to what has been called the ambivalence of modernity: its internationalism and uprootedness on the one hand and its vernacular idioms and rootedness on the other. The airport is an example of an environment where the vernacular functioned (and still functions) as both "an agent of modernization" and "a product of globalization."[21] This becomes particularly clear in the open space laid out at Rand Airport near Johannesburg, a South African airport that in the early 1930s was serviced by the British Imperial Airways (fig. 2). The centerpiece of the airport's airside open space design was a gigantic "airman's clock" that displayed Johannesburg time (fig. 3). As Bernd Hüppauf and Maiken Umbach have observed, "the condition of modernity required a life independent of place and experienced time, the seasons, movements of sun and moon, or the individual's inner psychological sense of time,"[22] in short, a life that resembled that of a frequent air traveler. Airport environments like the one at Rand Airport were thus designed to "ground" the traveler by providing neatly laid-out parterres framing a large
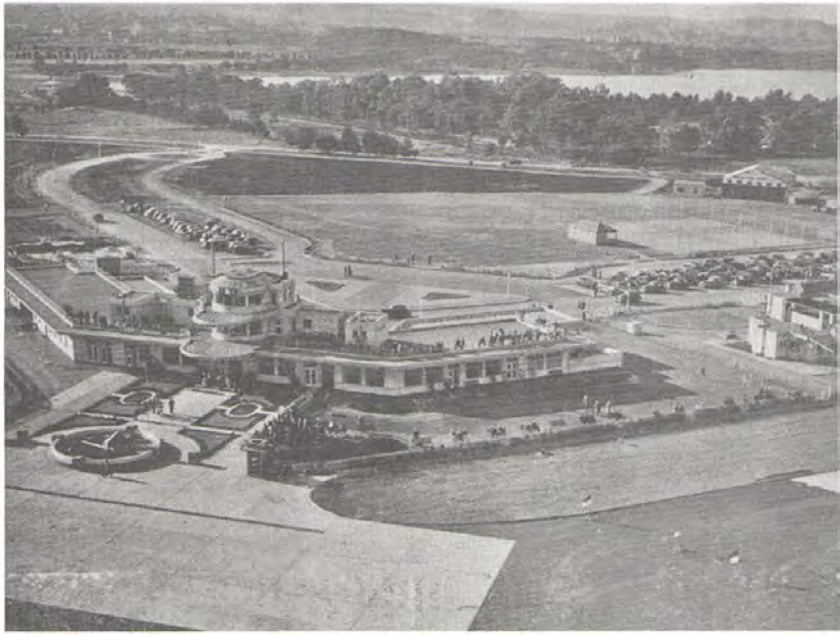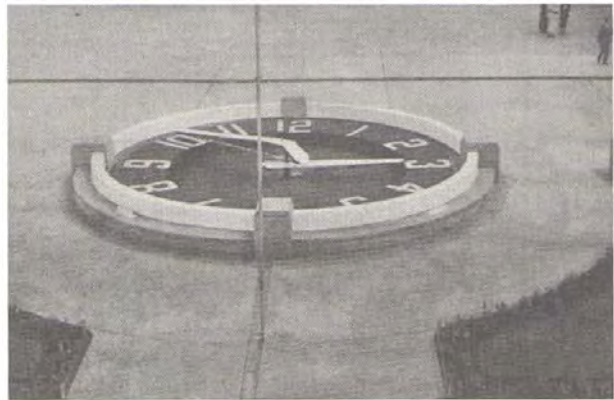
FIG. 2. (*Above*) Rand Airport near Johannesburg, South Africa, 1930s. (South African Airways Museum Society)

FIG. 3. (*Right*) The airman's clock at Rand Airport near Johannesburg, viewed from the control tower balcony, 1930s. (South African Airways Museum Society)

clock that displayed local time. Chapter 1 illustrates how the attempt to define a sense of place, promote cultural memory, and forge local and regional identities through the celebration of vernacular cultures has continued and can be found in a number of modern airport environments today.

Flight

Early discussions about airport design included the concern for the view from the air. Humankind has had a fascination with flight and the aerial view from time immemorial, and it has innate faculties that enable it to understand and imagine this perspective from an early age. The earliest

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discovered plan drawings—even if, strictly speaking, they are in most cases hybrid representations that combine plan projections with elevations—date back to about 3000 BC. Researchers have shown that young children are able to orientate themselves in aerial photographs without instruction and that Australian Aborigines could identify landscape features and locations in aerial photographs without ever before having seen any similar views of the world from above.[23] However, despite their innate and learned familiarity with plan and bird's-eye views, the new technologies that enabled powered flight and further developed aerial photography at the beginning of the twentieth century refocused design professionals' attention on the aerial view and sparked their imagination, in addition to providing them with a new tool.

The aerial view and its meaning for and utilization in landscape architecture, architecture, and urban planning at particular moments in the twentieth century form the topic of chapters 2 through 5. Powered flight has excited and inspired inventors, scientists, pilots, engineers, and the general public for about one hundred years. In the 1920s, it inspired, provided new business for, and became a helpful tool in the work of not only archaeologists, geographers, and foresters but also of professionals designing and planning the built environment. By 1930, even students in city planning were taken on aerial field trips.[24] Although initially the pursuit of a group of elitist, gifted, adventurous men and pioneering, emancipated, boundary-breaking women, flight has become democratized, and the aerial view it offers has become ubiquitous, not least because of the development of aerial photography.

As for many other professionals in the 1920s and 1930s, aerial vision became a modern way of seeing and knowing the land for designers of the built environment. The aerial view represented and constructed the world. Chapter 2 focuses on this new epistemology and on the ideas and conceptions of space and of the natural and built environment that the aerial view induced and facilitated. The aerial view flattened the earth, revealing landscape and settlement patterns, and it dissolved boundaries. The aerial view supported the conception of the city as organism and finally of the metropolitan region. In more general terms, this widening of the view also became apparent figuratively in the increasingly established understanding of landscape architecture and planning as dealing with the scale of gardens, regions, and entire nations. On the occasion of the 1937 San Francisco exhibition on contemporary landscape architecture, the architectural historian Henry-Russell Hitchcock noted that the current understanding of "modern gardening" as connecting buildings to the land and preserving "all the values of the existing natural environment" brought regional and national planning and urbanism "within the field of gardening."[25]

In the first half of the twentieth century, many designers thought that the aerial view could facilitate a new spatial understanding in landscape, architecture, and urban planning and design. When Walter Gropius described his Bauhaus buildings in Dessau, aerial views offered context and an overview of the architecture before the reader was taken on a virtual tour of the building by means of a photo-essay consisting of horizontal views. Gropius noted that the two-dimensional photograph was inadequate to portray space, or the experience of space. The aerial views, however, facilitated positioning the Bauhaus building in abstract space, and the photo-essay that guided the reader through the building's interior was meant to provide the best possible experience of tangible space, which Gropius considered the container and backdrop of movement and life itself.[26] Although axonometric plan projections resembling aerial views were a common representational tool in the 1920s and 1930s, the Bauhaus teachers also acknowledged that space could not be dealt with only on an abstract level. After all, as László Moholy-Nagy noted, space "is a reality of our sensory experience," dependent on physical movement, touch, and hearing.[27] Therefore, as much as the aerial view established a distance from the ground, it also redirected attention to the experience on the ground. The aerial view was used to explore how spaces were and could be inhabited.

Both the detailed indexical view that seemed to be "objective," to convey the truth, and that could best be captured in photographs, and the synoptic and contextual vision from airplanes were used by design professionals as critical-analytical tools. The English-born city planner Guy Wilfried Hayler estimated that "there would be fewer opponents of city planning, could they see the average city as it actually is, from the cockpit of an aeroplane."[28] Chapter 3 explains how, in the late 1920s, oblique and vertical aerial photographs were used to foster regional and national identities and how they were employed by both regionalist and avant-garde architects to both legitimize and confirm accepted opinions. Aerial photographs bolstered their urban critique of dense and dark tenement districts built in the late nineteenth century as a result of city expansion and land speculation in cities like Berlin and Vienna.

The examination of the ideology and rhetoric underlying design professionals' use of aerial imagery in the early twentieth century places some of today's developments into perspective. In the last two decades, during which the deregulation of the air carrier industry has led to the proliferation of cheap flights, the number of films and illustrated books that present aerial photographs of cities and other landscapes has greatly increased. These do not include only contemporary aerial photographs, nor do they focus only on major urban centers or renowned natural beauties and landscapes. Many new books consist of assemblages of aerial photographs taken in the early

years of powered flight and portraying the historical development of small towns, cities, and entire regions.[29] In addition, since 2005 computer programs like Google Earth, Bing Maps, and Maps Live have enabled computer users to virtually fly across the world and view the earth from above in the different scales of regularly updated satellite and aerial images. This recent revival of interest in the aerial view as captured in photographs and on film has both contributed to and resulted from the recent "resurgence of local and regional 'identity politics' in the West."[30]

A case in point is a 2010 three-part television film series entitled *Germany from Above* (*Deutschland von oben*) that was advertised as "lofty television of the homeland" (Heimatfernsehen der erhabenen Art) on the German program website.[31] The success of its aerial cinematography led to a second three-part episode in 2011, and finally to the production of a movie of the same title that was shown in German theaters in June 2012. The questions posed and the statements made in the films addressed issues very similar to those that the architects Erich Ewald and Karl Heinrich Brunner explored in their illustrated books written in the 1920s and discussed in chapter 3. Despite the technological progress in aviation, aerial photography, and surveillance technology since the 1920s, the aerial view is praised now, as it was then, as a new and insightful experience and as a tool to identify good and unsuccessful city planning schemes.[32] The aerial view is seen as revealing both the wonders and the problems and challenges of the world. Like the writers of the 1920s, authors almost a century later describe how landscape features have shaped the people and their settlements and where Germany is its most authentic. Now, as in the 1920s, the broad and contextual aerial views are implicitly intended to bring the reader, or viewer, nearer to earth and nearer to the homeland.

Aerial photographs have been characterized as having the ability to forge local, regional, and even national identities and to inspire landscape architects and architects like Roberto Burle Marx and Alvar Aalto to develop design forms that have contributed to shaping their nation's cultural identity. Focusing on the use of the aerial view and the aerial imagination in landscape architecture and urban planning and design in the early twentieth century, chapter 3 shows that contemporary aerial representations in films like *Germany from Above* have precedents and that the uses assigned to the aerial view and the ideology implicit in the views from above have hardly changed despite, or rather because of, the progress in related technologies.

Flight and the views it afforded and that were captured in aerial photography became the tools Le Corbusier described as "the direct and immediate expression of progress."[33] Following developments in architecture, aerial views and axonometric projections were used in the landscape architecture of the 1930s as a visual rhetoric to signify modernity. Only in a few cases,

however, did the distanced aerial view actually provide the distance necessary for the development of modernist designs based on new spatial and formal arrangements as well as on a new social order.

Closely connected with these attempts on the ground were the first roof gardens built in the European capitals and especially on skyscrapers in New York. Roof gardens were products of the aerial imagination whose construction was enabled by new building materials and styles. They were designed both as living space and as a perch from which to look down upon and out across the city, and for being looked down on from offices and apartments located on higher floors. Besides the roof gardens' immediate experiential quality, therefore, the ground patterning of these exterior spaces above ground was of importance.

World events soon required a revision of this design practice. Whereas before World War II it had often been the designers' intention to provide for gardens and open space whose artful patterns made them landmarks from above, during the war such landmarks needed to be disguised. In the countries at war, landscape architects along with architects and individuals from a number of other design professions enlisted as camouflage officers. With their skills in site analysis and design and their knowledge of plants, they were especially well trained to provide large-scale camouflage work to protect industry, airfields, and cities against the aerial view and air raids. As shown in chapter 4, landscape architecture in and of itself was to a large extent considered camouflage work. If it could be used to "cultivate beautiful air views," it could likewise be used to disguise the land. As camoufleurs, landscape architects and other design professionals acted as scenographers in the theaters of war. Guided by some of the design principles relevant in eighteenth-century landscape gardening and by the principles of Gestalt psychology, they developed site and planting designs using artificial and live materials to blend buildings unobtrusively into the landscape, camouflaging them in particular against the view from above. This vertical camouflage, or design for the "anti-aerial view," blurred the notion that aerial photography portrayed a truthful image of the land. In fact, it now became the photo interpreter's feat to decipher and decide where the truth lay. Landscape architects and other design professionals working as camouflage officers bridged art and science. Working predominantly for the aerial view, they were especially preoccupied with two-dimensional patterns on the earth. Using natural and artificial materials and employing the scientific principles of perception, they were "breaking the division between subject and background and equalizing the picture's surface."[34] As the Gestalt psychologist Rudolf Arnheim noted years later when writing about the "order and complexity in landscape design," most landscapes and gardens seen from an airplane assumed "the character of a texture" created by vegetation and contrasting

with "man-made architecture." According to Arnheim, "depending on the taste of the times, the architect and designer will emphasize this difference of textures by giving the buildings shapes and colors contrasting with those of nature; or play down the difference, either by adapting the buildings to the texture of nature (ivy-covered walls; artificial ruins) or, vice versa, by applying architectural geometry to the garden."[35] Arnheim was expressing a principle fundamental in camouflage design. In the postwar years, landscape architects used selected methods of camouflage to blend new infrastructure like transformer and nuclear power stations into the landscape. While a big concern was the creation of even, uncluttered, and pleasurable horizontal views, the aerial view also continued to inspire designers and guide their decisions.

The use of aerial photography for military reconnaissance purposes and for the development of camouflage schemes resembled the use early landscape ecologists made of it in pattern recognition and in the identification of different ecotopes. In both landscape ecology and landscape planning, aerial photographs have provided a cognitive and intellectual method and an analytical tool, thereby drawing the two fields closer together. Aerial photographs have also offered a conceptual tool and a representational means for the philosophical holism underlying the fields' scientific epistemology. As social scientists pointed out in 1960, aerial photographs "enforce[d] intellectual generalization, by which man is able to comprehend entities and relationships which may not be evident on direct view of the landscape."[36] The ability to use aerial photographs to zoom in and out, providing both macro and micro views, detail, and context, made them fitting instruments for urban and landscape planning besides providing an inspirational tool. As chapter 5 shows, aerial photographs continued to support the common metaphor of the city as organism in the postwar years. Aerial photographs were considered an efficient tool to identify rundown urban areas for urban renewal schemes. However, while city centers were renewed with the help of aerial photography, it was also used to protect and conserve landscapes and natural resources. Aerial photography contributed to what was thought to be a scientific method in regional landscape planning, in which form, in the shape of land-use designations, followed the prevalent function assigned to a particular area. Aesthetic concerns regarding horizontal views always played a role in landscape planning, to larger and lesser degrees depending on the country and its planning frameworks and legislation. More recently, the development of Google Earth has led to the first landscape-planning schemes that take the aerial, vertical view into consideration as well.

The exploration of the moments throughout the twentieth century when flight and the aerial view excited the imaginations of landscape architects, architects, and urban planners shows that it always also led to a heightened

attention to matters of the ground, to the ground view, and to humankind's relationship with nonhuman nature on earth. Consciously or unconsciously, design professionals followed Maurice Merleau-Ponty's 1961 advice to "return to the 'there is' which underlies" scientific thinking, "a thinking which looks on from above, and thinks of the object-in-general."[37] According to Merleau-Ponty, attention needed to be paid to the site and the soil, and to the body moving through and on them. Influenced by these phenomenological concerns and by the early earth art of the 1960s, landscape architects paid renewed attention to movement and the visual horizons in their park projects by modulating the ground and designing the ground plane. As Malevich mentioned at the beginning of the twentieth century, humankind must always return to the ground and to horizontality.

Landing

As a prime characteristic of airfields and airports, horizontality has in these past years been a dominant theme in the conversion of former airfields and airports into parks and new neighborhoods. Abandoned airports have provided landscape architects with new opportunities and new horizons for the design of new large parks. The ideas and designs for these areas offer insight into the current understanding of the relationship between humankind and its environment. The designs for Tempelhofer Freiheit and Nature and Landscape Park Johannisthal in Berlin, and for Orange County Great Park in Southern California that are analyzed and interpreted in chapter 6 show that former airfields have a large potential for urban redevelopment. While they are global phenomena resulting from capitalist urban development, these parks on former airfields are both mirrors and motors of local social and environmental politics and policies. Both informing and informed by these, the park designs seek to accommodate human visitors and wildlife, turning "nature" into a commodity for consumption and into a means for the respective city's place-marketing. Whereas the airfields were once points of physical departure for travelers to other cities, countries, and continents, when turned into parks, they become sites that transport visitors into different mental worlds.

Larger than many other postindustrial grounds occupied by steel- and gasworks and railway switchyards, decommissioned airfields offer many cities unforeseen opportunities and enough space to include areas for wildlife conservation. As exceptionally large urban and suburban parks, designed landscapes on former airfields often include "conflicting habitats and uses [that] call for a long-term, bird's-eye view of the whole system . . . by a multidisciplinary team . . . working in collaboration."[38] The interdisciplinary bird's-eye view used in the designs discussed in this book is based upon

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an understanding of nature that includes humans but at times is also considered to need protection from humans. In diverse forms, the designs are informed by ecocentric restoration — itself "a technology just about as old as the airplane"[39] — and they showcase postmodern ecological science and approaches to park planning and design. With different planning approaches and designs the park designers have tried to return the airfields back to nature. The transformation of former airfields into park landscapes that in some cases have also acted as environmental compensation measures may become even more important in the future. While on the one hand, aviation is among the fastest-growing sources of human-induced carbon-dioxide emissions, on the other hand, surges in fuel prices and decreased federal subsidies have caused some air carriers in the United States to cut their services to small airports, which now lie unused. Although the details of these events would have been hard to predict in the 1920s, when there were up to eight thousand aircraft in active service in America,[40] some planners at the time did foresee that parkland turned into an airfield might be transformed back into parkland, thus coming full circle and becoming part of a metropolitan and regional park system.

WHILE THIS BOOK deals with some events and developments during the twentieth century and into the twenty-first that turned the interface between earth and sky into a place where the earth meets the sky, it omits many others. Written from the perspective of landscape architectural history in the Western world, this book concentrates on selected projects and moments throughout the twentieth century when aviation and the aerial view assumed special importance for landscape architecture and the related disciplines of architecture, urban planning, and design. Since its professional beginnings in the 1880s in the European countries and its professionalization in the United States in 1899,[41] landscape architecture has expanded and diversified its field of activity. From private gardens and public parks to urban, regional, and environmental planning, landscape architects have come to design and plan an increasingly broad range of landscapes. Because of the obvious relationship between built structures and the open spaces and nature surrounding them, and due to the close connection between landscape architecture, nonhuman nature, architecture, and urban planning (landscape architects were among the first urban planners), this book bridges landscape architectural, environmental, architectural, and planning history. It oscillates between science and art, art and nature, technology and landscape. Landscape architecture's inherent interdisciplinarity and "fuzziness" warrant excursions into the histories and events in related fields.[42] By examining how, at particular moments in some countries, the

professions of the built environment used, influenced, and were influenced by powered aviation and the aerial view, this book also shows how this influence transcends countries and continents. Like flight, which knows almost no geographical boundaries, it is not limited to just one particular region or country.

As products of modernity, aviation and landscape architecture with its affiliated professions developed alongside each other. Flight lifted landscape architects and their colleagues into the air. The aerial view transformed the way the landscape was studied, analyzed, planned, designed, and managed, and it eventually forced the professionals dealing with the built environment to pay renewed attention to life, movement, and views on the ground. Both the construction of aviation infrastructure on the ground and the aerial perspective have furthered the artistic and scientific development of landscape architecture, architecture, and urban planning and design through the twentieth and into the twenty-first centuries.

Six | From Airfields to Green Fields

RECLAIMING AIRPORTS AS LANDSCAPES FOR URBAN ECOLOGY

Throughout their existence, but especially since they came to occupy such a dominant position in our mobile global world as sites for mass travel in the second half of the twentieth century, airports have inspired thought about landscapes and about the creation of new landscapes in fields as diverse as geography, wildlife biology, and art. An increasing awareness of the environmental impacts of aviation facilities and aircraft has encouraged the conceptualization of the airport as landscape, and as a component in the landscape mosaic. Wildlife biologists and ecologists have developed elaborate wildlife management schemes for airports and their surrounding areas.[1] These schemes are the result of the threat that certain wildlife species pose to flight security on the one hand, and of the realization that many airports provide habitats for endangered flora and fauna on the other.

At the beginning of the jet age, Robert Smithson looked at the airport landscape from the detached, critical perspective of the artist and discovered the potential of the airport for his work. His work on the airport project at Dallas–Forth Worth led Smithson to think about landscape in a new way. For him "landscape" now no longer implied "a rustic garden." Instead, it appeared to him "more like a three dimensional map."[2] Smithson broke with the tradition of seventeenth-, eighteenth-, and nineteenth-century landscape art and with the way of seeing that this art implied. As noted in chapter 5, Smithson's "aerial art" favored the vertical view. He developed artworks for the direct view from approaching and departing airplanes and for their view mediated through video in the terminal building. Some decades later, in the 1990s, when the air carrier industry in Europe had been deregulated, observations on airports in general and Heathrow Airport in particular inspired the cultural geographer Denis Cosgrove to explain what by this time had become the extended meanings of "landscape." Studying

an airport could "recover landscape as a synthetic idea, a flexible concept,"[3] he posited, that included social, political, and economic worlds. Like Smithson, Cosgrove compared the airport with a rustic garden, in his case with a Georgian landscape garden. Unlike Smithson, however, he described the airport as a landscape by drawing attention to the conceptual *similarities* between airports and landscape gardens. For example, like a Georgian estate in the eighteenth and nineteenth centuries, Heathrow Airport today is a major economic motor of the country. Cosgrove compared the Georgian estate's main house to the airport's terminal building. Similar to the maps and paintings that were part of the interior designs of Georgian country homes and that indicated their power, plans and schedules are displayed in the airport terminal to inform and orientate passengers. Cropped grass surfaces play an important role both in estate and airport design, which also controls sightlines and movement. While meadows and grass lawns were parts of the picturesque and pastoral scenery in landscape gardens, at airports they also fulfill more practical purposes, collecting runoff and dust on the one hand, and, due to their low cover, preventing birds from hiding and nesting, thereby decreasing the risk of bird strike.[4] While Cosgrove's comparison might have seemed far-fetched to many of his readers given the technological environment of today's major airports, the history presented in chapter 1 of this volume shows that airports have always been envisioned as landscapes by some architects, landscape architects, and critics and even went through what Reyner Banham in 1962 called an "almost pastoral phase."[5] In the 1920s and 1930s, when airplanes were still "light and slow-moving on the ground,"[6] a flock of sheep would often be kept to "mow" the grass and compact the soil.

Since the 1990s, flocks of sheep have been returning to some former airfields, and the early proposition expressed in the 1920s *Regional Plan of New York and Its Environs* to convert airports that become outdated and unnecessary into "permanent public open space" has become a reality.[7] Furthermore, the conceptual analogy that critics and airport architects drew implicitly and explicitly between airports and Versailles in the 1920s has again played a role in the more recent context of airport conversion into parks. The landscape architect Eelco Hooftman, principal of the firm Gross.Max., whose design for the decommissioned Tempelhof Airport was commissioned in 2011, has pointed toward this analogy that seems particularly pertinent in the case of Tempelhof.[8] By embracing the open, seemingly level field and providing a threshold between the city and the landing field, Tempelhof's monumental terminal building, designed by Ernst Sagebiel and built beginning in 1936, conceptually resembles the Palace of Versailles, which is similarly located, acting as hinge between the city and extensive gardens.

Due to the expansion of domestic and international air travel furthered

by new technologies, global markets, and airline deregulation, many cities have built new international airports farther outside the urban areas and have closed down their former commercial airports. Many military air bases have also been closed as a result of the changing geopolitical power structure and savings measures. Numerous decommissioned commercial and military airports like Chicago's Meigs Field; Stapleton in Denver; Crissy Field in San Francisco; El Toro Air Base in Orange County, California; Downsview in Toronto; Hellenikon International Airport in Athens; Fornebu International Airport in Oslo, Norway; Francisco de Miranda Air Base in Caracas, Venezuela; Mariscal Sucre International Airport in Quito, Ecuador; the Gatow, Tempelhof, and Johannisthal Airports in and near Berlin; and Riem in Munich have been, are being, or are planned to be turned into parks. In many cases, as in the ones in Berlin, Germany, and Orange County, California, further discussed in this chapter, these developments include new neighborhoods and the provision of nature reserves. As this chapter shows, the design opportunities they involve and their central position for urban development make former airports turned into parks ideal subjects for the examination of contemporary approaches in urban park design and of our current relationship with the environment and nonhuman nature.

LIKE MANY EARLY public urban parks and like parks on former industrial sites, decommissioned airports are often located on the periphery of urban areas, or in areas that were once peripheral but during the twentieth century became surrounded by new industrial, commercial, and housing developments. Park designs for a number of former air bases like Gatow near Berlin, the Maurice Rose Army Airfield near Frankfurt, and the former Munich-Riem Airport in Germany intentionally attempt to create links connecting urban and rural areas and have become parts of the cities' metropolitan park systems. Like many former industrial sites, these former airports also have a high percentage of impervious surfaces and contaminated soils resulting from oil, gasoline, and deicing fluids. While the remediation of pollution on former airport sites poses challenges, their vast open space provides the cities with new opportunities. Some of the biggest urban parks that have recently been created or are under construction are located on former airport and airbase sites. Not only their peripheral location and the history of their inception, but particularly their size, openness, and flatness distinguish these sites from many other urban parks. In recent decades, a number of parks have been created on other transportation sites as well, in particular railroad sites. In contrast to parks on former airport sites, however, parks on railroad sites tend to be linear, following the tracks, as in the case of the Promenade Plantée in Paris (construction 1989–94), the Natur-

Park Südgelände on a former switchyard in Berlin (construction 2000), and the Highline in New York (construction begun 2006), and they are often also more centrally located, as in the case of the Railyard Park near the center of Santa Fe, New Mexico (construction 2006–8), the Railroad Park in downtown Birmingham, Alabama (construction 2008–10), and the Park am Gleisdreieck in Berlin (construction 2009–13).

The openness and relative flatness of abandoned airport sites in many ways provide designers with a blank slate. Whereas the sites for the first urban parks were often selected on the basis of their unsuitability as building sites as a result of their topography (Central Park) or for their attractive topographical features (Englischer Garten, Prospect Park), former airport sites lack notable topography and have been cleared of shrubs and trees. They are characterized by a lack of vertical features, and their buildings are limited to the edges of the open field. They provide twenty-first-century planners with the vast openness that avant-garde architects and urban planners like Le Corbusier sought for their work at the beginning of the twentieth century. Decommissioned airports have offered cities new opportunities for growth and development, and they have led to projects like Hellenikon Metropolitan Park at Athens's former international airport south of the city center and Orange County Great Park on California's El Toro Air Base outside Los Angeles being advertised respectively as the biggest metropolitan park project in Europe and the "first metropolitan park of the 21st century." With 1,325 and 1,347 acres respectively (536 and 545 hectares), these sites are indeed bigger than some of the largest eighteenth- and nineteenth-century urban parks, for example, Central Park (843 acres, 341 hectares), Munich's Englischer Garten (900 acres, 364 hectares), and Golden Gate Park (1,000 acres, 405 hectares). And while it varies how far outside the central district they are located, parks on former airports do in many cases cater to an entire metropolitan area rather than to only the central city. Similar to the nineteenth- and early-twentieth-century park projects, however, they are instruments of urban boosterism, or place-marketing. Parks on former airport sites are part and parcel of the increasing commodification of urban life, and they are frequently connected to urban housing development by private investors whose taxes are intended to finance the public park development.

City and federal governments and agencies, and development corporations are promoting these new parks as sustainable, future-oriented projects. It is true that the parks provide many citizens with access to new large public open space for recreational pursuits, reduce the urban heat island effect, and provide fresh air and many plant and animal species with areas for retreat. Due to their particular site conditions on higher and relatively flat ground without shrub or tree cover, former airports often also present a rare habitat for endangered species. At the same time, however, these park

projects become catalysts and platforms for capitalist urban development (as in earlier times) and for neoliberal politics.

Most parks on former air bases and airports fall into what the environmental sociologist Galen Cranz and Michael Boland defined in 2004 as the "sustainable urban park" and what a 2007 volume on new park landscapes simply called "large parks," parks of 500 acres (202 hectares) or larger.[9] Like the ideal type of "sustainable urban park" that Cranz and Boland described, many parks on former airport sites use site-specific plant materials, sustainable construction, and maintenance and management practices, including stream restoration. They encompass wildlife habitats and provide venues for community engagement including urban gardening and farming. Furthermore, their development and design are process-oriented and geared toward incorporating ecological and social changes over time. However, the following elaborations on Orange County Great Park in Southern California and Tempelhofer Freiheit and Johannisthal in Berlin—projects that are largely still under development—will show that while the overall goals of these park projects are often similar, the design approaches and the ideas of nature and restoration ecology on which they are based differ. Although the projects are both products of and agents in neoliberal policies and the capitalist city in general, their social and environmental sustainability depends, among other things, on the respective national and local histories, including environmental and social politics.

Tempelhofer Freiheit

In the wake of German reunification, Berlin has in the last two decades been expanding one of its airports and closing down others. While the former East Berlin airport Schönefeld is being turned into what is to become Berlin's new international airport, the city plans to turn Tegel Airport into an industrial zone and a new residential neighborhood including a park. Until 1989, Tegel functioned as the airport of West Berlin and has since then handled most of Berlin's domestic and international air travel. Johannisthal Airfield, southeast of the city center, and Tempelhof Airport, situated adjacent to the Berlin districts of Friedrichshain-Kreuzberg and Neukölln, have already been decommissioned and turned into parks. In the 1990s, one of Germany's first flying fields located in Johannisthal began to be converted into a park with an adjacent mixed-use development that is still under construction. After the U.S. Air Force vacated Tempelhof Airport in 1993, it was closed to all civilian air traffic in October 2008. Since May 2010, the landing field has been open to the public for use as a park (fig. 78). The conversion of both Johannisthal and Tempelhof into public urban parks not only illustrates city politics, but the selected park designs give expression to
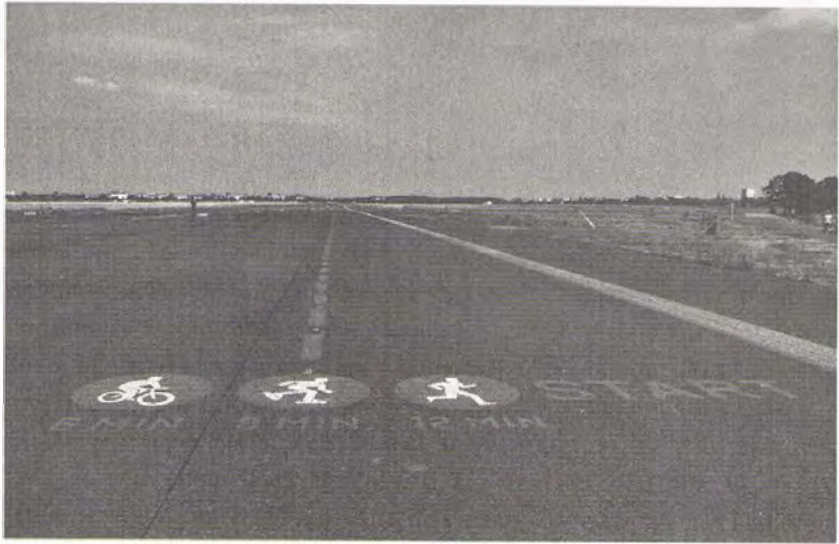
ideas of nature in the city that have both shaped and been shaped by local
and national social and environmental policies and politics, global economic
development, as well as the dominant cultural and scientific theories of the
last one hundred years. As much as the park designs reflect approaches and
attitudes specific to Berlin and German environmental and social politics
and culture, they are also indicators of more general tendencies in contem-
porary Western landscape architecture, which has in the urban realm often
become a handmaiden of neoliberal policies.

In April 2011, almost a year after the opening of Tempelhof to the pub-
lic and the May 2010 deadline for Tempelhof's open international park de-
sign competition, the Berlin Senate Department for Urban Development
accepted for realization the design of the Edinburgh landscape architecture
firm Gross.Max. As one of the six firms from among seventy-eight com-
petitors admitted to the negotiated procedure of the second round of the
competition, Gross.Max. had the chance to hear and discuss the concerns
and wishes of the competition jury, the Berlin Senate Department for Urban
Development, and Berlin citizens and to react to these discussions in their
final design.[10]

The Berlin Senate Department considered Gross.Max.'s design a suc-
cessful response to the requirements voiced in the invitation to tender. Its
detailed guidelines clearly revealed a framework based on the capitalist
economy of Germany's self-declared "creative" capital and on local politics.
To design an "urban parkland for the 21st century" as requested in this doc-
ument meant to design for "social, economic, cultural and environmental
sustainability." Designs were to contribute to "the integration of a multi-

FLIGHTS OF IMAGINATION

cultural, socially intermixed and ageing urban society" and of "social milieus in adjacent areas." They were to provide for a public open space that was "open for general use" while also giving certain groups the opportunity to use "parts of the parkland for their own specific purposes."[11] The invitation to tender explained that the design should offer "a unifying spatial framework for the manifold activities and needs of an increasingly diversifying society." The park design was also required to be a branding instrument that would provide the district of Tempelhof with a new public image and facilitate the entire park development process. In light of the city's financial constraints, the invitation to tender called for ideas for "new public-private areas" and "self-sustaining" areas in the park, and suggested that the design provide a framework that could accommodate do-it-yourself trends, privately organized outdoor activities, as well as activities run by charitable and not-for-profit organizations.[12] Tempelhof was identified as the site for the 2017 international garden exhibition, an event held in Germany every four years and typically used as a means to initiate the development or renewal of parts of the host city. The design concept therefore was to provide for incremental development and to be flexible so that it could respond to "changing future conditions, new actor constellations and emerging trends."[13]

While the invitation to tender asked the designers to pay special attention to the historic runways, pathways, and buildings on the site, as well as to the site's characteristic openness, flatness, and panoramic views, it also encouraged them to search for and develop "new aesthetic visions"[14] and suggested the "New Romantic style" as a source of inspiration. In addition, because the park was to be attractive as well as useful, the guidelines also encouraged entrants to consider contemporary trends of urban gardening and forestry for inclusion in the park design. The requested design called for a layered landscape in which parts could accommodate multiple uses. Only in this way, the document stated, could all the required uses be accommodated. Usefulness was also to be understood in terms of climate and habitat protection for rare animal and plant species. The conservation of the field's openness and vegetated cover was therefore requested not only for aesthetic reasons but also because Tempelhof is an important source of fresh air in a dense city housing 3.4 million inhabitants. Another challenge presented to the designers was to make Tempelhof accessible for the recreational use of Berlin's inhabitants while at the same time protecting rare and threatened species like the skylark by conserving their habitats on site and providing for the necessary ecological networks between Tempelhof and other sites.

Gross.Max. responded to the invitation to tender's various restrictive guidelines by using circular and oval-shaped paths that continue the quarter circle of the terminal apron, circumscribe the field, and substitute "belt-walks" for the taxiway (fig. 79). The runways are maintained, and their

straight lines are continued into the adjacent neighborhoods as tree-lined allées and pergolas. Two additional straight pathways are suggested that run perpendicular to the east–west orientated runways to connect the new neighborhoods in the north and south of the park. A pavilion located where the north–south pathways cross the northern runway will provide exhibition space during the time of the park construction as well as space for food concessions. One of the interior circular pathways runs on an artificially created ridge that also forms a ha-ha, providing a spatial enclosure and a differentiation between the core park area near the terminal apron and the rest of the park on slightly lower ground. This protects the horizontality of the site, but uses the existing 13 to 20–foot (4 to 6–meter) elevation change of the field, which slopes down from the eastern to the western edge. The more heavily used parts of the park as well as wooded areas are located along its edge, maintaining the field's openness. Playgrounds, a skate park, and designated "pioneer areas" for the use of various citizen groups are sprinkled into the meadows along the western and southeastern edge of the park for easy access. An area between the oval pathways in the south of the field is planned to become a "pioneer woodland" that will be allowed to develop over time from beech to oak woods. Only the existing trees in the location of the 1920s terminal building—an area of high biodiversity and a habitat for a number of rare species that in Gross.Max.'s design becomes an arboretum—will obstruct open views across the field from some standpoints near it. An artificial rock with a climbing wall that doubles as a monument to Wilhelm and Alexander von Humboldt near the eastern edge of the park will offer a bird's-eye view of the field (fig. 80). The rock monument is imagined as a new vertical landmark and a counterweight to the field's 1980s radar tower in the northeast. In response to many citizens' wishes, Gross.Max. included a water basin near the terminal apron and near the circular area that is designated as event space. The designers also accommodated bird-watchers by proposing to place movable passenger boarding stairs as an observation post in the open meadows in the southern part of the field.

FLYING HIGH: TEMPELHOFER FREIHEIT AS NEW-ROMANTIC IDYLL

By demanding that the park design experiment with new design forms, explicitly mentioning the New Romanticism, the Berlin Senate Department promoted the city as cultural capital. In the 1990s, the German landscape architect Dieter Kienast had anticipated a return to romantic ideals in landscape architecture, and contemporary landscape architects themselves have recently noted the rediscovery of what they call romantic sensibilities.[15] Given the design motifs proposed for the park on the one hand, and the

emotional and romantic portrayal of the park in perspectival renderings on
the other, it appears likely that the designers followed the suggestion in the
invitation to tender to study recent cultural trends and developments in the
arts, including the New Romanticism.

The New Romanticism is considered a reaction to the increasing mo-
bility of society and the lack of permanent social ties, as well as to the re-
sulting search for security and intimacy and a result of the yearning for
"a paradisiacal, beautiful and fairytale-like state." However, this does not
mean that artists whose work exhibits these character traits are unaware of
"the abysmal, the uncanny, and the mysterious" often present behind these
idylls.[16] Although the park designers are not attempting to create the kind
of emotionally disturbing landscape that is reflected in some works by the
New Romanticists, they are working on and with a site that has a varied
and in part disturbing history. The park project itself is the outcome of the
tension created by the melancholy, nostalgia, and unease resulting from the
site's historic significance and by the expectations and desires based upon
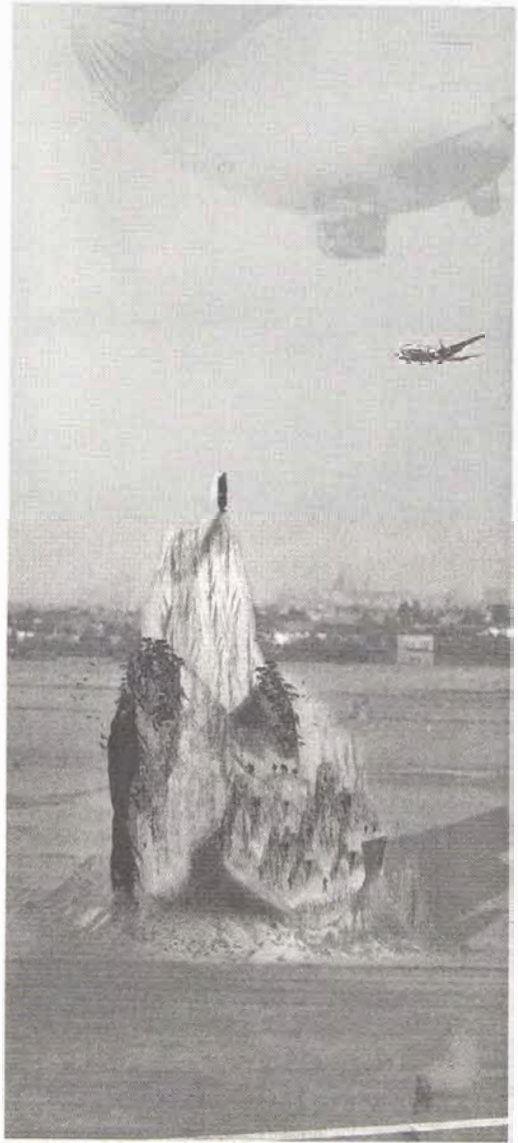its perceived potential.

FIG. 80. Gross.Max., rendering of the Rock Monument planned for Tempelhofer Freiheit. (Courtesy of Gross.Max.)

Various other connections can be drawn between the New Romanticism and nineteenth-century romanticism. Gross.Max.'s park landscape responds to the request in the invitation to tender for a combination of utility and beauty, an old trope relevant throughout garden and landscape history that was first conceptualized in Roman times during the reign of Emperor Augustus, when it was summed up in the Latin expression *dulce utili*, used to describe the integration of agricultural land and ornamental gardens in Roman villas.[17] It was subsequently prominently given expression in the first ornamented farms in eighteenth-century Britain, which consisted of coun-

try estates laid out to please the eye and accommodate agricultural lands, and in the eighteenth- and early-nineteenth-century land-embellishment schemes in some German states. Besides this old design concept, individual park features and motifs like the ha-ha reference the era of romanticism in garden design and the romantic mind-set of the eighteenth and nineteenth centuries. The rock monument is not only dedicated to two noteworthy Berlin exponents of the romantic era, the Prussian minister and philosopher Wilhelm von Humboldt, and his younger brother, the naturalist and explorer Alexander von Humboldt; it also calls to mind one of the key works of German romantic painting, the *Wanderer above the Sea of Fog* by Caspar David Friedrich. As if these references to a romantic worldview did not suffice, Gross.Max. placed the angel Damiel from Wim Wenders's 1987 film *Wings of Desire* on the top of the rock monument in one of their catchpenny renderings. Set in 1980s Berlin, Wenders's film created a counterproject to reality by establishing a world of invisible gentle angels who listen to the tortured thoughts of mortals and try to comfort them. While the film is a meditation on Berlin's past, present, and future, Gross.Max.'s phased park design for the next decades attempts to build with the past and present, to envision the future. The design turns the former airport into a modern ornamented farm.

In addition to these conceptual ideas and design motifs referencing romanticism, the visual representation of the park design in the plans and in particular in the perspectives that aim at forging an affirmative public opinion conveys a romantic atmosphere. Although existing buildings like the terminal firmly ground the illustrations in reality, many of the evocative images portray the dreamlike atmosphere of an imaginary world: A beekeeper tends to his beehives in a blossoming fruit orchard rendered in white and warm colors that evoke the heat and glistening sunlight reflected by the white petals of the flowers of the fruit trees. A slight haze apparent in certain areas of the image contributes to this atmosphere. In contrast to this rural summer idyll, two other perspectives lead the viewer to the water basin near the terminal apron in the late fall and winter. Located relatively near the city center and in the vicinity of dense residential neighborhoods in Tempelhof, Kreuzberg, and Neukölln, this park area appears populated by citizens (and waterfowl on the water and flying overhead) who are crossing the basin on a boardwalk, going for a walk, or simply spending time outdoors to enjoy the fresh air and open views across the water while sitting on the seating slabs. The dominant gray and blue tones and rose hues as well as the light used in this image transport the viewer into the late fall season, a sensation that is verified by the type of clothing worn by the people who inhabit the park in this illustration. A rendering portraying this part of the park in the winter shows an expansive frozen water surface resembling one

of the many Brandenburg lakes, but populated with an urban skating crowd. The color schemes, blurry outlines, transparencies, and light make these images very evocative, suggestive, and atmospheric, transporting the viewer into the future park—a seemingly ideal world.

With their design, Gross.Max. addresses the social phenomena that are inherent in the New Romanticism, and in the firm's graphical design representation it uses techniques similar to the ones employed by artists of the New Romanticism. In atmospheric images with a dreamlike haze, produced with the help of layers and filters in computer graphic programs, the designers invoke a vast healthy new park landscape that can provide space for private contemplation and reflection and for what the art historian Martina Weinhart has described, in regard to the New Romanticism, as "perceiving the transcendent."[18] The way light, haze, and blurriness are used in some of the images recalls romantic paintings by William Turner, Thomas Cole, and Albert Bierstadt, and the landscape paintings by Gerhard Richter, and it brings to mind pictorialist photography. Before the invention of the computer and programs like Photoshop, photographic techniques used by early-twentieth-century landscape architects like Gudmund Nyeland Brandt to illustrate their designs and romantic ideas of the ideal future garden on occasion vaguely resembled the techniques and methods used by the pictorialists.

With their design for Tempelhof, the park designers, like their late-eighteenth-century and nineteenth-century romantic forebears and like the contemporary exponents of the New Romanticism,[19] strive to create "individualized counter-world[s] to [a] disillusioning reality" and attempt to build "a new relationship between the individual and nature." As in the Romantic period, the focus is on the individual and his/her emotions. Whereas the reform parks in the early twentieth century were intended to cater to the masses, Gross.Max. argues that in a society that celebrates individualism, new parks have to serve the particular and often idiosyncratic needs of the individual.[20] In keeping with the initial suggestions in the invitation to tender, Gross.Max. has tried to portray its park design as capable of attributing "the commonplace with significance, the quotidian with mystery, the familiar with the aura of the unfamiliar."[21] While creating a park imaginary that blurs high and pop culture, Gross.Max.'s design adheres to the city's aim at turning the former airport into cultural capital. In the real world, this required new planning instruments and new forms of public engagement.

A PARK FOR URBAN PIONEERS

As a postmodern project, the park design emphasizes the indefinite and the ambiguous, characteristics that have also been attributed to the New Romanticism.[22] Although it is an old toponymic description alluding to the wide, open expanse that was a parade ground in the late eighteenth century,

the park's current name—Tempelhofer Freiheit (Tempelhof's Liberty)—is also programmatic. Not only does it capture the twentieth-century historical-political significance of the airport with special reference to the Berlin Airlift, but it also describes the city's intentions for the new park. Tempelhofer Freiheit and its design are the result of process-oriented urban development, and of flexible and adaptive participatory master planning that determine as little as possible and as much as necessary by integrating informal activities into a formalized design framework. The design of Tempelhofer Freiheit is the result of numerous citizen petitions and referenda, and of citizen participation through surveys, workshops, charettes, excursions, and Internet platforms that reached a climax under the social democratic government in the late 1990s and the following decade in a planning and design process that began in the early 1990s and still continues. Plans to close down commercial air traffic at Tempelhof began to be made shortly after the fall of the Berlin Wall in 1989. However, due to opposition by air carriers and various other interest groups, the closure only took effect after a final court decision and a referendum in 2008. As soon as Tempelhof was closed, the Senate Department for Urban Development could build upon the experience of the preceding two decades, during which the reconstruction efforts in the inner city had had priority.

The planning approach for the city center in the 1990s, based upon development initiatives in both East and West Berlin in the 1980s and described as "critical reconstruction" (kritische Rekonstruktion; Josef Paul Kleihues), focused on achieving a preconceived urban form based upon the image of the "historic European city," and sought to establish a long-lost historic continuity between the physical and social fabric of late-nineteenth-century Berlin and the present.[23] The evolution and development of Tempelhofer Freiheit must be understood in light of the public criticism sparked by the planning concept of "critical reconstruction," including its lack of citizen participation; the financial crisis that hit Berlin as the result of a bank scandal; and the global neoliberal economy. These events have influenced the current left-wing government to promote citizen participation and to glean development ideas from "urban pioneers," entrepreneurial citizens who through various initiatives and activities have influenced urban development since German reunification. Their temporary and often illegitimate use of leftover interstitial urban spaces have rendered parts of the city more attractive to members of the "creative" professional middle class, laying the foundations of subsequent gentrification. Because temporary urbanism often increases property values, many property owners and the city government have come to appreciate urban pioneers.

At Tempelhofer Freiheit, the Senate Department of Urban Development is using urban pioneers to aid in park development and win public

FIG. 81. A "pioneer area" used for community gardening in July 2011. (Photograph by the author)

approval (fig. 81). The realization of the park design depends on a hybrid of bottom-up and top-down processes in which the city government works with the designers to create a framework and overall vision that relies on the citizens' creative potential and entrepreneurial energy. The city government is counting on do-it-yourself initiatives and private-public partnerships for the realization of parts of the park and its programming. It considers the park a "platform enabling proactive forms of cultural engagement"[24] that can nurture an active citizenry. Less explicit is the fact that Berlin's recent left-wing government and liberal political coalitions have adopted the urban pioneer tactics to legitimize and veil the fact that the project promotes gentrification and the displacement of parts of the population, especially in the neighborhood of Schillerkiez, east of the park.

The Senate Department's call for indeterminacy and flexibility in the planning process is most visible in Gross.Max.'s phasing of its design, its accommodation of the 2017 IGA, and in the "pioneer areas," 30- to 47-acre (12- to 19- hectare) plots of land that can be used on a temporary basis by citizen groups who apply with an idea and are selected by the Tempelhof Project GmbH, a state-owned development agency. The language and rhetoric used to describe the social processes that are intended to influence the incremental park development derive from ecology. Gross.Max.'s principal, Eelco Hooftman, for example, likened Berlin's "urban pioneers" to botanical pioneer species. In 2011, he explained Berlin's development strategy as applied to Tempelhofer Freiheit as follows: "We drew a comparison with nature. Pioneer species are the first species to colonize fallow land; they are followed by successional species, and with time a stable climax vegeta-

tion develops. Translated to urban development this means that you have to grant pioneers the opportunity to develop more complex situations so that this can finally create a stable habitat."[25] A 2007 publication issued by the Berlin Senate for Urban Development compared "urban space pioneers" to pioneer vegetation because they did not impose special requirements on the site.[26] Furthermore, it was pointed out that the initial phase of temporary urban projects provided ideal conditions for their fast "cell growth." Thus, the temporary projects and their spaces were also considered cells of a larger organism, the city. The text noted that available space and attractive experimental milieus made it easy for urban pioneers to overcome any initial inhibition, while the permanent insecurity and the collective pressure to assert oneself against the interests of the property owner led to well-organized microcommunities and networks.[27] Although the hybrid of the top-down and bottom-up planning approaches taken at Tempelhof under Berlin's social-democratic leadership differs from the 1990s conservative government's heavy-handed urban development of Berlin's inner city that made use of the organism metaphor and was based on a hierarchical conservative social model, an organicist rhetoric persists. In the 2000s, the image used is the ecosystem of which Berlin's citizens have come to be seen as integral parts. In Tempelhofer Freiheit, they can populate "pioneer areas" that are located next to zones subject to management regimens set up to protect select rare plant and animal species. However, the "pioneer areas" are not as open as they may seem. As with the protected areas for flora and fauna, an administrative unit, the state-owned development agency Tempelhof Projekt GmbH, ultimately determines who can populate them, and it may do so with the bias of promoting the "creative class."

Overall, the design strategies of Tempelhofer Freiheit reflect a global phenomenon—the loss of public funds and government control over public land and the increasing privatization of formerly public institutions—and they address a local challenge—Berlin's debt crisis—with the tool of temporary urbanism. Presenting the city with what some consider a bestowed asset and others a self-inflicted burden, Tempelhof has provided Berlin with a ground for experimenting with and testing new planning approaches and ideas. The park is designed to anticipate change and embrace the site's evolution. As a case of process-oriented urban planning, Tempelhofer Freiheit breaks with Berlin's urban planning approach of the recent past that shaped the "critical reconstruction" of Berlin's inner-city area. Current planning seeks to activate different uses of urban space and explicitly encourages community engagement and activism.[28] However, this does not mean that current planning has relinquished neoliberal ideologies. On the contrary, planners appear to have co-opted temporary urbanism as a tactic for advancing a neoliberal agenda.

In addition to Tempelhofer Freiheit representing both a catalyst and a lab-oratory of process-oriented urban development as well as flexible and col-laborative master planning, the park stands alongside two other exemplary postmodern park designs of the last thirty years: Parc de la Villette (1982) on the grounds of a former meatpacking district in northeast Paris and Downs-view Park (2000) on a decommissioned air base in Toronto. Like Parc de la Villette and Downsview Park, Tempelhofer Freiheit is the outcome of an international competition that requested new approaches and expressions in park design capable of contributing meaningfully to a city's image. Gross. Max.'s commissioned design and some of the other competition entries for Tempelhofer Freiheit reveal the influence of the design by the architect Bernard Tschumi for Parc de la Villette and of the design for Downsview Park by a team led by OMA and headed by Rem Koolhaas and Bruce Mau. Albeit in different ways and forms, both Tschumi at La Villette and OMA/ Bruce Mau at Downsview designed frameworks for the evolution of a vari-ety of uses. Tschumi began to highlight strategy and process in his design, distancing it from any imposed hierarchical implications. This approach was carried forward almost twenty years later in the prize-winning design for Downsview Park, and another ten years later it became the operating mechanism for Tempelhofer Freiheit. However, whereas Tschumi's abstract overlay of three autonomous systems of points, lines, and surfaces on the site of La Villette did not exploit "the landscape's expressive power,"[29] and de-liberately relied on abstract theories and systems independent from the site itself and its context, advances in this direction were made in Downsview Park and are finally playing an important role again in Tempelhofer Freiheit. Whereas the Tschumi and Koolhaas/Mau teams largely circumvented his-torical analysis of the sites and their contexts at La Villette and Downsview, history is again playing a central role in Tempelhof.

For Downsview Park, OMA/Bruce Mau submitted a diagram rather than a design and proposed a visionary flexible design strategy that could be im-plemented over a fifteen-year period. "Tree City," as their competition entry was called, used "trees rather than buildings . . . [to] serve as the catalyst of urbanization."[30] Rather than offering a design for a park as an object (albeit living), OMA/Bruce Mau provided the idea for a park as an "object-event" (Gilles Deleuze) or as a "performative catalyst subject."[31] Similarly, Gross. Max. is suggesting for Tempelhof that changing curators organize events in the park. In Toronto, "Tree City" proposed to loosen the compacted soil on the site and use a crop-rotation system during the first two years to remedi-ate and prepare the soil for future plantings. In a second phase, a network of "1,000 paths" would be created, and playing fields and gardens established.

Finally, woods, wetlands, and open meadows would create a varied land-scape enjoyable 24/7 through active and passive recreation. While the vision and the strategy for these design phases were formulated and displayed with the help of Bruce Mau's simple iconic graphical vocabulary, no actual design features were located anywhere in the plan. Instead, the designers' intent was for the social, environmental, and economic processes to determine the ultimate design of the park. Similar to OMA's competition entry for Parc de la Villette that won second prize, its Downsview Park entry was not a designed landscape but a framework and a method that Koolhaas thought "capable of absorbing an endless series of further meanings, extensions, or intentions, without entailing compromises, redundancies or contradictions."[32] At La Vil-lette, Koolhaas had already proposed to bring the city into the park, that is, to enable and empower the public to devise their own public urban park that would consequently be characterized by constant change and debates among different interest groups. For Koolhaas, "the diverse human activities" cre-ated the park. "The more the Park works," he posited, "the more it will be in a perpetual state of revision."[33] However, whereas at La Villette OMA's emphasis was on the creation of a public sphere through civic engagement, at Downsview he determined that economic and environmental processes also should form the park.

The openness, malleability, and lack of specificity of the "design" caused the most consternation among the public, who thought that the money for the competition had been badly spent. While some professionals criticized the importance the design strategy attributed to economic processes, much professional critique was focused on the apparent lack of the design's in-tegration into the environmental context of the bioregion. As Kristina Hill noted, OMA/Bruce Mau's entry lacked references to the establishment of open space networks and existing ecologies.[34] Although Mau asserted that the "ideals of the park" should be "exported . . . beyond the park"[35] and the competition entry stated that "Tree City" could "link up with Black Creek and West Don ravines," the entry's overall character was universal and ge-neric, which was also clearly illustrated in the choice of circular—one might say global—images and dots to portray ideas, projected landscape images, and concepts. "Tree City" was therefore hardly capable of responding to site-specific ecological contexts. Revised versions and more recent plans that now appear as conventional master plans, however, have tried to add site-specificity, and despite a heavily criticized slow process, the first areas of the park are now finally beginning to take shape.

Like the competition plans for Downsview, the realization of Tempel-hof's park design is to be undertaken in phases, it depends on the input from citizens, and it provides an open framework. However, unlike OMA/Bruce Mau at Downsview, Gross.Max. has delivered a conceptual design,

rather than merely a theoretical concept and tactic. The current condition of Tempelhofer Freiheit—which was first opened to the public in more or less the condition it was found after the airport's closure, and is presently the result of constant interaction between the city and its citizens—resembles perhaps most closely what Koolhaas had intended for La Villette in the 1980s. Tempelhofer Freiheit in its current and contingent state probably gets closest to the ideal of democratic public space, which—as observed by radical democrats in the 1980s—has to be in a constant process of realization and conflict.[36] While Tempelhof's current condition can therefore be considered as a realization of some of Koolhaas's proposals for La Villette, Gross.Max.'s design for Tempelhofer Freiheit presents an evolution of OMA/Mau's proposal for Downsview.

In its design concept for Tempelhofer Freiheit, Gross.Max. uses the expressive power of the site's openness and flatness, and firmly locates "pioneer woods," "pioneer areas," a pavilion, a water basin, a rock monument, an arboretum, and all pathways on the site. In contrast to Tschumi and to a greater degree than OMA/Bruce Mau, Gross.Max. works with the site—the deposition of the land, and existing natural features—as well as with a system of pathways and "pioneer areas." In fact, following the stringent competition guidelines, all competition entries for Tempelhofer Freiheit incorporated and capitalized on the natural and existing features of the site, including the designs by the teams led by Topotek 1 and bbz landschaftsarchitekten. These clearly reveal the inspiration of La Villette and Downsview in their ideas and graphic language. Whereas bbz landschaftsarchitekten distributed differently sized "circular fields of opportunities" throughout the site that resemble OMA/Bruce Mau's undefined circles for future uses at Downsview, Topotek 1's design recalls Tschumi's overlay of systems at La Villette. In their design, which was among the six to enter the negotiated procedure, Topotek 1 added three layers to the existing one of "historic elements." The designers distributed groups of trees typical of the region across the open field, added triangulated pathways inspired by flight paths, and covered Tempelhof with a regular grid of reseau crosses to mark areas for "informal or organized events."[37] In most submitted designs, the attention paid to site-specific qualities also conditioned a greater attention paid to wildlife on and surrounding the site.

URBAN ECOLOGY

Tempelhofer Freiheit not only reveals the conflation of top-down and bottom-up government models, but it also presents itself as a hybrid expression of old and more recent ecological theories and as an evolution of the design approach taken at the airfield in Johannisthal six miles southeast of Tempelhofer Freiheit, which was turned into a park in the early 2000s.

Given that numerous endangered and rare plant and animal species inhabit Tempelhofer Freiheit, the use of certain areas has been curtailed by law. To maintain the various grass habitats that developed during the site's use as an airfield, a management regimen has to be followed. Since the airfield's opening in 2010, areas of particular relevance for the endangered skylark have been closed to the public during the late spring and summer but are mowed once or twice yearly, after consultation with ornithologists (fig. 82).[38] The Senate Department for Urban Development has both followed and built upon the approach it took in the 1990s at Johannisthal Airfield, one of Germany's first airfields for powered flight that was established in 1909.

At Johannisthal, the 1993 framework plan for urban development, drawn up on the basis of, among other things, extensive surveys of the site's flora and fauna, determined that the 160-acre (65-hectare) core of the old airfield be maintained as park. Much of the former 1,037-acre (420-hectare) airfield had lain vacant during the Cold War era, and as at Tempelhof, the sandy open grounds had developed into a dry grass biotope that included many rare species listed as endangered flora and fauna. In an invited design competition for the park, six landscape architecture offices were selected to submit proposals, and the design by the Berlin firm Büro Kiefer (Studio Kiefer) was finally chosen (fig. 83). In accordance with the 1993 framework plan, Studio Kiefer's design combined nature preservation and recreation in an urban environment. The center of the former airfield, which was declared a nature reserve in 2002, covers 64 acres (26 hectares) and is surrounded by a 1.2 mile- (2-kilometer-) long, partly elevated walkway that provides views across the open field (fig. 84). In contrast to the nature reserve, which
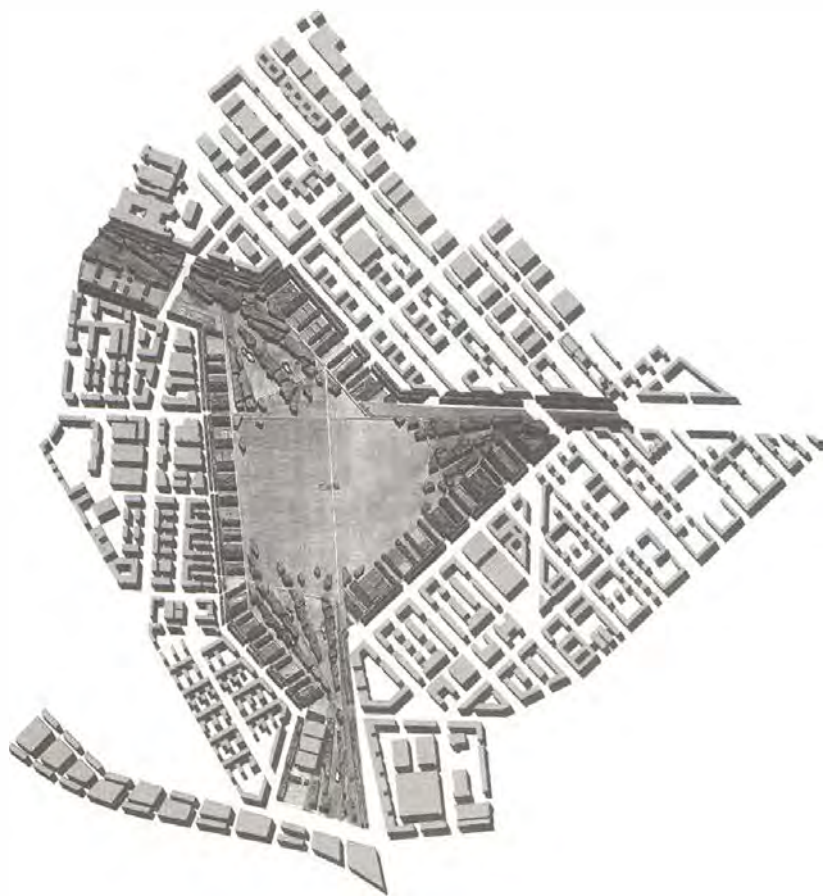
FIG. 83. Büro Kiefer,
design for Johannis-
thal Nature and
Recreation Park,
1996. (Courtesy of
Büro Kiefer, Berlin)

cannot be entered, the 101 acres (41 hectares) of landscape protection area
(*Landschaftsschutzgebiet*)[39] that surround the protected core are accessible.
This area acts as a buffer zone between the surrounding developments and
the nature reserve (fig. 85). A number of guidelines determine the use and
appearance of the landscape protection area. For example, the vast open
landscape character is to be protected and building activity limited to the re-
alization of the park design that includes the construction of play and sports
grounds, pedestrian and bike paths, tree plantings, and earth movement in
specifically determined areas (fig. 86).[40] In contrast, the nature reserve is
not accessible, its development is monitored, and flocks of sheep graze the
area to ensure that the dry grass biotope is maintained. The site is therefore
subject to a scientific management scheme that maintains the biotope type
and landscape character, which were designated as the qualitative standard
of the area in the 2002 "regulation for the protection of the landscape of the
former airfield Johannisthal" (fig. 87).

FLIGHTS OF IMAGINATION

FIG. 84. Viewing terrace along the beltwalk dividing the nature and landscape preserva-
tion areas, Johannisthal Nature and Recreation Park, July 2009. (Photograph by the author)

FIG. 85. Nature preservation area, Johannisthal Nature and Recreation Park, July 2009.
(Photograph by the author)

Based on the state regulations for nature protection, Studio Kiefer's de-
sign attempted to provide a contemporary landscape aesthetic for the Na-
ture and Landscape Park. In a 2004 publication of Studio Kiefer's work,
park designs in general were presented as providing more or less dynamic
systems that may be modeled on an ideal landscape but that cannot predict
when this state will be reached.[41] Paradoxically, at Johannisthal the core

FIG. 86. Soccer field along the beltwalk, Johannisthal Nature and Recreation Park, July 2009. (Photograph by the author)

FIG. 87. Sheep grazing in the nature preservation area, Johannisthal Nature and Recreation Park, July 2009. (Photograph by the author)

area that is concerned with the ecology of the site's flora and fauna and that was also used to compensate comprehensively for the encroachment on nature and landscape caused by the urban development is the most static element in the entire design. The management of the nature reserve builds upon the idea of an anthropogenic climax. By letting sheep graze, the grassland succession is kept at bay and an endangered habitat type in this region of Germany is preserved.

In contrast, the attempt to create room for a dynamic evolution of space and its use can be seen in the design for the area of transition between the inner protected core of the park and the projected urban development surrounding it. There, Gabriele Kiefer and her team provided for what she calls park rooms: spaces that are partly enclosed by vegetation and that can provide for a variety of uses that are not programmatically determined. Although the park is supposed to be connected to the surrounding built-up areas through tree-lined roads and green corridors, the design strongly focuses inward on its core piece, which caters to nature protection. Thus, despite the programmatic declarations by Studio Kiefer that present the design as furthering dynamic processes and change, the Nature and Landscape Park Johannisthal seems to be more a product of a Berlin-specific ecological awareness and of the city's history of urban ecology, rather than the result of abstract and more recent theories that describe ecology as an open, complex, self-organizing system.

The physical isolation and enclosure of West Berlin and the lack of rural field study areas during the years of the Cold War encouraged the establishment of urban ecology as a major research area at the Technical University Berlin. At the same time, the importance that green open areas assumed for West Berlin's isolated population, the environmental movement, and their own know-how enabled urban ecologists to play an increasingly important role in urban politics and policies including city planning.[42] The work of Berlin's urban ecologists contributed to a new understanding of green open spaces in the city. While there had already been a shift in the conceptualization of green open space "from ornamental to sanitary green," as defined by the Berlin architect and planner Martin Wagner following Camillo Sitte at the beginning of the twentieth century, more than a half century later, in the 1970s, yet another function was attributed to open spaces in cities. Regardless of whether they were woods, ponds, diligently maintained gardens and parks, or urban wastelands like railway tracks, embankments, and marshaling yards, ecologists considered these open spaces biotopes, and on occasion even the habitat of endangered flora and fauna. Their work also influenced the public perception of these urban sites, encouraging an urban wilderness aesthetic, and it provided the basis for the establishment of landscape plans that in turn influenced urban land use plans.[43]

The Nature and Landscape Park Johannisthal exemplifies the culmination of this development and the understanding of public urban parks as habitats. This is displayed not only in its name but also in its physical design, the inclusion of a nature reserve in a park for recreation and aesthetic enjoyment. As much as the park is the result of the specific circumstances that developed in Berlin in these past fifty years, the idea of establishing a nature reserve in a public urban park is part of a nationwide legacy that goes back

to the early German nature conservation movement at the beginning of the twentieth century. Besides promoting the establishment of large nature reserves (*Naturschutzgebiete*)[44] that were finally signed into German law in 1935, some landscape architects in early-twentieth-century Germany argued for the creation of nature reserves within public urban parks. These areas would initially be planted and managed in order to encourage the establishment of a diverse flora and fauna before being left to develop on their own and being protected against human intrusion.[45]

At Johannisthal, nature and culture remain polarized: the open, prairie-like nature of the former airport is protected on the assumption that "nature" and its ecological processes can at least to some degree be predicted, controlled, and managed. The management and maintenance concept for the nature reserve is based on the call for biodiversity and on the theory that the ecology of natural systems evolves toward a "stable" equilibrium and can be controlled, thus including humans as actors in the ecological process. Citizens and officials involved determined which species were to be protected or sacrificed, and the landscape architects provided an appropriate design. But the design of the Nature and Landscape Park Johannisthal reflects more than the particular concerns of urban ecologists in Berlin and the popular perception and policies they have generated in the last fifty years; it also reveals the influence of "critical reconstruction," the urban design paradigm used in the 1990s by the city's leading planning officials to guide much of Berlin's development. Basing their ideas on the city's urban plan and the architectural styles prevalent at the beginning of the twentieth century, the proponents of critical reconstruction promoted dense block structures, stone façades, and building heights modeled on turn-of-the-century Berlin apartment buildings. In the nineteenth and early twentieth centuries, "nature" and open space were relegated to clearly defined and confined areas that were seen as contrasting with built structure. In keeping with this idea, Johannisthal's scenery of dry grassland populated with flocks of sheep also draws on imagery that has been associated in Germany since the nineteenth century with primordial nature and an ideal cultural landscape. In his *Wanderungen durch die Mark Brandenburg* (1880), the widely read nineteenth-century German novelist Theodor Fontane highlighted the dry sandy soil, pine forests, and heathlands that are so characteristic of the Brandenburg region surrounding the Berlin. Furthered by paintings and literary works such as Fontane's, dry grass- and heathland had therefore already assumed an iconic landscape status in the German mind by the early twentieth century. It had also been promoted as quintessentially German, and as a powerful nationalist expression of the homeland by conservative and reactionary garden designers, artists, writers, and art critics, who later often sympathized with Nazi politics.[46] After World War II, the imagery of a dry grass- and heathland

grazed by sheep, and the romanticism and nostalgia associated with it, were furthered by the establishment of Germany's first nature park, comprising parts of the Lüneburg Heath, in which industry and modern agriculture were forbidden in favor of traditional sheep herding.[47] Largely the result of a conservative middle-class critique of industrial society and of health concerns regarding urban life, nature parks were established to provide for controlled, "orderly" recreation like hiking, and to conserve landscape scenery for aesthetic enjoyment. As during the early nature conservation movement at the beginning of the twentieth century, the German nature park program of the 1950s and 1960s proposed the zoning of parks for different uses. Every park was to be divided into a protected core area off-limits to the general public and a belt that catered to public recreation.[48] The design for Johannisthal airfield is therefore grounded both in a national landscape aesthetic and in conceptions for nature conservation and preservation that date back to the early twentieth century.

In Tempelhofer Freiheit, valuable flora and fauna habitats are currently being conserved as at Johannisthal,[49] but the city and the park designers have declared their intent to "intensify nature," which means to increase biodiversity through human intervention and design rather than maintain the existing biodiversity through management and visitor control. Gross. Max. has rejected the contemporary practice of nature preservation and is searching for new creative ways to increase the species diversity in Tempelhofer Freiheit.[50] The designers are responding to a need for flexibility, openness, and resilience, character traits that have been part of design discussions for the last twenty years. The park's design and design process appear to be based upon a hybrid of old and recent ecological theories. On the one hand, Gross.Max. still talks of developing a stable climax vegetation, thereby expressing the old understanding that ecosystems develop toward a final, stable state. On the other hand, the firm's design does not favor nature reserves like Johannisthal, and the design process has been shaped by a hybrid bottom-up and top-down approach. Tempelhofer Freiheit's evolution so far, therefore, also reflects the more recent theory of ecosystem evolution toward a shifting steady-state mosaic and a dynamic equilibrium characterized by discontinuous and intermittent evolution and unpredictable systemic shifts and changes. The park project is an attempt at flexible management and adaptive collaborative planning, which in the last decade have been promoted as best practice for biodiversity conservation and urban development.[51] It exemplifies a design and planning approach that understands humans and their culture as part of nature, and the city as an ecosystem whose development can be shaped and formed by humans, but not entirely anticipated or controlled. In contrast to the 1990s, when urban planning rhetoric in Berlin revolved around the body-politic based

on the idea of the city not as an independent but as a planned organism,[52] Berlin today is conceived by its government as an open, dynamic ecosystem of which humans are a part. How far this may be a conscious attempt to legitimize neoliberal urban-development schemes in times of financial crisis remains to be seen. The belief that humankind is an integral component of ecosystems and therewith not only responsible for but also subject to sudden changes in these systems is also apparent in the design process for Orange County Great Park on the former United States Marine Corps Air Station El Toro in Southern California.

Orange County Great Park

In contrast to Tempelhof, the Marine Corps Air Station El Toro in Southern California was never used for commercial air traffic. The air station opened in 1942 during World War II and was located near Irvine in Orange County 40.3 miles (65 kilometers) southeast of Los Angeles in a region that is today characterized by master-planned suburban neighborhoods, shopping malls, and high-rise office buildings and is one of the most popular living areas in the United States. Operations at the Air Station El Toro ceased in 1999 as a result of the U.S. Defense Base Realignment and Closure process that was begun in 1988 to reduce the expenditure on operations and maintenance of military installations.

The American landscape architect Ken Smith and his team designed the park that is currently under construction on the former base (fig. 88). A jury instated by the board of the non-profit Orange County Great Park Corporation founded in 2003 declared the Smith team the winner of an international park design competition in 2005.[53] The results of community visioning processes, focus groups, opinion polls, and a stakeholders conference held in the competition year were passed on to the seven competition semi-finalists for their incorporation in the final designs. Smith's design received wide backing by Orange County citizens, and since the time of the design's selection the Orange County Great Park Corporation has continued its efforts to forge citizen support and engagement in the park project to ensure its success. This has also been necessary as the actual conversion of the air station into a park has been very controversial from its inception.

The 1993 decision to close the base caused much discussion among citizens, politicians, and stakeholders in the region. Some wanted the base to be turned into an international airport to counter the economic downturn of the early 1990s. Others considered an international airport incompatible with their comfortable suburban lifestyle. It was not until a 2002 referendum that Orange County voters decided to turn the air station into a park. Three years later, 3,700 acres (1,497 hectares) of the 4,700-acre (1,902-hectare) site
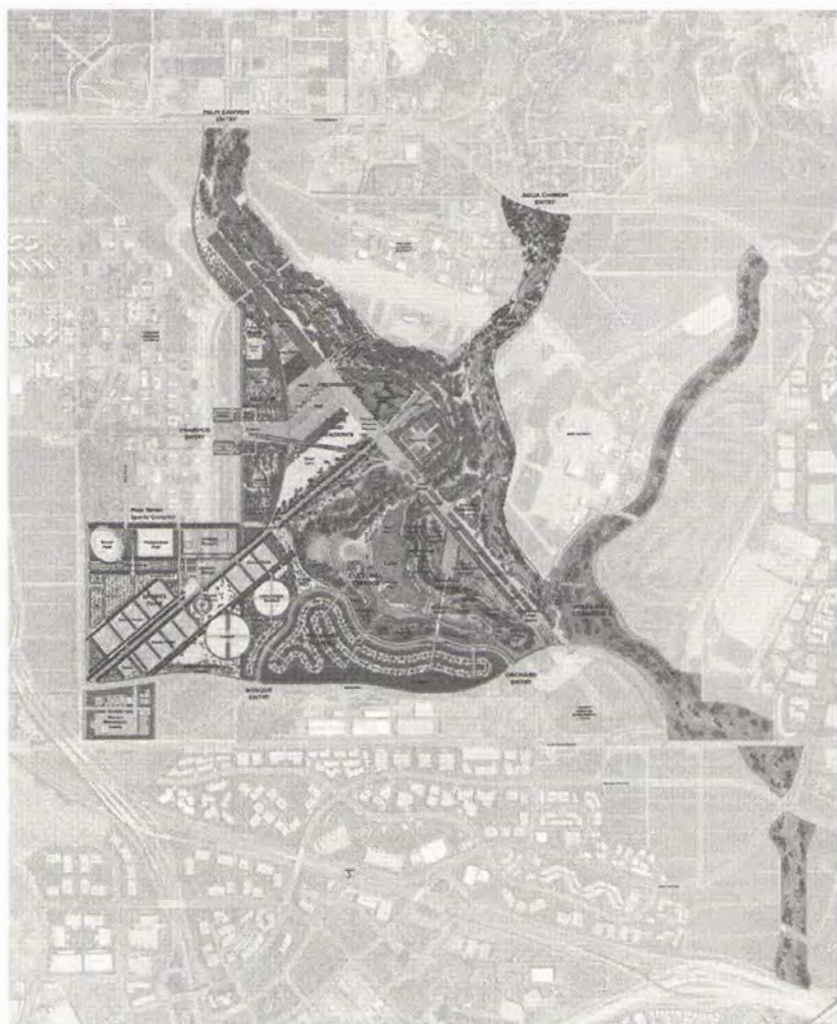
FIG. 88. WORKSHOP: Ken Smith Landscape Architect, Plan for the OCGP. (Courtesy of WORKSHOP: Ken Smith Landscape Architect)

were auctioned, leaving 1,000 acres (405 hectares) in federal ownership as nature reserve. The Lennar Corporation, a private developer, purchased the area by auction, agreeing to develop part of the grounds and hand over 1,347 acres (545 hectares) to the City of Irvine for the park.[54] Since the 2005 design competition the development has continued to be contentious, leading the Orange County Grand Jury in 2005–6 to point out the potential conflict of interest in the government structure of the Orange County Great Park Corporation, whose board was dominated by Irvine City Council officials and other South County members.[55]

While the government and financing of Orange County Great Park have remained contentious, the public decision makers and designers have taken into account individual citizen wishes with regards to park programming. However, the design forms and strategies rely on a selective and invented

regional cultural, social, and environmental history determined by the designers besides a generally increasing environmental awareness.

INVENTED TRADITIONS

The park that is being marketed as a "metropolitan park" is situated in a postsuburban landscape characterized by a combination of urban, suburban, and rural patterns and inhabited by 3 million people.[56] Since the 1970s, homogeneous low-density suburban developments, malls, and office parks have spread across the county, decentralizing land uses. Although current demographic statistics suggest otherwise, Orange County's citizenship is still often stereotyped as white, educated, wealthy, and conservative, and social life has been generalized as occurring more inside private homes and clubs than in public streets. Until the 2008 financial crisis, Orange County had one of the highest economic growth rates in the United States, and further population increase was predicted. Although this makes it clear why a park was being developed in the first place, representatives from the northern parts of the county criticized the decision because small parks rather than "megaparks" were needed in the less wealthy and more densely populated northern neighborhoods.[57] Since the postwar years, Orange County has paid little attention to the needs of the population with lower socioeconomic status and to the provision of subsidized affordable housing.[58]

The Orange County Great Park follows in the footsteps of a development that began in the county in the 1960s, when Irvine, the biggest privately master-planned community in the United States, was built only 3.7 miles (6 kilometers) from the new park site. Fittingly, the Orange County Great Park Corporation in its 2010 annual report legitimized its preconstruction expenditures for the "Comprehensive Master Design for the Park" by referencing the region's history of master-planned communities and of Irvine in particular.[59] Home to a wealthy and homogeneous group of citizens who largely perceive it as an ordered, clean city, Irvine has become a model for other privately developed neighborhoods in the region. Critics, however, have described Irvine's regulated suburban neighborhoods, often built in a neotraditional style, as "aseptic," "faceless," and "soulless."[60] As Karen Till has shown for the nearby Rancho Santa Margarita neighborhood, private developers often assign a cultural or historical tradition to the neighborhoods they build that is for the most part invented.[61]

Similarly, the park design is based upon a narrative that intends to tell a local, regional, and national story. As with many of the nearby master-planned communities, the park's story is selective and based upon heroic western frontier myths. It deals in particular with the period immediately after the foundation of Orange County in 1889 and with the history of the Marine Corps Air Station beginning in 1942. The park itself is a testimony

to the war years and the social and economic developments in California. With the conservation and adaptive reuse of buildings and parts of the base's runways, a planned military museum and veteran's memorial at the location where the two main former runways cross, the design testifies to an era when, as the historian Kevin Starr has shown, war was "an American, hence a Californian, way of life."[62] By drawing on selected parts of U.S. military history, the park design attempts to create a collective consciousness and forge a local, regional, and national identity. In a similar way, parts of the design entitled "groves" and "fields" that were inspired by orange plantations also refer to a particular period in the history of Southern California. The "groves" and "fields" situated west of an artificially built canyon are intended for urban farming and community gardening, recalling both the aesthetics and the use of the land in this region between 1890 and the 1950s. In that period, Orange County was an agricultural landscape where citrus crops dominated. The land that had been farmed initially by Native Americans, then by Spanish missionaries and colonial rulers, and finally by Mexicans was turned into orange plantations by the new Anglo-American landowners. The Irvine Ranch became one of the largest Valencia orange orchards, and the railroad helped establish a national market for California citrus fruit.[63] As various scholars have shown, "oranges in California have always been more than just fruit."[64] They were symbols for an earthly paradise, used as metaphors for health, purity, affinity with nature, entrepreneurial spirit, and for what Douglas Sackman has described as the "orange empire," an ethnically differentiated class society based upon a profit-oriented economy.[65]

In Orange County Great Park, the orange hot air balloons symbolize the oranges and orange plantations of the "orange empire." Inspired by the tethered observation balloon that took visitors for a ride while Berlin's Potsdamer Platz was being constructed in the 1990s, the park designers proposed installing three tethered orange-colored hot air balloons in Orange County Great Park (fig. 89). The proposal to use orange-colored rental bikes also alludes to this period of the county's history. Whereas oranges in the first half of the twentieth century were wrapped in tissue paper printed with images of California landscapes and virginal female beauties, today orange-colored hot air balloons brand the park with a corporate identity. They transform the park's restored seemingly virginal landscape into a product for consumption.

The park design hides parts of history by highlighting others. Although the "groves" and "fields" in Orange County Great Park are intended to represent the agricultural history of the region since the time of the Native Americans and although the designers suggest that parts of the park could be designed to call attention to the natural and cultural history of the site,

the most conspicuous design references—the hot air balloons and orange plantations—relate only to the first half of the twentieth century. The current park design therefore builds upon the two periods in the history of Orange County—the time of its military base and its citrus production—that led the region to a big economic boom. A romanticized version of the agricultural landscape at the beginning of the twentieth century, the new recreational landscape of the Great Park is intended to provide Orange County with another economic boost and to increase its national and even international esteem at the beginning of the twenty-first century.[66]

RESTORED WILDLIFE IN A "SUSTAINABLE PARK"

Orange County Great Park is advertised as a sustainable park. Besides drawing upon the site's cultural history, the designers attempt to reestablish ecological networks and mosaics, and they emphasize the reuse of building materials from the air station. The design has determined that all park architecture will be fitted with green roofs and will merge with the landscape. Buses will connect different locations in the park with other means of public transportation outside. No cars are allowed in the park, however, and ample parking space is provided amid orange groves on the park's periphery. It is assumed that the park will depend on visitors coming by car, although the park is located in the center of Orange County and relatively near the railroad connection between Los Angeles and San Diego.

FLIGHTS OF IMAGINATION

In line with today's understanding of ecology based upon dynamic processes without final stable states, the designers hope to create a diverse range of new habitats that connect to existing ones in adjacent forests and coastal areas and that increase biodiversity. With their design, the park makers aim at increasing the "ecological value" of the site, which is described as "sterile plateau," and at restoring "much of the region's natural heritage."[67] In their own oxymoronic phrase, the design developed for the Great Park strives "to *restore* the El Toro Marine Airbase into a *new landscape* that reflects Orange County's rich natural heritage."[68]

The manufactured topography of an approximately 820-foot- (250-meter-) wide and 2.5-mile- (4-kilometer-) long designed canyon bisects the park running from northwest to southeast. Park visitors will be able to access the lusciously vegetated canyon that is to provide a shady, refreshing, and secluded space on a variety of hiking and biking trails. A habitat-park area east and west of the canyon, including the restored Bee Creek and its wetlands, and the day-lighted and restored Agua Chinon Creek will also be accessible to visitors. In contrast, a 178-acre (72-hectare) wildlife corridor that connects the park with the Cleveland National Forest is off-limits to park visitors. The park as a whole is envisioned as a stepping-stone within the regional system of wildlife habitats and nature reserves, connecting the Cleveland National Forest and the Santa Ana Mountains in the north with wilderness and state parks along the coast in the south. Although parts of this system are inaccessible to visitors, humankind is understood as an integral part of this system, as attested by the humorous "species account: human being" that was included in the 2009 *Orange County Great Park Ecological Guidelines*.[69] It becomes clear that the proposed restoration is not exclusively ecocentric, but that it both involves humans and acknowledges their authorship. It therefore exemplifies the recent movement in North American discussions about ecological restoration and ecology to view "humans as components of ecosystems," as the 1991 Cary Conference, an acclaimed international biannual conference series begun in 1985, was entitled.[70] To create place and establish a narrative continuity, the Orange County Great Park design adds an ecological history to its invented cultural history. The manufactured landscape and habitats like vernal pools for the endangered fairy shrimp and coastal sage scrub for the threatened California gnatcatcher in Orange County Great Park re-create a mythical Southern Californian wilderness with the help of plant seeds from similar local habitats and land formations modeled on the surrounding topography.

The Orange County Great Park therefore both resembles and contrasts with some of the early American urban public parks. Like Frederick Law Olmsted and Calvert Vaux who re-created the scenic qualities of the Catskills and Adirondacks in their 1858 Central Park design, and like Jens

Jensen, who established idealized land formations typical of the Illinois prairie in his 1916 plan for Columbus Park in Chicago, the designers of Orange County Great Park have sought to create a scenic regionalist wilderness. In contrast to Olmsted and Vaux's Central Park design and Jensen's prairie bluffs, however, the Orange County Great Park design is also informed by the habitat requirements of native plant and animal species that have been established on the basis of scientific biological research. As in Central and Columbus Parks, whose celebrations of seemingly untouched nature were intended to foster national and regional identities, identity politics also play an important role in Orange County Great Park.

The Great Park design reflects an attitude toward environmental concerns particularly prevalent in Orange County since the 1960s. There, the increased environmental consciousness that resulted from the environmental movement was not always altruistically and socially motivated. In many cases, it resulted from a fear of the loss of private property value.[71] As social scientists have observed, the political climate of large parts of Orange County have been emblematic of the New Political Culture, described simply as a social-liberal and economic-conservative attitude that embraces environmental protection on the one hand and the protection of individual interests and personal welfare on the other.[72] Fittingly and programmatically, the lead designer Ken Smith declared it as the park's objective "to make a place where the issues of our times interact directly with the private reflections and actions of the individual." At the same time, however, Smith further defined the goal as fulfilling the needs of the various citizen groups of different cultures.[73]

While the park is largely dependent on the private economy, time will tell how far individual or communal interests will determine the park development, and how far the interests of disadvantaged groups will be taken into consideration. To spark curiosity and support for the park project among the county's constituents and to render it an instrument of place-marketing, the Orange County Great Park Corporation has realized a so-called "Preview Park."

PREVIEW PARK

Since 2005, a core area of the park has been realized. In line with the film and media culture of the region, the Preview Park offers the public a preview of what they may expect once the area has been fully developed. Big, orange-colored circles painted on the approach road as markers lead the visitor to the Preview Park (fig. 90). Orange trees planted in containers organize the parking space (fig. 91). An orange hot air balloon offers views across the former air base, symbolizing the green future of the vast, still largely barren

airfield. The park designers and the Orange County Great Park Corporation have made every effort to turn a visit to the Preview Park into an event. While the site hosts movie nights, art shows, concerts, and farmers markets, the design provides opportunities for nostalgic memories. Besides a visitor center and explanatory panels that inform about the future park design, a timeline painted on one of the runways offers insight into the events of the 1940s, when the air station was built and first went into operation. The idea to use the park to write history recalls Olmsted and Vaux's objectives for Central Park, which created a landscape monument to the United States, "nature's nation."

Smith's idea of complementing his plan drawings with a manga narrative and illustrations similar to film techniques fits into the regional media culture. Smith commissioned the manga artist June Kim to produce evocative black-and-white ink drawings for a storyboard of an imaginary film that narrates a day in the park from the viewpoints of a variety of fictitious park visitors. Like a manga, or a film, the park aims at providing space for desires, discoveries, and memories. The manga not only illustrates ideas for the future, but it also reflects the anticipated demographic changes in Orange County and the different attitudes of its citizens. Thus, in the manga

not only Vanessa Carter and Jacob Merrick but also William Gonzales, Danny Valenzuela, Diego, Leena Kansai, and Yutako Sho tell us what they appreciate about the new park. Orange County is currently developing into a majority-minority region that is becoming home to an increasing number of Latin Americans and Asian Americans.[74] At the same time, however, the manga also reflects the pervasive critical attitude toward what was perceived by Orange County citizens up until the 1990s as the "wild" and "dilapidated Moloch" Los Angeles. The fictional manga character Hajimo Asama reflects: "This park makes me excited for the future of Orange County. It's fun for the family, ecological, historical and bold enough to distinguish us from Los Angeles. I'm going to buy a house near this park."

Like the oranges at the beginning of the twentieth century, today the Preview Park is a consumer product marketed by Orange County. While the orange once symbolized the bounty of an agricultural landscape, today it stands for a new park landscape that is advertised boisterously as the "first great metropolitan park of the twenty-first century." At the end of the nineteenth and the beginning of the twentieth centuries, economic as well as social and health concerns induced Americans to build city parks and entire park systems. Even then, American city planners and promoters realized how parks could improve a city's image. The content and presentation of

the Smith team's design, which has won several prizes, reflect these same purposes today, and they both reflect and influence developments, policies, and concerns that have shaped in particular the central and southern parts of Orange County.[75]

GLOBALIZATION FACILITATED by aviation has enabled landscape architecture to assume an important role in the reclamation and transformation of airfields into parks. In multiple ways, however, park designs for former airport sites appear as both products and motors of capitalist economies. While the closure of airfields and airports is a result of global neoliberal developments in the first place, many landscape architectural design strategies used for the park designs both reflect and promote capitalist urban development while at the same time emphasizing locally specific site conditions and ecologies. The democratic qualities of the governance, management, and development models used in the cases presented here vary in the amount and methods of community engagement and range from directed incremental to master-planned development. In all cases, however, the designers have developed plans on the basis of the local and regional environment and ecology, which increases their potential usefulness in identity politics and in the cities' marketing and branding efforts on national and international scales.

In the designs presented here, humans are understood as part of nature and integral components of ecosystems, indicating that the designers are trying to overcome the nature-culture dichotomy. However, whereas at Orange County Great Park, ecological restoration means the creation of an environment in its "ahistoric" state—modeled on a hypothetical "pristine state" devoid of human activity and long-term historical change—at Tempelhofer Freiheit and Johannisthal, ecological restoration means the conservation of a managed ecosystem, or, one could say, the conservation of the status quo, which has obviously been influenced by humans.

It is true that the sociospatial and geographical context of these projects differs in significant ways: While Orange County Great Park is surrounded by suburban residential neighborhoods in a Mediterranean climate, Tempelhofer Freiheit and Johannisthal are located amid mostly four- to five-story urban fabric in the mid-European temperate climate zone. However, besides these factors, the different approaches to ecological restoration that have informed the park designs also depend on the different histories of ecological restoration in these two locations. Whereas in the United States, ahistoric ecology has a long tradition and has only recently been modified to include humans as components of ecosystems and to acknowledge the various human-induced changes of ecosystems over time, in Germany, ecologists have considered ecosystems to be influenced by human activity since

the early twentieth century. Thus, the new landscape and habitat conditions that were created at Tempelhof and Johannisthal when the airfields were first laid out and that have developed with their use since then have been recognized as unique and worthy of conservation. In contrast, the land of the Marine Corps Air Station El Toro has been described as a "sterile plateau" whose ecological value needed to be increased. Despite these differences in perception and approach, in all parks areas have been set aside for wildlife conservation, and traces of human history are being preserved. Special design features like the hot air balloon in Orange County Great Park and the rock monument in Tempelhofer Freiheit recall local or specific periods of the site's history, thereby forging identity and providing a design narrative. Furthermore, despite the different landscape ideals that have been used as models, nostalgia and romanticism associated with previous site conditions play a role in the park designs.

With projects like Orange County Great Park, Tempelhofer Freiheit, and Johannisthal, airports have come full circle. As the authors of the *Regional Plan of New York and Its Environs* suggested in the 1920s, undesirable airfields are being turned into permanent public open space and wildlife habitats. What Sydney E. Veale described in 1945 as "man-made" technological infrastructure on which "the frugalities of nature" had been "rectif[ied]"[76] with machines is today being returned to nature, a nature that has come to be understood, however, as including humans and their culture, and as a manufactured commodity.

AS MUCH AS THE history of airports and powered flight, which now spans a century, is a history of technological progress, it is also a history of the landscape that can reveal the recent evolution of our changeable relationship with our environment. This history is not one of exclusive unmediated change and powerful subordination of nature; rather, it is the history of nature's transformation characterized by the ambivalence and ambiguities of modernity.

The effects that powered flight and the related view from above have had on the design and perception of the land, and, conversely, the effects that our designs, use, and perception of the land have had on the formation of flight and the ways of seeing from above, have varied. Landscapes have been designed, built, and transformed for and against the aerial view, depending on the circumstances. Land has been exploited and conserved with the help of the aerial view. Landscapes have been designed, built, transformed, destroyed, and reconstructed as a result of powered aviation, and with the use of the aerial view. And while powered aviation has created some of the most modern environments, airports in particular have often also tended to

be expressions of a vernacular modernism. At the same time, the landscape and events on the ground such as the industrialization and urbanization of large parts of the world, archaeological exploration, colonial expansion, and warfare have influenced the development of powered aviation and of the ways we see our world from above. Furthermore, powered aviation and the aerial view have redirected design professionals' attention to the ground, and to the horizontal view. Despite our life-sustaining flights of imagination, not only the human body, but also human consciousness must return to the earth.

"This book is unique in examining the aerial view and airports themselves from the perspective of landscape history and environmental design. It addresses a significant turn in culture: flight changed our perspectives on the world, then transformed our imaginations, and finally changed the landscape itself and the ways we inhabit it. Excellent, and a real contribution to the field."

—JOHN BEARDSLEY, Director of Garden and Landscape Studies, Dumbarton Oaks, author of *Gardens of Revelation: Environments by Visionary Artists*

"*Flights of Imagination* takes us on a journey that extends from early balloon flights to Google Earth, probing key concepts of twentieth-century urban and regional planning, architecture, and landscape architecture inspired by the ecstasy of flight. The aerial view has served as a stimulus to the urban visions of the architectural avant-garde, as a means of social surveillance, and as an instrument of capitalist planning as well as of military reconnaissance. Yet it has also instigated a renewed focus on bodily experience on the ground as well as on the detached view from the air, as Dümpelmann elaborates in her rigorously researched and compellingly narrated account."

—CAROLINE CONSTANT, Professor Emerita of Architecture, University of Michigan, author of *The Modern Architectural Landscape*

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