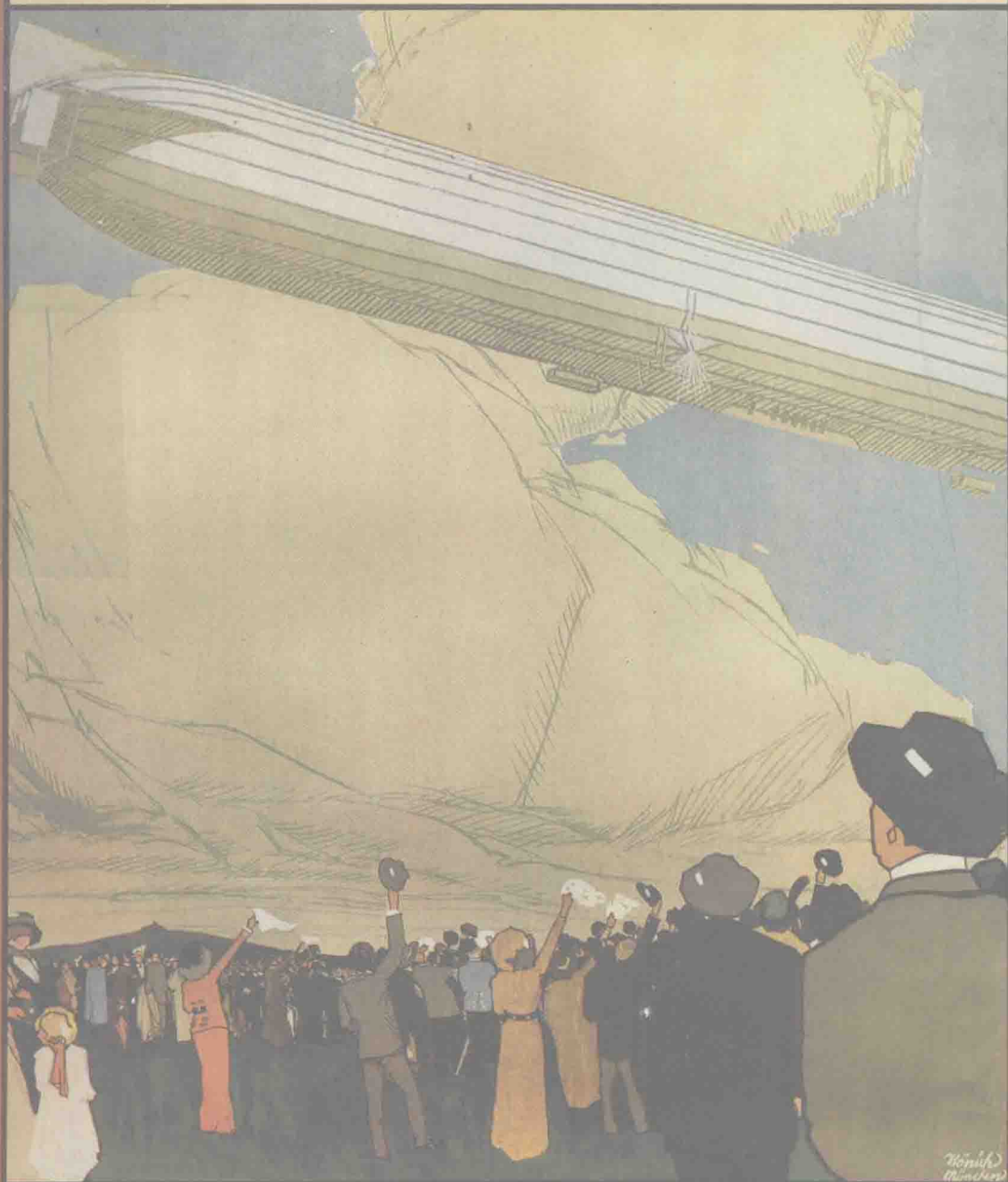


A NATION OF FLIERS

German Aviation and the Popular Imagination



PETER FRITZSCHE

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AND THE
POPULAR IMAGINATION**

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INTRODUCTION

Of the newfangled machines that heaved and whirled across the long and prosperous industrial century after Waterloo, the airplane enjoyed special favor. Its qualities were deeply spiritual, as well as obviously practical, because it seemed to make possible a previously unknown freedom from earthly limits. Aviators took giant leaps that cleared physical confines, social labyrinths, and emotional prisons, motions of transcendence that myth-makers had imagined in the flight of birds since antiquity. Modern flying machines realized age-old dreams about power and freedom in the unbounded airspace. In Greek legend, Icarus desired to fly unhindered among the gods but was cast down for his hubris; he flew too close to the sun, his wax and feather wings melted, and he tumbled into the sea. In the newspaper copy and sentimental poetry of a more contemporary generation, however, Wilbur and Orville Wright, Louis Blériot, and Charles Lindbergh all accomplished what had eluded Icarus. Motoring in the air, twentieth-century aviators avenged the legendary aeronaut and thereby redeemed what had been the sin of human pride in the spectacular triumph of Western technology. Machine flight restored a Promethean dimension to the individual.

Lifting off from the face of the earth, flying over mountain ranges, traversing vast oceans, and thereby upending conventional notions of distance and time, airplanes expressed the very consequence of the modern age. This technological capacity reaffirmed what so many turn-of-the-century Europeans cherished: confidence in their singular ability to remake the world. That aviation's red-letter dates clustered around the century's turn (the first glider flight by Otto Lilienthal took place in 1891, Graf Zeppelin's motorized lighter-than-air tours began in 1900, the Wright brothers' heavier-than-air takeoff at Kitty Hawk occurred in 1903, and Louis Blériot crossed the English Channel in 1909) seemed to underscore the future promise of technology. Airplanes announced that the new century would be a century of plenty and its mechanical sons

and daughters the most capable masters of the natural world. Beginning in 1908, airshows broadcast this gospel across Europe, from the Irish Sea to the Sea of Marmara, featuring a colorful international fraternity of aviators, including the American Orville Wright, the Peruvian Geo Chavez, and the Frenchmen Louis Blériot and Adolphe Pégoud.

But the banners and parades of the aeronautical millennium were diverted into nationalism. Competition and contest quickly came to regulate the advance of aviation. Against the background of European disputes in the Balkans and growing tensions between France and Germany after the 1911 Moroccan crisis, airshows became increasingly patriotic affairs. Performances by foreign stunt fliers such as Pégoud, perhaps pre-war Europe's most able pilot, were harshly criticized in Germany, for example. More ominous were the first steps European powers took toward arming their air forces. In the name of national defense, Germany, France, and Russia launched public subscriptions to purchase airplanes and train military pilots. In Germany, the massive *Nationale Flugspende* or National Air Subscription, headed by Prince Heinrich, the kaiser's brother, collected more than 7 million marks in six months during 1912, invoking as it did the menacing aerial threat allegedly posed by France. Even though airplanes played only very subordinate parts at the outset of the Great War—their tactical and strategic roles were improvised and enlarged only as the war dragged on—aviation had become a matter of obsessive national interest by 1914.

From behind the figure of Icarus, the solitary dreamer, emerges that of his father, Daedalus, the master builder, who designed weapons for King Minos of Crete before he fell out of royal favor and constructed wings to flee to Sicily. Daedalus serves to remind us that aviation is not simply an inspiring story about the release from earthly bounds. It is also a rough chronicle about state building and nationalist ambition. This was particularly so in Germany, where Graf Zeppelin's marvelous airships were quickly depicted as the Wilhelmine Empire's "wonder weapons"; where chivalrous aces ended the First World War as ruthless killing machines; and where even the youthful and unpretentious gliding and soaring movement of the 1920s eventually served as an appealing model for Nazism.¹

Metropolitan newspapers in imperial Berlin worried about dazzling flying performances by Pégoud because they took aviation to be an index of national vitality and thus national destiny. Nationalism and technology

reinforced each other; progress was widely perceived as a great scramble among states in which there were unmistakable winners and losers. The various aeronautical world records—height, speed, endurance, distance, load—which Germans strained to capture from the French in the pre-1914 period, provided an exact tally of national performance. If machines were the measure of men in the modern era, as Michael Adas argues, airplanes and airships were the measure of nations at the beginning of the twentieth century, distinguishing not only European genius from an African or Asian mean, but also the truly great powers among the European nation-states.²

The histories of modern nationalism and modern technology are inexorably intertwined. Far from diluting nationalist passions, once thought to be ancient and mean, industrial prosperity and rational purpose gave them shape and sturdiness. Aviation, perhaps better than any other field of technology, clarifies the links between national dreams and modernist visions. And Germany, the least satisfied among the great powers and the most dynamic capitalist state in Europe at the beginning of the twentieth century, is the most suitable ground on which to explore this troubled intersection.

To account for the unexpected affinities between technology and nationalism we must understand how the belief in universal progress remained qualified and distorted after the Enlightenment. Confidence in Western progress rested on the conviction that the world could be shaped according to the industrial arts. This was the heritage of Francis Bacon, whose seventeenth-century science, in the words of one scholar, marked “the death of nature.” Bacon’s mechanistic worldview overlooked nature’s nurturing aspects, undertook the subordination of its threatening obstacles and storms and uncertainties, and prepared for the domination and alteration of the earth by design.³ Enlightened Europeans busied themselves with projects and ventures of all kinds. Sure that their efforts served the general cause of improvement, they dug mines, dammed streams, drained swamps, cleared forests, and surveyed wilderness. But this confidence could easily give way to unease. To recognize the plasticity of the material world or the historicity of circumstance was, at the same time, to ascertain the enduring instability of all things—material edifices, market relations, moral persuasions, national security. The constructive optimism of Bacon did not seal off the darker, more nihilistic realism of Charles Baudelaire. Nineteenth-century Europeans worried

obsessively about the imminence of revolution, the breakability of the social order, the disease and poverty of the new cities, and the degeneration of the individual as much as they loudly celebrated the application of scientific laws or cheered the exploitation of nature. The eye that identified improvement also discerned destruction. For this reason, the acknowledgment of instability—Karl Marx’s sobering vision, “all that is solid melts into air”—rather than belief in the march of progress—“up and up and up and on and on and on,” in the words of Ramsay MacDonald—is the more accurate hallmark of modernity.⁴

Instability did not preclude reform or improvement, however; on the contrary, it gave those projects their impulse and sense of urgency. In the face of cholera epidemics, social upheaval, and military challenge, the modern experience added up to a relentless struggle to regulate and to renovate civil society. According to the nineteenth-century reformist agenda, cities had to be cleaned up and redesigned, populations educated into virtuous citizens, and hinterland empires won. At the end of the nineteenth century, forward-looking statesmen envisioned society as a factory in which all hands worked together for the common good. They accordingly propounded ambitious programs of national efficiency, protectionist economics, political enfranchisement, and social hygiene. Not to embark on liberal reform was to renounce economic prosperity and even to risk social disintegration. Insofar as technological change was seen in terms of struggle it seemed to validate the contest among nation-states. There is even reason to believe that states were the most economical units to carry out reforms.⁵ Thus it was the dangerous future which bound technology and nationalism together. Nation-states were invigorated not so much by the accountable benefits of machines as by the apprehension of their costs. This ceaseless activity of renovation and dismantling—the operations of the architect, the engineer, the social reformer, and the geopolitician—properly belongs to the modernist tradition, alongside the more well-known representations of painters, novelists, and poets.

What distinguishes Europe in the nineteenth and twentieth centuries is the technocratic imagination, the impulse to work on and tinker with society in order to forestall disaster and to meet opportunity. Aviation made this venture more imperative. The coming twentieth-century “air age” was regarded as at once prosperous and perilous. The precision and power of the engine, the sophisticated instrumentation in the cockpit, and

the durable yet lightweight streamlined metal frame all described the vast potential of the second industrial revolution. Transocean flights anticipated a new era in global communication and transportation. But, at the same time, the reach and load of multiengined bombers foreshadowed unknown wartime horrors. Aviation introduced a previously unimagined sense of vulnerability and hopelessness to the age. Those nations which did not meet its harsh demands, by putting in place extensive air defense measures, building deterrent air forces, and teaching technical competence, would miss the imperial opportunities that global aviation extended and would play merely subordinate roles in the world order. Not to have an air capacity was to lapse into passivity and dependency. A host of new “scientific” nouns and classifications, which mixed Darwinian imperatives with technological positivism, described this brave new world. National survival in the twentieth century seemed to be a matter of accepting the novel terms of the “air age,” preparing for the prosperous “air future,” fashioning a new generation of clear-thinking “airmen,” and adhering to the tough prescriptions of “airmindedness.”

Seen in this way, aviation is a crucial part of the modernist experience. Because of the fearsome dangers it posed and also the unexpected opportunities it presented, the “air future” was inscribed with all kinds of reforms, plans, and projects. What Detlev Peukert has termed *Machbarkeitswahn*, that heady sense of possibility at the turn of the century, spurred the technocratic impulse. One hundred years of rapid technological change made the nation-state the subject of its own renovation and of its own ambition. National history became a matter of self-construction, and technological achievements, in turn, upheld a durable sense of common national purpose.

The doctrines of the air age found a particularly fertile ground in Germany. The Nazi slogan “We must become a nation of fliers,” broadcast repeatedly by Air Minister Hermann Goering to generate public support for the Third Reich’s military buildup, suggests the way Germans talked about aviation from the beginning of the century. Aviation suited the bold ambitions of the recently unified German Reich. Rather than a disadvantaged latecomer to the exclusive club of great powers, Germany, once outfitted with technologically audacious machines, belonged more properly to the “young” nations, an emerging generation of world leaders better able to fashion themselves as prosperous states than an “older” Great Britain or France. For this reason, the colossal zeppelins that began to

make their appearance in the southwest German skies in 1900 generated immense patriotic fanfare. In the most fantastic visions of Wilhelmine nationalists, battleships would give way to airships, naval powers to air powers, the established British Empire to its insurgent German challenger. Even after Germany's defeat in the First World War, the promise of aviation continued to preview the grand technological future by which Germany would spite the Allies. Gliding, an immensely popular movement in the 1920s, came to symbolize Germany's resistance to the Treaty of Versailles. And once Allied restrictions on German civil aviation were lifted in 1926, a new generation of technically superlative airplanes and airships charted the revival of Germany's national fortunes. "Airmindedness," that buzzword of the interwar years, was based on the premise that Germany could prosper in a dangerous world if it accepted the harsh strictures of the technological age. Both the diagnosis of the modern age—instability and malleability—and the therapy applied—restless technical renovation—served to legitimize and spur German ambitions.

A study of German aviation suggests how broad the intersection of nationalism and technology was both before and after World War I. A new breed of German nationalists recognized that world power required embracing a modernist vision, as the well-researched example of the importance of Admiral Tirpitz's oceangoing navy shows for the pre-1914 period.⁶ Indeed, in the last twenty years, more and more historians have rejected the notion that Wilhelmine Germany was exceptional for its preindustrial political and social structure and have emphasized the modernity of the empire. Given its achievements in science and technology and its experiments in municipal reform, social welfare, and state administration, Wilhelmine Germany was considered by many European contemporaries to be the most modern state in the world.⁷ That national unification and industrialization came only at the end of the nineteenth century gave Germany the additional advantage of building itself anew more easily.

The Germany which Zeppelin's airships and Junkers's airplanes surveyed was not a Biedermeier patchwork of farms, heath, and forest—the bucolic landscape of *Blut und Boden* has been overworked by historians—but a vast Faustian workshop of machines and masses. In a fundamental, if still largely overlooked, shift, twentieth-century German nationalism became more and more compatible with industrialism and more and more popular in scope and temperament. It outlined vast imperial ambi-

tions, to be sure, but it also rejected the social hierarchies of the Hohenzollern monarchy or the Prussian conservatives, celebrated the efforts of workers and artisans, and foresaw a more inclusive community of patriots based on a stern order of loyalty and discipline. To become a nation of fliers was to move toward this German future.

The story of German aviation begins in 1891, the year Otto Lilienthal first launched a primitive rigid-wing glider that he and his brother had constructed in Lichterfelde, near Berlin. Lilienthal's flying machine eased his free-fall descent and thereby carried him forward in the air-stream. It was the first controlled glider flight. Lilienthal, who died from injuries suffered in a crash in August 1896, is all but forgotten today, although aeronautical pioneers such as Orville and Wilbur Wright and Octave Chanute carefully studied his essays and acknowledged their considerable debt to him. Even at the time, Germans paid little attention to the careful but undramatic experiments of the Lilienthal brothers. Like so many other inventors, Lilienthal kept his passion for flight private; he did not seek public support and did not try to fit his endeavors into the larger purposes of the state. The sport of gliding, which was Lilienthal's legacy to aeronautics, became popular only in the context of the spirited revival of German nationalism after World War I.

It was not until the first airship flights after 1900 that aviation caught the interest of the German public, and then only gradually. After a decade of technical preparations, Ferdinand Graf von Zeppelin, a retired Württemberg officer in his sixties, successfully flew a long cigar-shaped rigid-hulled dirigible on 2 July 1900. The flight lasted twenty minutes and barely made progress against a light headwind. Before the year was out, Zeppelin undertook a second and a third flight. A stringer for the *Frankfurter Zeitung* observed the last launch on 18 October and described the event as a nonevent, a diverting provincial comedy but not a practical invention:⁸

To be sure: the "airship" proved dirigible. It ascended majestically and quietly over the hurrahs of Friedrichshafen, which had assembled itself along the shore. It hovered purposefully and nicely in the air, made little twists on its vertical axis, perhaps even small turns. It also executed small turns on its horizontal axis, but pretty much stayed happily in the same place. There was no evidence of real movement back and forth or of ascents and descents to higher and lower altitudes. I had the sense that the airship was delighted to balance so

nicely up in the air; and the spectators shared this enthusiasm, for the nice balancing act was the only successful part of the whole affair.

Dismissive assessments like this one and mounting financial worries forced Graf Zeppelin to dismantle the airship in the spring of 1901.

It took Zeppelin another three years to persuade the king of Württemberg and several industrial sponsors to fund further trials. Once again the airship, the *Luftschiff Zeppelin* or simply LZ 2, featured a rigid 128-meter duraluminum hull inside which sixteen smaller internal gas cells were hung, a contrast to the single semirigid or nonrigid gas bag that constituted French dirigibles at the time and anticipated the present-day Goodyear blimps in the United States. The rigid frame was Graf Zeppelin's singular contribution. He believed it was what made the airship easier to control and more durable in inclement weather. Yet heavy winds forced the new zeppelin down near Kiesslegg, in Bavaria, on only its second flight on 17 January 1906, and later that night destroyed the crippled ship completely. Fragile construction and persistent mechanical breakdowns plagued the zeppelin project from its inception. That Graf Zeppelin eventually built two more airships, the LZ 3 and LZ 4, is testimony to his perseverance. Still zeppelins were not taken seriously by most competent observers until the long-range trial flights of the LZ 4 in the summer of 1908. Only in August 1908, when the LZ 4 attempted a twenty-four-hour circuit of southwestern Germany, the successful completion of which was the condition for military purchases, did Germans conversing about technological progress and national prowess energetically take up airships and airplanes. It is in 1908, then, that this book about how and why Germans found aviation so good to think—to paraphrase Lévi-Strauss—properly begins.

GIANT AIRSHIPS AND WORLD POLITICS

1 Tuesday, 4 August 1908: the German nation was putting on a production on a scale seldom seen before. Old-timers compared the patriotic hoopla to the excitement that had accompanied the declaration of war against France in the summer of 1870. The two, three, and even four daily editions put out by metropolitan newspapers at the time narrated the unfolding drama in the breathless prose that suited the brash new century. Telegraph reports on the front page of the *Wiesbadener Tageblatt* tracked the progress of a giant gas-filled airship as it made its way north. Accumulating “like a brush fire,” telegrams were posted outside the newspaper building as soon as editors received them, giving passersby almost instantaneous coverage of the historic flight. After leaving Friedrichshafen, on Lake Constance, *Luftschiff Zeppelin* or LZ 4 passed over Basel, Mülhausen, and Colmar, then over the small towns of Lahr and Markotshain, and finally over the Alsatian capital, Strassburg. Wiesbaden’s burghers, who lived just beyond the northern end of the zeppelin’s twenty-four-hour circuit around southwestern Germany, devoured news accounts that told about thousands of onlookers who crowded Strassburg’s streets and clambered onto the city’s roofs. Touches of detail drew attention to the tumultuous activity: apparently “even chimneys had been scaled” by excited sightseers. Wiesbadeners wealthy enough to own a telephone but not patient enough to wait for the evening edition harassed newspaper editors with their calls, asking for the latest news, busying the lines almost uninterruptedly.¹

As the zeppelin approached—appearing over jubilant crowds in Mannheim, Worms, Darmstadt, and, “just now,” in neighboring Nierstein, on the Main River—as many as a quarter of a million Germans streamed into Mainz, where city officials expected a sighting between four and five o’clock in the afternoon. In Bieberich, a Wiesbaden suburb across the Rhine from Mainz, thousands of curious onlookers formed a compact “wall of people.” Toward Mainz “the crowds became denser.” Ludwig