Privileged Killers, Privileged Deaths: German Culture and Aviation in the First World War: 1909-1925

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ABSTRACT

This dissertation examines aviation's influence on German cultural and social history between 1908 and 1925. Before the First World War, aviation embodied one of many new features of a rapidly modernizing Germany. In response, Germans viewed flight as either a potentially transformative tool or a possible weapon of war. The outbreak of war in 1914 moved aviation away from its promised potential to its lived reality. In doing so, the airplane became a machine which compressed time and space, reordered the spatial arrangement of the battlefield, and transformed the human relationship with killing. Germany's fliers initially served as observers, noting troop positions in the war's opening weeks. As the Western Front transformed into static trench warfare, flight, in concert with photography, became a method of gathering intelligence. The camera also shaped the identity and iconography of the aviator both in public and in private photographs. Aviation created a privileged space for combat pilots to engage with, or ignore, the consequences of killing as aerial violence became commonplace. Killing, death, and superstition in the air were repackaged with older cultural tropes to render new violence knowable. The German general staff too, became increasingly obsessed with killing in the air, and this fascination fed a new system for understanding the air war. Germany's regional divisions were also reflected in aviation and directly influenced both the composition of its air service and the machines issued to its pilots. Aviators were again privileged in their use of cultural markers to signpost individual, local, and national identities. The end of the war, however, shattered previous perceptions of war time, and left living aviators to struggle to make sense of a new present, while the nation's lost fliers were repurposed for contradictory social and political ends.

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INTRODUCTION

This dissertation follows the cultural history of German aviation before, during, and immediately following the First World War. The advent of powered flight entered a complex historical narrative in Germany between 1908 and 1925. My research examines the ways in which powered flight was a disruptive experience for German aviators, and the ways those experiences were repurposed to produce the illusion of reassuring continuities in German popular culture. My work builds on previous histories of German social and cultural history written in the last quarter-century, while incorporating the influence of powered flight to elucidate both continuities and discontinuities within German culture. In doing so, I demonstrate the disruptive role that technology played in Germany, and how German culture responded to it.

2017 marks the latter half of four years of centenary commemorations of the First World War. This period has witnessed an intense production of new historical research regarding the conflict and its broader consequences. Undoubtedly, this prodigious period of historical research will continue well after the anniversaries pass, and it is my hope that this dissertation contributes not only to the history of First World War aviation, but to the much wider historical questions being addressed in the current conversation.[1] In addition to intervening in the historical question of the war's wider consequences, my dissertation builds on the original request for a wider and culturally sophisticated history

[1] The ongoing historiography of the First World War features works from a variety of methodological approaches, some of which inform my own research. See Ross Wilson, *Landscapes of the Western Front: Materiality during the Great War* (London: Routledge, 2012). See also, Birger Stichelbaut and Piet Chielens, *The Great War Seen from the Air in Flanders Fields, 1914-1918* (New Haven: Yale University Press, 2016).

of aviation, first made by James Hansen.[2] The response to his call produced a body of literature focused on aviation's social, cultural, economic, political, and military history. My dissertation contributes to this call by examining the ways in which powered flight shaped the culture of German aviators and how that relationship influenced broader cultural markers in German society. Consequently, my research employs multiple perspectives to go beyond considering flight from a strictly military or industrial standpoint, to examine the ripple effect of aviation across social, cultural, economic, gender, and geographic divides. My approach draws on the cultural traditions of the long nineteenth century.[3] In doing so, I frame aviation as a technology that built on the rapidly shifting landscape of the previous century. In doing so, aviation created new discourses while drawing on older cultural markers to make a new paradigm knowable.

Hansen's call for a wider view of aviation sparked a vibrant historical conversation. Histories of powered flight were initially a one-sided monologue which focused exclusively on technical, mechanical, economic, or industrial narratives. These works included biographies on specific pilots, and almost always focused on fighter pilots who were famous during the war for their aerial exploits.[4] Other authors produced histories of German squadrons during the First World War. Histories of these groups

[2] See James Hansen, "Aviation History in the Wider View," *Technology and Culture*. Vol 30, No. 3. (July., 1989): 643-656.

[3] A substantial collection of works also informs my wider understanding of the First World War as a historical event. The most influential of these on my own research have been the following: See, Hew Strachan, *The First World War* (New York: Penguin Group, 2004). For an overview of the contested history of the First World War's causes, see, Annika Mombauer, *The Origins of the First World War: Controversies and Consensus* (London :Pearson, 2002). See also, David Fromkin, *Europe's Last Summer: Who Started the Great War in 1914* (New York: Vintage Books, 2005).

[4] The body of literature encompassing biographies of aviators is truly enormous. See, Terry Treadwell and Alan Wood, *German Fighter Aces of World War One* (Stroud: Tempus Publishing, 2003) for an example of purely biographical information regarding pilots. Other biographies include Peter Kilduff, *Richthofen: Beyond the Legend of the Red Baron* (Leicester: Brockhampton Press, 2000).

concentrated solely on the daily military duties of these units and largely centered on fighter squadrons who achieved fame during the war.[5] Aviation history's conversation matured to bring pairs of historical entry points into dialogue with one another: military and industrial, aviators and nationalism, bodies and machines. John Morrow's work on Germany's aviation industry during the First World War represents one of the most exhaustive examinations of the relationship between the German war ministry, military planners, and the country's embryonic aviation industry.[6] Morrow's research highlighted a complex ecosystem of political power plays, regional and industrial struggles for independence, and military planners grappling first to realize aviation's potential and then desperately maximize it before losing the First World War. His work elucidated the complex nature of aviation and the advantages that a broader historical perspective had in telling a more nuanced story of powered flight during wartime.

Beyond the research of John Morrow, historians began to place the narrative of aviation within a broader context. Robert Wohl, who published *The Generation of 1914* in 1979, examined the culture which shaped those who would fight in the Great War.[7] His next work, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* placed aviation within broader cultural discourses.[8] Wohl's research, however, focused exclusively on high culture across Europe during the period. *A Passion for Wings* explored the way aviation shaped art movements, twentieth century poetry, and views of the landscape. His examination of military aviators focused, again, on fighter pilots who

[5] See Norman Franks, *Jasta Boelcke: The History of Jasta 2, 1916-18* (London: Grub Street 2004).
[6] See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).
[7] Robert Wohl, *The Generation of 1914* (Cambridge: Harvard University Press, 1979).
[8] Robert Wohl, *Aviation and the Western Imagination, 1908-1918* (New Haven: Yale University Press, 1994).

became "aces" during the conflict. Wohl's work does, however, represent the rich historical narratives that can be created when placing aviation into a broader cultural context. Another important work that explored the influence of aviation on other discourses was Peter Fritzsche's, *A Nation of Fliers*, which examined the ways aviation influenced both nationalism and modernism from the advent of the Zeppelin to the rise of the Third Reich, highlighting the immense power that aviation wielded in shaping the national discourse of Germany in the first half of the twentieth century.[9] Fritzsche's work has heavily influenced my own, but his focus was centered largely on the question of nationalism and the ways that powered flight reinforced nationalistic tendencies within Germany. My own research shows that Fritzsche's assessment was correct, but that the discourse of aviation reached far beyond nationalism and modernism.

More recent works examine German aviation over the course of both World Wars, and track a progression within the development of flight and its evolutionary effects on aviators. These narratives view man and machine melding into a unfeeling, fearless, cyborg-like creation, and see the fighter pilot of Nazi Germany as the epitome of a technological and philosophical progression that reached back to before the First World War.[10] While I do not discount the argument that Nazism sought to perfect the fighter pilot as an example of the submission of technology to the German will, I do argue that the disruptive nature of First World War aviation must be viewed on its own terms. The consequences of powered flight in the first two decades of the twentieth century extended

[9] See Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992).
[10] See Christian Kehrt, *Moderne Krieger: Die Technikerfahrungen deutscher Militärpiloten: 1910-1945* (Munich: Ferdinand Schöningh, 2010).

far beyond the confines of the military flier and militaristic discourse, and both reflected and influenced broader strands of German social and cultural history. Aviators too, were more nuanced and complicated beings than mere body and machine melding. Fliers often experienced an inherent tension between man and machine, and mechanical maladies and the hazards of operational duties meant that pilots and their observers often developed idiosyncrasies and superstitions in the belief that such practices would ensure survival. The wider experience of aviation too, which transmuted time and space, killing and death, memory and place, also influenced wider conversations within German culture.

Christian Kehrt's work raises important questions regarding aviation's effects on the body. In particular, this dissertation examines the ways in which aviation was viewed as a fundamentally violent experience on the body. Stéphane Audoin-Rouzeau and Annette Becker's work on violence in the First World War heralded a call to return to the history of the body in the study of warfare. In spite of a wealth of publications on the war's military actions, few historical inquiries had examined war through the prism of the body and war's consequences in the infliction of suffering. Their work *14-18, Understanding the Great War*, revitalized interest in the manifestations of violence during the conflict and the way it shaped the experience of war on soldiers and civilians. The ramifications of violence were also reflected in Becker and Audoin-Rouzeau's exploration of the discourse of war, as well as its effects on mourning.[11] My research pursues this line of historical inquiry in regards to aviation. Through a close-source analysis of the private and public writings of aviators, as well as an exploration of the

[11] See Stéphane Audoin-Rouzeau and Annette Becker, *14-18 Understanding the Great War* (New York: Hill and Wang, 2000).

systems of knowledge that grew around the statistical tracking of aerial violence, a clear perception of aviation as both an intensely violent a differently violent space becomes clear.[12] I also contend that aerial violence created privileged relationships with killing. Aerial crews assigned to reconnaissance and bombing duty viewed killing in an abstracted fashion, framed through the physical distance between them and their targets, as well as the discourse of their duties which was framed around terms like "sighting," "observation," "artillery ranging," and "bombing." In particular, the term "bombing" was abstracted not through the term, but through the object of the attack, which was almost always listed as an enemy position, rather than troops. For fighter pilots, the act of killing other aviators was credited as a "victory," a term which always counted the number of aircraft brought down and not the people killed. This research then compliments the work done by historians of violence and the First World War, and adds a new contribution to the narrative of violence in the air.

New systems of knowledge also resulted from expansion of aerial violence. While previous histories have engaged with the way the air war was fought, none have explored the types of knowledge produced by the German air service.[13] As aviation technology improved to carry greater payloads and weapons, the ability to inflict violence increased. While the gathering of intelligence regarding enemy frontline positions was incredibly important, it was the rise of the fighter plane – designed to prevent enemy reconnaissance aircraft from reconnoitering German positions – that attracted ever greater attention. An

[12] My third chapter explores the ways in which the physical placement of bodies both within aircraft and in the air created new relationships with killing.
[13] Again, John Morrow explores the structural history of the *Luftstreitkräfte* in *German Air Power in World War I*. See also, John Morrow, *The Great War in the Air: Military Aviation from 1909-1921* (Washington D.C., Smithsonian Institution Press, 1993).

examination of military reports and claim forms reveals the growing level of granular detail required by the German general staff. German aviators, after downing an enemy aircraft, were required to fill out a full report that not only detailed the events of their mission, and the type of enemy aircraft they brought down, but the serial number of the machine, the type of engine that powered it, and the serial number of the engine inside.[14] As the war continued, the reports to the *Luftstreitkräfte* general staff grew more and more interested in the exploits of fighter pilots like Boelcke and later, Manfred von Richthofen. As a result, the work of reconnaissance crews who were tasked with gathering intelligence continually receded into the background of the air war's weekly reports. I interpret this phenomenon as a transition of focus on the part of the military hierarchy, away from the realistic goals of winning the war on the ground, and towards the ongoing technological arms race that presented the gratifying, if fanciful, notion of winning the war through superior technology.

The work of these observation units has been overlooked by nearly every historian of the First World War. German units in particular, have received virtually no historical attention.[15] My dissertation explores the role of the photographic camera in shaping the weaponization of both the airplane and photography. Aerial reconnaissance at the outbreak of the First World War was conducted by observers flying over enemy positions, often marking notations down on notepaper regarding the location and number of troops and potential strengths and weaknesses in the rapidly moving front lines of the

[14] I explore these claim forms in full detail in my dissertation's third chapter.
[15] Recent works are now examining the role of aerial photography in shaping the First World War. See Birger Stichelbaut and Piet Chielens, *The Great War Seen from the Air in Flanders Fields, 1914-1918* (New Haven: Yale University Press, 2016).

war's early weeks. As the war on the Western Front solidified into a static conflict defined by trenches, the airplane's importance only grew.[16] While the photographic camera was not a new invention in 1914, it was soon miniaturized to the extent that it could be carried aloft. The high-resolution photographs captured by aerial observation units created an extraordinary level of delineation and detail, providing military intelligence officers with remarkable insight into the events on the Western Front. The camera, however, was also a weapon that served as a mode of defining and expressing individual identity, as observation crews frequently made use of on-site dark rooms to print personal photographs of friends, comrades, wartime surroundings, and the carnage and death of the war's incredible violence.[17] Thus, my research into these overlooked aerial squadrons reveals the manner in which aviation and photography intersected to shape the identities of Germany's first generation of aviators, and provides a long-needed addition to the historiography of First World War aviation.

Identity was not only a product of technology and war. German aviators were born in the in the latter half of the nineteenth. Consequently, the men who would serve as pilots and observers during the First World War experienced the rapid rate of technological change in Germany in a manner similar to their fellow countrymen. Aviators, then, did not come to the newness of the airplane as a blank canvas. Their identities were the product of their preconceived notions, biases, cultural and social

[16] For more on the impact of the landscape in shaping the experiences of soldiers in the First World War, see Ross J. Wilson, *Landscapes of the Western Front: Materiality during the Great War* (London: Routledge, 2012).
[17] The theoretical and methodological framework that informs much of my analysis of photography as a primary source comes from Dan Magilow, *The Photography of Crisis: The Photo Essays of Weimar Germany* (University Park: The Pennsylvania State University Press, 2012).

lineage, and education. As such, my dissertation examines Germany's aviators, not as new heralds of a new and modern type of warrior, but from a holistic perspective that incorporates the influence of the long nineteenth century in shaping the Germans of the First World War.[18]

Germany in 1900 was a newly unified nation in which regional identities still played an important role. The historiography on regionalism in Germany is one of the richest bodies of literature that influences my research. My dissertation is informed by the landmark studies produced by Abagail Green, Celia Applegate, and Alon Confino, among others.[19] My research builds on these historical works to ask, in paraphrasing Alon Confino, how aviators "internalize the nation," and how they then expressed that internalization.[20]

Aviation, perhaps more than any other technology in Germany during the First World War, was directly affected by regional divisions within the country. In particular, the animosity between Bavaria and Prussia would have lasting and significant consequences regarding the quantity, type, and quality of aircraft that Bavarian aviators would use during much of the war. Here again, I draw on the industrial and military history of the conflict by John Morrow, who elucidates the political infighting between two kingdoms; Prussia who wanted complete control over the direction of Germany's

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[18] See Helmut Walser Smith, *The Continuities of German History: Nation, Religion, and Race across the Long Nineteenth Century* (Cambridge: Cambridge University Press, 2008).
[19] See, Abagail Green, *German Home Towns: State-Building and Nationhood in Nineteenth-Century Germany* (Cambridge: Cambridge University Press, 2004). Celia Applegate, *A Nation of Provincials: The German Idea of Heimat* (Berkeley: The University of California Press, 1990). Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Chapel Hill: The University of North Carolina Press, 1997).
[20] Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Charlotte: The University of North Carolina Press, 1997), 9.

aviation industry, and Bavaria, who desperately sought to maintain the autonomy of its Royal Flying Corps.[21] The consequences of regionalism are found in my primary sources, which highlight the poor quality of some Bavarian aircraft in the early years of the war. The influence of the long nineteenth century and lingering cultural echoes of the decades preceding the First World War are also apparent in the ways aviators expressed regional and national identity. Here the role of *Heimat* culture, so eloquently explored by Confino, appears in the photographs and journals of aviators, who express an intense and emotional sentimentality with the landscape, and who, through the privilege of being billeted far from the Front, could erect structures which embodied both national and regionally specific cultural signposts.[22] My research adds to a branch of historiography that examines the ways in which the war was experienced in different regions in Germany.[23]

When moving from the confines of the Western Front to more distant territories, German aviators tended to express their identity in broader, more nationalistic terms. My exploration of the experience of a Bavarian reconnaissance squadron in Palestine highlights the way that technology shaped the process of "othering" local populations in

[21] John Morrow, *German Air Power in World War I* (Lincoln: The University of Nebraska Press, 1982), 29-31.
[22] See Part Two of Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Chapel Hill: The University of North Carolina Press, 1997). Germany's regional educational system also played a role in shaping the mentalities of Germany's aviators. For the differences between school textbooks in Germany, see Katherine Kennedy, "Visual Representation and National Identity in the Elementary Schoolbooks of Imperial Germany," *Paedagogica Historica,* 36:1, 235.
[23] See, Benjamin Ziemann, *War Experiences in Rural Germany: 1914-1923* (London: Bloomsbury Publishing, 2007). See also, Roger Chickering, *The Great War and Urban Life in Germany, Freiburg, 1914-1918.* (Cambridge: Cambridge University Press, 2007).

foreign territory.[24] The squadron, 304b "Pasha," as it was named, faced the daunting task of moving hundreds of men, aircraft, and tons of materiel from the airfields of Munich to the deserts of the Middle East. Even in the daily correspondence of military supply officers, the othering of Palestine is apparent in the tone and content of their messages. In such a harsh environment, where aircraft regularly crashed on landing, where engines and equipment consistently failed due to dust and sand, and where aviators rotated home due to sickness and injury, German notions of intellectual and racial superiority appear in the squadron records. Thousands of miles from Germany, the airmen of 304b held to the belief that they were superior to the people they encountered. They subsequently viewed the environment as inherently dangerous and filled with potential disease, and their commanders contended that they were fighting a defensive war, even while occupying foreign land far from home. The narrative constructed in the documents of 304b confirms the powerful influence of lingering strains of racism that continued in its most virulent form the nineteenth century and into the twentieth.[25]

Perhaps, most fundamentally, aviation disrupted perceptions of time. Powered flight during the First World War divided the experience of time in a manner best described by the Greek terms *chronos* and *kairos.*[26] Aviation revolutionized the ability to

[24] For an analysis of the process of differentiating populations, I draw from Johnathan Smith, "What a Difference a Difference Makes, in *To See Ourselves as Others See Us: Christians, Jews, "Others" in Late Antiquity*, ed. Jacob Neusner and Ernest Freichs (Chico: Scholars Press, 1985).
[25] See Hew Strachan, *The First World War*, and, Kristian Ulrichsen, *The First World War in the Middle East* (London: Hurst & Company, 2014).
[26] Several works inform my interpretation of *chronos* and *kairos*. See Phillip Sipiora and James Baumlin, ed, *Rhetoric and Kairos: Essays in History, Theory, and Praxis* (Albany: State University of New York Press, 2002). See Kimberly Hutchings, *Time and World Politics: Thinking the Present* (Manchester: Manchester University Press, 2008). See, "Chronos and Kairos" in John Spencer Hill, *Infinity, Faith, and Time: Christian Humanism and Renaissance Literature* (Montreal: McGill-Queen's University Press, 1997).

cross vast distances in remarkably short periods of time. As a result, the advent of the airplane compressed the perception of time and space, shrinking both considerably. As the First World War's aerial component evolved, the rapid development of the airplane further compressed the perception of time among Germany's aviators. The dizzying rate of progress contracted conceptions of generational differences among airmen born within a few years of one another. Suddenly a member of the "old" guard could meet a "new" airman who was the same age, yet the differences in their experience of technology and, consequently, their perception of time, were dramatically different. My research into the question of time and space builds on a long legacy of historiography that has examined the question from multiple perspectives, but which has yet to apply these methodologies to the question of First World War aviation.[27] A close examination of the experience of German aviators reveals a sense of expertise that grew the longer individual fliers were in service and survived. Aviation too, provided a rigid and regimented sense of *chronos* time, with patrols measured in morning, afternoon, and evening events. Aerial violence punctuated these passing chronological moments with heighted moments of decision, or *kairos* time. The ending of the war fundamentally broke this sense of time and for some aviators, the continuation of violence in Germany's uprisings in 1919 and 1920 was indicative of a war that never ended in 1918.[28]

Aviation also affected the role of memory in making sense of German defeat. The

[27] See Stephen Kern. *The Culture of Space and Time: 1880-1918.* (Cambridge: Harvard University Press, 1983). See also, Monica Black. "Miracles in the Shadow of the Economic Miracle: The "Supernatural '50s" in West Germany." *The Journal of Modern History,* Vol. 84, No. 4. (December, 2012). See also, Peter Merriman, *Mobility, Space and Culture* (London: Routledge, 2012).
[28] For more on post war Germany, see Richard Bessel, *Germany after the First World War* (Oxford: Clarendon Press, 1993).

role of memory in shaping the experience of war for subsequent generations has been explored in previous works, such as *The Great War and Modern Memory*.[29] This work was vitally important in shaping contextualizing memory's role in shaping meaning within cultural events, and the degree to which memory is malleable and fallible. While powered flight was expressly prohibited by the Treaty of Versailles, the memory of aviation and the role of aviators in the conflict played an important part in finding meaning within the incomprehensible loss of the war. Long dead aviators like Manfred von Richthofen, who perished in the spring of 1918, were exhumed and reburied in Berlin.[30] While their bodies were reburied, the meaning and the significance of their lives were repurposed to serve other social, cultural, and ideological means. Thus, the experience of aviation during the First World War continued to exert influence over the course of events in the 1920s and 30s.

Finally, aviation represents a branch within the wider history of technology. The study of the history of technology often raises the methodological question, does technology drive history?[31] In response to this, my dissertation examines the ways in which human beings respond to the changes brought by technology and how those responses shape and define the historical narrative in the immediate, and long term aftermath. Aviation during the First World War was a disruptive technology that worked within the defining point of rupture of the twentieth century. That point of disruption,

[29] Paul Fussell, *The Great War and Modern Memory* (Oxford: Oxford University Press, 1975).
[30] I derive much of the theoretical and methodological foundation for my exploration into the deaths of aviators and the social and cultural meaning of their loss from Monica Black, *Death in Berlin: From Weimar to Divided Germany* (Cambridge: Cambridge University Press, 2010).
[31] Merritt Roe Smith and Leo Marx, ed. *Does Technology Drive History: The Dilemma of Technological Determinism* (Cambridge: MIT Press, 1994).

embedded within a seismic and traumatic rupture, has contributed to its underdevelopment as a subject of historical analysis.

The airplane straddles a fascinating and challenging historical divide. It is at once both forward looking and rearward glancing. The very materials of powered flight in the First World War, that of wood and canvas and wire, can trace their origins back to ship building of the middle ages.[32] Powering that ancient frame was the driving motor of the twentieth century, the gasoline powered engine. The material culture of flight embodied a border between past and future. Within that framework, the culture of the long nineteenth century and the expectations of the twentieth emerged through a remarkably elastic and disruptive mode of technical, social, personal, and cultural expression. Aviation also does not always follow a linear progression of improvement, as many First World War fliers unfortunately discovered. While focused on a very different area of research, I borrow from the methodology in the work of Donald MacKenzie.[33] MacKenzie examines the language of accuracy that built up around the use of nuclear weapons. He finds that, despite the fact that a nuclear missile would devastate thousands of square kilometers around its intended target, defense contractors obsessed over creating missiles that were accurate to within a few meters of its target. MacKenzie uncovers the discourse of technological improvement and the questions that arise around it. I draw similar conclusions in this dissertation and have found numerous instances when a supposedly

[32] Curiously, although specifically directed at locating the longer roots of the discourse that formed much of the conversation around the First World War, aviation's medieval iconography remained unexamined even in works focused on the topic. See, Stefan Gobel, *The Great War and Medieval Memory: War, Remembrance and Medievalism in Britain and Germany, 1914-1940* (Cambridge: Cambridge University Press, 2007).
[33] Donald MacKenzie. *Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance.* (Cambridge: The MIT Press, 1990).

"better" airplane – deemed so because of having a bigger engine or a better rate of climb – does not manifest itself as an improvement in the hands of an aviator. This adds to the literature that problematizes the perceived evolution of technology as one of consistent and relentless improvement.

Culture shapes technology, and humans are also subsequently shaped by the technology they create. The history of powered flight in the first decades of the twentieth century offers a powerful example of both of these processes. In other words, the aircraft is not only a tool or a technological revolution, it is a source that can be read and interpreted and contextualized as an artifact from the period. Aviation measured the abilities of men. My engagement with this question derives from Michael Adas' work, *Machines as the Measure of Men*, which examines the role of technology in shaping the narrative of Western dominance on the global stage.[34] In perusing this approach, it is a clear that aviation at the dawn of the twentieth century valued the worth of the machine over human life. At first, the dictates of engineering - that of creating a craft as light as possible - pushed the machine above the man in the hierarchy of value. War took this relationship and elevated that hierarchy to a previously unimagined degree of inhumanity. His body was placed between fuel tanks and flammable material with no means of escape. Aviation then, created an inherent tension point between the man and machine. While the developmental arc of the airplane during the war privileged the mechanical necessities of the machine, German fliers, as well as German culture, created an

[34] Michael Adas, *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance* (Cornell: Cornell University Press, 1989).

extraordinary sense of entitled privilege around aviators.[35]

To counteract the devaluation of the self, German aviators in particular, cultivated an exaggerated sense of personal agency and self-expression. They painted their machines in personal colors and often incorporated iconography that was deeply rooted in regional histories and individual identities. They wrote in private diaries and published autobiographies as an avenue of self-expression. They created art and poetry as yet another means of marking themselves and their place within the community of aviators. These modes of self-expression, of asserting the individual as important, provides a different view from that of the troops serving in the mud of the trenches. Unlike soldiers, aviators were actively encouraged to express the self as they operated within a system that organized violence and knowledge in a manner that not only condoned exaggerated expressions of self-assertion over war, but actively encouraged it. A rapturous, often conservative demographic of the public, waited eagerly to consume stories and images of Germany's First World War fliers, who were often labeled as noble knights of the air.

Aviation, of course, was not knightly, nor was it noble. Popular narratives of the period also ignored a massive demographic within the community of German fliers. Two-seater crews, tasked with the inglorious task of photographing the lunar landscape of the Western Front have been all but invisible in German aviation history, largely because they were invisible during the war. These crews, who did not pilot nimble, attractive scout aircraft but rather climbed aboard large, slow, lumbering "barges," were never

[35] For a discussion on the First World War and consequences of modernism on culture, see Modris Eksteins, *The Rites of Spring: The Great War and the Birth of the Modern Age* (New York: Houghton Mifflin Company, 2000).

given the agency of their fighter pilot comrades.[36] Their daily work formed the backbone of military intelligence but, within the weekly reports of the German Air Service, they were completely overshadowed by the exploits of fighter pilots. In other words, they were invisible from the record because they were all but invisible to both the state and popular culture. These crews, however, also sought to express a sense of identity and did so within largely ignored mediums. Squadron photographs and newspapers reflected both the humor and the strain expressed by aviators in these difficult jobs.[37] Squadron newspapers mirrored the production of newspapers by soldiers on the ground. Trench newspapers, which were produced in massive numbers due to the static nature of the Western Front, have been the topic of new research. I also draw on this new avenue of historical investigation. As part of a resurgence of the social and cultural history of modern warfare, these documents, which were utterly overlooked by historians for decades, reveal a very different side of war. These papers show us that where women are far more present near the front than soldiers letters home reveal. It shows us the mentalities of those who fight and, most importantly for this dissertation, show us the degree to which German soldiers, fighting on foreign soil, went to rationalize their war as one of defense.

German aviators and German culture, then, presents a fascinating opportunity to examine the influence of technological change and disruption. The nation's regionalized education system, its recent formation as a unified country, its ongoing and dynamic

[36] Before he became a fighter pilot, Rudolf Berthold was part of one of these crews and frequently referred to his machine as a "barge," denoting its massive size. See, Rudolf Berthold, Personal Diary, MSG2-10722. Freiburg Bundesarchiv.
[37] See Robert L. Nelson, *German Soldier Newspapers of the First World War* (Cambridge: Cambridge University Press, 2011).

conversation around regional and national questions of identity and what those identities would look like, and the historical legacy of older social and cultural markers, make it an ideal testbed to examine the ways in which aviation disrupted both new social conversations and older traditions and cultural norms. In doing so, this dissertation contributes to a broader conversation that examines the ways that technology shapes culture, and how culture shapes technology.

Commentary on Source Material

My dissertation takes advantage of a rich and diverse document collection that includes published sources, squadron records, personal photo albums, and private diaries. These sources provide a fascinating dichotomy to works produced in the aftermath of the conflict. Given the social and political upheaval in Germany immediately following the First World War, no official history of the conflict's aerial component was recorded, although individuals within the *Luftstreitkräfte* endeavored to write their personal accounts of Germany's air war. Popular works of semi-fictional autobiographies permeated the German book market in the late 1920s and early 30s but these too are somewhat problematic sources.[38] Consequently, I am mindful of my analysis of more problematic sources, most notably, the published autobiography of Manfred von Richthofen during the First World War. Richthofen's account was always meant for public consumption and the process of writing his book is not particularly well known. Therefore, rather than approach Richthofen's story as an accurate and unvarnished

[38] These works, however, do provide a fascinating case study into what popular audiences expected from a book about a flier's experiences in the First World War.

account of his experiences, I explore his writing from the perspective of authorial intent. In other words, what did Manfred von Richthofen want his audience to see and perceive regarding the air war? In asking those questions, I was able to find illuminating perspectives on aviation during the conflict.

My dissertation draws on archival material from the *Deutsches Museum* as well as the *Bayerisches Hauptstaatsarchiv: Kriegsarchiv,* located in Munich. The *Deutsches Museum* provided a wealth of background knowledge in First World War aviation and, notably, houses the private photo and scrap book albums of German aviators. Most notably, the museum has the photo album of Peter Supf, a German aerial observer who wrote extensively about the history of the German air service in the First World War. His album chronicles his experiences from mobilization in 1914 until the end of 1917 and provides a unique opportunity to employ close source analysis on photographic material. The Bavarian War Archive houses the squadron records of several units, including fighter squadrons on the Western Front. Most interestingly, the archive is home to the complete archival record of Bavarian reconnaissance unit 304b, which served in Palestine, along with the personal files of its commanding officer, Franz Walz.

The *Bundesarchiv* in Freiburg, contained thousands of pages of military documents from the First World War, including hundreds of pages of correspondence and reports within the *Fliegertruppe* and the *Luftstreitkräfte*. Of the most interest to my research, Freiburg contains the private war diary of Rudolf Berthold, whose writing provides remarkable insight into the first-hand experiences of a German aviator who was profoundly changed by his experiences in the First World War. Berthold's diary was never published and, subsequently, it has remained an underutilized historical source. I

also employ the weekly reports to the general staff of the air service, as well as the personal files of other German aviators like Ernst Heß, whose career is documented from his education at *Gymnasium* up to the telegram notifying his mother of his death in aerial combat in December, 1917. Finally, I also make use of historical spaces, most notably the airfield located outside of Munich, called *Oberschleißheim*. The airfield was home to the Royal Bavarian Flying Corps during the First World War and, with the archival research of the *Deutsches Museum*, has been rebuilt to model its Great War appearance.

First World War aviation history in Germany is also challenging in another respect. Many of the aviators who served during the conflict later joined the National Socialist Party and many who died before the war ended were rebranded as "good Nazis." While my dissertation's period of examination ends in 1925, many of the aviators I explore in this work later followed a dark political path. Many of the aviators who survive the war either became National Socialists or were sympathetic to the cause of Nazism. The importance of these political and social trajectories cannot be ignored or underestimated, and as such, I track, wherever possible, the future events in the lives of the aviators I examine. The ramifications of these political choices could easily form a dissertation unto itself. My primary question, however, is focused on how aviation technology disrupted social and cultural practices before the First World War, and how those disruptions continued during and immediately after the conflict. To fully elucidate those disruptions, I narrowed my focus to view aviation as a new technology within a lived present, rather than a harbinger of events a generation later. Consequently, I have limited the scope of my dissertation to the central and driving question of how technology disrupts social and cultural practices in Germany before, during, and immediately

following the First World War in order to address a significant and important gap in the existing literature.

Chapter Organization

My dissertation is organized into five chapters which explore the different ways that aviation shaped German history between 1908 and 1925. Chapter One explores the social and cultural conversations surrounding German society as the nineteenth century gave way to the twentieth. Germany was a dynamic, new, and uncertain society exploding with industrial capacity and echoing the sentiments of the rest of Europe in its desire to expand its empires across the globe. Within that dynamic environment, the image of powered flight captivated the German popular imagination and baffled its leaders and military planners.

Chapter Two examines the transformative influence of photography on aviators and aviation. Former Hauptmann Georg Neumann noted in his post-war history of the First World War's aerial conflict, "it is more than doubtful if the airplane would ever have attained such importance as a means of attack and a decisive factor in warfare if the Great War had continued as an open campaign, and consequently ended in a short time."[39] The stagnant nature of the war, combined with the miniaturization of photographic technology coincided to give the embryonic airplane extraordinary agency. The airplane, which could not effectively bomb enemy positions in the early months of the conflict suddenly became a vital intelligence gathering device to military planners and strategists. The camera too, became a mode of self-expression as reconnaissance crews

[39] Georg Paul Neumann, *Die Deutschen Luftstreitkräfte in Weltkrieg* (Berlin: E.S. Mittler und Sohn, 1920).

frequently made use of squadron dark rooms to develop images of friends and comrades. The portable camera allowed fliers to create albums documenting the conflict from formation to armistice. Here too, fliers were a privileged class, having access to the mode and mean of creating and storing photographs during an ongoing conflict.

Chapter Three investigates the ways in which aviators understood and experienced violence from a privileged space. The airplane transformed the ways in which violence and suffering could be inflicted on the human body. The very experience of flight, that of exposing flesh and bone to previously unexperienced height and speed, was viewed as an inherently violent experience, one that imposed suffering even in the best of conditions. The nature of flight, that of operating structurally unstable machinery with no means of escape, also meant that flight could kill the aviator at any moment. Violence in the air expanded beyond the mere act of flying at altitude to include the ability to inflict pain and suffering on other bodies in other aircraft. The advent of machine guns allowed hostile fliers to open fire at one another and created a more direct means of inflicting and suffering violence. An entire system of gathering knowledge grew around the concept of shooting down other aircraft and, as a result, gave rise to a spoils system which actively encouraged this destruction over all other aerial activity. Eventually, the specter of shooting down enemy machines in ever greater numbers blinded even military planners to the original and most important requirement of military flight - that of winning the war on the ground. Consequently, aviators, through the attention paid to killing in the air, and to the privileged way that act was valued, viewed their actions as more important than others. Consequently, I explore the ways in which aviators experienced killing from an intensely privileged perspective.

Chapter Four explores the ways aviation served as a means of expressing and understanding regional and national identity. Germany's recent unification meant that its regional kingdoms still sought active means of maintaining autonomy. Bavaria is the strongest example of the consequences of regional autonomy within the larger Reich. Its stubborn determination to keep its air service independent led its military planners to make disastrous decisions regarding the construction and procurement of military aircraft. The dependence on local factories created a situation where aviators in Bavarian squadrons received under-performing or outright dangerous machines. The lived consequences of this decision were spelled out in the diary of German aviators like Rudolf Berthold, who nearly lost his life in a crash at the controls of a poorly made Bavarian copy of a French aircraft. Regional identity was also embedded in the mentalities of aviators, and placed within a larger, more flexible discourse of national *Heimat* culture. By examining the roots of these regional narratives, a clearer picture of the world views of Germany's aviators comes to light. Those views shaped their perception of the war and had very concrete consequences in how they framed and made sense of their role in the conflict. Again, the role of privilege shapes the experience of the aviator, providing them the space, time, and means to build expressions of regional and national identity at the front.

The latter half of this chapter takes the lessons of regional identity and extrapolates those traits to the Middle East, where Bavarian reconnaissance units served in Palestine during the conflict. Here we see the outward projection, not of regional identity, but broader tropes of German nationalism in an alien land. The conclusion then, is that regional identity serves to differentiate populations in like-area lands like the

Western Front, whereas truly foreign lands tends to impel populations to reach back to find national traits to reinforce their sense of self. Even the military planning documents of squadrons like 304b "Pascha" were imbedded with German nationalism, racism, and a heightened sense of superiority over the local populations where they would serve.

My final chapter examines the ways in which aviation influenced the very perception of time and space, as well as memory and mourning. Aviation fundamentally transformed the human relationship to time, an accessing the ways in which time was perceived by aviators has remained historically challenging. To access both the regimented sense of time created by military aviation, as well as the heightened moments of fear and peril, I employ ancient Greek concepts of time, through the prism of *chronos* and *kairos* to fundamentally change how fliers understood time. Military aviation provided a regimentation and structure to time: morning, afternoon, and evening sorties framed their days, weeks, months, and years of service. It also contributed to the *chronos* of monotony of time dragging on. Aerial violence broke this sense of continuity with heightened moments of *kairos*, of moments of decision that ultimately resulted in life or death experiences. This sense of time is expressed both in public and private writings, as well as photographs of the period. The chapter then expands beyond the time of the living to the realm of the dead. Aviators again were privileged in the realm of loss - where squadrons went to extraordinary lengths to recover lost pilots to give them a proper burial - an experience not shared by their counterparts on the ground. The end of the war and the banning of flight within the country broke the continuity of war time and, for some, created a sense that the war never ended. As chaos and violence overwhelmed German society immediately after the war, many of its aviators took the streets to continue a fight

that seemed to extend into perpetuity.

It is the goal of this dissertation to fulfill the need to expand the history of aviation, not merely as a technological tool, but as a force that shaped cultural conversations within society. Technology fundamentally altered the course of the twentieth century and changed the ways human beings interacted with, perceived, and ultimately shaped the physical world around them. Aviation in particular collapsed space and time, redefined central aspects of warfare, altered the human relationship with violence, and provided an elastic mode of expression to redefine meaning and memory during and after the First World War. The ongoing questions of how new technology shapes society and culture continue into our own present, and serves only to further highlight the importance of studying the ramifications of technology in shaping the defining moments of the past. How did Germans perceive aviation? How did they experience it? How did aviators view themselves and the world around them, and how did the world of the nineteenth century inform those living on the apex of technological change in the twentieth?

Our story begins before the First World War, as aviation entered a wider conversation regarding what the German *Kaiserreich* would represent.

CHAPTER ONE: PRE-WAR VISIONS



Figure 1. Photo of Paul Engelhard over Johannisthal airfield. Source: Bild 146-1972-026-35, Bundesarchiv, Berlin.

Introduction

Few images capture the disruptive moment of aviation's arrival better than the photograph of Paul Emil Engelhard lifting off over Johannisthal airfield, outside of Berlin, on August 12, 1910. In that instant, captured for posterity, Engelhard, accomplished something that few humans had at the turn of the twentieth century. Climbing aboard a Wright Flyer, similar to the type that lifted off from the sands of Kitty Hawk, North Carolina seven years earlier, Engelhard took to the air from the site that would become the nexus of flight in Germany.[1] As he lifted off that morning, a camera captured his image within a scene intended to foreshadow the technological and cultural dichotomy of the young century. In the foreground, an officer sits on horseback,

[1] Photo, Bild 146-1972-026-35, Bundesarchiv, Berlin.

resplendent in a cape as he looks on at the rising airplane. The image neatly telegraphs the intention of the photographer who captured it. Within the frame we see an instant where a passing age and its coming replacement intersect. It is also telling, perhaps, that we know the name of the pilot, yet the officer in the foreground remains anonymous. In that moment, that officer represents both the status and class of his forebears, reflecting the role of nobility over previous centuries. The airplane rising above him, showcases a new kind of nobleman - the technologically able airman.

Just fifteen days later, Engelhard's photo appeared on the cover of *Flight* magazine. The publication described itself as the "First Aero Weekly in the World: A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport."[2] What made the appearance of Engelhard's photo all the more fascinating, was that *Flight* was a magazine based in the United Kingdom, not Germany. In that instant, Engelhard's photo embodied the degree to which his country had grown in importance on the European aviation stage, as well as the transcendent power of aviation to capture the popular imagination across national borders. As his Wright Flyer passed by the nameless officer below, Engelhard's flight represented yet another small step within a rapidly changing world of scientific and technological development, one that left those on the ground, both literally and metaphorically, behind. Even *Flight*'s tagline represented the inability of contemporary language to capture the transformational moment it witnessed, referring to powered flight as "aerial locomotion."

A century after Engelhard's flight, the machines which defined aviation's

[2] Uncredited, Picture on front cover of magazine, *Flight,* August 1910.

development in the decade before 1914 hang suspended from the vaulted ceilings of the *Deutsches Museum* in Munich, Germany. Like dinosaurs from another age, these airplanes little resemble their modern counterparts - wood, canvas now yellowed with age, and rough wires form the skeletons of pre-war European aviation. Until the last three decades, the field of aviation history has largely paralleled these static displays of powered flight's past. Previous works have concerned themselves predominantly with the technical development of the airplane itself, and with the biographical storylines of the field's most important designers and fliers. The influence of aviation on broader cultural experiences for both aviators and the wider population, has been far less examined.[3] Following the call for wider cultural and social histories of aviation's development and its effects, newer works began to look at the ways flight informed discourses of nationalism and high culture.[4] While the subject has been examined from these perspectives, an approach that follows aviation's influence through multiple perspectives within society, presents an opportunity to holistically view the impact of flight on Germany at a pivotal moment in its history. In particular, aviation both alleviated and contributed to, heighted anxieties in Germany about the direction of the nation and how the advent and propagation of new technologies would impact its culture, its politics, and in some discourses, even the very soul of the nation.[5]

The creation and subsequent development of aviation did not occur in a vacuum.

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[3] See, James Hansen, "Aviation History in the Wider View." *Technology and Culture* 30 (1989): 643-656.
[4] See Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992). See also, Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* (New Haven: Yale University Press, 1994).
[5] I draw partly from the theories posited by Peter Merriman in his examination of transportation technologies on wider culture in England. See Peter Merriman, *Mobility, Space and Culture* (London: Routledge, 2012).

Rather, flight entered a much wider cultural conversation in Germany during the decade preceding the First World War. Questions regarding national identity, the role of a newly defined "youth" demographic, and ongoing tensions between imperial and counter-culture, were dynamic and ongoing when flight entered the German cultural consciousness. The ripple effect from aviation expanded to conceptions of regional and national landscapes, as well as urban and rural life.

The airplane was also an amorphous technological promise; it sparked utopic imaginations and incurred harsh ridicule.[6] It represented both the youthful German nation and older imperial ambitions. It troubled military planners and confused much of the general staff.[7] It was utterly missed by a Kaiser dedicated to promoting "science, technology, and culture."[8] It was exemplified as a magical, utterly irresistible force for a young generation of engineers and it typified a burgeoning new field of business for the old guard. Powered flight was a remarkably elastic force for social and cultural expression – one which ultimately reflected the proclivities, anxieties, and biases of the individual viewing it. It also created new spaces for expression. It absorbed values and norms, and transcended them. The rise of early aviation in the decade before the First World War also sparked a flurry of futurist predictions - of the world that aviation could create and shape.[9] Visions of transcontinental flight rested uncomfortably alongside more

[6] For more on the transnational promise of flight, See Steven Kern, *The Culture of Space and Time: 1880-1918* (Cambridge: Harvard University Press, 1983). Some elements of the German popular press ridiculed aviation in the years before the First World War. I will analyze these depictions of aviation in *Jugend* magazine further in this chapter.
[7] For a detailed description of the ways military planners failed to realize the import of powered flight, see John Morrow, *The Great War in the Air* (Washington, D.C.: Smithsonian Institution Press, 1993).
[8] Matthew Jefferies, *Imperial Culture in Germany: 1871-1918* (London: Palgrave, 2003), 218.
[9] Writers of popular fiction created dystopic visions of the perils of militarized flight. See H.G. Wells, *The War in the Air* (London: George Bell & Sons, 1908).

pessimistic visions of a world wracked by warfare, replete with the visage of Zeppelins bombing cities and killing millions. From its inception, aviation housed an inherent tension - one of new nationalistic visions and transnational aspirations. The airplane then, proved to be a remarkably disruptive force within German culture between 1908 and 1914, when the world of prediction would collide with the reality of war.

Germany in 1900

In order to understand the degree to which aviation acted as an agent of disruption, it must be placed within the wider context of German culture at the turn of the twentieth century. German culture in 1900 represented more than a discourse of nationalism or the movements of high culture. It embodied a myriad of perspectives and a multiplicity of conversations built around questions of national identity, the promise and peril of industrialism, the implications of modernity, the role of empire, defining gender, and expressing regionality. Cultural conversations are also experienced at a particular tempo, and this complex discourse was placed within the widely-expressed sensation that time and space were collapsing ever further with each passing day.[10]

It is curious, then, given the significance of the changing perception of space and time within German culture of the period, that aviation has remained unexamined historically. The airplane as a historical topic, has largely been overlooked from the larger perspective of a world of rapid, even dizzying change. As a result, the development of aviation in the decade before the First World War has largely been viewed as an

[10] The influence of modernity on the human perception of space and time was elucidated by Stephen Kern. See, Steven Kern, *The Culture of Time and Space* (Cambridge: Harvard University Press, 1983).

isolated moment, placed in a contrasting world that existed before and after the realization of powered flight. In reality, the airplane takes its place amid a much larger and more sophisticated conversation and must be viewed in a much longer discourse of technological revolutions that fundamentally altered European perceptions of space and time. The development of the steam engine, the capturing and harnessing of electrical power, fueled transformations that changed not only the physical landscape, but the psychological world of millions of people as well.[11] The airplane continued both an ongoing nineteenth century conversation regarding the role of technology in shaping society, while simultaneously transforming that conversation into something altogether different.

Contextualizing aviation within these wider terms has, until recently, proved difficult for historians on the subject.[12] One of the challenges has been a paucity of research on the specific cultural moments within the period of the *Kaiserreich*. While Weimar and the culture of Hitler's Third Reich have, justifiably, received significant historical attention, the Imperial culture of the *Kaiserreich* has attracted far less investigation. This is partly the consequence of far larger historical shadows cast by subsequent generational moments in German history. Those later moments highlight the difficulty of contextualizing the period as a moment that was experienced in a lived

[11] For the influence of rail travel on culture, see Wolfgang Schivelbusch, *The Railway Journey: The Industrialization of Time and Space in the 19th Century* (Berkeley: The University of California Press, 1986).

[12] Conversely, historians who have examined aviation from a wider perspective have typically chosen one particular lens to such an investigation. For example, aviation has been viewed to its influence on high art or nationalism. See Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992). See also, Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination*, 1908-1918 (New Haven: Yale University Press, 1994).

present. Finally, historians must grapple with the challenge of understanding German culture within the paradigm of a relatively new German nation, and the multiplicity of cultural conversations which constructs its broader discourse.

To begin contextualizing German culture in this period, we begin by unpacking the discourse of Imperial culture, which attempted to exert influence over much of German national life. As Matthew Jefferies correctly asserts, this approach is useful for several reasons.[13] First, the discourse of the Empire did not exist on the periphery but rather, informed the culture of a rapidly expanding middle-class in the German Reich. Second the relative youth of the newly formed "German Empire" of 1871 meant that, unlike older and more established nations, the culture emanating from the *Kaiserreich* largely fueled the conversation of what Germany was, what it represented, and what intellectual, social, and cultural ideas it embodied. This approach is also useful in elucidating that practical manner in which the German Empire operated within a formal, legal construct. The decision of those leading the newly constituted Empire to place the finance and subsequent control of the arts, education, and religion firmly within the jurisdiction of the various states within the Empire, had a direct impact on the development of German culture in a highly localized manner. Finally, this approach begins the process of recognizing the implications of Germany's broader history, while realizing the *Kaiserreich* as a historical moment that existed in a dynamic and lived present.

The "unification of Germany" in 1871 then, is perhaps a misnomer. German

[13] Matthew Jefferies, *Imperial Culture in Germany: 1871-1918* (London: Palgrave, 2003), 11.

society at the close of the nineteenth century teetered as a powerful yet highly factious society, one that often seemed perilously close to the verge of social meltdown.[14] The causes for these divisions were multiple and interconnected. Jefferies posits that regional, confessional, gender, urban-rural, and class all provided points of intense friction within German culture. The Empire, as it existed at the turn of the century, was a society pulled by a multiplicity of tensions. One point of friction fell along confessional boundaries, with an overwhelmingly Christian society split along Catholic and Protestant fault lines of 62% Protestant and 36% Catholic.[15] Jefferies notes too, that population density also played a significant role in defining confessional distinctions. Despite Southern Germany's largely Catholic population, it remained outnumbered by Catholics in the more densely populated region of Prussia. Urban and rural differences also shaped opinions on the German Empire. Despite booming industrial growth, Germany largely remained what Jefferies called "an empire of small towns." Gender too, played a significant role, one that surely colored men's perspectives on women. Even by nineteenth century standards, Germany was a remarkably patriarchal society, with women all but barred from public life. Their role was summed up, uncomfortably, in the motto of the period, "*Kinder, Küche, Kirche,"* (children, kitchen, church).[16] Sexual discrimination was widely prevalent, with the severity of such discrimination, in public at least, defined largely by class and wealth.

Regional differences provide perhaps the most concrete examples of friction

[14] Jefferies, 12.
[15] Jefferies, 14.
[16] Jefferies, 19.

points within German society. That said, regional identity must be understood contextually, as a historical force which fractured German society, but one that should not be overstated.[17] While the stinging defeats of 1866 left long standing resentments between Prussia and its southern neighbors, regional identity is one of the most fluid categories of self-interpretation, and one of the most susceptible to change over time.[18] The Empire attempted to smooth over regional chasms through the cultivation of a *Heimat* culture, one that viewed a pastoral, often nostalgic look at Germany was a unifying feature among all Germans. *Heimat*, was originally viewed by historians in the past, as an anti-modern movement; one which eschewed industrial and technological revolutions as damaging to the quiet, pastoral pace of life in the German countryside.[19] Alon Confino, however, finds important delineations in the interpretation of *Heimat* culture in the early years of the twentieth century. With industrialism's ascendency a seemingly unstoppable force, Confino finds a *Heimat* culture that readily embraced the rise of progress narratives. A 1914 *Heimat* publication from the town of Heidenheim, describes the co-existence of rural tranquility and modern industrialization:

> Similar to the cities, we also find in rural communities a welcome increase in prosperity… everywhere and in almost every field of life we feel a sound

[17] My approach to the question of regional identity in German culture is informed by the following works. See, Celia Applegate, *A Nation of Provincials: The German Idea of Heimat* (Berkeley: The University of California Press, 1990). See also, Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Chapel Hill: The University of North Carolina Press, 1997). See also, Abagail Green, *Fatherlands: State Building and Nationhood in Nineteenth Century Germany* (Cambridge: Cambridge University Press, 2011). I address the ramifications of regional identity at length in Chapter Four.

[18] Regional differences between Prussia and Bavaria resulted in markedly different approaches to how each kingdom responded to the First World War in the air. See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).

[19] This perspective shifted in Celia Applegate, *A Nation of Provincials: The German Idea of Heimat* (Berkeley: The University of California Press, 1990).

> progress… Communication has increased in the entire district very rapidly, and the transportation of people and goods has developed to a degree that was unthinkable a few decades ago…. One writes and speaks over great distances in a flash. Even in the smallest locality there is a public-call office. Motorists and bicycle riders rush with alarming speed raising dust between valleys and hills. In fact, soon Heidenheim will have an airship hanger and aviation center. A special picture of our valley will be offered to the coming generations when the canal connecting the Neckar and the Danube will cross it. Then the localities on the Brenz, provided with locks, cranes, and disembarkation areas, will draw the heavy cargo steamers. New jobs will be created, new factories will be established. Some old things will disappear and new life will flourish out of their ruins. Our times, to be sure, never halt.[20]

Heimat culture's inherently flexible discourse could comfortably explain regional differences, or regionally focused identities, and the transformation of the landscape, in a manner that was not anti-modern.[21] As the momentum of industrial transformation grew, so did the acceptance of this new type of landscapes, one that even in the first few years of the twentieth century, was inhabited by the spindly airplane.

This tension, then, highlights not a rigidly anti-modern perspective nor a blind embrace of industrial capacity as "progress." German culture, at the crossroads of the new century, straddled both extremes and intellectually embraced the dichotomy of both glorifying a nostalgic past and celebrating modernity. Regions like Württemberg embraced both local and national, traditional and modern, identities. But that embrace came with a cost, and the discourse embedded within *Heimat* images of German barns and factories dotting the landscape produced and inherent anxiety about the promise and

[20] Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Charlotte: The University of North Carolina Press, 1997), 120-121.
[21] See Ceila Applegate, *A Nation of Provincials: The German Idea of Heimat* (Berkeley: The University of California Press, 1990).

peril of new technologies and the ways they might be harnessed for good or ill.[22] The airplane, as we shall see, straddled this treacherous ledge of German culture.

Confino also makes an important point of distinction about the modern German society that eventually welcomed the airplane. Resisting Foucault, who argued that modern society creates merely an illusion of agency, one that robs the participants of any semblance of choice, Confino argues that such a view of modernity is a fallacy - one that obliterates agency and ignores change, the kind clearly illustrated by the rise of machines like the airplane. People, in Confino's argument, do not lead sheep-like existences, but rather embrace rich lives filled with contradictions shaped by human actions. I contend, however, that aviators lived a new type of existence, one that straddled both realms. The rise of the airplane created a world of rich possibilities, and gave the individual previously unimaginable power to affect change. Much of that potential rested in the abilities of airmen to control the new machines at their fingertips. That potential, however, rested on the reliability of inherently dangerous and often unpredictable machinery. Put another way, the aviator was all-powerful only when his machine was working. Crashes were almost always fatal, and the gruesome sight of a shattered aircraft and mangled pilot often attracted crowds of morbid onlookers.[23] Just such an accident would claim the life of Paul Emil Engelhard less than a year after his image framed an iconic photograph.

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[22] For a wider view of the way future wars are predicted, see I.F. Clarke, *Voices Prophesying War: 1763-3749* (Oxford: Oxford University Press, 1993).

[23] Powered flight and death were often not far from one another in the wider cultural conversation. For more on this topic, see "A Rendezvous with Death," in Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* (New Haven, Yale University Press, 1994). I also approach the question of aviation and violence in Chapter Three.

In contrast, cultural forces, however, are seldom, if ever, one directional. The close of the nineteenth century witnessed yet another disruptive force in the ongoing conversation regarding German culture. Entering into an already fractious discussion that incorporated regional, confessional, gender, urban-rural, and class differences in German society, was the rise of the Youth Movement at the turn of the century. Linguistically, the term *Jugend* had, until 1900, largely referred to a stage in life, when one progressed from childhood to adulthood in German society.[24] Beginning roughly two decades before 1914, the Youth Movement turned the term *Jugend* from a stage of life into a class of people. *Jugend* came to embody a multiplicity of meanings, one of the most significant of which was its intellectual rejection of the Wilhelmian Empire. Influenced by radical thinkers like Nietzsche, members of the Youth Movement called for a rejuvenation of German culture through a "change of blood."[25] For the younger generation, especially those born between 1892 and 1897, the German Empire they inhabited was not one welded together through Bismarck's "blood and iron," but rather a culturally blighted society that played "lip service to national unity."[26] The industrial explosion that fueled the German economy was, in the mind of the *Jugend* a Faustian bargain that made Germany powerful at the cost of German cultural and spiritual identity. As a result, groups like the *Wandervogel* movement, shifted the worldview of many young Germans to that of an anti-establishment perspective, one that was best consoled with long excursions to the countryside.[27] *Wandervogel* members often cultivated both a sense of

[24] Wohl, *The Generation of 1914*, 42.
[25] Kurt Tucholsky famously said "tell me what you need, and I will supply you with a Nietzsche citation." See Jeffereies, 139.
[26] Robert Wohl, *The Generation of 1914*, 46.
[27] Robert Wohl, *The Generation of 1914*, 47.

camaraderie with their peers while fostering the illusion that a knightly and rural world was still a physical possibility.

By 1900, an ever-accelerating sense of speed, combined with rapid industrial, imperial, and economic growth, left many in the *Kaiserreich* with a pessimistic sense that the nation was fueled only by materialistic ambitions. Nietzsche called it the "extirpation of German Spirit for German Empire."[28] Otto Glagau called the empire vulgar and materialistic.[29] But the disillusionment of 1900 was perhaps best expressed by George Iggers when he said, "If the historical approach to human reality seemed at first to open a way for genuine understanding of real life, it now threatened to unveil the relativity of all knowledge and of all value. All norms that once appeared firm seemed now to be swept away by historical and social scientific inquiry, and history began to reveal itself as a flux devoid of meaning or ethical value."[30] The *Jugend* of 1900 represent the internal contradictions and dichotomies, with the Youth Movement quoting Nietzsche and calling for new blood, while other segments of the younger generation "were prepared to grow their mustaches in the royal style and even imitate Wilhelm's rasping voice."[31] Aviation then, would further complicate the discussion of youth in German culture, as the looming possibility of war early in the twentieth century divided the future "Front Generation" between those captivated by aviation's power, and those who viewed the technology as little more than yet another tool to be harnessed by a decadent, power-hungry society.

In 1900, however, powered flight remained an elusive fantasy - one attempted by

[28] Heinrich August Winkler, *Germany: The Long Road West, 1789-1933* (Oxford: Oxford University Press, 2000).
[29] Wohl, 47.
[30] Jefferies, 138.
[31] Jefferies 137.

many and accomplished by none. Even after the success of the Wright Brothers in 1903, heavier than air flight was viewed with considerable skepticism in German culture.[32] The Kaiser too, appears to have missed the opportunity presented with the rise of the airplane. It is curious, that in spite of his insistence that "the supreme task of our cultural efforts is to foster our ideals," and his steadfast support of science and technology through massive state building projects, the importance of powered flight left the Kaiser and many in the German military ranks utterly baffled.[33] Aviation then, upon its arrival in 1908, would act as a force which both absorbed German culture and disrupted it. Until then, the multitude of conversations in Germany fixated on questions of materialism, authenticity, the spiritual survival of the nation, before turning its attention not to the airplane, but the Zeppelin.

The Zeppelin, the Airplane, and the Culture of German Transportation

Aviation fostered a dichotomous conversation in German culture, one that elucidated both the promise and peril that the new technology offered. From the early development of the rigid airship to the rise of the airplane, the field of aviation in Germany both absorbed and expressed a complex litany of national and local discourses that informed a highly fractious society in 1900. As the airship struggled and heavier-than-air flight flourished, Germans from widely different regional, generational, and economic backgrounds flocked to the new field of powered flight. The cultural and economic backgrounds they brought to the design, construction, and uses for aviation

[32] Ernst Heinkel, *Stürmisches Leben* (Stuttgart: Europäischer Buchklub, 1955), 15.
[33] Jefferies, 185.

would shape the development of the airplane in Germany in dramatic ways before the outbreak of war in 1914. Aviation then, captured the popular imagination, confused older military planners, and fueled the dystopic visions of popular fiction writers both in Germany and across Europe. The new discourse influenced by the Zeppelin reflected anxieties regarding the rapidly shifting technological landscape of the nation.

The development of mass transportation in Germany during the nineteenth century was largely a regional and state funded affair. As Abagail Green notes, the revolution of 1848 shifted the perceived responsibilities of local elites, from one unconcerned with the local citizenry to one necessarily more empathetic towards their needs. Part of this shift in perspective included public works projects and in the decades following 1848, few endeavors attracted more attention or garnered greater approval than the railroad.[34] Regionalism, however, remained a significant influence in the development of German transportation at the end of the nineteenth century. The routes and construction of railroads were often dictated by the demands of the state sponsorship which paid for them. As a result, rail lines were often a network that only reinforced local and regional alliances rather than transcend them. In spite of the logistical challenges created by this highly regional system, the railroad was, by the twentieth century, the most efficient transportation network in Germany. The acceptance and systemization of rail travel in Germany also resulted in a compressed conception of space and time, as rapid travel between previously distant towns and regions soon became a new and accepted reality.

[34] See Abagail Green, *Fatherlands: State Building and Nationhood in Nineteenth Century Germany* (Cambridge: Cambridge University Press, 2011).

For many in Germany, the twentieth century only continued this new period of ever increasing speed and compressed space. It also represented a period defined by an onslaught of the "new." Entering into that conversation, the Zeppelin, a rigid airship that was the brainchild of Swabian Count Ferdinand von Zeppelin, represented the potential for a new form of rapid transportation. Zeppelin was emblematic the transitional tension in German society at the turn of the century. Like his counterparts who reacted to the dictates of 1848, Count Zeppelin was a wealthy, independent and powerful member of German society. He was politically well connected and his airships received the personal support of Kaiser Wilhelm.[35] The technological prowess of his airships, however, gave Count Zeppelin power that his nineteenth century predecessors had never dreamed of. The machine that bore his name offered Count Zeppelin the opportunity to bypass the intricate regional and local networks that made early railroad construction a largely frustrating and inefficient enterprise. Rather than spend valuable time and effort negotiating with regional and local leaders to satisfy a litany of demands to run a rail line through Germany, Zeppelin's new machine simply flew over them. Thus, the Zeppelin and the man who created it, straddled the transition point between the old world of the nineteenth century and the potential of the new realities of the twentieth. He simultaneously represented the work of the aristocracy and the new national discourse which erupted amid rising industrialism and modern transportation.

Count Zeppelin, was also an expert salesman, and pitched the airship as a stable, rapid, long distance mode of transportation that would eventually resemble an "aerial

[35] Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992), 17.

express train."[36] The airship would serve civilians and the military alike, sending German sight seers everywhere, from the African interior to the North Pole. In its military configuration, the airship could be used for long-range reconnaissance, bombardment, or the transport of men and equipment. By creating a dual-purpose machine, Zeppelin hoped to attract business from both the civilian and military markets. By the turn of the century, a working prototype had successfully flown for 18 minutes and seven years later, the LZ3 flew 350KM in just under eight hours.[37] Such feats attracted substantial support from the German government, who no doubt perceived such a machine as useful in future military endeavors. Less than a year later, the LZ3's successor, the LZ4, bested the previous time in a twelve hour flight across Germany.[38] This time, the feat was documented not only as the triumph of technological innovation, but a moment of national recognition within the German empire.

The week of the LZ4's tour in August of 1908, created a public spectacle that rivaled the emotions and pomp of the Franco-Prussian War nearly forty years prior. The Zeppelin received rapt attention from the popular press, as other new technologies - namely the telegraph - wired dispatches accounting for the movement of the LZ4 in near-real time.[39] Accounts of the airship's travels from Lake Constance across Germany were printed several times daily in mass printed newspapers. The sight of the Zeppelin, a massive airship that measured over 446 feet in length, created both an inspiring and imposing visage.[40] Crowds gathered in the airships path; across towns in Germany

[36] Fritzsche, 13.
[37] John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982), 32.
[38] Fritzsche, 15.
[39] Ibid.
[40] Fritzsche, 10.

thousands gathered on rooftops to witness the passing of the Zeppelin as it traveled from Friedrichshafen to Basel, Mülhausen, Colmar, Lahr, Markotshain and Strassburg. Peter Fritzsche notes that the Zeppelin story became more than the travel log of the airship, a national conversation began to center around its travel. One newspaper was quoted as saying:

> The streets fill up, people clambered onto rooftops. And one waits, patiently waits for another hour! And then after the long silence, the crowd cries out. Above the hilltops, just to the right of the Bismarck Tower, a silver, glimmering, wondrous entity appears. At first it seems to stand still, but then pushes itself slowly but steadily against the fresh morning breeze. One feels its power; we are overcome by a nervous trembling as we follow the flight of the ship in the air. As only with the greatest artistic experiences, we feel ourselves uplifted. Some people rejoice, others weep.[41]

The account from the *Schwäbischer Merkur* is filled with apocryphal imagery and early nationalistic iconography. The awe inspiring mechanical wonder of the moment is expressed, but the Zeppelin also represents an emotional as well as an aesthetic experience as well. The monumental nature of its arrival both physically and metaphorically required patience. The physicality of the airship, including where it fits on the German landscape as well as the specifics of where and how it arrives demands closer scrutiny. The direction of the LZ4's arrival, that of flying directly past the tower dedicated to the father of the Reich, Otto von Bismarck, is likely apocryphal in its account. The direction of the ship's arrival conveniently encapsulates a moment of national discourse and with it, inferred a sense of national unity. The landscape beyond the Bismarck tower also hearkens back to instilled notions of German *Heimat* culture.

[41] Fritzsche, 11-12.

Here too, the relationship between the new modern airship and the nostalgic discourse of *Heimat* is complicated. The Zeppelin both complements the landscape as well as altering it as it moves against the fresh morning breeze. The power and imposing nature of the airship also strikes powerful emotional chords, with some rejoicing and others crying at the image of the strange machine lumbering through the sky silently. It is a moment packaged to encapsulate a burgeoning national discourse, one found within the unity of experience. The technology of the airship, and that which made the telegraphing of its travels possible, create an experience rapid enough to link a nation of small towns together for the first time, even if only for a temporary moment.

Fritzsche notes rightly that the narrative of the airship's appeal transcended class boundaries in German society[42]. Germans from all walks of life gathered on rooftops and church steeples, mountain tops, and town halls, to crane their necks and witness the arrival of a promising, if not imposing, moment in history. The event was highly scripted, and marketed as yet another step toward a world that was constantly setting new limits within space and time. Faster trains, instantaneous communication, and now air travel across a young German nation collapsed notions of what was distant and what was possible. And while the rise of aviation carried embedded nationalistic overtones, the technological possibilities it represented resonated across cultural delineations. The narrative of the Zeppelin made for fantastic newspaper fodder, the kind that no doubt spiked sales, but the grand story hid an invention fraught technical and mechanical fallibilities. The massive Zeppelin was inherently unstable in poor weather or in high

[42] See chapter one of Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992).

winds. The rigid airframe meant that the airship was susceptible to catastrophic damage in the event of even a light collision which, in windy conditions, was extremely likely. The sheer size of the machine meant it was difficult to control, and ground crews tasked with physically anchoring the airship to the ground by holding onto ropes, were left in perilous danger. Much like the young German nation itself, the airship represented great power as well as underlying, systemic points of potential failure.

Five days after beginning its cross-country journey, the LZ4 landed at Echterdingen, where it attracted a large crowd of curious onlookers. Among them, at least as claimed in his 1955 autobiography, was a young German aviation enthusiast named Ernst Heinkel.[43] As the crowd approached the LZ4's landing site, a strong wind managed to unmoor the LZ4 from its anchors. As Peter Fritzsche notes, "Spectators watched in horror as soldiers gripping the anchor ropes were lifted up into the air before they jumped to safety at the last moment. The huge airship rose higher and higher and raked its anchor through the crowd."[44] The airship, filled with flammable gas, crashed to the ground, where it ignited a series of violent explosions. "…flames shot up from the hull, a second, a third detonation… a column of fire rose to the sky, immense, horrible, as if the earth had opened up releasing the flames from hell."[45] Remarkably, no one was seriously injured in the accident at Echterdingen. The crowd was terrified, shocked, and utterly heartbroken by the accident. Curiously, the catastrophic failure of the LZ4 garnered no criticism. Instead, it generated an emotion of generosity and donation. Heinkel, in his

[43] See Ernst Heinkel, *Stürmisches Leben* (Stuttgart: Europäischer Buchklub, 1955).
[44] Fritzsche, 13.
[45] Ibid.

autobiography, claims that donations were taken up on site. And newspapers, likely eager to continue capitalizing on the Zeppelin story, even if there was no longer an airship, ran ads for the *Zeppelin-Spende*.

Ink was devoted to the story of the Zeppelin in the form of novels as well, and the airship attracted notable attention - as well as intense dread - from intellectuals abroad. British writer H.G. Wells predicted the rise of powered flight in the twentieth century and surmised, cynically, that its arrival would "be most assuredly applied to war."[46] As the LZ4 crisscrossed its way across Germany in 1908, Wells published a work of science fiction entitled *The War in the Air*, which prophesied the mutation of the German airship from technological wonder to fully realized weapon of war. Wells gives a fictional account of a great Zeppelin air war through the eyes of a truly modern protagonist: a man ironically named Bert Smallways. Smallways is attracted, like many at the dawn of the twentieth century, to anything and everything modern. Like the real-life Wright brothers, Bert works in a bicycle shop. He also embodies the fervent strain of nationalism indicative of his era.[47] He is a man obsessed with efficiency and speed, and he inadvertently becomes the witness to the horrors that his modern ethos can unleash. Wells creates a world where the Zeppelin does not carry passengers and water ballast around on world-record setting trips. The armada of airships in *The War in the Air* are loaded with thousands of bombs, used to destroy American dreadnoughts - that super weapon of a bygone era - before razing Manhattan to cinders. As Richard Wohl notes, the illustrations

[46] Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination* (New Haven: Yale University Press, 1994), 71.
[47] H.G. Wells, *The War in the Air* (London: George Bell & Sons, 1908).

included in *The War in the Air* are disturbingly similar to future photographs of "the Blitz, Dresden, Hiroshima, and Nagasaki."[48]

German novels, too, discussed the future offensive capabilities of an effectively armed fleet of Zeppelins. Such visions, however, did not originate from the desks of German military planners but, rather, from disillusioned nationalists. One such disaffected worker named Rudolf Martin left his job at the Imperial Statistical Office after falling out of favor with his superiors, and subsequently penned the 1907 novel *Berlin-Baghdad*.[49] Despite the Kaiser's assertion that national security interests rested in creating a powerful naval fleet to rival England, Martin viewed the future of German military might as one that rested solely in the air.

Martin's story begins with the collapse of a weak Czarist Russia, which decimates the former empire into thousands of relatively powerless states, which are then co-opted by a dictatorial lunatic. The ensuing chaos requires a reluctant Germany to use its new air armada for its own strategic defense, as well as the aid of its neighbors. Berlin is bombed by the new Russian enemy, and Martin takes this literary moment to enforce the new rules of twentieth century warfare; the need to expand national borders as far as one can to protect against future assault from abroad. With such a lesson embedded in the minds of the German people, Martin weaves a narrative of warfare and death, as a reluctant yet increasingly powerful German confederation begins to gobble up more and more territories - always in the interest of self-defense.[50] It is a story of self-interested world

[48] Wohl, 74.
[49] Wohl, 77-80.
[50] Wohl, 77-80.

domination - the kind that incorporates the nineteenth century narrative of a great western civilizing mission. By the end of their conquests, visiting tourists in the now German city of Baghdad wonder what had taken the Germans so long, when the benefits of domination are now so readily apparent. The world of *Berlin-Baghdad* is a landscape dominated by militaristic nationalism, expansionist fantasies, and aviation; a place where the knowledge of flight is universal, and the airplane has all but replaced life on the ground.[51]

By 1908, flight was suddenly on the minds of certain members of the German General Staff. Far from the world-conquering capabilities displayed in fictional works like *Berlin-Baghdad*, German aviation largely lagged that of their American and French competition. The crash of the LZ4 that summer further dampened hopes that the airship could become a reliable weapon of war, and the successful crossing of the English Channel by French aviator Louis Blériot in 1909 proved that heavier-than-air flight was suddenly a viable alternative to the often unreliable and sluggish Zeppelins. Freed from the constraints of an indifferent American military, the Wright Brothers journeyed to Europe and began selling copies of their Flyer to French and British aviation interests.[52] The German General Staff, however, was far more cautious and preferred to leave the development of aviation in Germany in the hands of local industry. German General Staff Captain Hermann von der Leith-Thomsen warned his fellow officers, however, that it was unwise to passively observe the progress of foreign air powers without acting to

[51] Wohl, 89. I explore the discourse of nationalism in Palestine in Chapter Four.
[52] For an in-depth discussion of the Wright's experiences in Europe, see John Morrow, *The Great War in the Air* (Washington, D.C.: Smithsonian Institution Press, 1993).

direct the nation's aviation industry in a manner that would benefit the military.[53]

As the airship floundered and French aviation came to dominate the conversation around heavier-than-air flight on the continent, a cadre of local and international inventors and industrialists would shape the embryonic field of aviation in Germany just before the First World War. By 1909, interest in powered flight had grown in civilian circles, and new aviation clubs and organizations had sprung up around Germany.[54] The number of Germans interested in flight was not insignificant; some three thousand members joined the *Deutscher Luftflottenverein* (German Air Fleet League) and the *Deutscher Luftfahrer-Verband* (German Aviators Association) was the largest aviation sport association in the country.[55] With this growing interest in flight, and the subsequent potential for new markets, future aviation industrialists, those who would design, build, and manufacture aircraft, flocked to Germany. Their backgrounds, ideologies, biases, as well as generational and national differences, would dramatically influence the direction of German aviation before 1914, and throughout the course of the coming war.

Aviation Industrialists in German Culture

The leading industrialists, engineers, designers, and inventors who would shape the early years of German aviation reflected the complex cultural background of their society at the turn of the century. Their differing perspectives affected aviation far beyond the realm of design and engineering. Their view on aviation's role in the wider

[53] John Morrow, *German Air Power in World War I*, 9.
[54] Morrow, 5.
[55] Ibid.

world, the place of government in the realm of business, and their perspective on intellectual property all contributed to a dynamic and multi-faceted field of development were all the result of varying cultural and generational differences. These markedly varying approaches to the development of aviation created a vibrant industry in peacetime, but one prone to fracture with the outbreak of war in 1914.

Aviation underwent a significant, albeit fractured, period of development in the three years which immediately preceded the coming of war. Centered around the first airfield in the country, located at Johannisthal outside of the German capital of Berlin, an array of machines designed and flown by an eclectic cross section of European society coalesced to foster the maturation of the modern airplane.[56] Johannisthal quickly became home to a dynamic community of fliers, and reflected rapidly evolving German culture, international influence, and the disruptive nature of new technology. It was the focal point of collapsing space and time, and the cultural upheaval that accompanied it. The men and women who designed and flew here would go on to shape the German aircraft industry during the tumultuous years of the First World War, their backgrounds largely shaping their approach to this new industry; and these approaches similarly shaped Germany's ability to wage war in the air a few short years later. The leaders of this movement, those who financed, designed, and engineered some of Germany's earliest machines, came from widely differing generational and cultural backgrounds.

Perhaps the oldest industrialist attracted to aviation was Hugo Junkers, who was

[56] A chapter in his autobiography, suitably entitled "Johannisthal Romance," describes Ernst Heinkel's experiences at Germany's first nexus of aviation. See Ernst Heinkel, *Stürmisches Leben* (Stuttgart: Europäischer Buchklub, 1955).

born before the modern German Empire he helped shape. Born in the Rhineland in 1859, Junkers perceived Germany and aviation from a dramatically different perspective than that of his aviation peers.[57] Based at Dessau just outside of Berlin, Junkers made his fortune in the waning years of the nineteenth century not through aviation, but through patents for water systems and gas engines. The profits from his early ventures provided Junkers with the capital to explore other engineering opportunities, as well as furnish him a professorship at the University of Aachen.[58] The rise of heavier-than-air flight in the first years of the twentieth century then, represented not a revolutionary new field, but yet another promising avenue of intellectual and technical exploration.

By 1909, Junkers had entered the field of aviation. Junkers differed from his peers in his perspective on flight's potential. Rather than looking to short-term gains in engine development and increases in power, Junkers ventured into far more theoretical and abstract areas of aircraft development. While working as a professor at the University of Aachen, Junkers co-developed a concept for an all-metal aircraft known as the *Ente* or "Duck," with fellow colleague Hans Reissner.[59] An all-metal design was unheard of from an engineering standpoint, as aircraft engines of the period struggled to lift even the lightest wood and canvas machines from the ground. Junkers parted company with Reissner in 1911, but continued work on his plan to build an all-metal aircraft. Despite his age, Junkers vision for aviation was ahead of his time.

It has also been noted that Junkers was a fastidious worker who was dedicated to

[57] See Richard Byers, "Power and Initiative in Twentieth Century Germany: The Case of Hugo Junkers" (Doctoral Dissertation, The University of Georgia, 2002).
[58] Byers, 14.
[59] Byers, 15.

the notion of creating quality products over short-term financial gain. Olaf Groehler and Helmut Erfurth note in *Hugo Junkers: Ein Politisches Essay,* that Junkers disdained government intervention and command economies.[60] After Germany's defeat in 1918, Junkers would view the end of the war as a liberation of sorts, where his firm could be freed from "an epoch of armaments [and the] hierarchy and ossification of militarized economies and compulsory state intervention, of stupidity and intellectual narrow-mindedness."[61] Aviation was, for Hugo Junkers, an endeavor of intellectual expansion and long-term thinking. The pressures of war would frustrate this approach.

Born in 1888, Ernst Heinkel's life was, by his own description, defined by aviation. Heinkel referred to the crash of the LZ4 Zeppelin in 1908, which he witnessed, as the first "real birth" of his life; a moment which awakened him to the promise and potential of aviation.[62] It is perhaps strange that a catastrophe like the LZ4's crash could be viewed in a positive light, however, Heinkel's life experiences were largely defined by moments of danger which he subsequently spun into optimistic moments. A year later, in 1909, Heinkel discovered heavier-than-air flight, but was surprised that many of his fellow Germans did not hold the same enthusiasm that he did. While attending a lecture on aviation, he found rooms filled with only a handful of people, and in one lecture hall, the audience consisted of "the professor's wife, his mother-in-law and a nursemaid."[63] This was hardly an audience enraptured with the new science of aviation.[64]

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[60] Olaf Groehler and Helmut Erfurth, *Hugo Junkers: Ein Politisches Essay* (Berlin: Militärverlag der DDR, 1989), as cited in Richard Byers, "Power and Initiative in Twentieth Century Germany: The Case of Hugo Junkers" (Doctoral Dissertation, The University of Georgia, 2002), 41.
[61] Ibid.
[62] Ernst Heinkel, *Stürmisches Leben* (Stuttgart: Europäischer Buchklub, 1955), 12-13.
[63] Heinkel, 12.
[64] Heinkel, 13.

Heinkel finally found information after discussing the matter with a friend, who pointed him to the Café Reinsburg in Stuttgart. The café was a relatively unknown repository of the latest aviation news, photographs, and documents. Heinkel immersed himself in the stories of the Wright Brothers flight at Kitty Hawk, which many in Germany referred to as the "lying brothers" - convinced that the flight as a tall tale from America. While reading in the Café Reinsburg, Heinkel discovered an ad for an upcoming aviation competition held in Frankfurt on the first week of October, 1909.[65] Heinkel, in retrospect, called this the second "decisive moment" of his life.[66] The show was one of the earliest demonstrations of powered flight in Germany and Heinkel was transformed by the experience. The show convinced him to become an aviator and an aircraft constructor. After completing plans for his own machine, he replied to an ad for an engineer at an aviation firm, and quickly set to work. Unlike Junkers, Heinkel designed and flew some of his earliest machines. The endeavor nearly cost him his life when we crashed one of his planes and suffered severe injuries. In his writing, Heinkel describes his attraction to aviation in romantic language, elucidating that for him - at least retrospectively - aviation was a pursuit of passion rather than rationality. Heinkel would spend his time during the First World War working for the Albatros firm, where he honed his engineering and design skills; a background that would be put to use even more fully in the Second World War.

Two of Germany's most successful aviation entrepreneurs, Edmund Rumpler and Antony Fokker, were from outside of the *Kaiserreich*. Rumpler, an automotive designer

[65] Heinkel, 15.
[66] Ibid.

turned aviation pioneer, was born in 1872 the neighboring Austro-Hungarian Empire. Rumpler's work in the automotive industry was derailed by the arrival of the Wright Brothers and the new field of heavier-than-air flight. His first aeronautical product was a copy of a machine called the *Taube*, and with it, Rumpler became the first aircraft manufacturer in Germany. His firm would construct some of the earliest civilian flying machines in the Reich, as well as many of the high-altitude reconnaissance machines used by the German Air Service during the First World War.[67] Rumpler's Austro-Hungarian birth can be seen as a connection between the two nations, joined in a somewhat uncomfortable alliance. More so, Rumpler's desire to work in Germany also demonstrates the industrial and technical capabilities of the German economy at that time.[68]

An outsider from Holland, Anthony Fokker was arguably the most conniving and ruthlessly opportunistic aircraft designer and aviation industrialist in Germany.[69] Fokker was also the youngest of the aviation entrepreneurs. Born in 1890, Fokker arguably represented the polar opposite of Hugo Junkers. Where Junkers valued sound engineering, methodical design, and quality construction, Fokker quite simply, did not. Instead, Fokker represented a thoroughly twentieth-century man of action, who would rely on instinct, intuition, and remarkable powers of persuasion to shape his machines

[67] Rumpler's company produced a ten-year retrospective immediately following the First World War. See Rumpler, *10 Jahre deutsche Flugtechnik* (Berlin: Lehmann, 1919).
[68] Rumpler's legacy within the history of German aviation was obscured during the Third Reich because he was considered "non-Aryan" by the Nazi Party. The exhibit on powered flight at the *Deutsches Museum* removed Rumpler's name and all but erased him from the narrative of German aviation history. See, Elisabeth Vaupel and Stefan Wolff, ed. *Das Deutsche Museum in der Zeit Nationalsozialismus. Eine Bestandaufnahme* (Göttingen: Wallstein Verlag, 2010).
[69] For a biographical sketch of Fokker's life and business practices, see Marc Dierikx, *Fokker: A Transatlantic Biography* (Washington, D.C.: Smithsonian Institute, 1997).

and with them, the direction of German aviation. This trait was also the consequence of Fokker's lack of and disdain for education. Fokker's youth was defined by poor performance in school and an attraction to constructing and understanding machinery.[70] Fokker was also an innately political being, with a panache for making friends with pilots, and winning the favor of those tasked with climbing in and flying his machines. His friendships with German aviators would allow Fokker to create aircraft that might not have otherwise been produced, some with potentially fatal structural flaws. Unlike Junkers, Fokker viewed aviation as an opportunity for short-term gain, and welcomed the interest of the German military into the field of heavier-than-air flight.

The backgrounds of men like Junkers, Heinkel, Rumpler, and Fokker further elucidate the influence of German culture on aviation in the years preceding and immediately following the turn of the twentieth century. Junkers, a man born before the *Kaiserreich*, saw aviation as a chance for long-term, cautious investment both in terms of technological and economic dimensions. His age meant that aviation was yet another, albeit important, stepping stone in a business life built around facilitating technological innovation in a variety of fields. He viewed interference from the state as an example of meddlesome and unintelligent bullying that only served to impede progress.[71] He fielded an array of designers and engineers and carefully tested his products as they progressed. Fokker, born in Holland and more than three decades Junkers' junior, epitomized the rapid, decisive world that many Germans saw coming to fruition by 1900. A man of

[70] For a detailed analysis of Antony Fokker's business background, see Richard Byers, "An Unhappy Marriage: The Junkers-Fokker Merger," *Journal of Historical Biography,* (Spring 2008).
[71] Byers, "An Unhappy Marriage," 2.

action, Fokker relied on political savvy and engineering instinct to create his machines. War, for Fokker, would be a welcome opportunity rather than an intellectual setback. The generational animosity espoused in publications like *Jugend* are clearly seen in the diametrically opposed mindsets of Fokker and Junkers. Ernst Heinkel perhaps, best represents the transition between Junkers' and Fokker's respective generations, a man who viewed aviation with a sense of romance and promise, despite witnessing - or experiencing first-hand – aviation's extreme danger. Ultimately, however, it was the Austro-Hungarian Rumpler who arrived on the scene first, and whose firm would produce some of the most reliable reconnaissance and bombing machines of the First World War. For Rumpler and Fokker, Germany represented the most exciting, and potentially lucrative marketplace for flying machines.

Thus, German aviation was, by 1911, in a fledgling but steadily progressing state of development.[72] Machines varied from rudimentary and flyable to complex and theoretical. With the exception of Heinkel and Fokker, few of the designers of early airplanes would happily pilot their creations. The pilots who would ultimately fly these early airplanes came from an equally diverse set of backgrounds as those who created them. It was at Johannisthal airfield that aviation created a new cultural space for experimentation and expression. It opened a new venue for men, and women, to take part in the development of the newest technological innovation of the century. And if aviation was a disruptive force in the world of economics and technology, it would also prove to

[72] The German military's budget for aviation increased dramatically between 1909 and 1914, with an increase from 36,000 marks to 25,920,000 by the start of the First World War. Additionally, the army sponsored the National Aviation Fund which raised an additional 7,000,000 marks between 1912 and 1914. See John Morrow, *German Air Power in World War I* (Lincoln: The University of Nebraska Press, 1982), 7.

be an influential social force as well.

Machines as the Measure of Men and Women

The new technology of heavier-than-air flight, particularly during its early inception and development, fostered a culture that gave remarkable social and cultural capital to the most talented individuals. In just five years, the skepticism surrounding aviation had given way to a curious enthusiasm. The question that remained was one of application - how could an individual interested in flying approach the new field of aviation? Heavier than air flight provided a solution by creating an effective entryway to aviation that the Zeppelin, with its large, cumbersome, and expensive construction, could never offer. Young, enthusiastic, and adventurous pilots could enter the field of flight and, despite the great hazards to their own physical safety, quickly establish themselves as designers and engineers. In a world where technical and physical ability trumped other attributes, cultural backgrounds, national identity, and even gender norms quickly faded into an intellectual landscape that fostered excitement and the desire to go ever higher and farther.

By 1912, the center of aviation's development in Germany had shifted, from Frankfurt, to Johannisthal airfield outside of Berlin. The airfield opened originally in September 1909, just a few weeks after a similar field opened in Rheims, France.[73] Johannisthal field quickly became the central hub of activity and the home of a community of fliers, not only from Germany, but from a host of other countries. Despite

[73] Wohl, *A Passion for Wings,* 100-110.

its central location and close proximity to the German capital, Johannisthal airfield was not a technologically sophisticated home base. Ernst Heinkel described it as resembling "a hastily erected shanty town of the early American West."[74] Early photographs of the airfield show bare-bones facilities, canvas hangers, low slung sheds, and rudimentary workshops. The landing field itself was exactly that, a grass runway that offered little in the way of safety. The atmosphere at Johannisthal, however, pushed cultural as well as engineering boundaries.

Photographs and newspaper clippings about Johannisthal elucidate a complex cultural narrative. Johannisthal provided a new space, one where aviators from across the European continent could come and establish themselves as important members of the flying community. These included aviators from Germany's most worrisome rival in the field of aviation: France. One aviator in particular, a French pilot named Adolphe Pégoud, attracted a great deal of attention from photographers at Johannisthal Field in the year before the outbreak of the First World War.[75] Pégoud, who piloted a French monoplane, became one of the first aviators to develop and ultimately master early acrobatic flying. Maneuvers now known the world over as the "Split-S" or the "Inverted Loop" were first performed by fliers like Pégoud for audiences that assembled at Johannisthal. These maneuvers, which are now commonplace at air shows, were considered otherworldly in 1913. Pégoud, through extraordinary bravery, appeared to violate the laws of physics by standing his machine on its propeller. He could roll his

[74] Heinkel, 32-33.
[75] Unknown Author, Photograph Collection, DMM PERS 00136, *Deutsches Museum Archive*, Munich, Germany.

plane inverted through the skies as shocked onlookers stared at what surely appeared to be a looming accident, only to see the Frenchmen safely land moments later.

Pégoud's monoplane was frequently captured by the camera at the moments when it appeared that the French pilot was in the most peril.[76] Pégoud, more than any other pilot in the penultimate year before the First World War, embodied what appeared to be superhuman abilities. Postcards of the Frenchman were numerous and sold at Johannisthal to curious onlookers. Most featured his monoplane in its most famous aerial position, upside down. Others showed Pégoud wearing his leather flying helmet and a heavy white turtleneck while standing next to his famous machine. Photos of Pégoud at the controls feature the Frenchman turned at a three-quarters angle with his arm lazily resting along the fuselage of his aircraft. He is depicted as courageous but cavalier - there is a lightness of spirit about him. Pégoud's stature at Johannisthal was nothing short of heroic.[77]

The example of Pégoud serves well to elucidate the transformative power of aviation in the years leading up to the First World War. In less than a decade, aviation had transformed distance and defied space. As Stephen Kern notes, aviation contributed to a larger conversation held within a rapidly shifting cultural landscape, one where "the whole of humanity is involved with catastrophes around the globe; international alliances have increased the "federative" nature of the world. It is an age of democracy - of crowds and public assemblies…"[78] Pégoud, through his death-defying acrobatics over the crowds

[76] Ibid.
[77] Ibid.
[78] Stephen Kern, *The Culture of Time and Space, 1880-1918* (Cambridge: Harvard University Press, 1983), 72.

gathered at Johannisthal, was part of that conversation. Aviation, more than previous modes of transportation, shattered the previous notion of space and distance. "The airplane pierced the wall of frontiers and wiped out the military significance of fixed positions."[79] And while German military planners might not have realized the significance of Pégoud's aerial achievements, the sheer volume of postcard images of Pégoud might suggest another emotion elicited in his German audience; one of anxiety. The omnipresence of the French flier and his monoplane demonstrate the lead that Germany's rival had not only in the types of machines being constructed, but also in the abilities of the pilots flying them.

Photographs of the crowds that gathered at Johannisthal demonstrate the appeal aviation had on German culture just before the outbreak of war. Images from 1913 show hundreds, if not thousands, of Germans lined up along wood fences - not dissimilar to the kinds of stands at a football match, to watch the air demonstrations.[80] One such photograph captures Pégoud with his machine inverted, screaming towards the ground, as the crowd stands breathless beneath him. The people featured in the images are largely middle and upper class - as depicted by their dress.[81] A wide range of ages, however, are apparent, and aviation's cross-gender appeal is also on display. Old men with binoculars stand next to young as well as old German women whose clothes appear more from the late nineteenth century. No doubt the element of extreme danger played a large role in the appeal of air shows for non-specialists. But there is also an excitement apparent in these

[79] Kern, 194.
[80] Unknown Author, Photograph Collection, DMM PERS 00136, *Deutsches Museum Archive*, Munich, Germany.
[81] Ibid.

images - one of witnessing the birth of a new technological force, and watching its rapid, even meteoric development. In the realm of pre-war air shows, it was aerial acumen, not nationalism, that separated the heroes from the also-rans. And during the years before war between Germany and France, no one could perform the feats of Adolphe Pégoud.

Johannisthal provided a fertile ground for pushing boundaries, both in engineering and in culture. The culture of experimentation was so dynamic, that aviation's early development transcended gender boundaries - albeit not without struggle. Amelie 'Melli' Hedwig Beese-Boutard, was born in Saxony in 1886.[82] She traveled to Johannisthal airfield in 1910 with the intent of becoming a pilot. Despite significant push back from her male counterparts, Beese-Boutard found an instructor and was the first woman in Germany to obtain a pilot's license in 1911.[83] By the following year, she had opened her own flying school at Johannisthal and began designing her own aircraft. Photographs of Beese-Boutard, who married a French aviator and experienced rampant discrimination during the First World War for her husband's French background, are noticeably different from those of Pégoud. Amelie is featured at the controls of her machine, with a scowling glare as she peers over the cockpit. Where as Pégoud's masculinity was reinforced by his occupation as a daredevil aviator, Beese-Boutard had to become more masculine in order to be taken as seriously as her French counterpart. The exploits of her flights at Johannisthal attracted the attention of the popular press at Johannisthal and, before the First World War, she was a well-known pilot. Ultimately, it was one's ability

[82] There is scant literature on the role of women fliers in Germany before the First World War. For a broader contextual look at women aviators, which includes a biography of Amelie Beese-Boutard, see, Eileen Lebow, *Before Amelia: Women Pilots in the Early Days of Aviation* (Washington, D.C.: Potomac Books, 2002).
[83] Ibid.

to control an airplane that secured their right to become a pilot.

Despite the shared culture of community through technological development and the enthusiasm of aviation's early pioneers, underlying nationalistic tensions remained in German culture, and readily manifested itself through the relationship between German aviation firms and the state. During the same air shows that featured Pégoud's death-defying antics, a series of photographs were taken of Crown Prince Ludwig of Bavaria as he and a cadre of general staff members inspected a new machine from the German aviation firm, Rumpler.[84] Photographs of the Rumpler *Taube* or "pigeon," which debuted in 1912 at Johannisthal, outnumber images of even the famous Pégoud. Rumpler sought to publish hundreds of postcards that could easily be bought by the German public at bookshops and at airshows.[85] Even a series of postage stamps featuring Rumpler's iconic machine were sold during this period. Posters produced by Rumpler featured an illustration of a German pilot at the controls of the Taube with the caption "Berlin-Wien" underneath - boasting of the machine's ability to travel from Berlin to Vienna. Thus began Rumpler's extensive marketing campaign to ensure that the German firm was well represented. Later images, produced during the war, featured famous German aviators and the Rumpler name - implying an endorsement by these pilots for the machines made by Rumpler.[86] The young men featured in Rumpler's ads seemingly embodied its embrace by Germany's youth.

Aviation, however, was not necessarily hailed by Germany's youth with universal

[84] Photograph Collection, DMM LR-03091/3, *Deutsches Museum Archive*, Munich, Germany.
[85] Examples of these postcards are found in the Deutsches Museum Archive. See Photograph Collection, DMM PERS 00136, *Deutsches Museum Archive*, Munich, Germany.
[86] Unknown Author, Photograph Collection, DMM LR-03091/2, *Deutsches Museum Archive*, Munich, Germany.

acclaim and enthusiasm. Indeed, the airplane made for a complex discourse within Germany's *Jugend*. The events at Johannisthal, which captured the public imagination and fueled postcard sales at its air shows, also served as a fertile ground to cultivate a satirical relationship between German culture and the airplane. Rather than a revolutionary tool that could transform the world and transcend national boundaries, some in the *Jugend* viewed the new technology with significant skepticism. Pre-war publications also highlight this complicated relationship in the years immediately preceding the First World War. One of the most popular magazine publications geared towards the Youth Movement before the First World War was the satirical publication by the same name as the demographic it represented, *Jugend*.[87] The publication satirized everything from German politics to the machinations of the nation's industrialists to the absurdities of modern life. The impact of the airplane, too, cannot be missed in its pages. A series of cartoons highlights the pessimistic view held by many members of Germany's youth regarding the airplane and the role it would play in the future.

A cartoon published in the March 17, 1912 issue of *Jugend* features a hapless German cavalry unit riding on horseback and vainly waiving butterfly nets while chasing after an armada of invading French aircraft. The title reads, "*Deutschland und die französichen Aeroplane*."[88] One cavalryman has managed to hook one of the French machines only to find him and his horse being dragged along the ground by it. The cartoon highlights a number of mixed and often conflicting emotions regarding aviation.

[87] For a broader overview of *Jugend* publications, see *Jugend* Digital Archive, *deutsches literatur archiv marbach*, Reference URL: http://www.jugend-wochenschrift.de/.
[88] Arpad Schmidhammer, "Deutschland und die französiche Aeroplane," *Jugend* (Berlin) March 17, 1912.

First, the talents of men like Pégoud, with their French built monoplanes, weighed heavily on the psyche of the militarily minded. Germany is depicted here as simply out of touch with the modern world. The nineteenth century cavalryman is no match for the twentieth century aviator. It also ridicules the government for stupidly countering superior French technology with a tool as strategically asinine as a butterfly net. While focused on building a navy to rival that of Great Britain, the creator of this cartoon draws our attention to a seemingly obvious blind spot in German strategic planning. Finally, "*Deutschland und die französichen Aeroplane"* shows us the absurdity of European militarism, with a scene so ridiculous as to border on a hallucination replete with flying machines and frustrated Prussians fighting an senseless and futile battle.

Military anxiety returned again in the March 24th issue, which featured a French woman dreaming of revenge. Entitled "*Mariannens Traum*," the cartoon reads, "Marianne dreams of sending planes to Germany to seek revenge for 1870 - provided there's no east wind."[89] "*Mariannens Traum*" again shows us that the underlying fear of French retaliation for the Franco-Prussian war was still evident forty-two years later. The tool that would exact French revenge, however, does not come in the guise of the cavalry or the French army. It comes from the air. The technological infancy of the airplane, however, is still evident in this illustration. The fragility of aircraft is evident by the simple fact that it could be disturbed by prevailing winds. While demonstrating the absurd, *Mariannens Traum* rightly acknowledges known limitations in heavier-than-air flight during this period. Strong winds could, in fact, push machines so far off course as

[89] Rudolf Hesse, "Mariannens Traum," *Jugend* (Berlin) March 24, 1912.

to prevent their further travel. The threat of military invasion, however, is still there - the dream is present - it only needs to be honed to fruition.

Upon Marianne's cap is the French insignia of the newly formed *Armée de l'Air*. The cartoon makes use of preexisting stereotypes regarding French nationalism and the desire to exact revenge on the new German nation for the injuries inflicted on France during the Franco-Prussian war. There is also an inherent anxiety in this illustration - one that demonstrates the impending day when airborne machines will be able to cross the borders of Germany unimpeded by anything so temperamental as a strong gust of air. It acknowledges in the mind of the author that a clock has been set in motion - one that Germany would do well to heed. It also casts aside the optimistic visions of what aviation can achieve. Far from dreams of a transnational world, "*Mariannens Traum*" reflects a vision of the future much more in line with H.G. Wells.

For *Jugend,* the airplane also represents the worst traits in militarism and the naked ambition of the older generation. Rather than connecting the world and ending the paradigm of nationalism, the airplane is yet another tool of a materialistic world. The dreams of others, as well as the lack of foresight on the part of Germany's defensive planners, could decimate the lives of millions of young Germans. Far from the romanticism of Heinkel, *Jugend* views aviation from a nervous, worried perspective. These cartoons play both on humor and underlying anxieties in German culture towards the airplane. German military leaders and strategic planners viewed the aircraft as underdeveloped for military application. But not everyone held the same short-term view of the development trajectory of the airplane. Already in 1912 there was a prevailing notion that the airplane could be utilized by Germany's enemies in the next war. Aircraft

could leave German cavalry, long held as part of the elite cadre of the military, grasping at butterfly nets in desperation. Even success in "*Deutschland und die französichen Aeroplane*," that of the improbable moment of catching a machine with a net, leads to humiliation as both rider and horse are dragged along the ground - a moment in which the nineteenth century is quite literally hauled along by the embodiment of the twentieth.

Curiously, the airplane also made for ready advertisement material in issues of *Jugend*. One ad features a German man craning his neck skywards to see a monoplane - one reminiscent of Pégoud's famous machine - as it loops overhead.[90] The advertisement, this time for binoculars, places the preferred tool for German birdwatchers everywhere, in a new context: one of watching mechanical birds perform new and exciting feats at airfields across Europe. Another ad shows a young German man of middle class standing, as he enjoys the air show with his new pair of looking glasses. Curiously, in the previous week's ad for the same product, a much older German man is featured using the same tools for observing a bumblebee as it skirts across his back yard. Targeted advertising, then, was pervasive even in pre-First World War Germany.[91]

Aviation before the First World War, then, represented a complex interplay of nationalism, militarism, and an enthusiasm for the transcendent possibilities of flight. The airplane in 1912 captured the German imagination in a way not seen since the advent of the railway a century before. It crossed gender and cultural boundaries, and appealed to a wide range of demographics. Even national tensions could briefly subside in the sight of

[90] Unknown Author, "Advertisement page," *Jugend* (Berlin) March 24, 1912.
[91] Ibid.

awe-inspiring aerial acts of bravery. 1912 represented a space where French aviators could be heralded by German crowds as heroes of the sky and the airplane presented tantalizing possibilities of a borderless Europe. Beneath this enthusiasm, however, lay a deeper anxiety; that of the untapped potential for flight to reshape the battlefields of the next war. As a disruptive technological force, flight possessed the menacing potential of threatening the balance of power between competing militaries. In the minds of some of Germany's youth, it also represented yet another tool that the older generation could use to destroy the dreams of the young. Ultimately, in the eyes of many who would buy copies of *Jugend*, aviation created an intense sense of anxiety. That anxiety cut across several intersection fears, that of a German nation unprepared, ill-equipped, and blind to the realities of an aerial war that could upend established military doctrine and render even the most elite utterly helpless.

Cultural Disruption, Aviation, and War in 1914

The dynamic conversation surrounding powered flight in Germany was disrupted by the outbreak of the First World War. With the arrival of mobilization orders and open hostilities, aviation immediately transformed from a mostly civilian pursuit to a fully militarized enterprise. The air shows at Johannisthal, record breaking attempts by private aviators, and the sense of community between pilots from different nations, all ceased the moment war was declared. The space aviation inhabited, that of a technological breakthrough that embodied world-changing potential, was adopted to the needs of an embryonic military service; one that was often under-prepared for the new tasks at hand. Germany's newest type of soldier, the aviator, experienced this transition first hand. One

flier documented his thoughts as the opening weeks of the Great War began and he moved from infantryman to aerial observer.

Rudolf Berthold was born in Bamberg Germany in 1891.[92] Raised by a middle-class family, Berthold attended *Gymnasium* before enlisting in the Bavarian army. Before the outbreak of war, Berthold volunteered for the air service, and began his flying career at the infancy of military aviation. He started flight training in the summer of 1914 at a civilian flying school run by a local aircraft manufacturer, *Fliegerschule der Halberstädter Flugzeugwerke*. The *Halberstadt Aeroplane Works'* airfield was used to test the machines they manufactured, such as licensed copies of the British-made Bristol monoplane.[93] The firm offered training to both military and civilian clientele. The production of British-designed aircraft by a major German aviation firm in 1914 speaks to the underdeveloped nature of military aviation in Germany at the outbreak of the First World War.[94] Berthold was accompanied in flight school by a fellow military aviator named Oswald Boelcke. Boelcke, who was later credited with developing the first codified set of aviation tactics, also became one of the first *Fliegerheld*, or flying heroes in German popular culture. In the summer of 1914, however, he was a new trainee like Berthold.

Berthold, like many German pilots serving in the military, volunteered in the hopes of joining the *Fliegertruppen des deutschen Kaiserreiches*, or Imperial German

[92] See "Rudolf Berthold," in Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service, and Flanders Marine Corps: 1914-1918* (London: Grub Street, 1993).
[93] Peter Kilduff, *Iron Man: Rudolf Berthold: Germany's Indomitable Fighter Ace of World War I* (London, Grub Street, 2012), chap. 2, Kindle Edition. Halberstadt's production of licensed British machines highlights the degree to which the aviation industry was significantly connected across national borders.
[94] For a detailed analysis of the development of German military aviation at the outbreak of World War I, see John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).

Flying Corps. Flight school was interrupted by the news of the assassination of Archduke Franz Ferdinand of Austria on June 27, 1914.[95] The gravity of the moment weighed heavily on the young Berthold, and he subsequently began keeping a private diary only a few days later, on July 1, a date which coincided with being recalled to his infantry unit. The haphazard organization of the *Fliegertruppe* is apparent in the recalling of viable candidates back to their infantry duties. This scattered organization was also reflected in the way the air service assigned *Feldflieger-Abteilung (FFA)*, or Field Flier Detachments, to various armies within the German military. Each unit fell under the jurisdiction of different generals and, as a result, the actions of the *Fliegertruppe* were not a truly unified effort. Flight training was also subservient to Berthold's primary assignment, that of serving in the infantry as a rifleman.

Berthold's diary entries for the early days of mobilization reflect the chaotic fracturing of peacetime cultural discourses.[96] Many Germans sensed a compression of time in the years leading up to the First World War. The rush toward open hostilities only served to accelerate an already disorientating rate of change. Berthold's writing reminds us that recent historical assertions that the "Spirit of 1914" was more myth than lived reality. Within the confines of his infantry unit, Berthold describes a sense of fear, dread, and anxiety, rather than jubilation at the possibility of war. "We have just returned from the training ground. There is a peculiar mood in the regiment; you cannot even say what it is… The exercises were so different this time; every other word was 'war standard!'

[95] Kilduff, chap. 2.
[96] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 1-2.

The marches, attack exercises, night exercises, there seems to be no end."[97] Berthold also related his personal feelings of no longer feeling like an infantryman, "for months I have not marched a single step nor taken part in a field maneuver. Now, sometimes my feet did not want to go; one unlearns how to march too quickly. In aviation service, one either sits in an airplane or in a car."[98] A little more than two weeks later, on July 17, Berthold received a permanent transfer to the *Fliegertruppe*.[99] The intersection of aviation's embryonic development and the outbreak of war would fundamentally alter the trajectory of Berthold's life and subsequent death.

Flight training, like most aspects of aviation technology, was forced to develop rapidly to meet the pressing demands of war. New recruits like Berthold flew as observers in multi-seat machines, allowing them to acclimate to the physical experience of flight, something few people understood in 1914. This also allowed them to grasp the physics behind flight without endangering themselves, or the training officers who accompanied them. Beyond safety, however, observation training was vitally important to the *Fliegertruppen,* whose primary mission was the monitoring of enemy troop movements and, later, the coordination of artillery fire on enemy emplacements. Berthold, like many future German combat pilots, wanted to do more than simply observe. The airplane provided the opportunity to steer, quite literally, one's own destiny free of the haphazard circumstances of the battlefield. It was an opportunity to enticing to ignore: "I wanted to steer the airplane myself! I can no longer climb into an airplane with

[97] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 1.
[98] Ibid.
[99] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 3.

anyone else; in my mind, I am steering and become restless when I notice uncertainty in a pilot."[100]

The *Fliegertruppen* of 1914, however, was hardly an organized and efficient arm of the German military. The decision made in the years preceding the First World War, that of allowing private German firms of widely varying capabilities and backgrounds to design the aircraft that would ultimately be put into military service, was beginning to show. As he stood on the grassy landing field of the Halberstadt flying school, Berthold noted, "A peculiar feeling came over me: Patched up in every spot, [the aircraft] did not really look ready for war."[101] Time and again, Berthold notes with some frustration, the condition of the flying machines pressed into military service. Training too, would be a chaotic and disorientating experience. Graduating to pilot status required the student to pass two examinations. Berthold noted that he had yet to do so and, "in the event of mobilization, I will definitely be an observer…"[102] His contemporary, Oswald Boelcke, had not suffered the same interruptions in his training and graduated to the rank of pilot.

For those drawn to aviation, there was a sense that flight could provide agency in the midst of periods of great uncertainty and change. As in peacetime, the sensation of flying, that of collapsing boundaries of space and time, was a transcendent experience. Berthold noted that his friend, Oswald Boelcke seemed attracted to flight as a way of finding control over his situation, "one look at him shows that he flies because it makes him happy."[103] For Berthold, the sensation of flight was accompanied by the need to have

[100] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 2-4.
[101] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 4.
[102] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 2-4.
[103] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 5.

direct control over the way he contributed to the war. Only four pages into Berthold's diary, a thematic vein appears - that of feeling more than an obligation of duty to fly, but rather a compulsion to climb back into the cockpit time and again, regardless of danger or injury. This mindset returns time and again throughout Berthold's *Kriegstagebuch.* Outside of the cockpit, Berthold appears to be a far more nervous individual. Berthold's reaction to war, as reflected in his diary, conveys a sense of intense, conflicting emotions; worry over the state of readiness of the *Fliegertruppe*, a sense of fear for his comrades who are marching to war, and the overwhelming sense of being swept away by something much larger than himself. The sense that he belongs to a much larger historical moment is further reflected in his writing. Upon seeing troops marching towards their marshalling area, Berthold writes, "What a happy and refreshing sight! They are singing, marching with flowers and their buttons and on the bayonets of their rifles! They are invincible in their hopes! Despite the seriousness of the situation they have happy, sparkling eyes. It was as if they were part of a big family… My service for the nation begins."[104]

The speed of aviation development intersected again, this time with the rapidly evolving needs of war in the opening moments of the conflict. Despite its ability to transcend time and space in peacetime, much of Germany's military aircraft were shipped to the rapidly moving front lines by rail rather than flown to their destination.[105] Berthold describes the chaotic scenes that unfolded upon arriving at what would become their base of operations. Airfields were not commonplace and over the course of the war, new bases

[104] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 7.
[105] This decision reflects the mechanical frailty of early First World War aircraft.

of operations were often erected near open fields. As a result, manor houses and chateaus often became the "suitable" operational home for German units.[106] These homes, of course, were either abandoned by the civilian populations who fled the approaching armies or were taken by German forces.

Aviation in war would occupy a far less planned and maintained physical space than it had during peacetime. Berthold notes that the field for FA23 was less than ideal, "Montjoie is in the worst spot imaginable. Big forests stretch out to the south, to the east and west are steep slopes…"[107] Flying during the First World War was extremely hazardous in the best of conditions. Engines regularly failed, fire was an ever-present danger, and emergency landings were commonplace. Having clear, wide, preferably flat ground free of obstructions was highly desirable among First World War aviators. FA23 hastily constructed the necessary facilities for a military air unit: hangers, workshops, storage for spare parts, workspaces for necessary repairs. Aircraft too, had to be assembled after being shipped in parts to the front lines. An increasing urgency accompanied the need to assemble aircraft and begin contributing to the war, which was also viewed as a conflict engaged at a furious tempo.

Rudolf Berthold's experiences in the early weeks of mobilization and war were hardly unique. His decision to record his thoughts, however, provides remarkable insight into the mentalities of the men who would fly for Germany during the First World War. In his entries, we find the impact of aviation on German culture, and the cultural values

[106] Berthold later notes his frustration in his diary when, upon becoming the commanding officer for a squadron, he is unable to locate the kind of quarters he and his men had grown accustomed to in the earlier period of the war.
[107] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 10.

that were in turn, embedded on the new machine known as the airplane. The coming of war released pent up anxieties about aviation's ultimate purpose as either a transcendent technology of peace or a weapon of war. The outbreak of hostilities in August 1914, then, temporarily closed one path for aviation and opened another. The world had transformed rapidly since 1900, and German culture struggled to make sense of that change. The accelerating rate of change only increased with the coming of war, and Berthold witnessed the fear, anxieties, and nervous excitement of thousands of men his own age as they marched off to fight, knowing that their destiny would likely not be of their own making. The act of becoming an airman provided Berthold and others like him with the sense, however fragile, that they could transcend the chaos of war and wrest back control of their own fate. Aviation, with its empowering technical abilities and transcendent cultural discourse, provided a foundation of belief that Berthold would not only to survive the war, but to thrive in it. It was a belief shared by almost every young German who took to the air in 1914. The promise of aviation in peacetime, that of transcending time and space, of piercing borders and rendering the old world irrelevant, had been married to its peril, that of becoming a fully realized weapon of war.

Conclusion

In fourteen short years, a modern, rapidly industrializing, fractious German society rushed from the airship to the airplane. The rise of aviation, and its depiction as everything from national spectacle to individually empowering, embodies the very dichotomies within German culture. The discussion which formed around flight, from the nervous display of national power with the ultimately doomed tour of the Zeppelin in

1908, to the rise of the air show a few short years later at Johannisthal, reflects the litany of discourses which informed German culture at the turn of the twentieth century. The complex interplay of regionality, industrialization, the opposition of rural and urban, young and old, all informed a national discussion of what the new German nation would represent. Within that discourse lay the internal tensions; anger towards a growing materialism that threatened to destroy the culture of Goethe; resentment of the *Jugend* towards their elders, who they viewed as a threat to their future as young Germans; the dizzying experience of a technological and industrial expansion so rapid that even the largely traditional language of *Heimat* culture had to adapt. These tensions both fueled and fractured a German society that was, at times, seen on the verge of a social meltdown. Into that complex interplay, the airplane became a new space for cultural discussion. It represented both the dawning of a post-national, transcendent era, and a new age of tyrannical militarism by the older generation. It could propel the individual to new heights, but in the case of many like Paul Emil Engelhard, the airplane could also kill the very men who sought liberation through flight. It provided a space for some to challenge gender divides, and created new spaces of personal expression and professional development for women in a society that, even by nineteenth century standards, was particularly sexist.

The dichotomous, often fractious society which gave German culture its color in 1900, also influenced aviation in that country. Johannisthal represented the nexus of German flight, and the opportunities to harness the power of German industrial might prove too alluring for aviation pioneers like Edmund Rumpler and Antony Fokker. The new field of aircraft design and manufacturing then, grew out of a broad mix of

industrialists and entrepreneurs. Older, established firms like Junkers viewed flight as another opportunity for technological development. Men like Ernst Heinkel saw flight as a romantically powerful combination of imagination and engineering, albeit not without peril. And others like Fokker viewed the embryonic nature of flight in Germany as a remarkable opportunity to make a fortune designing flying machines.

But the German aircraft industry received no guiding influence from its military. Content to let private industry sort out designs, the German government did little to provide the necessary logistical and financial support to move its future air force beyond its early, embryonic stage. The machines that were subsequently produced represented the economic, industrial, and bureaucratic climate that created them, and were of wildly varying quality. The aircraft Germany took to war in the summer of 1914, then, were representative of the fractious culture that produced them. This inconsistency influenced the lived realities of men like Rudolf Berthold, whose *Kriegstagebuch* reflects the anxiety, excitement, and fear that the coming war produced. The disorder and chaos he witnessed within his own unit served only to fuel the sensation that Germany, the rest of Europe, and indeed, possibly the world, were about to march off into an abyss. Even in the early weeks of fighting, military aviation proved to be incredibly dangerous. The new world of militarized flight was far removed from the peacetime pursuits of ever higher altitudes and aerial acrobatics. In their place was the new demands of intelligence gathering and distressingly regular fatalities among flying units.

The airplane, which had served as a reflection of German culture through a decade of nervous peace, would now become a weapon of warfare. In that transition, aviation experienced a metamorphosis and became an altered space. Once a canvas of

cultural reflection, even ridicule, the airplane now formed the foundational piece of an uneasy German nationalism; the men charged with flying would use the airplane not only as a tool, but as a mode of cultural expression, even as their own experiences, indeed their own bodies, became the canvas for Germans to imprint their own cultural expectations upon them, whether grounded in reality or not.

Warfare in 1914 then was both new and old; known and unknown. The airplane would become a part of the chaos and uncertainty that would follow. Its rapid militarization mirrored the war on the ground even as it transcended and defined it. Aviation's gaze shifted: from those on the earth staring at awe into the air, to aviators monitoring a mutating ground war from above. Its focus was no longer on the achievements of flight, but on the slaughter below.

CHAPTER TWO: IMAGING AVIATION

Introduction

Writing in the decade following the First World War, Walter Benjamin suggested that modernity was constructed by a series of "shock experiences."[1] In the aftermath of the conflict which decimated a generation of Germans and disillusioned a nation, Benjamin's assertions felt apt. The First World War was a conflict defined by shock experiences which were largely shaped by technological innovation. While the airplane provided the newest example of ingenuity on the battlefield, the photographic camera represented the repurposing of a slightly older technology in a new fashion. The camera, as employed during the First World War, came to occupy a fascinating space as a tool of military application and as a medium of documenting experience. Photographic images created the popular and powerful iconography of the conflict: barbed wire, muddy trenches, machine guns, and poison gas.

The camera also intersected the development of the airplane, and the conversation between the two technologies would revolutionize both. At the outset of the conflict, military aircraft were tasked primarily with observing enemy troop movements. Doing so required a well-trained observer with a nearly photographic memory and the ability to jot down detailed notes, usually while under fire. The advent of the aerial photographic camera, however, transformed aerial observation and, with it, the way human beings viewed and analyzed wars.

[1] Dan Magilow, *The Photography of Crisis: The Photo Essays of Weimar Germany.* (University Park: The Pennsylvania State University Press, 2012), 12.

The camera also helped shape the identity of Germany's young fliers both in official discourse and in private moments of memory and meaning making. Public images, often sold as postcards, cultivated the narrative of the *Fliegerheld*, or "flying hero;" a noble warrior who embodied the best traits of the nation and expressed them through the role of the fighter pilot.[2] Private photographs, in contrast, cultivated a less rigid and more dynamic personal identity among German aviators tasked with aerial observation and reconnaissance. Their experience in war and their subsequent memories of the conflict intersected with the tool they used on a daily basis over the Western Front, the camera.

Photographic technology predated the First World War, but it transformed from an expensive, cumbersome, and largely fixed platform into a portable device that could be used by almost anyone. By the outbreak of the war, small, portable cameras allowed soldiers to capture images of the battlefield as well as private moments with comrades in training or during breaks behind the lines. Once designers and engineers fashioned a camera that could operate from a moving airplane, and capture high definition photos from extremely high altitudes, the results were transformative for both technologies. The airplane became more than a tool for visual observation: incredibly detailed photographs were recorded and sent back to Germany's commanding generals within hours of development, rendering the battlefield, with its intricate and evolving system of trench fortifications, knowable from above. The camera, in addition to its weaponization, also

[2] A note on terminology: The word "Ace" is a post-war construction and does not originate from German. I use this term in reference to a chapter in Peter Fritzsche's *A Nation of Fliers* entitled, "The Image of the War Ace." For the remainder of this chapter, I will use the English translation of *Kampfflieger* (combat flier) and *Fliegerheld* (flying hero).

allowed German aviators to mimic their comrades on the ground, and capture private perspectives of the war. Alfred Lichtwark commented on the camera in 1907 by saying, "in our age there is no work of art that is looked at so closely as a photograph of oneself, one's closest relatives and friends, one's sweetheart."[3] The advent of the rise of personal photography before the First World War moved the image "out of the realm of aesthetic distinctions into that of social functions."[4]

Photographic images, too, now command the attention of contemporary historians, not as illustrations of historical texts, but as textual sources unto themselves. Photography provides access that the written word cannot. It demonstrates identity, circumstance, and intent in ways that text fails to convey. Images often do so by accident - in the composition of the photo, in its placement in an album, in the repetition of themes or in the anomalies that appear. Examining the thousands of photographs captured by German observation crews, both on the ground and in the air over the Western Front, clearly demonstrates experiences that differ from the popular German *Fliegerheld*, and challenges previously held conventions of German aviators as universally stoic, "ruthlessly chauvinistic" and masculine warriors.[5]

The Rise of Photography in Military Aviation

The early development of aviation was characterized by the question of practical application. The machines created in the decade prior to the First World War were too

[3] Walter Benjamin, *Selected Writings, Volume 2, 1927-1934.* (Cambridge: The Belknap Press of Harvard University Press, 1999), 520.
[4] Ibid.
[5] Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination.* (Cambridge: Harvard University Press, 1992), 100.

frail for most military duties. They lacked the power to carry weapons of any significance aloft and therefore, could not directly impact the battles unfolding below. Futurists, writers, and aviation designers all imagined a time when aviation's technological progression would revolutionize warfare. Until that time, however, observation of the enemy was aviation's paramount purpose in the years before the First World War. The aviation historian Charles Gibbs-Smith noted that, "in 1909 powered aviation came of age," indicating that the airplane had matured beyond the point of its earliest prototypes – the kinds of machines that may fail to take off or break up in flight due to serious and systemic technical and mechanical limitations. In doing so, he contested, "the airplane became technically mature and established in the public mind."[6] Gibbs-Smith's assertions coincide roughly with the moment aviation became of concern with military planners across Europe. Most notably, aviation became worthy of military investment when, during French military maneuvers during the Fall of 1911, an observation flight successfully located enemy positions from a distance of 60 kilometers.[7] In that moment, the battlefield transformed. Military strategists had long relied on attaining an observation position on high ground, in a tower, or when necessary, perched in a high tree. The airplane significantly magnified the distance that commanding officers could see. The consequences of France's military maneuvers sparked an arms race between the war's future belligerent powers to invent, procure, and press new machines into service.

Gibbs-Smith's assessment also reflected a change in public consciousness regarding the potential power and peril of aviation. The literary futurist H.G. Wells

[6] John Morrow, *The Great War in the Air (*Washington, D.C.: Smithsonian Institution Press, 1993), 10.
[7] Morrow, 15.

published *The War in the Air* in 1908.[8] Instead of the airplane observing troop positions, however, Wells imagined a far more terrifying future; one where airships, the then dominant form of aviation technology, would have the capability to destroy entire cities. In *The War in the Air*, Wells describes a militaristic and bombastic Germany attacking the United States with a barrage of Zeppelins, destroying the U.S. Atlantic Fleet before razing Manhattan to cinders. It is the horror of Total War that Wells describes in such detail in *The War in the Air*.[9] In the mind of Wells, this new type of warfare, conducted from thousands of feet up, rendered the aggressor desensitized to death as he murdered thousands without ever seeing his victims from the air. By the outbreak of war in the summer of 1914, each army possessed a limited but capable air arm, whose primary purpose was to observe the enemy and pass along strategic intelligence to the army's command. While the airplane allowed for troop observation from above, the miniaturization and weaponization of the photographic camera would fundamentally change the mission of aviation, and the experience of the war's aviators.[10]

Like the airplane, the photographic camera was a technology which required a degree of sophistication and ease of use before attracting the attention of military planners. The camera's invention predated the First World War by several decades, but its technological transformation around the beginning of the conflict was a revelation. The camera was no longer a difficult, expensive, and largely immobile medium. Instead, the camera became an item that could suddenly capture the everyday and do so in a

[8] H.G. Wells, *The War in the Air* (London: George Bell & Sons, 1908).
[9] Ibid.
[10] Ibid.

portable and relatively cost effective way. By the end of the 1870s, new technological innovations allowed for the capturing of objects in motion.[11] Further, roll film and the advent of far smaller, more portable cameras created new opportunities for photography to transcend the walls of the expert's studio into the hands of everyday people. [12]

Photography's transformation began before 1914, but its technological development was rapidly accelerated by its weaponization and utilization during the First World War. In addition to its use on the battlefield, photography was employed as part of an industrial and cultural total war. The images captured at the point of the camera not only directed munitions and troop movements, but also the citizenry at home. As aviation grew in popularity during the war, the camera was employed to create the iconography of Germany's fliers for popular consumption. Images of brave pilots flooded German markets, post offices, and bookstores. Simultaneously, these popular images ignored the largest demographic of German fliers, that of aerial observation crews tasked with the daily duties of photographing the front.

Photography then, presents a fascinating point of entry into the cultural history of Germany's air service during the First World War. The camera was more than weaponized for work on the battlefield, it was militarized to serve the morale of a population mobilized for total war. Aviators found growing importance in the minds of military planners as their ability to send by high resolution photographs of even the smallest frontline detail only improved over the course of the war. Equipped with personal cameras of their own, and often stationed at airfields with an on-site dark room,

[11] Magilow, 122
[12] Ibid.

these fliers assembled a massive collection of private photographs of their lives as Germany's first airmen. By contrast, the fighter pilots assigned to protect them and destroy enemy aircraft, grew in such popular acclaim that they often sat for studio portraits, that were then bought by an enthusiastic public. The stark differences in the lived realities of aviators and the staged iconography of the *Fliegerheld,* or flying hero, elucidates the importance of the camera, not merely as a weapon of war and a medium of self-expression, but as a means to construct popular identity as well.

The Photograph as a Weapon of War

The weaponization of both the airplane and photography intersected precisely at the end of a camera. Even the evolution of the camera for use in aerial operations reflects the degree to which its weaponization translated to its physical shape and the manner in which an observer would interact with it. The photographic device in question was called the *Maschinengewehrkamera*, or "machine gun camera," developed by German inventor Oskar Messter and constructed by the Ernemann company in Dresden.[13] This camera is a fascinating remnant of material culture created during the First World War, primarily because the device looks unlike any civilian camera produced during the period. Instead, the "machine gun camera" resembles a working replica of a German-built MG08 model machine gun used both on the ground and in the air. Two wooden handles flank either side of the rear of the camera, with a long cylindrical tube extends down the "barrel" of

[13] Wilhelm Füßl, "Luftbildfotografie im Ersten Weltkrieg," *Visual History: Online-Nachschlagewerk für die historische Bildforschung,* accessed September 15, 2014, Reference URL: https://www.visual-history.de/2014/03/11/luftbildfotografie-im-ersten-weltkrieg/.

the device.[14] The trigger button, used here to shoot film rather than bullets, is placed in the exact location as on the MG08. Even the "sights," used for ranging a target with the weapon are replicated exactly on the camera.[15] A close analysis of this remarkable device clearly demonstrates the importance of photography to the German air service. It also shows us the way engineers imagined an observer interfacing with the device, and how they felt they could most easily translate pre-existing knowledge regarding weapon operation to a new tool for aerial reconnaissance.

It is clear from the design of the device that the camera's operator would already be familiar with the MG08 machine gun. Rear-seat observers, assigned to air crews operating a wide range of multi-seat reconnaissance aircraft would have significant experience in operating and firing the MG08. The design and operation of the camera would utilize the training that these crew members already possessed. The observer simply had to lift the camera, lean it over the side of his aircraft, and "shoot" the target below. The camera operated with glass plate film, each plate ranging in size from 9x12 to 9x18 cm formats.[16] One can imagine how difficult it was for an observer to change the plates while under anti-aircraft fire or while being harassed by enemy scouts.

Perhaps the most remarkable aspect of the photographs rendered at altitude by the "machine gun camera" is the clarity and fidelity of the images. A series of photographs archived by FA296 and *Bayern Schlasta* 31 (Bavarian Bombing Squadron) illustrate enemy front line positions in exacting detail.[17] Attached with each photographic report is

[14] Ibid.
[15] Ibid.
[16] Ibid.
[17] Bayern Schlasta 31 Documents, Finding Aid: WK2128, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich.

a complete narrative by the observer, noting enemy troop positions relative to their location from the previous twenty-four hours. Friendly positions, too, are noted in comparison to their enemies, often located just a few hundred feet away. "Thinness" and "Thickness" were often noted in front line descriptions - illustrating the relative vulnerability of these troops in relation to their opponents.[18] Even the depth and extended fortifications of both friendly and enemy troop positions were noted in great detail. If an enemy unit had dug their trench deeper, or begun work on a new network of connective trenches - which expanded across the Western Front like a living membrane - the details were recorded both on film and on paper. This information would have likely been passed immediately to the squadron's commanding officer who appended his own report with notations on the findings of his men, before sending it up the chain of command.[19] These reports, which were filed by observation flights every day, served as the life blood of information for the Generals tasked with directing the moment of hundreds of thousands, and sometimes millions, of men on the Front.

The environment that shaped the photographs taken by aerial observers also played a significant role in proving the military value of the photographic camera and the airplane. By October 1914, the Western Front had stalled, and what was a rapid war of mobility and maneuver had stagnated into dug fortifications. As the autumn passed, those dugouts turned into well engineered and complex trench fortifications, the effects of which influenced the mentalities of those serving on the ground as much as it shaped the

[18] Ibid.
[19] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2075 Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich.

role of the airplane up above.[20] Aviation's relative frailty at such an early stage of the war meant that aircraft could not easily travel long distances without mechanical fault. They were also incapable of carrying significant payloads. Static trench warfare, the kind established by the end of 1914, complimented the mission of aerial observation by providing a relatively stable area to photograph.

With that stable environment established, aviators began the daily work of mapping out the enemy's front line positions - complete with information on troop numbers, artillery positions, new entrenchments, significant shifts in materiel. Their observations were vital to military planners; discovering new enemy reinforcements, or a new buildup of artillery, could signal the coming of an offensive action. Noting these changes could thus prevent the enemy from achieving the all-important breakthrough sought on both sides. The best machines for observing and documenting these changes were large, lumbering two-seat reconnaissance aircraft big enough to fit the necessary air crew and equipment, and stable enough in the air for clear photos. These machines, while not as evocative as the nimble, single-seat scout aircraft which would follow by 1915 and 1916, provided the backbone of the Army's need to know ever increasing amounts of information about the war on the ground.

German observation units, usually designated with the moniker of *Flieger-Abteilung*, or "flying detachment," were assigned to individual armies serving on front line positions. These observation crews often cultivated a different kind of squadron culture from their counterparts in *Jasta* or "hunting" units. Pilot and observer had to work

[20] See Ross J. Wilson, *Landscapes of the Western Front: Materiality During the Great War* (New York: Routledge, 2012).

in such unified action that many referred the pair were referred to "one individual."[21] Reconnaissance aircraft were large machines, and with no radio communication, pilots and observers could not verbally interact while in flight. Even shouting was rendered mute at altitudes exceeding 12,000 feet.[22] Equipped with heavy protective equipment, including helmets, it was simply impossible to hear one another. Instead, each pilot and observer developed an intricate system of non-verbal communication, allowing each to know the intention of the other and to better perform their mission during each sortie. The difference between effective and ineffective communication could often mean the difference between life and death. The pilot of most observation aircraft, particularly during the early-war period, often had no forward-firing weapons and could not maneuver the machine effectively to counter an enemy scout. Rather, it was his observer, armed with weapon like the MG08, who was tasked with protecting the pair while on mission. Firing from a moving platform in the air, too, was incredibly difficult, and close coordination with the pilot in control of the aircraft was vital in guaranteeing the effectiveness of the observer in protecting them.[23]

Flieger-Abteilung units were later tasked with bombing sorties, but, here too, technological limitations played a deciding factor: while aircraft could carry larger bomb loads, the task of observation flights remained the priority of the *Luftstreitkräfte* for its

[21] See Georg Paul Neumann, *Die Deutschen Luftstreitkräfte in Weltkrieg* (Berlin: E.S. Mittler und Sohn, 1920).
[22] Reconnaissance aircraft were later fitted with wireless transmitters, commonly after 1916. The radios, however, could only transmit one way, and required an elaborate flag system to be employed on the ground to enable any communication back to observation crews.
[23] Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service and Flanders Marine Corps: 1914-1918.* (London: Grub Street, 1993), 12-14.

FA units.[24] These sorties were conducted daily and, during periods of heavier activity at front-line positions, multiple flights were required each day to provide as much information as possible to the General Staff. Observation crews, armed with their machine gun cameras, were responsible for both photographing these positions as well as making appropriate notations. Once on the ground, the written and photographic data were combined into reports so that the General Staff could identify the subjects in each picture and take appropriate action.

Aerial observers were meticulously trained in the use of their photographic equipment. Documents from the *Luftstreitkräfte* illustrate the multiplicity of circumstances observers faced in the air: how to shoot effective photos through cloud cover, from different altitudes, and various angles of attack were explained in intricate detail in their training materials. But while the *Luftstreitkräfte* wanted air crews trained in the methods of photography, they were not educated in the development and processing of the film they shot in the air. Once safely back on the ground, air crews simply handed their glass plates over to a trained film developer assigned to each observation squadron. One photograph in the photo album of a German observer named Peter Supf's, shows the squadron dark room and the officer charged with developing all of the unit's images.[25] Stationed in a simple room in the squadron's quarters, which has been converted to the task. Hanging above the officer are lines with photos drying from the bath of chemicals used to develop the image captured on glass plate negatives. The room is also filled with

[24] The German Army investigated the effectiveness of aerial bombing and published numerous reports to the General Staff regarding the damage inflicted by various size explosives, all small enough to fit in the confines of observation aircraft.
[25] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.

small electric fans to aid in the process. It was a makeshift facility, to be sure, but one that removed the need to train observers in the technical task of film development.

The photograph of Supf's dark room perfectly illustrates the type of setup typically found at front line airfields during the First World War. This division of technical knowledge, at first, seems curious, but the rationale behind this choice is coldly logical: observation crews were, ultimately, expendable. A flying accident or successful attack by an enemy aircraft could kill an observer, and cost the *Luftstreitkräfte* months of valuable time spent training crews in the use of sophisticated photographic equipment. Instead, training permanently grounded service members in the process of developing the film exposed in the air prevented such a loss from ever occurring. Additionally, the simple "point and shoot" nature of the machine gun camera also removed the need for extraneous training, as observers would already be familiar with the mechanical operation of one weapon, and could apply those methods to the camera. Simply stated, the photographic equipment used by observers was of a sufficient simplicity as to render training as easy and efficient as possible, providing more trained crews for a combat environment that only grew in risk as the war progressed.

Militarized Photography: Images, Aviation, and Total War

Aviation's relationship with photography extends to the beginning of powered flight and from its inception, the iconography of the aviator was largely shaped by visual culture. As seen in Chapter One, the airship dominated German popular imagination in

the years preceding the First World War.[26] In August of 1908, the *Luftschiff Zeppelin* or LZ 4 made a grand tour over Germany. Images of the massive airship, with its imposing appearance, were splashed across German newspapers as its progress across the Fatherland was eagerly tracked by the popular press. Some compared the excitement shown by Germans as comparable to the 1870 declaration of war against France.[27] Newspapers, magazines, and local book shops all sold images of the famous airship before its catastrophic accident a few days later.

By the start of the First World War, the camera had already distinguished itself as one of the few "weapons of war" that could also double as a means of meaning making and self-expression. The aviators tasked with photographing the trenches of the Western Front in intricate details also took hundreds of photographs of everyday life on the ground. When placed in conversation with the photographs created for their formal military duties, as well as other images constructed expressly for popular consumption, a litany of new insights into the lives, identities, and culture of German air crews comes to light.

Germany's fascination with air power continued during the First World War and popular photography adapted to meet the growing romanticization of German aviators. W. Sanke & Company was an established photographic firm at the end of the nineteenth century. Advertisements for Sanke's company before the war described his firm as dedicated to *"Postkartenvertrieb,"* or "postcard sales."[28] An entry in an 1899 address

[26] See "Giant Airships and World Politics" in Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992.)
[27] Fritzsche, 9.
[28] Lance Bronnenkant, *The Imperial German Eagles in World War I: Their Postcards and Pictures.* (Atglen, Schiffer Military History, 2006), 8.

book describes Sanke's company as "*Landschaftsphtotographie, Stereoskopfabrik, Kunsthandlung,"* "landscape photographer, stereoscope manufacturer, and art sales / the art trade."[29] Sanke's business chased the increased interest in aviation in the decade prior to the First World War, publishing photographs of early aviation pioneers and machines like the Rumpler Taube, or even the Wright Flier.[30] As the importance of aerial reconnaissance increased into 1915, air services on both sides of the lines built machines designed to protect friendly observation planes and destroy those of the enemy. The subsequent rise of this new single seat aviator, which in Germany, included well-known pilots like Max Immelmann and Oswald Boelcke, drove popular demand for Sanke postcards dedicated to this new kind of aviator, called the *Kampfflieger*, or "battle-flier."

In addition to the genre of Sanke's postcards – that of the realm of aviation – the type of images produced within that genre is important to note. The men photographed for Sanke's cards were nearly all single seat scout pilots: men like Manfred von Richthofen, Ernst Udet, and Erwin Bohme to list a few of the dozens of fighter pilots included in the collection. Curiously, reconnaissance and observation air crews were not featured in Sanke's postcards. The choice of Sanke's subject matter speaks not only to the continued popularity of aviation during the war, but also addresses the question of audience. While historical works addressing these popular postcards argue that German aviators were universally popular, the choice of the *Kampfflieger* suggests that Sanke's audience was largely favorable to the Kaiser and the military in general.[31]

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[29] Ibid.
[30] Bronnenkant, 9.
[31] Bronnenkant states that these postcards appealed to a wide audience. Archival research, however, indicated that most of the Sanke cards that were kept for personal collections largely belonged to Germans who supported the political right.

The popularity of these postcards, combined with the characterization of the aviators pictured, largely contributed to the invention of the *Flieger-helden* (sic), or "flying hero," a narrative that resonated with conservative Germans who supported the war and the Kaiser. The flying hero was also depicted as predominantly upper-class in standing. The style of photographic pose employed for these portraits are so similar as to appear almost monolithic in style. Early publications, which featured both Boelcke and Immelmann were staged in front of rich tapestries, while the pilots posed in full dress uniform. Medals were of visual importance to Sanke cards, with each award highly polished and prominent in each portrait. Uniform hats, often worn at rakish angles, complimented leather gloves and, in many cases, cavalry style riding crops, further expressing the cultural markers of nobility. The awarding of new medals often warranted a re-issuing of previous cards. Again, this attention to military decorum indicates that the purchasing audience would be intimately familiar with the detailed minutia of often complicated award procedures. Given the logistical difficulties of bringing a combat pilot back for a new portrait, the new medals were often added in by an artist who edited the original image by hand, and a new portrait using the edited photograph was issued.[32]

An analysis of the style of portrait - the pose of the pilot, the clothes worn, the background, even accessories in the aviator's hands elucidate much about class, status, identity, and gender performance. The subject captured on Sanke's cards appears at all times to be stoic, hyper-masculine, dedicated to duty, and embodying the identities of a

[32] In the instance of Rudolf Berthold's Sanke Card, a new edition was printed after he was awarded the Pour le Mérite. Since Berthold could not sit for another portrait, the medal was drawn carefully around his uniform's high collar and reissued.

good aristocratic background.[33] Uniforms are immaculately worn. The subject never smiles and is often posed looking into the distance with a stoic glare. Early cards were photographed at Sanke's Berlin studio, with expensive tapestries draped behind the pilot as he is posed either standing nearly at attention, or sitting dramatically in a fine, high-backed chair. When photographed outside, hunting dogs or other expensive pets feature extensively in the images. At times when it was not possible to send a combat aviator to Berlin, on site photography was used. In these instances, pilots pose either against a *Heimat* inspired background of greenery or stand in front of their machines, recreating an image reminiscent of an earlier time when a rider and his horse would pose for a portrait - a mechanical steed now replacing its nineteenth century predecessor. In other instances, captured enemy aircraft, either brought down intact by air crews who surrendered to their German adversaries, or the horrific site of the machine's crash, set the stage for a portrait not out of place in the genre of big game photography of nineteenth century male aristocracy. Later photographs from 1918 feature a grimly determined aviator, staring with cold eyes and, often, a scowling visage. Despite having published over 600 images, Sanke cards embody a handful of recycled tropes: masculine camaraderie, stoic temperament, control over one's emotions, mastery over one's machine and with it, one's destiny. Even when facing ever more daunting odds, the masculine German aviator only sets his jaw more firmly, and proves himself equal to the task. Then men photographed in Sanke's cards then, epitomize the outward, public expectations placed upon them. They are not frightened, they do not shrink from the fight. Their image is singular: they are

[33] Lance Bronnenkant, *The Imperial German Eagles in World War I: Their Postcards and Pictures.* (Atglen, Schiffer Military History, 2006).

heroic.

Even death failed to terminate the narrative of Sanke's *Fliegerhelden*. Both Boelcke and Immelmann's images were republished after their respective deaths. Immelmann reappeared on a Sanke card after he died in June, 1916. When Boelcke's death followed four months later, Sanke republished both of their images under the heading, "*Unsere Flieger-helden,"* "Our Flying Heroes."[34] Pilots' images were re-appropriated for morale improvement, and even war bond and pilot charity drives, as the republishing of Otto Parschau's Sanke image on a bond stamp demonstrates[35]. Perhaps, not surprisingly, the aviator whose image was published in the highest volume was Manfred von Richthofen, known during the war as *Der rote Kampfflieger*, or Red Battle Flier. Richthofen posed for multiple portraits over the course of the war and his Sanke card catalog is immense. Following his death in 1918, Richthofen's image appeared in magazines, newspapers, and again on new Sanke cards, as the German government, and the Army General Staff, sought to elevate Richthofen's popularity to that of a fallen German hero.

It is of interest to note the shift in terminology as well. While living, the caption "*Unser erfolgreicher Kampfflieger,"* "Our Successful Combat Pilot," appears under most of the pilot images[36]. In death, their title changed to *"Unser Fliegerheld,"* "our flying hero."[37] The transition in distinction elucidates much about attitudes towards the death of a German combat pilot. Even aviators with fewer victories, a distinction among combat

[34] Bronnenkant, 124.
[35] Bronnenkant, 125.
[36] Bronnenkant, 95.
[37] Bronnenkant, 9.

fliers regarding their respective prowess in the air, received the new moniker. The change in title denotes an air of martyrdom, in dying a heroic, sacrificial death for the Fatherland. Newspaper obituaries share this terminological distinction. One German pilot, Ernst Heß, who died in December of 1917, had his obituary republished over a dozen times between the end of the year and the following autumn. Each time, Heß is denoted with the new title *Fliegerheld* upon the announcement of his death.[38]

When placed in conversation with candid photographs taken at the Front, important distinctions in identity, duty, formality, and gender performance become readily apparent. Sanke images feature pilots as individuals, or as groups standing in a rigid, highly formal stance.[39] Comparing the imagery of Sanke's postcards with private images clearly demonstrates this difference. A series of photographs of Lt. Walter Höhndorf illustrates these distinctions. Höhndorf was a pre-war aviator, having learned to fly right before the outbreak of the First World War. He served ably in several *Jasta* squadrons during the conflict, and was assigned as a test pilot at Johannisthal before dying in a testing accident in 1917.[40] Lt. Höhndorf provides an excellent case study in the discourse of public versus private photographs, as well as outward versus inward projections of masculinity. In his published Sanke card, Höhndorf is featured sitting in a rigid pose, holding a riding crop in his left hand and facing at a three-quarters seating position.[41] His face is nearly expressionless and his uniform, as well as his appearance,

[38] The sheer volume of obituary republications is another avenue of investigation that I will follow over the course of this dissertation. Heß was a gifted pilot, but not a particularly remarkable example, yet his death is reprinted repeatedly during 1918 and again following the end of the war. See Ernst Heß, Nachläss N208-3, Freiburg Bundesarchiv.
[39] Bronnenkant, 141-142.
[40] Ibid.
[41] Ibid.

are immaculately neat. Other photos of Höhndorf, likely taken the same day, feature him standing, his riding crop still firmly in hand, and projecting the same stoic expression to the camera. Höhndorf's postcards epitomize the format and style of Sanke's creations perfectly.

A second series of photos, taken privately, shows a rowdy dinner party at *Jasta* 14's headquarters. Höhndorf visited the unit and met their commanding officer, German ace and future Freikorps member, Rudolf Berthold. Here, with the aid of privacy and what appears to be a liberal consumption of alcohol, all formal pretenses demonstrated in Höhndorf's studio portrait vanish. Höhndorf sits astride Berthold's lap, as he and another compatriot embrace each other. Also included in the image are a half-dozen other German aviators, all sitting informally, and often caught mid-embrace.[42] Besides the seemingly disparate expressions of gender performativity - distinctions of public versus private behavior - are derived from the dueling culture of *the Mensur*, largely seen in German university fraternities prior to the war. These expressions - of stoic masculinity and private performativity - both originate in elite university culture.

The *Mensur* mirrored so-called "academic fencing" and followed a strict set of rules and occurred on a daily basis in elite German universities. The weapon used by those participating in the *Mensur* was known as the *Schläger*, a special, purpose made sabre.[43] While death was not a risk faced by fraternity students taking part in the duel, there remained a significant risk of facial injury that could scar them permanently.

[42] Bronnenkant, 142-143.
[43] Sonja Levsen. "Constructing Elite Identities: University Students, Military Masculinity, and the Consequences of the Great War in Britain and Germany." *Past and Present,* 198 (2008): 150.

German fraternities in the nineteenth century stressed that masculinity was not innate; it was a trait to be acquired. That acquisition meant earning it through the respect of others through the *Mensur*. Interestingly, the duel was fought "within the community and for the community."[44] In other words, while the duel itself was an individualistic act, its impetus originated from within the community. Thus, German university students learned through their experiences in fraternities that masculinity was earned by individual achievement for a greater community. While other images of masculinity pervaded the early nineteenth century, military masculinity came to be the dominant ideal by the beginning of the twentieth century. Taking part in the duel showed an "unconditional willingness to give satisfaction," the kind of mentality required during the outbreak of the First World War.[45] Curiously, the types of masculinity often associated with the duel, that of "strong, sinewy, slender students," was not the norm among German fraternity students; rather, their physiques were characterized by "fat stomachs" which resulted from "hard drinking," with fellow fraternity member.[46]

Returning to Höhndorf's private photographs, a continuum of gender performance is demonstrated by the actors' perception of their own masculinity. Höhndorf, Berthold, and the other elite pilots carousing after hours, likely descended from the mentality forged in elite German universities at the end of the nineteenth century. Their duties as fighter pilots naturally progressed from the masculine ideals of the *Mensur*. Höhndorf, like his peers in the photographs, fought individual duels for the greater community of

[44] Levsen, 152.
[45] Levsen, 150.
[46] Levsen, 151.

the *Jasta*, the Air Service, and ultimately, the Fatherland.[47] These actions mirrored the Mensur in their inherently offensive nature, which marked another difference between the fighter pilot's understanding of his job when compared to his observation unit comrade. The ideals of elite university culture are also expressed by those who did not descend from the social order of Höhndorf and Berthold. Some members of *Jasta* 14, likely non-commissioned officers, appear distinctly uncomfortable with the proceedings happening around them. They stand as rigidly and formally as those pictured in Sanke's cards.[48] There are no smiles, no relaxed body language emanating from these men. Another party photo, featuring a half-dozen open bottles of wine and champagne, demonstrate these differences yet again. Once more, Berthold and Höhndorf are the center of attention, with Höhndorf captured singing loudly with flushed cheeks. His fellow pilots, by this point, look very much worse for wear and any sense of formality remaining has vanished from the majority of them, with more pilots sitting on each other's laps and embracing.[49] This again, hearkens back to the hard drinking *Mensur* culture of individual achievement for the greater good of one's community. One officer to the left of the image, as well as a compatriot at the rear of the photograph, stands uncomfortably, nearly at attention, as the image is captured.

A close reading of these images elucidates much about public and private performance, audience, and notions of masculinity in ways that even personal texts struggle to capture. When placed in conversation, the images of Höhndorf's Sanke

[47] For additional reading on the topic of military masculinity, see Ute Frevert, *A Nation in Barracks: Modern Germany, Military Conscription, and Civil Society* (Oxford: Berg, 2004).
[48] Bronnenkant, 142.
[49] Bronnenkant, 143.

portrait, compared with his private parties with *Jasta* 14, demonstrate the range of German notions of masculinity and gender performance and where such a continuum originated. Further, performance is clearly influenced by audience. Höhndorf's portrait is for sale, and purchased by members of the German public. Their expectations are different from Höhndorf's own and his pose, body language, even his blank facial expression, show us this. He is stoic, neatly kept, and posed in a way that demonstrates utter and complete control over his emotions and his actions. The party images, by comparison, show German aviators responding to the extreme stresses of combat: alcohol consumption, rowdy behavior, and a return to the type of gender performance that epitomized fraternity culture. Even the spacing of their bodies elucidates this fact: as posed group portraits show men in uniform with a significant gap between them, and private photos that show a complete inversion of that expectation.

Whether intentional or otherwise, the Sanke card played a significant role in shaping the popular iconography of the German aviator. Most importantly, it is the choice of Sanke's subject matter, the fighter pilot, that most shaped the public perception of German aviators. Sanke's images, while elevating the already prominent notoriety of German fighter pilots, omit the observation air crews that flew over the Western Front every day. The absence of observation crews from Sanke's repository of images suggests several underlying narratives. First, many German aces, including Manfred von Richthofen, began their flying careers as observers in reconnaissance aircraft before "progressing" to fighter squadrons. This suggests that fighter pilots possessed a greater level of acumen and skill than their counterparts in observation units. It also suggests that fighter pilots were, in the mindset of middle-class, conservative Germans born in the

nineteenth century, more relatable. Holding a riding crop, the inference of the plane as mechanical horse is hard to miss. Indeed, post war narratives cultivated the image of the "Knight of the Sky," and cemented this identity in German popular memory.[50]

Second, the prominence of the fighter pilot suggests the popular preference of offensive warfare in contrast to the seemingly defensive experience of reconnaissance crews. Pilots, too, embodied this partialness to the perceived empowerment of single-seat aerial combat. Rudolf Stark, who served in a two-seater squadron before finding transfer to a *Jasta*, or hunting unit, recalled of his time as an observer: "The battles we fought were defensive ones, thrust on us by necessity."[51] The lumbering nature and slow speed of observation aircraft dictated the terms of Stark's experiences in battle. Two-seater aircraft could only defend themselves utilizing rear-facing machine guns, often operated by the observer as the pilot worked to place his assailant into firing range.

Engaging in offensive action, the kind Boelcke advocated with the advent of the single seat fighter, appeared more romantic, more courageous, perhaps even more masculine then fighting defensive engagements only. In other words, this kind of offensive action appealed to the kind of audience prone to buy copies of Sanke's postcards. Boelcke and his successors embodied the militaristic spirit that conservative Germans favored by taking the fight to the enemy. But the focus on the offensive nature of aerial combat obscured the value of the observation crew's contribution. Images,

[50] It is also likely that this image resonated strongly with young German men on the cusp of being old enough to fight. As noted by Robert Nelson, German fighter pilots were wildly popular with infantrymen on the ground, and their exploits were often noted in German trench newspapers. See, Robert L. Nelson, *German Soldier Newspapers of the First World War* (Cambridge: Cambridge University Press, 2011).
[51] Fritzsche, 71.

notations, and observations captured by reconnaissance crews over the Western Front could impact the outcome of an offensive action on the ground. While the lives of individual men lay in the hands of the *Jasta* pilot, an astute observation regarding a new influx of enemy troops in a particular section of the Front, could alter the fate of thousands of men's lives.

Finally, the pilots tasked flying these machines were ranked lower in the social order of German aviators. They were often referred to derisively by the title of "chauffeur," designated to "drive" their aristocratic senior officers around the skies over Flanders. Manfred von Richthofen comments on this distinction upon meeting an officer who did not recognize him: "in the eyes of that kind gentleman, I had obviously lost caste when he discovered that I "drove" my own airplane."[52] Clearly, officers of a certain class did not "drive" themselves.

This omission then, perhaps explains the false narrative of the aviator in the popular consciousness of the German public both during and, especially, after the conflict. Counter to the narrative of Germanic knights of the air - of air aces dueling in the skies over Flanders - the reconnaissance and observation crews faced a starkly different reality. Their lived experiences received scant attention in popular culture - that of the daily task of photographing and notating changes in the makeup of the Western Front, while fending off harassment from allied aircraft, as well as anti-aircraft fire and the ever-present risk of mechanical or structural failure. The images then, captured by these crews, are dramatically different to the tropes presented in Sanke's heroic cards and

[52] Fritzsche 100

further cultivated by their *Fliegerhelden* subjects.

The Photo Album as a Textual Source

Beyond the technological history and a study of the implementation and popular consumption of photography, an analysis of individual images, or groups of images, presents fascinating insights into the experiences of German First World War aviators. Employing such an approach compliments existing written sources, such as war dairies, letters home, or official reports. The addition of photography also compensates for a source base that was heavily damaged in the Second World War. In particular, the dual nature of the work performed by the camera can provide insight into the culture and mentalities of German aviators and introduce new complexity to the traditional narrative of the First World War pilot. The same technology that allowed aviators to capture the strategic movement of the massive Western Front, also allowed them to snap the everyday experiences that defined their lives as pilots and observers on the ground. Personal photo albums, individual snapshots, and even squadron produced ephemera provide remarkable insight into the mentalities of individuals whose daily task involved imaging both the war on the ground, and the war's influence on their own lives. Thus, when placed in this context, photography acts as a textual source. The composition of the photograph, the subjects captured by the shutter, the intent of the photographer, all open windows into the mentalities of not just the individual capturing the image, but of those caught in the gaze of the lens.

Housed at the *Deutsches Museum* in Munich is a remarkable collection of photo albums and scrapbooks from the First World War. One such album was created by Peter

Supf, who served as an observer during the First World War. Nicknamed the "poet flier" by his contemporaries, Supf published multiple volumes of poetry and prose before and after World War I.[53] Supf's private album is important for several reasons. First, it provides incredibly personal details into the mindset of Supf and his comrades. The album was also clearly assembled during the war and runs chronologically, from 1914 until late 1917. As a result, Supf's photographs elucidate the construction of memory in the present rather than projected in hindsight. Finally, the contextual organization and marginalia of the album demonstrates that its intended purpose was for private consumption among Supf and his comrades, making it a very different source from the public Sanke cards bought up by the German public.

Immediately apparent is the private, personal nature of the images captured by Supf. The tropes seen in Sanke's cards - of stoic poses, neatly performed masculinity, and the ever-present warrior ethos of German knights of the skies, vanishes. Supf's unit, *Bayern Flieger-Abteilung 286b* served as a reconnaissance unit on the Western Front. The first image in the album is of the unit's formation photo in the summer of 1914. The photograph is less formal than the staged Sanke photos. Some are smiling, others have arms interlocked, while still others maintain a stoic pose for the camera. Also of note is the squadron mascot, a black and white puppy sits proudly in the center of the group.[54]

The images that follow set the tone for the subject material that captured Supf's attention. Aerial images of *Heimat* landscapes dominated by lush green valleys, old

[53] Supf also published a thesis in 1912 entitled: Alsace-Lorraine and the Constitutional Nature of the German Empire. He also wrote several favorable histories of the Luftwaffe during World War II. See, Biographical data from finding aid for Peter Supf, Finding Aid: NL 063, Archiv der Deutsches Museum, Munich.
[54] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.

growth forests, and rolling countryside fill the first page of the album. From there the album reveals images showcasing the private, daily, lived experiences of Supf and his comrades. Early on, the destruction of the war is made apparent with images of bombed out churches and shell craters lining the roads traveled by Supf's comrades.[55] In a stark contrast to the Sanke images, a photograph captured by Supf shows the men of his unit bathing naked in a nearby river. Yet, by the album's fifth page, the dark reality of the war's cost is made readily apparent. The page is dominated by images of smashed buildings, wrecked equipment, and fittingly, the fresh graves of German soldiers, each marked with a makeshift wooden headstone and covered by raised mounds of dirt.[56] The following pages show marshy landscapes of recently bombed out trench positions, newly established airfields, and what appears to be a captured enemy aircraft. Interspersed throughout, remain the images of Supf's friends and fellow officers, captured in their day to day experiences.[57]

The composition of Supf's photographs speaks to a different discourse regarding the realities of war. They are in direct opposition to those of Sanke's war postcards. Each shot is either candid or candidly posed. Supf and his comrades stand close to one another; they smile; they lock arms with one another. Posed photographs almost universally include pairs of men, likely pilot and observer, rather than a single stoic figure.[58] They are almost always in their flying kit, rather than their dress uniforms. Helmets, heavy gloves, goggles, and fur lined jumpers create a dramatically different narrative: one of

[55] Ibid.
[56] Ibid.
[57] Ibid.
[58] Ibid.

fragile bodies tackling an impossible task. Each of Supf's images reveals information, and deserves a close analysis of the embedded messages within. When placed in conversation with each other, through the composition of an album, a remarkably complete narrative emerges: one that details the pseudo-schizophrenic nature of the experiences of Supf and his comrades. The album is a fascinating blend of the mundane and macabre. Christmas parties, social events, photographs of the squadron's large, lumbering reconnaissance aircraft sitting on the field awaiting take off, fill Supf's pages. Placed in conversation with those photos are images of death: crashed aircraft, bombed out buildings, and funerals for Supf's compatriots. Their placement in close proximity, often on the same page, elucidates much about Supf's mentality.[59]

The album serves both as a method of documenting the war through Supf's eyes and also as a means of constructing memory. Accompanying these images are hundreds of lines of marginalia, detailing who is in which photograph, what was happening at the time the photo was snapped. The album also designates who has died since the respective image was captured. Supf details these deaths with an ornate cross in the marginalia, usually with an accompanying date. The album is clearly meant for personal consumption, the product of Supf crafting his narrative of the war, documenting his experiences, and his personal losses, which makes the mid-point of the album all the more extraordinary. It is here that we find the intersection of the lived realities of the war's aerial operations and the Romantic notions provided by Sanke's postcards. At the mid-point of the album, around October 1916, Supf creates several pages of large

[59] Ibid.

photographs drawn from Boelcke's funeral. These images are iconic, and are all reproductions taken from his funeral and republished by Sanke for purchase by the German public.[60] These images included a reproduction of Boelcke's studio portraits as well as several photographs taken at this funeral.

Two points make this part of the album significant. First is the utter lack of any marginalia from Supf, save for a short note under first photo of Boelcke, which features a brief biographical caption that reads, in part, "Oswald Boelcke: Killed, 28 Oct 1916… 40 victories."[61] The first page of funeral photographs show Boelcke standing, hands on hips, gazing into the distance, with his *Pour le Mérite* proudly displayed on his dress uniform. The next photo shows the litany of medals he won, carefully arranged for display at his funeral. The next several pages are entirely blank, filled only with the postcard images of Boelcke's lavish burial. It infers that the viewer of the album, Supf and his comrades, need no explanation. The deaths of individual comrades, which came at an alarming rate, began to blur together, requiring intricate note taking. The memory of Boelcke's death, though, is seared into their collective consciousness. A second notable detail is Supf's editing of the Sanke cards. Each one is cut irregularly, by hand, and removes the card's trademark and notations from the margins of the image. Supf's actions here denote a desire to personalize the postcards to match his personal photographs. Following Boelcke's funeral, the album resumes apace - replete with marginalia and the same unsettling construction where *Alltagsgeschichte* and death are synonymous. It is

[60] A further discussion of the multiplicity of the types of memorials constructed for pilots will be discussed later in my dissertation.
[61] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich..

significant then, that no other fighter pilot, no other *Fliegerheld*, appears in Supf's album, which terminates in late 1917, well after the rise of Boelcke's successor, Manfred von Richthofen.[62]

Supf's album concludes with a few photographs of his commanding officer training a recruit in the techniques of artillery ranging, the next major technological innovation to sweep aerial observation units. The images show the unusual methods used to train observers in directing ground fire onto a designated target through the use of a wireless transmitter. Sitting high atop a ladder is the observer, who wears a radio headset and sits with a telegraph device, from which a long strand of wires descends to a wood table, reminiscent of a diorama. The table features a small model artillery gun and a set of enemy trenches, replete with a bombed out landscape. Sitting beneath him is the squadron's commanding officer, also wearing a headset and manning the model artillery gun. It is clear from this photo that training involved an observer, looking over the board from above, would wire in the coordinates needed to hit his target. His commanding officer would then send a volley of fire and see if he was correct. It is perhaps fitting that the album – for reasons we are not privy to – ends here, as photographic work gave way to burdening the observer with yet another new piece of equipment to learn, this time, one far more complicated than his machine gun camera.

Supf's album also problematizes the notion that reconnaissance pilots held a certain disdain for their *Kampfflieger* comrades. Combat pilots serving in *Jasta* squadrons hunted in packs and embodied a group mentality that did not sit well with some German

[62] Ibid.

aviators. Some observation crews in particular found hunting pack mentality distasteful. Hans Schröder, a reconnaissance observer, referred to *Jastas* as the "level of the masses," and called the groups a "mass institution."[63] Schröder's comments are telling. They demonstrate differences and delineations of understanding on what an aviator's ultimate responsibility was. At the time of Schröder's comments, mid-1916, Aerial warfare had yet to be fully industrialized - that was to come. But even at this early point, some like Schröder viewed his work as one of the last bastions of nobility in war.[64] Yet Boelcke, the very architect of the *Jasta* system, transcends this sentiment for Peter Supf. Again, this suggests that Boelcke resonated on an intensely personal level.[65]

Yet Supf's album, as well as his personalizing of Boelcke's Sanke images, demonstrates that he viewed Boelcke not only on a national level - the kind described by Peter Fritzsche in *A Nation of Fliers* - but also as a deeply personal figure. The album's composition reads like that of a family scrapbook, filled with memories of happier times, of fallen comrades remembered. But the omission of any other famous aviators suggests that Boelcke alone resonated with Supf. The popular slogan of the time: "I want to be a Boelcke" spoke to Supf and the men of FA-286.[66] Boelcke's appearance, seen first as an anomaly in Supf's album, sits comfortably with the close sense of camaraderie demonstrated throughout the rest of the alum. Supf and his comrades enjoy card games, cigars, and rowdy Christmas parties. One of Supf's comrades is photographed swimming while wearing only his uniform hat at a jaunty angle. [67] They also pose for individual

[63] Fritzsche, 91.
[64] Ibid.
[65] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich..
[66] Wohl, 222.
[67] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich..

portraits, albeit of a different type than the rigid Sanke images. Other images are classically Romantic, featuring squadron aircraft taking off in early morning skies - with heavy, somber cloud cover flanking the background. Other images feature fellow pilots flying over near Heimat type scenes of rolling countryside, forests, and streams.[68]

Destruction also dominates the themes seen in Supf's album. Bombed out ruins, crashed aircraft, burning wreckage, and a long, almost unending string of squadron funerals, litter the album throughout. It is here that photography and Benjamin's post-war thoughts intersect. Modernity, as experienced by Supf and his fellow aviators consisted of a series of "shock experiences."[69] It is not difficult to extrapolate Benjamin's philosophy and apply them to Supf's own constructed memories of the war. These series of "shocks," of death, destruction, and dismemberment, sit with an unnerving ease alongside the mundane experiences of the everyday. Included too, are images of a fellow comrade whose face is horribly disfigured from frostbite burns, suffered at altitude while operating one of Oskar Messter's machine gun cameras.

Finally, death is, not surprisingly, an important and recurring theme in Supf's album. These funerals, captured by Supf's camera demonstrate a vast difference between the services afforded famous fighter pilots and their observation unit comrades. Rather than a massive state funeral, Supf's photos show small honor guards, relatively simple wooden caskets, and plain grave sites: sometimes marked with a propeller headstone. While stationed at the same location on the Western Front, a nearby graveyard served as the squadron's memorial site, and additional graves appear over the course of the album,

[68] Ibid.
[69] Magilow, 15.

as one plot grew into a half dozen, and then more. The men killed in Supf's unit do not feature in Sanke's ornate "*Flieger-Helden*" postcards. Their title is never elevated from "successful" to "heroic." Their deaths, suffered through gunshot wounds, horrific burns, or the terrifying end of crashing into the ground with no parachute from ten thousand feet, are not romanticized like their *Jasta* counterparts.

Identity and Experience in Observation Units

As witnessed at the end of Supf's album, the burden endured by observation units only increased as the war progressed, and that burden found multiple forms of expression. Supf's albums, with his intricate marginalia, and his insistence of photographing each funeral and memorializing his comrades, were one method. Another came in the form of material and ephemera generated by these units in the form of squadron newsletters, Christmas postcards, and even cartoons. One such example comes from FEA 5, a reconnaissance unit serving on the Western Front, and their publication of a Christmas newsletter entitled *Weihnachten 1916*.[70]

The air war had transformed by the end of 1916. Both Immelmann and Boelcke, the embodiment of the successful, even invincible Germanic air hero, were dead. Technologically, the war of late 1916 bore little resemblance to the world known by the conflict's aviators a year before. Fragile scout aircraft, notably the infamous Fokker *Eindecker*, had been replaced with faster, more lethal scouts.[71] The lives of Germany's

[70] Unknown Author, "Weihnachten 1916: FEA 5." Microfilm, Finding Aid: PH-19 / 18, Freiburg: Bundesarchiv Militärarchiv.
[71] The Eindecker, Fokker's early monoplane fighter and the first to feature the ability to fire through the propeller arc, was responsible for what the British labeled "The Fokker Scourge" of 1915. A period so terrifying for British airmen that they simply ran form anything that resembled the German scout.

observation crews were under ever-greater threat, as their lumbering two-seat machines remained almost stagnant in their development. Adorning the inside cover page is an exhausted reconnaissance pilot or observer, asleep in his flying gear, on the wing of one of his machines.[72] A bird sits atop his helmet and the machine sits askew from a recent crash. The propeller is broken and the landing gear is flattened against the underside of the fuselage. The aviator is in no hurry to rush home; around him is deep snow, which also blankets the upper wing of his aircraft.[73]

The pages of this Christmas newsletter are fascinating insights into the experiences and mentalities of the unit's airmen. One page features, in the author's handwriting and bordered with an ornate illustration, the story of the *Fliegerlied*, or "flier's life."[74] The next page shows an illustration of an officer holding his men hostage with marionette strings. The men at the end of his tethers look exhausted as he yanks them erratically across the page. Another illustration makes light of an over-zealous Hauptmann who, in one frame raises his hand to the heavens, and the next shows him rubbing the back of his neck with embarrassment at the site of his crashed machine, which appears to have rolled over on landing. Yet another image shows a giant officer looking down on his machines being repaired by a small army of mechanics.

The most telling image, however, arrives on page eleven of the FEA 5 newsletter. Figure 2 features an image of two airmen with the caption: "*Der Beobachter*: '*Einst und*

[72] Unknown Author, "Weihnachten 1916: FEA 5." Microfilm, Finding Aid: PH-19 / 18, Freiburg: Bundesarchiv Militärarchiv.
[73] Unknown Author, "Weihnachten 1916: FEA 5." Microfilm, Finding Aid: PH-19 / 18, Freiburg: Bundesarchiv Militärarchiv.
[74] Ibid.

Jetzt;' Vor und Nach September 1916."[75]



Figure 2. "Weihnachten 1916: FEA 5." Source: PH-19/18, Bundesarchiv Freiburg.

Featured on the left frame is an aviator, either pilot or observer, embodying the perceived experiences of fliers of the time. He is wearing a uniform hat with a neat pair of goggles. An impish grin emanates from his face, while his eyes are obscured by his uniform hat. He wears a lightly lined fur coat and cavalry riding paints. His uniform includes a riding crop, riding boots, and even Western style spurs. He embodies the nineteenth century, aristocratic notion of aviation as analogous to horsemanship. The notion persisted, especially amongst older members of the General Staff, that one's ability to control a horse would translate to the mastery needed to control an airplane.

[75] Translation note: The Observer: "Then and Now," Before and after September 1916.

The image on the right frame tells a far different story. Here we see an exhausted observer on the verge of collapse. His uniform has transformed from the neat riding clothes of his predecessor to a heavier, far bulkier flying suit. The lining is clearly much thicker, to keep him warm at the far higher altitudes traveled by late 1916. His eyes are heavy and laden with deep ridges and bags. He is smoking a cigarette to calm his nerves. Most telling, however, is the utterly massive load of technology he now carries. While his pre-September 1916 comrade travels with only a riding crop and a grin, the new observer buckles from the weight of two machine guns, bombs, binoculars, maps, his machine gun camera, his helmet, additional coat, heavy scarf, and a wireless transmitter. Thus, the strain, rather than the perceived empowerment of technological evolution weighs heavily on the FEA 5 observer. His sleeping comrade on the first page then, resonates on a far deeper and more human level than his Sanke counterparts. These men are exhausted, overburdened, and overworked; and, at least in most of the popular ephemera produced during the period, ignored.[76]

Conclusion

The intersection of two technologies, the camera and the airplane, influenced the development, acceptance, and importance of both. The camera provided greater legitimacy and impetus for the development of aviation technology as a weapon of war. The complex trenches of the Western Front were suddenly rendered "knowable" by the general staff with a degree of detail and fidelity far greater than anything imagined before

[76] Unknown Author, "Weihnachten 1916: FEA 5." Microfilm, Finding Aid: PH-19 / 18, Freiburg: Bundesarchiv Militärarchiv.

the war. Further, the camera served the personal and private needs of aviators: candid snapshots captured on the ground, romantic images of aircraft taking off into brilliant sunrise landscapes, and memorial photographs of death, dismemberment, and loss, provided an outlet for expression by air crews during the war. In doing so, they created a cache of sources that provides intimate insight into the everyday lives of fliers.

Technology's ruthless evolution gave rise to the *Fliegerhelden* so popularized by Sanke's publishing house. The single seat fighter, designed to destroy enemy reconnaissance aircraft, created the combat pilot, and his subsequent popularization. Perhaps the fighter pilot grew in popularity not only for his aggressively offensive stance, but also because his skill set, that of singularly commanding an airplane, resonated with a generation of Germans who admired cavalrymen. But the same technology that empowered the *Kampfflieger* served only to overburden the observer, as seen in both photographs and illustrations from the men who served in those roles.

A close reading of these sources provides insight into a narrative long overlooked by historians. Aviators held no singular identity. They were "technologically capable and ruthlessly chauvinistic,"[77] but they also embodied a host of other identities. When posed for Sanke postcards, they were rigidly embodied the noble traits of being "German" warriors: exhibiting a dedication to duty and a calm control over their emotions that would ultimately elevate them to *Helden* upon their death. They operated within a duality of public and private gender performance: standing stoically for public acclaim, and reliving the comfort of elite university fraternity culture in private. Personal photographs

[77] Fritzsche, 100.

show the value of close friendships, elucidate the impact of loss, both on a national and deeply personal level, and of the daily lived experiences of men tasked with photographing the Western Front. Even in death, the men of these observation crews experienced a delineation of memory, with funerals that appeared paltry when compared with German "heroes" like Boelcke, but far more ornate, even personal, than those given for their comrades serving in the trenches.[78]

As the war progressed, the role of the observer evolved and incorporated every more technological innovations. Rather than releasing him from the burden of war, these new tools only increased the strain on his everyday experiences over the Western Front. Here, images illustrate both the pressure placed on observation crews, and fatigue they felt by the end of 1916. The end of Supf's album also denotes the devaluation of one mode of warfare, that of gathering intelligence, and another, that of directing artillery fire on enemy positions. With the increased capabilities of aircraft by the mid-point of the war, observation crews would transition from relatively passive experiences of violence in the air, to far more direct involvement in the killing of men below. Here too, aviation would act as a disruptive force in the human relationship with killing, and created new spaces of privilege within the realm of violence.

[78] If such funerals were ever given at all. Many of those killed during the war on the ground were given mass graves, or were forever lost when their bodies disappeared into the quagmire of the Western Front.

CHAPTER THREE: PRIVILEGED KILLERS

Introduction

Aviation had been a perilous occupation from its inception. The same machine that lifted Paul Emil Engelhard into the skies above Johannisthal airfield in 1910 would ultimately kill him a year later.[1] The alarming frequency with which airplanes crashed during the first decades of the twentieth century was reflected even in satirical newspaper cartoons. One illustration from the period of pre-war flight portrayed the hazards that aviation posed to the public. The image depicted the tumbling remnants of a broken aircraft falling to earth; the caption reading, "There are three sorts of falls: The fall of the aviator (rare). The fall of the airplane (very rare). The fall of everything (much more frequent)."[2] Pre-war air shows across Europe drew capacity crowds, but often ended in tragedy with the death of aviators and spectators alike when aircraft failed and crashed to the ground.[3] The outbreak of war in 1914, however, fundamentally changed aerial violence. For the most part, the airplane no longer killed and maimed by accident or mechanical fault; aircraft became weaponized to suit the needs of the army. The resulting machines, designed to directly and indirectly inflict violence, shaped new and complex understandings of killing for Germany's aviators and created a new relationship between the flier and the brutality of war.[4]

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[1] Photo, Bild 146-1972-026-35, Bundesarchiv, Berlin.
[2] Illustration as cited in Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* (New Haven: Yale University Press, 1994), 134.
[3] One particularly horrific incident occurred in France, when at the start of the Paris-Madrid race in 1911, one aircraft lost control and crashed into a crowd of dignitaries, killing the French Minister of War. The event was captured on film and screened across France. See Robert Wohl, *A Passion for Wings*, 276.
[4] For more on placing violence in a more direct historical context, see: Stéphane Audoin-Rouzeau and Anette Becker, *14-18: Understanding the Great War* (New York: Hill and Wang, 2002).

This chapter examines the ways in which aviation formed new relationships with violence, the perspectives that aviators developed towards violence, and how military rhetoric contributed to that perspective. To best understand the new relationships to violence that aviation created, we must approach the question from the perspective of privilege. For the purposes of this chapter, privilege is the special right, or choice, to either engage or not engage with something, in this case, killing. We must also examine the ways aviators cultivated and reinforced this sense of privilege, and how the discourse around them served only to strengthen this narrative.

To access the question of violence in aviation, we must explore how killing was fundamentally embedded in the way aviators interacted with and experienced killing during the First World War. This relationship between flier and killing was expressed in four key ways. First, aviators cultivated a personal perspective on killing and violence, and viewed powered flight itself as an inherently violent undertaking. Second, aviators often exercised the willful choice to simply ignore their acts of killing and constructed both an explicit and an implicit discourse to do so. Third, fliers treated those they killed in a privileged manner which placed violence into a discourse that was distinct from the killing on the ground. Within this act, the role of official rhetoric and the formation of systems of knowledge cemented this narrative as legitimate. Finally, we will examine the ways aviators were treated after being killed, and how that treatment was both starkly different from their comrades in the trenches, and an expression of remarkable privilege in the middle of a war that took the lives of millions.

Militarized aerial violence placed aviators in a novel space during the First World War. The act of killing in the air could embody a wide spectrum of encounters that

ranged from the abstract to the intensely personal. Violence in the air took many forms, from gathering intelligence that led ground commanders to launch assaults on hostile troops, to opening fire on enemy aviators and killing them, leaving their machines to plummet to the ground in a horrific fashion. Such disparate experiences were the result of several interconnected circumstances, including the proximity of the aviator to the killing that took place, and how much of the violent act could be seen from his vantage point while moving rapidly through the air. This novel space of killing extended to the experiences aviators had on the ground, and only served to reinforce a sense of unique privilege. Upon landing, an aviator could elect whether to visit the crash site of his victim to inspect the efficacy of his aerial gunnery.[5] Aviators also found themselves enmeshed in a new system of knowledge that quantified violence in abstract statistical terms that further amplified their privileged relationship to killing. That system also sought to incentivize further killing through official and popular means, through the rewarding of medals, silver goblets, and the growing attention of popular acclaim.

This sense of privilege was reinforced by the fact that violence in the air was systemically different from the experience of killing on the ground. While the defining weapon of trench warfare, the machine gun, was adapted for use in the air, the nature of aerial violence, that of firing at moving objects at high speed, created a distinct kind of killing. The physical and mechanical challenge of firing these weapons at moving objects

[5] It was fairly common practice on the German side of the lines to investigate reported crash sites to verify kill claims made by their pilots. For more information about this system, see Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service, and Flanders Marine Corps: 1914-1918* (London: Grub Street, 1993). As will be examined later in this chapter, some pilots willingly chose to land their aircraft at the site of the demise of their victims. The famous fighter pilot, Manfred von Richthofen, often chose to land and collect souvenirs of his violent handiwork. Aviation designer, Antony Fokker, posed for publicity photos next to mangled enemy wrecks.

which often obscured the body inside, could create the visual evident to complete the rationalized illusion that one was not so much killing a human being as destroying a machine; a reasoning that was only reinforced by the official discourse of military aviation. Killing, however, could also be experienced on an intensely visceral level. First World War era machine guns were incredibly inaccurate weapons, which often necessitated placing dozens of them to cover relatively limited areas of the Front. This inaccuracy forced pilots to open fire at extraordinarily close quarters in the air - often at distances of less than thirty feet from their opponents. Compounding the difficulties of inaccurate fire, the placement of these weapons were often awkward and cumbersome to use. In order to accommodate the mechanical limitations of bi-wing aircraft and the equipment needed to perform their assigned duties, multi-seat machines were often defended by an observer who was left to stand in his seat to reach his weapon.[6]

These technical details, which have long been examined by flight enthusiasts and historians of aviation's mechanical development, reveal the driving reason why so many aviators experienced violence in dramatically different ways. The physical and mechanical challenge of inflicting violence in the air meant that some aviators were incredibly close to the men they killed, and the bloody and horrific effects often contradicted the official narrative of destroying enemy aircraft rather than killing men. It is within this spectrum of killing, either directly at the end of a machine gun or indirectly through a multitude of other mediums, that we find a range of unexamined reactions to killing, which are often contradictory. Rudolf Berthold, for example, used intense

[6] An early German observation plane, the Aviatik CI, was retrofitted with defensive machine guns, forcing the observer, who sat in front of the pilot, to fire his machine gun directly past his pilot's head.

violence to make sense of the personal tragedy of the loss of a close friend and comrade. Following his friend's death Berthold viewed the act of destroying a French airplane, any French airplane, as a personal vendetta which directly vindicated the loss of his friend and observer.[7] Yet, Berthold also refused to visit the site of his fallen adversary's wrecked airplane, choosing instead to remain on base while his fellow airmen and mechanics drove out to inspect the damage. Violence then, was experienced from a multitude of privileged perspectives in the air and on the ground.

The diverse range of responses to killing in the air reflect important aspects about the First World War's aerial component. Aerial violence was a complex and dynamic experience that changed rapidly over time due to technological change and strategic evolution. Violence embodied a wide range of meanings as aircraft rapidly evolved from pre-war civilian machines to purpose-built fighter planes whose sole mission was the destruction of enemy airplanes. The precarious nature of powered flight in the early twentieth century meant that aviators were constantly exposed to the risk of mechanical failure and accident. In an era where aircraft were inherently dangerous, any crash meant almost certain death or dismemberment for an aviator. This embedded the flier within a discourse of violence from takeoff to landing, with actual combat representing another, albeit heightened experience within a spectrum of violence. This dynamic experience led aviators to frame violence in a variety of ways. While Berthold might have eschewed viewing his victims, Manfred von Richthofen openly relished the act of killing, and embedded his description of aerial violence within the discourse of wild game hunting.

[7] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 40.

He often landed to observe the results of his marksmanship on the mangled wreckage and twisted corpses of the enemies he shot down.[8]

Aviators, however, performed a range of missions beyond aerial combat. As the duties of Germany's aviators evolved over time, so too did their relationship to violence. Throughout the war, the majority of Germany's aircraft were observation planes, not fighter scouts. These airmen were tasked with directly aiding the war on the ground and, as such, violence between the air and the ground encompassed a range of activities that inflicted suffering through both direct and indirect means. Aerial observation, the passive act of reconnoitering enemy positions and relaying intelligence back to the commanders on the ground, resulted in the deaths of enemy soldiers from counterattack. As the war progressed, aerial reconnaissance expanded to include detailed the photographic mapping of enemy fortifications which provided even more detailed information when planning an offensive. Still further, the development of radio transmitters soon allowed observers to directly range artillery fire on ground troops. A single observer who successfully guided hundreds of artillery pieces behind the lines could kill more soldiers in a single strike than all of the men that Germany's fighter pilots could shoot out of the skies during the First World War.

These delineations of experience within a spectrum of violence highlights the way in which killing was privileged by and for aviators. The very act of killing and being killed, a horrific event that sometimes transpired tens of thousands of times a day, was elevated to a privileged experience for fliers. Air services went to extraordinary lengths to

[8] Manfred von Richthofen, *Der rote Kampfflieger* (Berlin: Verlag Ullstein & Company, 1917), 141.

recover lost fliers, filing detailed reports when they successfully recovered a dead pilot. Upon retrieving their fallen fliers, German squadrons often held elaborate funerals never afforded to those on the ground. Even enemy combatants were treated in a similarly privileged manner to German fliers. These practices only strengthened the sense of aviators as representing a distinct and entitled class of combatant. Additionally, aviators were housed in significantly better quarters than regular infantry, and away from the front lines of the war, which further reinforcing this sense of special identity. In short, every experience an aviator had, from their quarters to their daily activities to the attention lauded on them through the act of killing their enemies, all formed a concrete sense of inhabiting a privileged and entitled space.

The systems of information gathering, synthesizing, and analysis that grew around aviators, used to quantify and track their activities in the air, created an intellectual ecosystem that reinforced this identity. The German military responded to the disruptive force of aviation by developing complex metrics that systemized the acquisition of knowledge and translated aerial violence into statistical analysis. Reports detailed weapons tests and measured the destructive capabilities of a range of handheld and, later, wing-mounted bombs. Experiments were also carried out in the destructive use of hand grenades tossed from low-flying infantry attack planes. Germany's aviation industry responded to the needs of not only the military, but in some cases, the specific demands of its fliers, by creating purpose-built machines designed with these new and horrific tasks specifically in mind. The results created nimble fighter planes designed for dogfighting and, in the cases of multi-seat machines, moved the observer from ranging

artillery from thousands of meters up to personally firing on passing troops from extraordinarily low altitude and exposing himself to great personal risk.

As the war in the air progressed, however, German commanders' growing fascination with the destruction of enemy aircraft moved the importance of aerial activity on ground operations to the background as the exploits of its fighter pilots gained ever more attention. The spoils system which subsequently developed early in the war, that of rewarding aviators for destroying aircraft rather than photographing or bombing troops, only served to reinforce a myopic view of aerial operations and encouraged aviators to become fighter pilots. The resulting arms race between German aviation firms and their adversaries created ever more capable aircraft. And as single seat fighters came to dominate the aerial battles in the skies over the Western Front, the German military's obsession with counting the victories of its pilots and rewarding the most prodigious of its "hunting squadrons" created a system more concerned with shooting down enemy planes rather than winning the war. Aerial violence then, elucidates the social and cultural conceptions of killing in the air and on the ground, and illustrates both the remarkably disruptive nature of aviation in war, and the ways Germany's military figures and industrial designers responded to that disruption.

Finally, the language of violence further enmeshed aviators into a space of privileged suffering and killing. In German, the broad term for violence, *Gewalt*, is defined as "a storm; power; the ability to project force or power."[9] Violence then, included not only the direct infliction of physical suffering on another, but also the

[9] Gerhart Streitberg, ed, *Duden: Stilwörterbuch der deutschen Sprache* (Mannheim: Bibliographisches Institut, 1963), 256.

projection, imposition, and threat of force on another.[10] In doing so, *Gewalt* represented the anxiety of being a victim of that force as well as possessing the ability to impose power. Violence encompassed the myriad of manifestations in the air. This definition of violence was technologically driven, positionally experienced, and expressed by the power to directly or indirectly inflict suffering, as well as the threat of suffering, which in powered flight was viewed as inherent and perpetual. From the moment they left the ground, aviators faced a struggle against gravity, the corporal suffering of dangerously cold temperatures and high winds against exposed skin in open cockpit aircraft, the psychological threat of suffering violence from their enemies, and the visceral horrors of killing or being killed in the air. The experience of suffering shaped their views on violence and created an elevated and sense of privilege and purpose as the war progressed and grew increasingly violent over time.

Accessing Violence in the Air

Stéphane Audoin-Rouzeau and Anette Becker reminds us that a history of, "the violence of war inevitably takes us back to the history of the body. In war, bodies strike each other, suffer and inflict suffering."[11] While research on the subject of killing, destruction, and suffering has produced an immense body of literature in the last fifteen years, the subject remains underdeveloped within the history of aviation during the

[10] German aviators used other terms for violence in the air. The grammar of aerial fighting included terms like *schießen* (to shoot), *Jagd* (to hunt), *töten* (to kill), and *zerstören* (to destroy). *Gewalt*, however, encompasses a breadth of experiences expressed in the writing of German aviators. Rudolf Berthold, for example, describes his horrific crash in 1918 by using *Gewalt* to express the force of the impact he experienced after he was shot down.

[11] Stéphane Audoin-Rouzeau and Anette Becker, *14-18 Understanding the Great War* (New York: Hill and Wang, 2002), 15.

period.[12] From the struggle of the pilot against the unyielding laws of physics, to the exchange of gunfire in the air which did more than break wings, engines, and wires, but shattered bone, pierced flesh, and inflicted immense suffering; powered flight was viewed as a fundamentally violent and dangerous endeavor.

Sources on aerial violence, however, present challenges to historians who attempt to access the experience of aviators during the conflict. For this chapter, I will make use of a small but diverse range of source material. Personal photo albums, like the one produced by Peter Supf provide glimpses into the ways in which violence was experienced by German observation and bombing crews – those men who were not actively looking to inflict violence on other aircraft. Personal diaries, like the one kept by Rudolf Berthold, reveal extraordinary insight into the mentality of an aviator transitioning between the role of observation pilot to fighter pilot, and his words, kept only for himself to make sense of the war, allows us to access a private discourse on violence and its manifestations during the war. I also use one of the most famous sources from the German experience in the war, that of Manfred von Richthofen's published autobiography. Richthofen's words, while not private in any way, give us the perspective of what aviators – and military personnel in general – *wanted* us to see in regards to violence in the air. Even within this public discourse, we find the ways in which aerial violence could embody everything from a transformative experience to a harsh reality of war. Lastly, I incorporate other ephemera, such as newspaper accounts of flight, to look

[12] For more recent contributions to this field, see Alan Kramer, *Dynamic of Destruction: Culture and Mass Killing in the First World War* (Oxford: Oxford University Press, 2007).

closely at the language of aviation during this early period, and to locate the ways in which violence could be expressed literally.

It is important to note, that in accessing violence in the air, we must keep both the physicality of flight and the physical relation of the body to violence while airborne in mind. Thus, both the kind of violence experienced, as well as its intensity, were directly related to where one was both in the air, and in the machine one flew in. The majority of machines flown during the First World War were multi-seat aircraft, with each individual on board assigned a specific task.[13] The pilot, of course, operated the aircraft and kept the crew aloft.[14] The observer, or observers, depending on the size of the machine, faced multiple tasks that grew in complexity as the war progressed.[15] Their most important role was protecting their machine from attack, usually with a mounted machine gun.[16] Their secondary role was observing the enemy, either through note taking or by photographing activity on the ground. As the war progressed, observers would also be tasked with ranging artillery through the use of wireless telegraphic equipment.[17] Finally, observers

[13] Aviation history has done little service to the multitudes who served in multi-seat aircraft roles. The exploits of single-seat fighter squadrons and the experiences of men like Manfred von Richthofen have received considerable historical and popular attention, while multi-seat crews have been all but ignored in the historiography of the First World War's aerial component.

[14] The command structure of the *Fliegertruppe* often placed the ranking officer in the position of observer, rather than pilot. Consequently, the pilot was ordered where to go by the observer, creating the notion that pilots were little more than "chauffeurs" for officers in the air. Manfred von Richthofen mentions this in his autobiography. See, Manfred von Richthofen, *Der rote Kampfflieger* (Berlin: Verlag Ullstein & Company, 1917)

[15] As cited in Chapter 2, FEA5 published a cartoon in Christmas of 1916 that depicted the overwhelmed observer who was weighed down by the numerous pieces of technology now required to perform his duties.

[16] By the advent of the fighter plane in 1915, few if any multi-seat reconnaissance machines engaged in offensive attacks in the air.

[17] Neumann notes that aerial observation crews, by the latter half of the war, engaged in artillery spotting in three ways: "directing fire at targets agreed on before the flight; at targets the observer has picked up during the flight and indicated to the artillery for instantaneous engagement; and, finally, the control of drum fire (preparatory barrage, box barrage, creeping barrage, etc.). See Georg Neumann, *Die Deutschen Luftstreiträfte im Weltkriege* (Berlin: E.S. Mittler und Sohn, 1920).

would bomb the enemy, first by dropping small, hand held bombs from the side of their machine and, later in the war, by releasing larger bombs attached to the wings of their aircraft.

Thus, the role of the aviator influenced the proximity and intensity of his experience of violence in the air which defined his view of killing. The pilot in multi-seat machines often had no weapon to fire.[18] His role was to position his machine in such a manner that his observer could fire at their assailant.[19] For a pilot, then, the inflicting of suffering on his enemy happened through the medium of his observer. The pilot was a witness to violence in this instance, and in many cases, did not see the downing of his observer's target. The pilot, however, was still under the same shared threat of violence as his observer when under attack from an enemy aircraft. The observer, too, experienced violence in a positional manner. He might view killing quite personally when firing his machine gun at an attacking aircraft.[20] When ranging artillery, the observer could inflict suffering on hundreds, or potentially thousands of troops on the ground, without ever

[18] Later machines would introduce a fixed, forward-firing machine gun. The pilot of large, multi-seat machines, however, would rarely be in a position to fire his weapon and still relied on his observer for the bulk of the plane's defensive fire.

[19] An important note about the complex physics involved in this scenario. Firing at a moving object in the air is an inherently difficult task, as the shooter has to range his target - based not on where it is at the time he fires his weapon - but on where the target will be by the time his bullets reach the target area. This skill was described by aviators as "lead shooting." Complicating this task, the observer is firing, not from a fixed stationary platform at a moving target, but rather from a moving platform that is oscillating in three dimension of space. The observer is also not in control of the movement of this platform, and must rely on his pilot to position the aircraft in such a manner that he can fire with a relative degree of confidence on where his rounds will travel. With limited ammunition, the observer's task, that of protecting a heavy, slow, and vulnerable machine while firing from a moving platform, is immense. Understanding this task is not just important to understand the military history of First World War aviation. Rather, it is vital to elucidating the everyday, lived realities of these individuals, and how those experiences influenced their identities, memories, mourning practices, and later, their comprehension of Germany's defeat in the conflict.

[20] This killing, if successful, was of course, defensive in nature, further distancing his involvement in the death of his assailant.

being directly involved in their deaths.[21] When dropping handheld bombs from lower altitude, the observer would have a more involved role in inflicting violence, even if such violence was less direct than when firing his machine gun at an enemy attacker in the air.

The pilot of single-seat fighter aircraft, however, had a very different relationship to violence from his comrades in multi-seat machines. The spatial arrangement of the single seat fighter, that of placing the individual, the machine gun, and the aircraft in a linear alignment, created a direct and visceral relationship with violence. Unlike the pilot of the multi-seat aircraft, the flier of a single-seat machine also operated the primary weapon and was required to be utterly self-reliant.[22] He also differed from his multi-seat counterpart in that he used his controls to position himself, rather than his observer, into a firing position to kill his enemy. Thus, the relationship between aviator and killing transformed from a positional experience - that of providing a stable gun platform for an observer to open fire - to a direct experience, that of moving his body, machine, and weapon in unison to perform the act of killing.[23]

The experience of a fighter pilot then, was intensely visceral. Success in combat required positioning one's body, machine, and weapon dangerously close to one's enemy,

[21] Visual proximity to those enduring suffering is ultimately what defines the positional role of violence in the air. Ranging artillery from thousands of feet in the air was an abstract experience. Observers could see shells impacting trenches and shattering earth, but likely not see the bodies beneath the cloud of smoke and debris being destroyed. By comparison, the close proximity of firing distances in the air often meant that an observer would see his rounds hitting his assailant and possibly killing him.

[22] Georg Neumann, in his post-war examination of the German Luftstreitkräfte, commends the combat pilot has possessing all of the attributes of a talented observer with the tenacity and self-reliance needed to survive in the air. See, Georg Neumann, *Die Deutschen Luftstreitkräfte in Weltkriege* (Berlin: E.S. Mittler und Sohn, 1920).

[23] Weapons of this period also required aviators to engage at unprecedentedly close proximity to one another. Machine guns of the period could not fire accurately and were prone to jamming under stressful operating conditions. As a result, pilots had to place their machines dangerously close to their targets in order to direct fire on their opponents.

and seeing clearly through the propeller, the shattering of the enemy's machine and the physical destruction of his body. This new kind of violence created an extraordinary sense of agency for combat pilots, and heightened their sense of privilege as being a truly distinct type of warrior. The fighter plane and the *Kampfflieger* represented the culmination of aerial violence, and both its physicality and intensity resulted in a narrowly-expressed definition of violence; one that has remained unexpanded until now. To access these different forms of violence, we must first begin with the act of flight itself as a violent but transformative experience.

Perspectives on Violence and Killing in the Air

The experience of violence in flight took on many forms, from the struggle against gravity, to the terror of opening fire on another human being. The delineation of experiences formed multiple perspectives on violence and killing in the air. Beginning with the very act of flight, that of pushing against gravity and breaking one's bond with the earth, aviators viewed their task as a struggle. Failure to win the contest of flight, which incessantly sought to drag the airplane crashing back to earth, resulted in pain and suffering inflicted on the body. Early twentieth century aircraft were inherently dangerous, and provided the aviator with no protective means of surviving a crash.[24]

[24] Two primary factors contributed to the inherent danger in early twentieth-century flight. First, machines made during this period were constructed out of light, and therefore, structurally vulnerable materials. The forces of physics upon wings, support struts, and control surfaces could become excessive to the point where vital components of the machine would fail in flight. Wings collapsed, canvas fabric tore, and controls broke. Second, the power in early twentieth-century engines was exceedingly low. Aircraft motors, then, were heavy and underpowered, creating low quantities of the lift required for keeping a machine in flight. As a result, an aircraft's cruising and stall speeds were often perilously close to one another, leaving an aviator with little tolerance between flying and falling.

Control sticks could impale a pilot on impact.[25] The wood frame of the machine, designed solely for lightness, would shatter to splinters in a collision, leaving the aviator's body broken and mangled. Fire too, represented a constant risk, with the fuel tank often located under the pilot in order to balance the air frame. With no parachute, an aviator caught in a fire was left either to burn to death or leap helplessly from his machine, plummet to his demise, or take his own life with his issued sidearm. It was understood then, that an aviator would either return to earth by safely landing his machine, or he would likely not return at all.

Gewalt, broadly defined, could incorporate this variety of experiences within the realm of violence. When coupled with the physicality of early flight and the materials used to construct aircraft of the period, German aviators often viewed the very act of flying as an inherently violent experience. Early flight was a struggle for survival against the laws of physics rather than enemy fire. Underpowered, unreliable, and heavy engines strained to lift lightweight airframes and adventurous aviators aloft. The language used by those who experienced this type of flight was filled with the vocabulary of the visceral, the dangerous, and the exhilarating. Violence in early aviation then, came not from the direct threat of enemy gunfire or anti-aircraft shells hurled into the sky. Instead, violence was experienced in an indirect yet menacing fashion, framed around the potential for the occupants in an aircraft to die in an accident.[26] Much like the violence of war, this type of threat created both a sense of fear at the potential for harm to be

[25] Oswald Boelcke's death in October 1916, resulted from a collision with a flier in his own squadron. Boelcke's plane fell out of control and the famous German aviator died on impact. His flight controls crushed his ribs in the crash.
[26] For more on the discourse of pre-war aviation and the violence of flight, see Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination.* (New Haven: Yale University Press, 1994).

inflicted, but also a sense of elation in having escaped that danger afterwards. Surviving flight became a defining, even transformational experience in the process of becoming an aviator.

For military aviators, the dangers of flight represented a crucible for those who were determined to become combat fliers. Manfred von Richthofen recalled in his autobiography the experience of flight as intensely disconcerting and violent. After climbing aboard the two-seater machine, Richthofen recounts the force of the engine. "The wind from the propeller disturbed me enormously.[27] The sheer power of the wind generated by the machine, even while still rooted to the ground, left the future combat pilot at a loss. "Everything flew away from me. If I took a piece of paper out, it disappeared. My flying helmet slipped, my scarf loosened, my jacket as not buttoned tight enough - in short, I was miserable."[28] Once the plane was in motion, Richthofen's unease grew to outright fear. "Before I knew what was happening, the pilot got the engine up to full throttle and the machine began to roll. Always faster, ever faster. I hung on frantically. Suddenly the shock ceased, and the machine was in the air."[29] Richthofen's account is not that of a "natural aviator" suited to the shocks of flight. Instead, it is the narrative of a violent assault on the aircraft's occupant. Richthofen is blasted by wind, disoriented by the force of the machine, and miserable despite his best preparations. In this first passage, he has no agency, he is merely strapped into a machine that might kill him, and can only do his best to literally hang on.

[27] Manfred von Richthofen, *Der rote Kampfflieger*. (Berlin:Verlag Ullstein & Company, 1917), 45.
[28] Ibid.
[29] Ibid.

Richthofen, writing his account in 1917, frames his first flight as a transformative experience. Despite the brute force of aviation, and the violence that powered flight imposes on Richthofen's mind and body, his tone changes once he is airborne. At first he is still a disorientated observer, "We flew a bit straight, then my pilot turned around again, right, left, and I had lost my bearings over my own airfield. I had no idea where I was!"[30] Between this passage and the very next sentence, however, Richthofen becomes an aviator, and embraces the joys of flight. "I started to watch the area below me. The people are tiny, the houses like a child's toy, everything was so small and elegant… It was sublime to sail over everything. Who could have touched me? No one! I didn't care where I was, and I was quite sad when the pilot said he thought we had better land."[31]

By the time his machine sets back down on the earth, Richthofen depicts himself as having utterly changed during his time aloft. Despite the mechanical frailty of these early aircraft, Richthofen feels far more secure while aloft. "I would rather have gone flying again. I have never been troubled with vertigo in the air. Moreover, the celebrated American Ferris wheel is repulsive to me; one feels insecure in it. But in an airplane one has an absolute feeling of security; one sits as peacefully as in an easy chair."[32] Yet, he still notes the inherent tension between his internal confidence in flight and the visceral, physical sensation of instability in the air. "One does not become giddy in an airplane. But it is a damned nervous sensation to whistle through the air, especially as the airplane suddenly dips, when the engine stops, and there is a tremendous silence. I held on

[30] Ibid.
[31] Ibid.
[32] Ibid

frantically and, naturally, thought, 'you are going to crash.' But everything went along so naturally and simply… that the feeling of fear was completely absent… I counted the hours to the next flight."[33]

Military fliers were not the only individuals to view powered flight as a violent, transformative experience. Within the published account of German journalists like Georg Wegener, who wrote for the *Kölnische Zeitung*, we can access the language of flight as a violent, animalistic, and untamed experience. From the moment of his first encounter with the two-seat aircraft he flew in, Wegener described his experience in vivid, inherently tense and dangerous language. The machine, upon starting, "shuddered all over," and rattled Wegener "to his fingertips."[34] The aircraft, however, did more than shudder. For Wegener, the machine also shouted directly at him. The engine fitted to the airplane had no sound-deadening devices attached. Consequently, the motor ran at a pitch that Wegener described as "a wild roar."[35]

Wegener's piece again shows us the inherent tension within aviation between the feeling of fear and the necessity to suppress one's emotions. These experiences reflect the description given to us by Richthofen about his first flight. Even a relatively simple task such as warming up the aircraft's engine by opening its throttle could frighten the uninitiated. Wegener wrote anxiously that, "as if he [the aircraft] sensed my disrespect, he raised his voice… it was thunder! It was tremendous… the noise and power of a hundred lions."[36] While Wegener describes the aircraft as a wild, untamed machine, it is

[33] Richthofen, 45-46.
[34] Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination.* (Cambridge: Harvard University Press, 1992), 59.
[35] Ibid.
[36] Ibid.

the threat, the ominous presence of violence, that should be noted in his language. The machine sensed Wegener's disrespect and responded not with reassurance, but with malice. This experience reflects the immense sense of disorientation and confusion that Richthofen described while sitting in the passenger seat of his first flight. Takeoff too, was described in violent terms, with Wegener framing the image of flight as being like a "leopard hunting antelope," as the machine rumbled and bounced down the grass runway.[37]

Wegener's language gives us a glimpse into the perception of powered flight a century ago. The novelty of the new technology required Wegener in his role of journalist, to compose an account that related flight in animalistic terms to render a unique experience comprehensible to his audience.[38] Beneath the language of untamed and wild nature, however, is the implicit vocabulary of violence. At all times, Wegener is under threat from the very machine he is entrusting his safety to. The aircraft shudders, threatens the occupants with a thunderous roar, and mimics leopards hunting antelope as it bounces down the airfield before takeoff. Every part of the experience of powered flight, then, embodied a discourse of violence: shuddering, thundering, leaping, hunting. For someone like Wegener, who was new to flight, even the normal operation of an aircraft felt menacing and dangerous. At every stage of his experience, the threat of violence, the impending disaster that would result from a mechanical failure or pilot error was apparent. A crack in a wing, a snapped control wire, a failed engine, all could end in

[37] Ibid.
[38] In 1914 the overwhelming majority of Europeans had never flown, and many had never seen an aircraft in flight. As a result, they simply could not relate to the physical experience of flight. Here, I assert that Wegener is merely attempting to address his audience in a manner that makes the un-relatable, knowable.

death. The exhilaration described in Wegener's account, then, expresses elation at not only taking part in powered flight, but surviving it.

Thus, aviators lived between two inherent tension points in the realm of powered flight: that of cultivating their internal confidence in their ability as aviators while recognizing the inherent dangers in an undertaking that could, at any moment, render them utterly without agency. Aviation before and during the First World War as an inherently violent occupation. Despite being the pinnacle of aeronautical design and built with the finest known materials of the day, aircraft in this period were inherently dangerous machines that were prone to technical and mechanical failure. Such failures often led to fatal crashes. For observers like Georg Wegener, who experienced flight as a journalist and not a combat pilot, aviation was a wild, dangerous, and violent experience. Surviving powered flight elicited feelings of elation and relief. For combat fliers like Manfred von Richthofen, aviation represented more than just the threat of violence. Flight, for the German men who would fly and fight for the Fatherland in the First World War, stood as a crucible that separated fliers from everyone else. Despite the initial fear and disorientation of his first flight, Richthofen cannot wait to climb aboard and take off again after successfully landing back at his airfield. Despite his enthusiasm, however, the inherent potential for violence in aviation remains, and even the confident prose of an autobiography intended for public consumption cannot belie the internal fear that even pilots like Richthofen grappled with on a daily basis. Violence in the air, however, extended far beyond the physicality of flight, and embedded itself into every possible application of military aviation.

The breadth of experiences encompassed by aerial violence expanded once war began in 1914, from one experienced inherently in the act of flying, to one that inflicted violence on others, both in the air and on the ground. Further, the growth of aerial violence was fundamentally shaped by the environment that flight operated in. "It is more than doubtful if the airplane would ever have attained such importance as a means of attack and a decisive factor in warfare if the Great War had continued as an open campaign, and consequently ended in a short time."[39] Georg Neumann, who served in the *Luftstreitkräfte* during the war, penned his personal assessment of the air service and its functions following the war. Neumann insisted that the transformation of the war, from a dynamic conflict dominated by movement, to a static war defined by trenches, was vital in providing the airplane with the environment it needed to prove its worth. Even before the war mutated into a conflict dominated by trenches, however, the airplane demonstrated its worth through the role of observation of the enemy. It was in this space that violence expanded, from an inherent feature of powered flight, to the infliction of violence on others.

Rudolf Berthold, who by this time was serving as an observer with *Feldflieger-Abteilung* 23 noted the ways in which he felt the excitement and anxiety of the new war.[40] Within an aerial reconnaissance unit, the excitement of war manifested itself, not in the rush to fire on enemy soldiers, attack a target, or conquer a town, but to fly over the enemy's position. In this sense, *Gewalt* encompassed the imposition of power over one's

[39] Georg Paul Neumann, *Die Deutschen Luftstreitkräfte in Weltkrieg*, (Berlin: E.S. Mittler und Sohn, 1920), 58.
[40] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 8.

opponent. The potential to be the first to do so was not lost on Berthold's squadron. Competition remained high among the men, who raced to see who could take part in the war first. Berthold noted that the unit, which was busy unpacking their equipment and re-assembling their aircraft, worked with unprecedented speed. "Unloading proceeded with feverish haste. Each two-man aircrew competes with the other because each wants to achieve the first flight over the enemy…"[41]

The expression of violence found shape in the ability to fly over enemy troops and note their position for military intelligence to act upon. Without the technical means to inflict direct violence on the enemy from the air in 1914, German aviators sought to impose their force, their power, over the enemy below in other ways. Here the act of observing the enemy and thus, gathering vital intelligence that would help the Germany army direct the war on the ground, was an act of imposing force on one's adversary. The rush of Berthold's comrades to be first to fly over the enemy, then, was not only a race to be first, it was a competition to foist their power over others. Flight then, was not just an act of observation, it was an exercise in dominance. That act of imposing force, however, was not without hazard. While aircraft of 1914 might not directly fire on the enemy, that did not prevent those below - both friendly and enemy - from firing at those flying overhead.

Violence in the air during these opening weeks of combat occupied an uneven space. While aviators could hope to inflict a sense of *Gewalt* on the adversarial soldiers marching beneath them, troops on the ground could return concentrated fire on the

[41] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 9.

machines flying above. To further exacerbate their circumstances, troops on the ground were often unsure of whether a passing aircraft was friendly or not, and would often fire indiscriminately at airplanes overhead. Popular stories produced during the war propagated stories of adversarial pilots waving out of respect during the opening weeks of the conflict, and placed a disproportionate emphasis on the camaraderie aviators experienced. The reality, of the desperate need to observe the enemy's positions, and likewise, prevent the observation of their own troops, meant that German air crews flew through a hail of hostile shell fire. Berthold recalled from one of his earliest flights that, "there – with a loud crash – a small white cloud appeared and then another! There was a strange bang in the left wing – we were hit by shrapnel! An anti-aircraft shell almost got us!"[42]

Such an intensely hostile environment required a clarity of communication and a sense of unity in action in the air between pilot and observer. Berthold, who had enrolled in flight school in the weeks before the war, had yet to complete his second flight examination and, consequently, served as an observer during the opening weeks of the conflict.[43] As a result, he soon learned that his safety and wellbeing was entirely in the hands of his pilot, Johannes Viehweger. Within the confines of their observation aircraft, both men were subjected to the potential for violence. Their ability to survive such threats required close cooperation and effective communication.

Here, the physicality of flight dictated and limited the capacity for observer and pilot to communicate in the air. Aviators of the period wore heavy flight suits, the type

[42] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 10.
[43] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 11-13.

needed to protect airmen against the extreme cold and high winds experienced at altitude. Pilots and observers in the First World War also had no radio equipment and most of the multi-seat machines of the conflict spaced the pilot and observer several feet apart. Between high winds, an engine running without any sort of noise muffling, and thick layers of protective equipment, communication between pilot and observer was limited at best. As a result, crews had to develop non-verbal means of communicating in order to effectively complete their assigned missions and return home intact.

Within the space of this partnership, the discourse of privilege within aviation begins to take shape. Neumann goes to great lengths to elaborate the privileged relationship that pilot and observer had with one another, "the observer, invariably an officer, was as a rule the person actually responsible for the airplane."[44] Here, the ability to impose one's will, would inspire confidence in the pilot. "His iron will and devotion to duty alone was all that the pilot had to rely on in a moment of great danger, for he performed his task isolated in the heights, suffering from the most intense cold of 40 degrees or more of frost…"[45] Neumann's language, particularly in his description of the aviator as possessing an "iron will and devotion to duty," highlights the privileged way aviators viewed their work.

Neumann further differentiates the observer as an exceptional member of the battlefield, through the manner in which he had to perform his tasks in utter and complete isolation. Neumann explains that the observer was "surrounded by exploding shells,

[44] Georg Paul Neumann, *Die deutschen Luftstreitkräfte im Weltkriege.* (Berlin: E.S. Mittler und Sohn: 1920), 89-90.
[45] Ibid.

without that moral support afforded to the infantryman by his comrades in battle."[46] The observer too, was viewed as far more technically capable than the pilot. Where the flier was trained in one specific task, that of flying and maneuvering his machine, the observer "had to possess a general knowledge, including every branch of aerial science, and the ability to apply this knowledge under varying conditions. The war, which was indeed the father of all things appertaining to flying, has also made the observer what he is, and will remain for all time. In his comprehensive ability, his mental and physical strength, and his devotion to duty, the observer has proved himself to be indispensable under every circumstance of war, not only to the higher command, but also to the supreme command."[47] The rank of the observer as a member of the officer class – and thus a member of at least upper middle class standing – no doubt played a role in shaping Neumann's description of the observer as an indispensable part of the relationship.

In spite of rank and privilege, however, the observer still surrendered agency to the pilot. As a result, the compatibility and inherent trust in the crews in two-seat aircraft was of paramount importance to the survival of the crew. The resulting bond between the two was so intense that Neumann entitled his discussion on the matter, "the pilot and observer as one individual."[48] Without the ability to implement effective verbal communication in the air, the crews of two-seat aircraft were connected through their dependence on each other and their ability to anticipate each other's actions. "The two must be adjusted to one another so accurately that they worked almost automatically. An

[46] Ibid.
[47] Ibid.
[48] Ibid.

instinct had to be developed by which one could understand and almost foresee the wishes and actions of the other."[49] A successful partnership, then, worked entirely on non-verbal communication and did so efficiently. Neumann described such a fruitful relationship as, "the two men were linked together by a bond of comradeship forged in many hours of common trouble and danger, and it was unwillingly that such a bond was ever severed."[50] Again, the work of the two-seater crews is placed within a highly privileged discourse, one that values their work as a mode of bonding that is superior to all others.

Berthold and Viehweger's relationship was neither fruitful nor long-lasting. On August 17, 1914, Viehweger and Berthold flew an observational flight over the rapidly moving French front line positions. The weather that day was poor; low fog, mist, and heavy cloud cover did not make for ideal flying or observation. The German Army, however, placed a greater emphasis on the acquisition of intelligence over the safety of its flight crews. Falckenstein sent Berthold and Viehweger to reconnoiter the French lines and report back. Appalling weather and poor communication between the two men meant that they were soon lost over hostile territory.

Berthold later wrote, with more than an air of indignation, that Viehweger did not respond well under pressure: "My pilot did not concentrate on my instructions; I had studied the map very carefully so that we could not fly off course. But in order to avoid the clouds, the pilot withdrew ever further to the south and finally had to land and, of course, it was on such a bad piece of ground that the airplane's entire undercarriage was

[49] Neumann, 93.
[50] Neumann, 93.

bent out of shape…"[51] Berthold's language in describing the ordeal both condemn his pilot while exonerating his own actions in getting lost. The inability to communicate information non-verbally on the part of Berthold contributed to their perilous situation. The pair abandoned their damaged machine and were later rescued by retreating to their side of the lines on foot. The chaotic nature of the battlefield meant that escape was a far easier possibility in 1914 than it became after the solidifying of the Western Front.

Following the mishap, Berthold's commanding officer wisely reassigned him to a new pilot, Otto Freiherr Marschalck von Bachtenbrock.[52] Through September 1914, Berthold and his fellow aviators flew observation missions over the evolving front line. As he and Bachtenbrock overflew the French troops, Berthold noted his glee in what appeared to be an unstoppable German advance, "'Every day I have flown reconnaissance missions. First we followed the retreating enemy incessantly to St. Quentin. They were on forced marches ... and I was amazed by the relatively good bearing of the retreating French columns ... But the soldiers were scarcely across the Marne river when there was no longer any restraint: without discipline, they threw away their weapons and knapsacks and fled into the countryside ... I went down to 100 meters' altitude and wrote and sketched what I saw ... The Army High Command's order was clear: "Relentless pursuit!"[53]

Berthold's task as an observer, and his language in depicting his contribution to the war effort, elucidates the ways in which he viewed his role in the war from a

[51] Berthold, 12-13.
[52] Berthold, 14.
[53] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 14-15.

privileged position. By flying over the French positions, Berthold and others like him could accumulate intelligence on the enemy; where troops were moving, how many men were there and where they were coming from, was then sent up the chain of command to the German generals tasked with attacking the French line. The excitement in Berthold's entry reveals his sense that his contribution to the war was influencing events on the ground. In Berthold's mind, the mere presence of German observation planes, lumbering overhead, with their stark black *Balkankreuze* flashing across their wings, imposed a psychological force on the beleaguered French troops. Such a point of view, one that enabled the flier to impose force on the enemy below without firing a shot, represented a truly privileged position in war.

Observation of the enemy, of course, relied on an established system of trust, not only between crews, but between aviators and the generals commanding the German army. The relentless pursuit of the French army that Berthold celebrated, however, came to a swift end at the Battle of the Marne. Berthold observed French reinforcements staging to attack the growing gap in the German line, which would ultimately stall out their advance. Despite his detailed notes, the German general staff could not believe the report. The complicated relationship between aviation and the older General Staff is apparent in Berthold's notes: "I fumed with rage. At my urging, another plane was sent out; it completely confirmed my observations. I could not keep still and flew yet again: my second report gave an even clearer picture. Ever more Frenchmen had poured into the gap between the 1st and 2nd Armies ... In my third report I stated: "The opposition has

passed through and is already behind our lines."[54] Despite the close relationship between the *Fliegertruppe* and the German Army - the air service fell under the jurisdiction of Army command – and the thought of a weakness in the German front line was inconceivable. Despite incontrovertible evidence from Berthold and other fliers along the front line, Army command was slow to react. The consequences of which have been the subject of countless military histories. Following the setbacks at the Marne, Berthold and the men of FA23 fell into a regular rhythm of observational sorties over a stalling Western Front.

The transformation of the battlefield, from an environment of rapid movement and dynamic changes in men and materiel, to the static lines of the Western Front, provided an ideal proving ground for the maturation of air power. The airplane was free to develop into a fully realized weapons platform. As Neumann notes, "In the spring of 1915 it became clear that the original standard type, in spite of all of its improvements, would have to be replaced by types designed for special purposes, since it would not satisfy the new requirements of war, which demanded, among other things, a much greater radius of action."[55] Neumann continued, saying, "Furthermore, the old type could have never … undertaken raids on the enemy's [supply] dumps and camps behind the lines."[56] In other words, had the Western Front not matured into a static combat environment, one complete with fixed trenches and semi-permanent staging areas to keep

[54] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 16.
[55] Neumann, 39.
[56] Ibid.

those trenches supplied, aviation would not have diversified to meet the new and changing needs of a long-term, static type of warfare.

This novel environment created new ways for air crews to inflict violence on those below. As the war progressed, specific types of aircraft were designed and manufactured for the explicit purposes of photographing the enemy as well as ranging artillery against hostile troops. Neumann discusses the evolution of the aircraft for such purposes. "An airman engaged on artillery observation should not have to depend on wireless alone, but must be provided with several auxiliary means of communication… All the following instruments had to be fitted into the narrow space of a cockpit : wireless transmitting and receiving set, amplifier, etc.; a drum for winding 40 yards of wire aerial in or out; a Morse key, ammeter, electric flash lamp, various cartridges for coloured lights, smoke signals, etc., the whole outfit weighing about 220 Ibs."[57] In such a role, observation crews inflicted violence on thousands of troops below; ranging artillery batteries to better strike their targets and kill countless scores of the enemy. The technical requirements of their work, however, moved killing from a direct to an indirect space. By ranging artillery, observation crews again occupied a privileged space that allowed them to take part in the war – in this instance by ranging dozens of high powered howitzers – without directly engaging the enemy. The task of ranging artillery was, by its name, an abstract exercise.

As noted in Chapter Two, these crews provided detailed information about enemy positions as well as the effects of artillery on the troops below. Those reports further belie

[57] Neumann, 42.

the carnage and suffering below. In the place of suffering is the calculated language of "thickness and thinness" of the enemy lines and the assessment on how effective German artillery has been at displacing the enemy. In other words, violence for the observer was a highly abstract occupation for the majority of his time spent in the air. Only when attacked by another plane, when the observer was forced to man his machine gun and fire back, did violence transcend from the abstract to the visceral. As the war progressed, aerial bombing would bring the observer into closer contact with the troops he was responsible for killing on the ground.

By 1918, the technical development of the airplane reached a point of sophistication and capability that it could transcend the realm of merely observing troops or directing artillery, to a space where it could openly harass and kill soldiers on the ground.[58] Within this new and dangerous environment, the privileged space of killing occupied by observation crews vanished into the maelstrom of violence below. The reports of Bavarian *Schlasta* 31 from September of 1918 demonstrate the degree to which German aircraft could attack targets on the ground, even as the war turned decisively against them. Here again, the language of violence is apparent in the descriptions of the actions of *Schlasta* 31 in combat.

By the final year of the First World War, aircraft had matured from the early war machines that Berthold described in his private diary to become machines that could strafe and bomb targets on the ground. The Bavarian ground-attack squadron, *Schlasta*

[58] German aviation, had launched punitive raids over England through the use of zeppelins and Gotha bombers. While these raids inflicted fear and disrupted the social order, they did not alter the course of the war in a substantive way. This, of course, would change with civilian bombing in the Second World War, when the issues of scale were resolved.

31, logged a series of reports of their attacks from July through September 1918. The reports open with a general summary of activities for that day's sorties. The log from July 1918 lists the series of attacks carried out by the unit. "During the night of the 16th to the 17th, we disrupted traffic on the road [between] Reims - Epernay and Reims - Chalons using seven aircraft."[59] The squadron also logged the activity of enemy machines attempting to blunt their attacks. On July 17th, the squadron noted that "[enemy] flight activity was low in the evening; 1 French two-seater was attacked at 200 meters around Baconnes. He immediately turned to the south."[60] As *Schlasta* 31 used the two-seat Halberstadt CLII, which was not a machine intended for aerial combat, successfully fending off attack was sufficient.

Bombing too, was a task carried out by the Bavarian ground-attack squadron. Unlike their larger bombing counterparts, who launched raids against cities like London, *Schlasta* 31's machines were used for punitive bombing against troops at low altitude. Their adversaries were, by this point in the war, doing the same on their side of the lines. On the evening of July 17th, the unit recorded "In the night 1 enemy airplane above Villers-Devant le Thour, dropped a light bomb, then two heavy bombs."[61] *Schlasta* 31 responded in kind, using "a 50 kilogram [bomb], a 12 kilogram [bomb], and five grenades" south of Courmelois… Further bomb hits were observed against a column of cars to the north of the channel bridge."[62]

[59] Bayern Schlasta 31 Documents, Finding Aid: WK2128, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 1.
[60] Ibid.
[61] Bayern Schlasta 31 Documents, Finding Aid: WK2128, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 2.
[62] Ibid.

Bombing from lower altitudes was not the only way *Schlasta* 31 harassed enemy troops on the ground. Another daily report notes, "attacks with M.G. [Machine gun] to disrupt the traffic which was placed in columns. Fired at [artillery] batteries, enemy positions, in total 2600 [rounds] fired."[63] This work undoubtedly required the two-men crew of *Schlasta* 31's Halberstadt CLII's to move into remarkably close range with the enemy on the ground. The risk posed to the crews by ground fire was immense, and the observer likely received enemy fire as he used his on-board machine gun to strafe enemy positions. This type of violence was much closer and posed far greater risk to the crew than the high-altitude artillery ranging that other reconnaissance units engaged in. The damage done to enemy positions from mere feet away is noted in the combat reports, as well as the ferocity of enemy attack from the ground and the air. A report from September 1918 notes that "200 kilograms of bombs were dropped on Champfleury. 9 SPADs [French fighters] intercepted our way. Short, unsuccessful aerial combat followed."[64] Here we see the numerical superiority that the allied air services possessed at the end of the war. Violence then, was an intensely heightened experience for observers and pilots in 1918. While the observation flights described by Rudolf Berthold in 1914 had the potential for violence, the sorties completed by *Schlasta* 31 guaranteed violence and great physical risk.

Aerial bombing moved violence for the two-seat crew from an abstract and distant space to a close, personal, and terrifying experience. Crews in these units did not range

[63] Bayern Schlasta 31 Documents, Finding Aid: WK2128, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich.
[64] Bayern Schlasta 31 Documents, Finding Aid: WK2128, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 4.

artillery from thousands of meters up, but rather, dropped bombs just a few hundred feet from their targets and directly noted the impact their weapons had. This type of warfare in the air moved the spectrum of violence towards a greater emphasis on intensity and danger. Moving still farther along that spectrum, aerial combat in single-seat machines would epitomize the pinnacle of violence in the air during the First World War.

Privileged Killing, Privileged Deaths

For many like Rudolf Berthold, the dangerous position of being an observer in a large, lumbering aircraft vulnerable to attack, was solved only by liberating himself from the position of being a passive observer. "As soon as it can happen, I want to become a pilot."[65] As the war progressed, the privileged position of the observer, both in class and rank, was soon overwhelmed by the increasing violence in the air war over the Western Front. With that increase in risk, aviators like Berthold viewed the transition from the observation to the pilot's seat as a way of improving his odds of survival. Within this transition of prestige from observer to pilot, the privileged relationship to killing found new resonance with Germany's rising class of fighter pilots.

The culture of self-reliance, of technological supremacy, in the belief in one's abilities, were the driving characteristics of Rudolf Berthold's experiences with powered flight. After being at the mercy of his pilot's competence, Berthold felt empowered by taking control of his own plane. By piloting his own machine, Berthold believed steadfastly, that his ability to control his aircraft and fight his enemy would allow him not

[65] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 13.

only to survive the war, but to thrive within it. The promise of aviation in peacetime, that of transcending time and space, of piercing borders and rendering the old world irrelevant, had been married to its peril, that of becoming a fully realized weapon of war, and presented itself as an empowering, if incredibly dangerous, new way to fight. The airplane's lethality, however, utterly transformed when wedded to the defining weapon of the First World War.

The machine gun, that technological invention which gave Europeans the ability to kill in previously unimagined numbers, would revolutionize war in the air.[66] The most pressing concern regarding its use in the air was how to fire the weapon accurately from a moving object, at a moving object.[67] Until machine guns were efficiently employed in the air, aviators resorted to bolt-action rifles or smaller caliber weapons to inflict violence in the air.[68] Rudolf Berthold complained in his war diary as early as August 1915 about the lack of machine guns in his squadron.[69] Despite the lack of effective weaponry, Berthold

[66] Machine guns in the First World War were also incredibly heavy, often requiring a multi-person crew to move them from place to place. Thus, lightening them was a priority for aviation designers during the war.
[67] The weapons, which were predominantly water-cooled on the ground to prevent their barrels from overheating, were converted to be air-cooled on aircraft; the significantly colder temperatures at altitude easily keeping the weapons at their correct operating temperature.
[68] The respective belligerent air services of Europe attempted a litany of solutions to the problem of directing effective firepower onto an enemy target. Great Britain's aircraft companies solved the primary issue, that of firing a weapon through a spinning propeller without breaking it, by simply moving the engine behind the pilot. French aviation designers attempted to place machine guns like the Lewis Gun over the top wing of their biplane designs, thus firing over the propeller rather than through it. Another French design was to place steel wedges on the propeller to simply deflect errant rounds off the prop, and hopefully not back towards the pilot. Clearly, all of these various attempts at solving a technological bottleneck were inherently compromised in one way or another. Another, crude, solution was to simply aim the machine gun off at an angle, away from the propeller. Doing so, however, meant requiring the pilot to fly his machine in one direction while firing in another. While machine gun fire was effective on the ground, it was also largely inaccurate. Often, defensive fortifications on the ground employed dozens of machine guns to effectively cover a field of fire. In the air, a single machine gun would be difficult to aim in the best of circumstances. Deflection firing proved almost impossible for most fliers to master while trying to control ungainly and skittish aircraft.
[69] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 35-36.

would frequently scream at this observer, who was armed with a rifle, to fire at any passing enemy aircraft.[70] The design which fundamentally altered the scope and experience of violence in the air came from Dutch designer Antony Fokker, whose monoplane designs for Germany's fliers would terrify British and French aviators all along the Western Front. Fokker patented a design for an "interrupter gear," housed in the cowling of his monoplane.[71] When fired, the machine gun would only discharge a round if the propeller was not in front if the muzzle. When the blade passed through, the gear blocked the trigger from firing the gun, thus allowing it to fire without danger through a spinning propeller.[72]

The design revolutionized the air war. While Germany's adversaries employed aircraft whose armament was largely the work of compromise, the aviators of the *Fliegertruppen* could now simply point their aircraft in the direction of their enemies and shoot. From a structural perspective, this shift in the placement of weaponry appears rudimentary and, perhaps, historically inconsequential. To understand the importance of such an invention, we must place ourselves within the space of violence that First World War aviators inhabited. Rudolf Berthold and his fellow fliers were relegated to shooting at enemy aircraft with rifles or movable machine guns fired by their observers. Doing so meant trying to hit a moving target from a moving platform, which was incredibly difficult. The Fokker design empowered aviators to an unprecedented degree. Now,

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[70] Ibid.
[71] See Marc Dierikx, *Fokker: A Transatlantic Biography* (Washington, D.C.: Smithsonian Institute, 1997).
[72] The gear, of course, could be prone to failure, leaving an aviator to shoot off his own propeller. It was widely believed at the time, that Max Immelmann, one of the earliest popular combat pilots, died when his gear failed. See Oswald Boelcke's discussion in Oswald Boelcke, *Hauptmann Bölcke's Feldberichte* (Gotha: Perthas, 1917).

German fliers could track their enemies and attack without fear of being unable to hit their target. Moving the plane into position became a simple corporeal rather experience rather than a complicated mathematical exercise. One simply had to place their body behind their enemy, and the machine and weapon would follow.

Upon meeting Oswald Boelcke, Manfred von Richthofen, who had yet to fly one of Fokker's machines, inquired about how the famous combat pilot brought down his enemies. "I wanted to learn how this *Leutnant* Boelcke really accomplished it. So I asked him: 'tell me honestly, how do you really do it?'" He laughed, very amused, although I was quite serious. Then he answered me: 'Good heavens, it indeed is quite simple. I fly in as close as I can, take good aim, shoot, and then he falls down.' I merely shook my head and thought to myself that I had done the same thing but they had not fallen down. The difference was, of course, that he flew a Fokker fighter, and I had a large battle plane."[73] Richthofen's account shows us how the placement of the machine gun along the axis of the aircraft changed the relationship between fliers and violence. For the first time, the pilot, aircraft and weapon became synonymous. The Fokker EIII was built with a singular purpose, that of destroying enemy machines. The aviator was freed from his observer, and was no longer required to work in unison with another person to attack an enemy. The Fokker pilot need only to position his machine well, attack, and his machine gun would destroy whatever he targeted.

The physicality of violence, then, changed as well. The aviator worked to place himself behind his enemy, and then leaned over in his cockpit to line up his target in the

[73] Richthofen, 65-66.

reticule of his weapon, before squeezing the trigger. The visual experience of violence became at once, more personal. Staring through the propeller at his target, the pilot could see his rounds impacting his victim, shattering support struts, severing control wires, wounding, maiming, and killing the men controlling the aircraft. The position of violence was so iconic that Fokker company posters in 1915 featured a German aviator staring through the sights of his Spandau machine gun at the viewer, as he fired from the controls of his Fokker airplane. The Fokker EIII built on a confidence that aviation had instilled in its potential fliers since the outbreak of the war and amplified both their sense of agency and privilege. Fighter pilots soon discovered that both official rhetoric and popular culture would serve only to reinforce that sense of privilege.

The experience of overcoming, even subjugating aerial violence, combined with technological mastery meant that First World War aviators regarded themselves as a privileged class among their peers. The perspective from the ground, provided by soldier newspapers from the period, illustrate the jealousy and awe with which many viewed aviators. "German Flier Songs," published in the February 1916 issue of *Seille-Bote* included lyrics proclaiming pilots as "German warriors" and "kings of the air."[74] Other newspapers like the *Deutsche Kriegszeitung von Baranowitschi* described a young woman who, after encountering a German flier, never found another non-flying male to be attractive.[75] Another derisively portrayed an overweight, aristocratic aviator who refused to fly in bad weather and hated getting cold, two experiences that his mud-bound

[74] Robert Nelson, *German Soldier Newspapers of the First World War* (Cambridge: Cambridge University Press, 2011), 137.
[75] Ibid.

infantrymen lived with constantly.[76] Military aviators embodied privilege in several ways: from the extra attention afforded them in the popular press, as well as the weekly military intelligence briefings as well as in their comparatively comfortable living conditions located well behind the front lines. It was their privileged relationship to violence - in their selective relationship to killing - that most personifies their privilege as combatants in the First World War. This relationship to violence was expressed in their perspective on killing, their willful choice to ignore killing, and the remarkably privileged manner in which they treated those they killed, and the way in which they were treated after being killed.

Soldiers serving in the frontline positions of the First World War experienced violence on a nearly unending basis. They endured shelling from the enemy, gas bombardments, bombing from the air, and the ever-present threat of attack from across the lines.[77] Further the effects of violence, of being surrounding by tens of thousands of corpses, of both friend and foe alike, lingered perpetually.[78] Without the necessary means to remove bodies from impenetrable spaces like no-man's-land, bodies were left to decompose in the open; often bloating in the heat, and to deteriorate from shell fire or the feasting of vermin and maggots. Soldiers had no choice but to endure the sensory bombardment of violence and death, and were often left to live with the visual consequences of those they had killed. Aviation, however, inserted space between

[76] Ibid.
[77] Numerous works published after the war in Germany described the psychological effects of endless shelling. See Erich Maria Remarque, *All Quiet on the Western Front* (Berlin: Ullstein Verlag, 1929). See also, Ernst Jünger, *Storm of Steel* (London: Penguin Classics: 2004).
[78] For example, in the Battle of Verdun in 1916, the German army suffered 143,000 combat deaths. Many of those bodies were never retrieved and were later buried in mass graves.

violence and the individual, leaving room for privileged responses to killing. Some viewed violence as a transformative act, which was required for an airman to become a *Kampfflieger*, or combat pilot. Others embedded killing within the dehumanized discourse of hunting, viewing the infliction of violence in the air as yet another act of sport. Still others chose to simply ignore the act of killing, and found solace within a system that both incentivized killing while insulating the killer from the act of destroying human life.

Rudolf Berthold's war diary reflects the complex and often privileged relationship to violence that German aviators enjoyed, and his reaction to bodily pain and suffering evolves in Berthold's mind throughout the war. Upon losing his friend and observer in 1915, Berthold notes in his war diary, "In the following weeks, I only saw my observer hanging overboard. Revenge! Struggle! I could not escape thoughts of vengeance. Rest well, my friend, Grüner, you will be avenged! I was a fighter pilot!"[79] Berthold's words provide a fascinating perspective on his relationship to violence and his sense of agency in the war. Berthold, who had served as the pilot of a large reconnaissance machine at the time, had no access to a weapon while in flight. Shortly after Grüner's death, however, he moved to flying a fighter plane. His prior perception of offensive warfare was the waging of war against the enemy on the ground. After the death of his friend, however, Berthold's definition of violence transcends to the air. It is important to note, also, that Berthold's words reveal an overwhelming desire to avenge his friend's death. Doing so is accomplished, not in finding the French crew that killed him, but by destroying a

[79] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 40.

comparable enemy to satisfy his desire to even the score. This first victory, over a French Voisin biplane, is the only one of Berthold's forty-four victories that is described in exacting detail in his war diary. It is clear by the care and time placed in describing the event, that Berthold views this as a transformational moment in his life as a combat pilot, one which both avenged the loss of his friend and which elevated him from an aviator to a *Kampfflieger*.

There is a significant disconnect, however, between Berthold's description of shooting down his enemy target, and his willingness to confront the act of killing once he is back on the ground. Berthold describes his victory as being confirmed by phone, which would have been common during the First World War. "Then came the message from the foremost troop that two downed aircraft were confirmed… Half an hour later, cars drove towards [the crash.] I did not go with them, as the sight was too ugly."[80] It is in the closing this of Berthold's description of killing his enemy and avenging the death of his friend that we encounter the extreme privilege enjoyed by First World War aviators. Berthold, who writes with such passion and conviction about his duty to avenge Grüner, and who also describes in minute detail the events that transpired to down the enemy French machine, suddenly grows reticent about personally witnessing the consequences of his actions. His explanation for not listing the crash because, "the sight was too ugly," highlights the choice that aviators enjoyed over their counterparts on the ground. Back in his quarters, Berthold could choose, through both the privilege of his social position as well as his rank, to simply not visit the wreckage of his fallen enemy. The other enlisted

[80] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv,42-44.

men of his squadron were assigned the task of driving to the site of the wrecked French plane, to confirm Berthold's work. The French crew of the Voisin biplane were indeed found dead among the shattered remains of their machine and Berthold was credited with the "victory" over his enemy, all without ever having to witness the carnage that he inflicted.

Berthold's diary further elucidates the privilege of omission as the war progresses. A year later, in October of 1916, Berthold was awarded Germany's highest medal, the *Pour le Merite,* and the event spurred him on to describe what the previous year of war had been like for him. It is here that we find a pattern for the rest of Berthold's diary. "Months have passed again. I leave through my notes and I find so many places that move me. The first five opponents fell quite quickly, one after the other."[81] Berthold then transitions abruptly to describing a horrific flying accident which he suffered when his Pfalz monoplane crashed shortly after takeoff. There is no description of who his opponents were, what machine they were flying, or even if they were French or British adversaries. This omission presents another fascinating window into Berthold's mentality and his privilege. As his accomplishments as a fighter pilot increased over time, and as he downed more enemy machines, Berthold's prestige within his unit increased, thus affording him ever more privilege. By October of 1916, he could, at will, simply ignore the details of the killing of at least five men in aerial combat.[82] It is a striking difference in tone from his earlier passage from 1915.

[81] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 44.
[82] The number of aviators killed or wounded varied from the number of machines destroyed as many aircraft were multi-seat airplanes.

By 1916, Manfred von Richthofen had graduated to single-seat machines, and began his career as a fighter pilot. His autobiography describes the overwhelming sense of joy that he experienced upon the destruction of a British aircraft early in his career. While the medium through which we can access Richthofen's thoughts is a far different type than Berthold - Richthofen's prose was intended from the outset for public consumption - his actions, which put him at great bodily risk, confirm the emotion he describes on paper. Rather than choosing to ignore the consequences of his actions, or electing to send his ground crew out to confirm the destruction of the British machine, Richthofen voluntarily landed near the site of the crash to confirm his victory over his adversary. It should be noted that his decision to land his machine on an un-leveled field was incredibly dangerous, and could have easily resulted in a crash. The desperate desire to see the results of his aerial gunnery, however, proved too overwhelming to ignore. After landing, he noted "Arriving there, I found that my assumption was correct. The engine was shot to pieces, and both crewmen were severely wounded. The observer had died instantly, and the pilot died while being transported… Later I erected a gravestone to the memory of my honorably fallen enemies."[83]

The language used by Richthofen to describe killing in the air shows us that he viewed the act, not as an experience of combat, but rather as an exercise in hunting. In his autobiography, Richthofen describes the philosophical differences between his brother Lothar, who also served in Richthofen's *Jasta 11*, and himself. "My father makes a distinction between a hunter, a sportsman, and a shooter whose only fun is shooting."[84]

[83] Richthofen, 55.
[84] Richthofen, 103.

Here, Richthofen, either for personal or political reasons, is drawing on older, elite cultural tropes of sport hunting. It is entirely possible that Richthofen believed these differences mattered in warfare. It is also possible that he was portraying himself as a sportsman rather than a warrior for public and political reasons.

The iconography of hunting, which embodied elite culture, also provided reassuring notions of continuity within violence, even the realm of aviation's wholly new technological experience. The notion of an aviator scouting the skies, stalking an opponent, and then attacking like a hunter tracking game sanitized the deaths in the air, and created a notion of honorable killing that was both reassuring and illusionary. While Richthofen did land to collect trophies from the crashed aircraft of his victims, and he did find ways of honoring the pilots he killed, Richthofen was first and foremost a killer. The way Richthofen packaged the details of his killing, however, resonated with the public, and was reinforced by the language employed by official military culture. The resulting narrative embodied an extraordinary sense of privileged killing.

Richthofen's rhetorical strategies also reflects the terminology used by the German army during the conflict. By 1916, the increasing volume of air traffic over the Western Front, combined with the French reorganization of its air force into larger squadrons, and the subsequent fielding of superior machines by the British Royal Flying Corps, left the *Fliegertruppe* to yet again react to the situation on the Western Front. The German *Fliegertruppe* created new units, *Jagdstaffel,* with the singular purpose of destroying enemy aircraft. The translation of the term used for these units elucidates much about the construction of the discourse of violence within the First World War's aerial component. The term, *Jagdstaffel,* however, signaled a distinct shift in mentality

from the KEK units which had preceded it. *Jagdstaffel* literally translates to "hunting unit" or "hunting squadron." Rather than scouting units, which would have reflected the cavalry background shared by many of the air services aviators, the German military choose the more offensively minded "hunting unit." By setting the language used to define what Germany's fighter pilots did on a daily basis, the *Fliegertruppe* also created the iconography of their experiences. Regardless, the difference in perception reveals German sentiments towards violence in the air. Richthofen continues, saying, "Early in the war I found that when I downed an Englishman, my hunting passion was quenched for the time being. I seldom tried to down two Englishmen, one right after another."[85] Richthofen references "Englishmen" as his primary adversary rather than French aviators due to his location on the Western Front. This mindset, of embodying the identity of a "hunter" in the air, was eventually challenged by the increasing demands of aerial combat.

"If one fell, I had the feeling of absolute satisfaction. Only much later did I overcome that and also became a shooter."[86] Here, it appears that Richthofen views the transition from "hunter" to "shooter" as a difficult one; one that requires perseverance and a change in character as well as mindset. "It was different with my brother… We attacked a squadron… I looked around and saw my brother sat behind an English machine from which flames shot out. Near this Englishman flew a second. Lothar did nothing further to the first, who had not yet fallen and was still in the air. He turned his

[85] Ibid.
[86] Ibid.

machine gun on the next one and immediately shot at him…"[87] Richthofen's tone in this passage expresses frustration, not for Lothar's success, but for his inability to finish off his victim before moving on to the next. Back on the ground, Richthofen reprimanded Lothar, "I sent him up forward to determine what the fellows' names were, etc. Late in the afternoon he came back after having only found one."[88] In the following passage, Richthofen describes traveling to Pless to hunt rare bison. "I was allowed to shoot so rare an animal. In about a generation there will be no more, for they will have been exterminated."[89] Richthofen's conflation of killing Englishmen and hunting bison elucidate the extraordinary privilege that Germany's most renowned fighter pilot enjoyed during his career. The utter and complete entanglement of hunting discourse and the killing of human beings demonstrates his privilege, not in ignoring death, but in actively participating and even reveling in it.

These passages also highlight the privileged relationship that aviators experienced with death. Comrades on the ground would die and ultimately be buried in mass graves, often without any means of identifying their bodies for loved ones at home. Aviators, by contrast, were enmeshed within a system that not only quantified their victories, but also went to extraordinary lengths to recover their bodies in the event of their deaths. One such pilot, Lieutenant Ernst Heß, achieved minor notoriety for his exploits as a combat pilot during most of 1917. By December of that year, Heß had downed seventeen enemy aircraft, and had won both the Iron Cross and the House Order of Hohenzollern. On

[87] Ibid.
[88] Richthofen, 104.
[89] Ibid.

December 23, 1917, Heß failed to return from a sortie in his Albatros fighter plane. The German Army's elaborate system of tracking all aircraft sighted in a crash eventually relayed the message back to his squadron that one of their pilots might be down. Two Lieutenants were dispatched to locate the crash site and in the afternoon hours, confirmed that the downed plane was Lieutenant Heß. The ensuing paper trail in Heß' personal file in the German archives demonstrates the great lengths the *Luftstreitkräfte* went to recover their dead. The first file is the report from the two officers upon finding Heß' body and his crashed plane. "At 1:30, the aircraft Albatros DVa 5347 - Leader *Leutnant* Heß has been shot down by a French aircraft. At the R I position on the left, Fresnes-Modelin, the machine burned to the ground. When I came to the plane, the pilot was dead and partially burned. We pulled the body out of the rubble and laid it in a tent. *Leutnant* Heß was apparently killed by a shot to the head."[90] What is remarkable about the report is that it further details the items found on Heß' body.

> "*Leutnant* Becker and I have taken the following items from the corpse:
> 1 wallet with 172.65 Marks
> 1 ring
> 1 watch
> 1 pocket knife
> 1 cigarette case
> 1 silver lighter
> 1 watch bending
> 1 key chain with chain
> 1 notebook
> 1 pair of cufflinks"[91]

The officers' report details the remarkable degree of work employed to positively identify Heß. First, they identify the number on the burned Albatros as that which was

[90] Ernst Heß, Nachläss N208-3, Freiburg Bundesarchiv.
[91] Ibid

assigned to Heß. Second, they confirm his identity through the items on his person. Finally, they wrote, "It is the well-known *Leutnant* Heß. In his cigarette case was the list of the seventeen planes he shot down." Heß' personal file details the extraordinary lengths to which the *Luftstreitkräfte* went to notify his relatives and sent not only his body, but all of his personal belongings home. Telegrams between commanding officers illustrate the effort taken to locate his relatives and arrange to have his affects returned to them. Beyond the official communiques, newspapers from Heß' home region published his obituary, not only after his death in December 1917, but through most of 1918 as well. Heß' personnel file shows us the privileged existence of Germany's aviators led, even in their death.[92] Heß' reports of his aerial victories during his life also illustrate the complex system of quantification that fighter pilots in the *Luftstreitkräfte* found themselves increasingly enmeshed in during the conflict.

The Rhetoric of Privilege and Killing

By 1916, the war in the air had grown both in its importance to ground commanders, and in the volume of carnage produced. Each of the belligerent air powers

[92] The photo album of Peter Supf further illustrates this with photos of elaborate funeral processions provided when fellow airmen were shot down and killed. These images are further analyzed in chapter two.

created systems for categorizing and tracking the damage inflicted by their aviators.[93] As the war's aerial component expanded and transformed, the command structure of the *Fliegertruppe* developed an ever-increasing appetite for data. The fluidity of aerial combat, and the inability to know exactly how many enemy aircraft had been produced and pressed into service, led to exacting metrics for documenting, categorizing, and prioritizing information from front line pilots. The German system for organizing a statistical analysis of aerial violence, and its criteria for pilots to claim victories in the air, were significantly different from their adversaries across the Western Front. German single-seater flights largely operated behind their own side of the lines for the vast majority of the war.[94] As a result, the preponderance of German aerial victories fell on their side of the front. The nature of the war's air component on the German side is reflected in the intricate systems of victory confirmation that was firmly established by

[93] The British Royal Flying Corps and the French *Armée de l'Air* implemented systems of organizing statistical representations of violence that reflected the strategic nature of their air services. British and French units flew largely offensive operations, and regularly traveled past the Front and into German held territory. In doing so, they typically encountered German aircraft in enemy air space. The subsequent downing of enemy machines meant that the victim fell in German territory, making it extremely difficult, if not impossible, to confirm the destruction of an enemy machine with physical evidence of a crash. Further, aerial combat was an inherently disorientating and violent activity. Combat between groups of aircraft quickly broke up into a swirling, confusing, and incredibly dangerous environment, as each aviator attempted to get his forward-facing machine gun onto a target of opportunity. Remaining in level flight for more than a few seconds often left a pilot vulnerable to enemy fire. Therefore, even if an aviator successfully hit an enemy machine, he often did not have the opportunity to follow the fate of his victim. As a result, the British and French systems for confirming aerial victories often included the category of an "out of control" victory. In other words, the enemy machine was last seen in a state that would not appear survivable. The allied systems were also unique in the category of a "shared victory," in which two pilots who attacked the same plane, and who viewed it either as crashing or spinning "out of control" could claim a co-victory. The British and French forces were more amenable to the realities of aerial combat and thus, a "shared" victory was granted to each pilot, while their representative squadron counted the destruction of the enemy machine as one victory.

[94] Norman Frank's analysis of German reports concludes that the percentage of combat patrols flown behind the German side of the lines was nearly 90%. This meant that German aviators had the unique experience of frequently inspecting the crash sites of their victims. See Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service and Flanders Marine Corps: 1914-1918.* (London: Grub Street, 1993).

April 1917. This system immersed combat pilots in a sophisticated process of reporting and analysis. Officially, such a system allowed the air service to track the number of enemy machines destroyed in combat. Rhetorically, the system served to incentivize killing in ways that brought pilots increasing recognition and acclaim.

The primary method of publishing aerial victories during the war was through the *Nachrichtenblatt der Luftfahrtruppen* (News Reports of the Aviation Groups), which cataloged information regarding the air war, and included a list, in chronological order that week, of confirmed aerial victories. Pilots were required to file a claim form for each individual plane that they destroyed. The German system was far more rigorous in its requirements, with visual confirmation as a prerequisite, and additional corroboration by witnesses giving added weight to the claim.[95] In ideal circumstances, a crash site with identifiable wreckage would render the claim all but certain. Unlike their British and French counterparts, the German *Fliegertruppen* did not create a system that "shared" victories between pilots. In the inevitable event of two or more pilots claiming credit for the destruction of an enemy machine, the *Kommandeur der Flieger (Kofl)* or the commander of the specific Army that the squadron was assigned to, acted as an "independent" adjudicator. These claims were then passed on to the *Kommandierenden General der Luftstreitkräfte (Kogenluft).* As reports moved from individual, to squadron, to army, to command and control, the impression of the air war grew increasingly

[95] For further technical details of how this system worked, see Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service and Flanders Marine Corps, 1914-1918.* (London: Grub Street, 1993).

abstract until, once published in the *Nachrichtenblatt*, killing reached its most abstract expression, as pure numbers.

It is significant to note that the intricacies of this system were formally implemented on a mass scale during one of the most successful months of aerial combat conducted by the *Luftstreitkräfte*.[96] That the *army* suddenly felt impelled to communicate such detailed information about aerial victories is, perhaps, not surprising given the extraordinary good fortunes experienced by their squadrons along the Western Front. The quantity of aircraft involved in the air war also necessitated further quantification by the commanders of the German army. That said, the level of granulation in detail in the *Nachrichtenblatt* is, considering the scope of the conflict by 1917, remarkable. These reports detail the date, location of flight, where the enemy machine was observed to crash, the type of airplane, rank of the enemy combatant, name and squadron of the successful German aviator credited with the kill.[97] Further, these reports expanded to include running totals of its most successful airmen, as well as lists of observation balloons destroyed by German fliers, and aircraft destroyed by ground crews manning anti-aircraft batteries.[98] What remains utterly absent in these documents, however, are the reports of Germany's observation and bombing squadrons and their influence on the ground war. By 1917, it is clear that German command is all but utterly obsessed with the

[96] Scholars of British military history will note that this was the most disastrous month for the Royal Flying Corps, who suffered catastrophic casualty rates at the hands of the German *Luftstreitkräfte*. Some units suffered 110% losses, with multiple waves of replacement pilots and machines wiped out during the month. John Morrow also addresses this; see, John Morrow, *The Great War in the Air* (Washington, D.C.: Smithsonian Institution Press, 1993).
[97] Franks, 5.
[98] Franks, 6.

number of enemy planes brought down, rather than its overall effect on the outcome of the greater conflict.

The papers of Lieutenant Ernst Heß elucidate the structure and the type of data that commanders were interested in. Heß' flight report from early 1916 clearly show the categories of information requested: who operated the aircraft, who was the observer (if there was one), when did the flight occur, what was the weather and visibility?[99] The report also inquires about the machine's flight path, the results of the mission (were the objectives of the sortie completed successfully), additional observations about campaign activity below, and any special or unusual events? The final category was reserved for descriptions of aerial combat. Heß' flight report from January 5, 1916 provides a snapshot of the kind of information provided in these standardized reports. Heß flew from his station at the Douai airfield and he flew a Fokker Monoplane, number 32/15.[100] As the machine was a single-seater, he had no observer. The flight lasted from 1:20 - 2:25 in the afternoon. His flight path took him over several towns, including the town of Vitry, where he encountered an enemy machine.[101] It is here that we see the discourse used to describe the destruction of an enemy machine, and the clinical data that aviators provided to the commanders of the *Fliegertruppe* during the First World War. Heß' narrative begins by stating that he "visually acquired a BE2C at 2200 meters" and subsequently turned to attack. He opened fire on the British two-seater and was assisted by Lieutenant Oswald Boelcke, who attacked the BE2C at roughly 1600 meters.[102] The BE2C later

[99] Ernst Heß, Nachläss N208-5, Freiburg Bundesarchiv.
[100] Ernst Heß, Nachläss N208-5, Freiburg Bundesarchiv.
[101] Ernst Heß, Nachläss N208-5, Freiburg Bundesarchiv.
[102] Ernst Heß, Nachläss N208-5, Freiburg Bundesarchiv.

crashed, and was credited to Heß as his first confirmed kill. The language employed by Heß is official, clinical, and devoid of any emotional overtones. It is a simple, matter-of-fact account of where he was and what actions he took in the air.

The forms filled out by Heß evolved over the time to include ever more specific pieces of information. A year later, in 1917 his report included additional information regarding information about enemy machines and the condition of any crew members brought down by German pilots. The form, in addition to the previously included date, time, location information included on the previous reports, now added space for data on the enemy's aircraft type, number, as well as the engine type, horsepower displacement, and motor number, as well as descriptions of aircraft armament. The level of technical granulation in this report, which differs markedly from its predecessor a year earlier, is remarkable. Despite the specificity of some of the information, in particular the aircraft and motor number of an enemy machine, Lieutenant Heß was able to provide all of the requested data after a successful sortie in October 1917. The comprehensive report supplied by Heß could only have been completed by visiting the crash site of his victim to find the requisite serial numbers off such components as the aircraft's engine. Such information was clearly demanded by the army command, not only to corroborate a victory, but to also track the number of machines being destroyed by German pilots in an attempt to maintain a wider, statistical view of the air war.

Heß' report of October 14, 1917, describes the events surrounding the downing of a French Dourand AR2. The aircraft number of the French machine, 1123, is noted, as well as the type of engine, a Renault 8-cylinder motor, stamped number 57521. Heß also notes the machine's special features: that it is a photo reconnaissance machine, though he

notes that no camera can be found on board.[103] The report also notes that two airmen have been taken prisoner. The report asks the aviator to qualify if the enemy fliers are alive or did. Heß has marked this question, "no." A qualifying question follows: "Are they wounded?" Here, Heß has noted that the "leader is lightly injured, the mechanic is seriously wounded." The enemy aircraft is marked as recovered by "*Jagdstaffel* 19," presumably after ground crews from Heß' squadron located the crash and the injured French airmen.[104] Heß then describes his sortie: "Start 5:15 in the afternoon. On call for air-protection near Brimont against an A.R." Heß is noting that he was called to intercept the French AR2, which was seen by ground troops near Brimont. Heß reached Fort Brimont and noted "The same aircraft [as described from the ground] was about to cross the [French side] of the Front. After a short fire, it swung north-wards at a height of 1000 meters to make a new attempt to reach its line." Heß' term of "short fire" notes his opening fire on the French machine as it tried to cross its sector of the Front, thus preventing its escape.

"After repeated attack, his [gasoline] tank was shot, where upon it set fire. I followed the landing [of the enemy] which broke the machine." Heß' description details the most dreaded fear among First World War aviators: fire. The Dorand was hit in its fuel tank, a common occurrence in First World War aerial combat. In a machine made mostly of wood, petroleum-doped canvas, and propelled by engines operating at high temperatures, the potential for fire was incredibly high. Once the fuel tank of the French machine was struck, gasoline spilled out, and ignited. The French pilot had no choice but

[103] Personal Papers of Ernst Heß, Nachlasse, N208-5, Bundesarchiv Freiburg.
[104] Ernst Heß, Nachläss N208-5, Freiburg Bundesarchiv.

to crash land the plane immediately, or suffer the fate of burning alive in the air. That the machine broke up on landing is not surprising. The fire, coupled with the crash landing, explains the injuries suffered by the pilot and observer. Heß' tone in his reports demonstrate the clinical descriptions of violence by German aviators during the conflict and the detachment expressed in the act of destroying an enemy machine and injuring its crew. Note that Heß remarks on the components of the aircraft that are hit, its engine, fuel tank, and how the aircraft breaks on impact, not the crew inside.

It is apparent from Heß' reports that the German general staff cultivated an interest in the aerial activities of its fighter pilots that metastasized to the point of obsession. While the type of aircraft destroyed and the condition of its crew could reveal important details about the damage inflicted on a particular belligerent's observation or fighter aircraft, the type of engine and its respective serial number could not have offered any significant insight; certainly, none that would necessitate the time and labor required to process such a volume of data from hundreds of fighter pilots along the Western Front. When placed in conversation with official communiques, the obsessive, even distracted nature of the information demanded by the general staff, reflects a wider preoccupation with the air war fighter component.

Official reports to commanding officers of the army were met by telegrams from generals, crown princes, and other important figures within the German military and cultural hierarchy. These communiques highlight the extraordinary degree of attention paid to German fighter pilots during the conflict. In one instance, a General Lochow wrote to *Jasta* 10 on December 11, 1916, to commend the unit on its resent destruction of four enemy machines: "On the previous day, the flying troops of the 5th Army, in addition

to excellent reconnaissance and artillery spotting, delivered thirty-three aerial battles in 104 fights, in which four enemies were confirmed, one enemy was forced down within our lines. I express my appreciation to the victorious flying crews, in particular *Jasta* 10, which alone had recorded four air battles. The airmen may always be proud of the fact that their active offensive spirit supports the struggle of all of our arms to a considerable extent."[105]

Lochow's message extolled what he considered to be the most important aspects of the *Fliegertruppe*'s activities in the previous twenty-four hours. While he briefly mentions aerial observation and artillery spotting, the majority of the message focuses on aerial combat between machines and the destruction of four enemy aircraft, with one forced down behind German lines. A close reading of this message reflects a disproportionate importance placed on aerial combat over all other forms of air service. With roughly 1,3000 German soldiers dying in combat every day during the First World War, it is curious that Lochow was so pleased with the downing of just a handful of machines. His note demonstrates the increasing degree to which commanding officers and generals became obsessed with the air war's air-to-air component, and how observation and artillery operations utterly faded to the background, despite being more consequential.

The tone of these types of congratulatory messages only grew more bellicose as the war continued. The General of the 6th Army wrote a similar message on August 22, 1917. While the number of victories in the air had increased, the ground war had also

[105] Ernst Heß, Nachläss N208-5, Freiburg Bundesarchiv

proportionately grown in terms of carnage. Again, the language used was remarkably emotional and optimistic, not about the success of Germany's air operations as a whole but about its fighter units in particular. "In the numerous air battles of the past few days, *Jasta* 28 has performed exceptionally. But yesterday's missions brought the squadron eight air victories. We look forward with pride and joy to our comrades, who, above the battlefields of Flanders, with their aggression and courage in the face of death, were slaughtering the English there, and in their youthful chariots, they conquered all for the Fatherland. The *Armee* and myself extend thanks to the mighty fighters of the *Jasta*."[106] Congratulations of this sort extended all the way up to the King of Württemberg, who wrote personally to *Jasta* 28 to commend their success: "To the latest gleaming performance of the often-honored *Jasta*, I express my most heartfelt congratulations."[107]

Official telegrams and the increasing focus given to fighter pilots combined with a spoils system which developed not only to reward killing in the air, but to incentivize further acts of violence. German aviators were gifted a goblet, known as the *Ehrenbecher für den Sieger im Luftkampf*, or the Honor Goblet for the Victor in Air Combat, was made of high quality silver and stamped with the mark of the head of the flying forces. The goblet was given to aviators on the occasion of their first aerial victory, although this requirement increased as the war went on. Rudolf Berthold noted that, by 1918, the goblets were eventually made of iron, which he felt was a more appropriate metal to embody the work accomplished by fighter pilots. Upon awarding of an iron goblet to a young pilot, Berthold noted that the war was now producing "iron men" who would

[106] Ernst Heß, Nachläss N208-3, Freiburg Bundesarchiv.
[107] Ernst Heß, Nachläss N208-3, Freiburg Bundesarchiv.

continue to serve and die for the Fatherland. Such awards were seldom, if ever given to German aviators serving in reconnaissance and bombing units. Thus, the air service created an active system of encouraging aviators to fight with single seat fighter units if they desired a career filled with awards and congratulatory telegrams from princes and generals. Thus, the system established to quantify and encourage violence in the air worked to effectively maintain morale even as the war turned decisively against Germany while maintaining an extraordinary sense of privilege among the nation's fighter pilots.

Conclusion

Violence and powered flight were intertwined from aviation's inception at the start of the twentieth century. The risks associated with flight, with controlling underpowered aircraft built out of lightweight materials that offered no appreciable safety to the pilot, were known among those who entered the field during the First World War. Violence, however, was not a monolithic experience for all aviators, nor was it a constant experience over the course of four years of ever-changing war in the air. Aviation benefited from the static nature of the war below, yet the technical revolution sparked by the muddy quagmire of Flanders created a rapidly changing conflict in the air.

The very act of performing powered flight was viewed as a violent struggle. The forces of nature, of gravity, inertia, speed, and the resulting strain on both body and airframe, cultivated a perception of violence in the minds of those who flew, and those onlookers on the ground. At the outbreak First World War in 1914, aviation was merely an embryonic, un-realized appendage that served under the jurisdiction of the generals of the German army, none of whom knew how to utilize this new and disruptive technology.

The limitations of powered flight in those early months of the war provided aviation with a singular task, that of observing the movement of the enemy on the ground. Even at this early stage, it is clear from the writing of German aviators like Rudolf Berthold that fliers viewed their contributions to the wider war from a highly privileged perspective.

Observing troop movements fed a near-constant stream of intelligence back to German commanding officers who could then, in turn, change the direction of their own troops. The resulting attacks and counter-attacks were responsible for the deaths of hundreds, if not thousands of enemy soldiers below. While never firing a shot, the observers of German reconnaissance machines felt they could influence the war on the ground. The increasing sense of importance that the general staff held aviation only reinforced this privileged viewpoint. Pure observation, however, soon found its limits. Even dedicated men like Rudolf Berthold, whose reports had been accepted wholesale during the early German successes of 1914, found his new information falling on deaf ears when the French began counter-attacking and thus inflicting violence on the German soldiers beneath the wings of his large reconnaissance aircraft. That exploitation eventually broke the German advance and created the circumstances that would solidify the war on the Western Front into a static, stagnant conflict for the next three-and-a-half years.

That conflict, over a stable, unmoving environment transformed aviation's early use for observation into a tool for mapping the Western Front. The subsequent realization of military flight's vital importance led a pace of development so rapid that aviators struggled to keep up. The crews of two-seat reconnaissance machines soon found themselves responsible for a host of new duties: photographing enemy positions,

manning defensive machine guns to either attack or defend against enemy aircraft, and ranging artillery with sophisticated wireless equipment. Thus, the experience of violence transformed again, from a passive to an active engagement. Ranging artillery in a large reconnaissance aircraft could kill several times the number of enemy combatants that one could ever hope to shoot down in the air. Yet observers enjoyed the privilege of viewing the task as an abstract exercise in calculation and plotting. As the air war grew more populated, however, these crews also faced direct, menacing violence in the air. The crews were required to operate, as Georg Neumann said, "as two working as one individual." Working as a unit that could anticipate each other's needs created a bond that arguably transcended that of those on the ground - where verbal communication was still an option. Failure to do so resulted in disastrous consequences, and circumstances from which men like Berthold were lucky to escape.

Aerial bombing on the Western Front moved violence from the realm of the often-abstract space occupied by two-seat crews into an extraordinary dangerous and visceral experience for the men who served in units like Bavarian *Schlasta* 31. In 1918, the unit epitomized the transformation of violence in the air against the ground, from a distant mode of engagement to literally dropping bombs only a few hundred feet above the earth. Rather than noting "thickness and thinness" of enemy positions - which appeared as little more than lines in the sand from ten thousand feet up - bombing crews could note individual bombs destroying cars, tanks, ammunition dumps, and of course, killing and maiming men. These crews could also strafe troops on the ground, who were likely running in terror from the attack in the sky. The experience brought violence out of the realm of privilege and placed killing in a perspective that could not be ignored.

The transformation of the aircraft from the large, multi-seat machine, to that of the single-seat fighter, completed the movement of violence along a spectrum from abstract to direct. The placement of the engine, pilot, and machine gun along the same axis fundamentally changed the aviator's relationship with violence. Rather than attempting to hit a moving aerial target from a moving aerial platform, the fighter pilot could move his body and machine in tandem, until he was mere feet away from his target, before opening fire and destroying the machine, and killing the man, in front of him. But aviation, that most complex of technological interfaces in the First World War, also provided the aviator with the privilege of ignoring the work of his own hands. Men like Manfred von Richthofen chose to land to survey the work of his machine guns. His autobiography exhibits the elation he experienced to see who well his marksmanship worked against his target, while all-but-ignoring the mangled bodies left in the wreckage of the enemy machine he had just shot down. Other aviators, like Rudolf Berthold, could choose not to visit the site of such crashes, which were needed to verify a victory and be sent on to the *Fliegertruppe* command to subsequently award the kill. It is perhaps telling that Berthold's later entries ignore killing altogether, and expend significantly more ink complaining about lackluster quarters than expounding on the violence he had inflicted on other fliers.

The awards fed a system created and expanded by the German military was designed to quantify killing while further incentivizing the act of killing in the air. The statistical task of tabulating "kills" or "victories" elucidates much about the concerns of the German command structure of the air service. Rather than counting men, the Germans, like their adversaries on the other side of the lines, counted machines rather

than men in the daily totals of aerial victories. Doing so further abstracted the grizzly work performed by Germany's aviators and provided a lens through which to view killing as a "clean" profession which, in the words of Manfred von Richthofen, could be abstracted to resemble the hunting of animals, rather than the killing of men. This system was but the surface of a much larger, more complex apparatus that was designed for quantifying killing. Measurements of bomb craters from aerial weapons, statistical analysis of bombing, and attempts to render aerial warfare to a scientific enterprise elucidates the ways in with the German air service abstracted killing, and refocused its attention on the destruction of war materiel rather than men. Yet, as the war progressed, the general staff became increasingly obsessed with the air to air fighting between Germany's fliers and its adversaries. Minute details that not only quantified killing but also recorded the serial number of the motor produced in a foreign factory, speak to the shift in focus away from the ground war towards the fleeting gratification of winning limited aerial battles.

This shift in focus by the general staff further complicated the relationship that Germany's aviators experienced with violence. Differing from their comrades on the front lines of the Western Front, aviators enjoyed extraordinary privilege; from their living quarters, to their social status as heroes to the German public, to the remarkable lengths to which the *Fliegertruppe* would go to retrieve fallen aviators. These men, however, experienced and subsequently processed violence in markedly different ways. Violence then, was a defining characteristic of the experience of flying in the First World War, but it was expressed in a multitude of ways along a spectrum of intensity, physicality, and position. It formed a central pillar of identity. Violence acted in

conversation with a host of other modes of personal and group expression. As we will see in the next chapter, regional and national identity also formed a fundamental mode of understanding the purpose of being a flier for the Fatherland.

CHAPTER FOUR: GERMAN FLIERS IN FOREIGN LANDS

Introduction

Aviation, like many new technological innovations before it, worked as a disruptive force within society. As we have already seen, powered flight changed the human relationship with the photographic camera, and created a new and privileged relationship with the act of killing. Flight also complicated questions surrounding regional and national identity. As noted in chapter one, Germany in 1914 was the product of decades of complex exchanges between regional and national discourses that defined what it meant to belong to the Fatherland. The airplane, and in particular, the role of aviator, would introduce new and challenging dimensions to the constellation of attributes that constituted what it meant to be German during the First World War. German aviators, who were largely part of the new, middle class members of the officer corps, negotiated the influence of long-standing cultivations of German identity, while finding new ways to express their personal sense of self, their regional affiliation, and the ways in which they internalized the nation.[1]

As aviation's military potential slowly crystalized before the First World War, Germany's regional peculiarities emerged once more in the widely differing reaction of regional governments to powered flight.[2] These responses, which ranged from urgently

[1] Alon Confino's investigation of national identity examines how Germans internalized the idea of the nation. This question also informs my work in this chapter. In regards to aviators, I am also curious as to how this internalization subsequently manifested itself in social and cultural practices. See Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Chapel Hill: The University of North Carolina Press, 1997).

[2] John Morrow elucidates the technical and political interplay that informed the decision making of Bavarian and Prussian war ministers. See, John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).

adopting aviation as a vital new mode of waging and winning wars, to fretting over acquiring too many airplanes for the coming war, illustrate more than just the mere logistical and military concerns of Germany's various regions. It demonstrates the lingering influence of regional peculiarities that grew from roots buried in the intellectual discourse of the previous century. To trace these regional and national responses to aviation at a point of crisis then, reveals the significant influence of Germany's complicated identities on both the mentalities and lived realities of the nation's fliers during the First World War.

Aviation highlights the complex manner in which regional differences within Germany could dictate the life and death realities of its fliers during the First World War. Here the notion of regional peculiarities manifested in concrete, tangible ways. Bavaria's air service, which served autonomously within the wider German *Fliegertruppe* and later, the reorganized *Luftstreitkräfte,* was the most emblematic example of the consequences of long-standing regional differences in shaping the kingdom's experience during the First World War. The regional independence which was so fiercely defended by the Bavaria's war ministry ultimately shaped their perception of the impending war and their reaction to it. First, it created a sense of war time that was distinctly different from its Prussian counterparts, and subsequently colored the Bavarian war ministry's sense of the urgency of the conflict, and its potential to become a long, devastating ordeal. The consequences of this perception of the coming war created shortages of machines for aviators to use at the outbreak of the conflict. Second, in its efforts to maintain local autonomy from Prussia, Bavaria's war ministry ultimately dictated which manufacturing firms would design and build machines for the kingdom's fliers. The decision to initially

work with localized designers and industrial centers produced far different aircraft from those manufactured for Prussian squadrons. As a result, Bavarian aircraft were often markedly inferior form a technical and mechanical standpoint and were subsequently fraught with maladies, leaving Bavarian aviators exposed to greater risk of accident and death.[3] In an era where aircraft were constructed with no thought given to protecting the aviator, a simple crash landing could prove fatal.[4]

Here too, aviation plays a disruptive role in the discourse of regional autonomy and national identity by further complicating these identities by adding an additional layer of personal preference and superstition. In doing so, powered flight and the role of aviator opened a space for self-expression and new modes of identity construction. Aviators often had mixed reactions to new types of machines produced during the war. Some, like those made in early 1916 by the Bavarian firm, Pfalz, were markedly inferior to their Prussian counterparts.[5] Only a year later, in 1917, the same firm produced a new machine that, despite its supposed inferiority to Prussian aircraft, would be preferred by some pilots in combat. This preference highlights the dynamic nature of identity, and the multiplicity of conversations that defined personal, regional, and national concepts of the self and one's place within a broader, unified community.

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[3] See, John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).
[4] One such example of a fatal crash landing was that of Oswald Boelcke, the massively popular German fighter pilot who was one of the earliest airmen to attract attention for shooting down enemy aircraft. He was killed when a fellow airmen collided with him, and his aircraft was forced into a crash landing. Boelcke was killed on impact. Manfred von Richthofen comments on the death of Boelcke, who was his mentor in his autobiography. See, Manfred von Richthofen, *Der rote Kampfflieger* (Berlin:Verlag Ullstein & Company, 1917).
[5] As will be discussed later in the chapter, Rudolf Berthold notes with disgust, his reaction to a poorly built Pfalz aircraft. Other German aviators, however, came to depend on later Pfalz aircraft over their Prussian built counterparts, like the Albatros line of fighter aircraft. These proclivities were colored by personal preference and, at times, superstition.

German aviators went to great lengths to define their identity on the Western Front. It is in this construction of the individual as well as the community, that we find both the privilege and the space that aviation afforded to fliers. An examination of the photo album of Peter Supf reveals the effort expended in recreating the German homeland even in the midst of the Western Front. Within these constructions we find the reciprocal nature of regional and national identities, where one context cannot fully exist without the presence of the other. Indeed, in the process of expressing German identity, Bavarian units often sought ways to distinguish themselves from their fellow Germans, in a way that highlighted the regional peculiarities within a broader nationalistic framework.[6]

The process of "othering" oneself from one's neighbors fundamentally changed when German squadrons moved away from the Western Front, which was populated predominately by fellow Europeans, to foreign theaters of war. Within a truly foreign space, the "otherness" within regional identity, the sense that "sharp distinctions are drawn between neighbors," gave way to broader tropes that often harkened back to nationalistic discourse. Within this space, where German aviators felt truly different from the other people inhabiting their surroundings, a different sense of "otherness" came to the forefront. *Bayern Flieger-Abteilung* 304b, an aviation reconnaissance unit, provides the perfect case study into the renegotiation of "otherness" in foreign lands. The unit organized and trained over the rolling green fields of Oberschleißheim airfield, just

[6] For the ways in which populations seek to "other" themselves from their counterparts, I utilize the theories explained in Johnathan Smith, "What a Difference a Difference Makes, in *To See Ourselves as Others See Us: Christians, Jews, "Others" in Late Antiquity*, ed. Jacob Neusner and Ernest Freichs (Chico: Scholars Press, 1985).

outside of Munich, but they would soon deploy to the deserts of the Middle East in the final year of the First World War. Here, the broader, flatter performance of national identity, rather than regional idiosyncrasies, became the dominant markers of identity for German aviators.[7] The process of "othering" those around them in Palestine began long before reaching their theater of operations, during the logistical challenge of requisitioning and organizing the needed materiel to transport the squadron from Germany to the middle east. The language of 304b's documents are filled with the discourse of "othering." Cultural appropriation mixed with a sense of cultural, intellectual, and racial superiority combine to create a new and complex "German" identity among the fliers of the unit that would be nicknamed, even in official documents, as 304b "*Pascha*." Its commanding officer, Franz Walz, earned the moniker of "The Eagle of Jericho." Thus, 304b both marked itself as distinctly German while "othering" local culture through appropriation in an act of nationalistic self-expression. The squadrons technical, logistical, and mechanical issues only reinforced their perception of seeing in a truly alien habitat devoid of any inherently "German" characteristics.[8]

Aviation then, provides a valuable approach to dissect the complexities of regional and national identity at a heightened point of crisis within Germany. It contributes to a growing body of literature that refutes the notion that Germany was a

[7] When using the phrase "flatter performance of national identity," I mean to express the sense in which national tropes are expressed using broad, less defined markers of identity which are more open to interpretation. Regional peculiarities often require contextual markers to create cultural significance. In other words, a Bavarian-style hunting lodge, the kind which appears later in this chapter, requires the viewer to understand what architectural cues mark the building as Bavarian rather than simply German. Whereas flying the Imperial German Flag, or wearing an iron cross, or marking one's aircraft with German colors, requires less contextual cues for a viewer to process these practices as German. These visual cues were broadly defined, largely by Imperial culture, as inherently German modes of expression of identity.
[8] See, Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077 Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich

unified nation before the First World War, as well as assertions that the war was a unifying experience.[9] For even post-war histories of Germany's experience in the war in the air were still divided into national and regional narratives. Analyzing the intellectual discourse that shaped the mindset of German's born at the end of the nineteenth century, as well as practicing a close reading of the material culture of the period, fully elucidates the degree to which Germany in 1914 was still a nation defined by regional identities. The development of military aviation intersected with a new generation of Germans, and provided a canvas on which to further define and express their sense of individual, regional, and national identity, while marking them as distinctly different from their comrades on the ground. The processes through which these men defined their sense of individual and community while "othering" those around them, are elucidated through their private and public writings, their personal photographs, the personal paint schemes they applied to their aircraft, as well as the very machines they flew in service. These threads all unite under close source historical scrutiny to provide a clearer picture of the complex manner in which Bavarian, Prussian, and subsequently, German identity developed during the First World War.

The Roots of Regional and National Identity in German Aviators: 1890-1914

To understand the role of aviation in shaping or disrupting the mentalities of Germany's aviators, it is necessary to examine the roots of their education and

[9] Important works regarding the manner in which regional differences affected the experience of war have contributed greatly to our understanding of the ways in which Germany was still divided during the war, these include, Benjamin Ziemann, *War Experiences in Rural Germany: 1914-1923* (London: Bloomsbury Publishing, 2007), and Roger Chickering, *The Great War and Urban Life in Germany, Freiburg, 1914-1918* (Cambridge, Cambridge University Press, 2007).

incorporation into the nation's complex regional and national narratives. As noted by Celia Applegate, Germany in the years before the First World War, remained a "nation of provincials."[10] The Fatherland, for many, represented a tangle of local, regional, and national discourses and loyalties.[11] The intellectual and cultural roots of regional identity stretch back beyond even the early nineteenth century, where the where the negotiation of local versus national identity could be found in everything from popular literature to infrastructure construction to the educational practices of the nation's network of regionally independent schools.[12] Germany's aviators, men mostly born between 1885 and 1895, were shaped by this complex cultural exchange. The resulting perspectives they held, on everything from the nature of the forest to Germany's role on the geopolitical world stage, were a byproduct of this background. The ongoing interplay between local and regional modes of identity formation, and the broader discourse of national unity attempted to bridge multiple divides: religious, economic, as well as urban

[10] See Celia Applegate, *A Nation of Provincials: The German Idea of Heimat* (Berkeley: The University of California Press, 1990).

[11] The history of the roots of German regional and national identities has a rich historiography. My chapter incorporates this historiography into my analysis of German aviators. Among the many works that examine this area of German history are, Celia Applegate, *A Nation of Provincials: The German Idea of Heimat*; Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918*. See also, Jeffrey Wilson, *The German Forest, Nature, Identity, and the Contestation of a National Symbol, 1871-1914* (Toronto: University of Toronto Press, 2012).

[12] German historical fiction, the defining genre of the period, reflected the ebb and flow of regional and national tensions that only grew over time. Brent Peterson notes that the years 1815 to 1830 marked a period defined by the redrawing of national borders, the concept of a "national" defense to a "foreign" invader, and the "strident though often nebulous demands for German unity. For more on the role of literature in forging a sense of national unity during and immediately following the reign of Napoleon, see: Brent Peterson, "German Nationalism after Napoleon: Caste and Regional Identities in Historical Fiction, 1815-1830," *The German Quarterly*, 68, No. 3 (Summer, 1995), 287.

and rural.[13]

Four primary influences ultimately shaped the world view of German aviators. First, regionally distinct education systems highlighted local markers of identity while tying them to a deep historical past. These narratives formed the social and cultural signposts of Germany's aviators, and with the added space of privilege, would appear again and again in their writing, their art, and their perception of the world around them. Second, the inclusive discourse of *Heimat* culture which incorporated differing backgrounds into a unifying narrative created a shared space for fliers from different regions while maintaining local peculiarities. The amorphous nature of *Heimat*, which made it remarkably adaptable to differing narratives, created a shared sense of community that was tied to the landscape, to tradition, and perhaps paradoxically, to the ever changing progress of the present and future. It was in the latter space, that the aviator was most at home. Third, the increasing influence of the military as a source of personal and class prestige and its ever-present visibility in many German towns. Young Germans like Rudolf Berthold remarked of the impact that seeing his fellow countrymen in uniform on a daily basis, had on his decision to enlist in the army after his studies. Others, like the aristocratic Manfred von Richthofen, embodied military life almost from birth, and entered the cadet academy at an extraordinarily young age. Finally, perhaps

[13] Some divides would not be closed, however. The largely Catholic Bavarian south never fully came to embrace the Protestant Prussian north. Bavarian elites, even at the turn of the century, had not forgotten the *Kulturkampf*, and subsequently felt they had good reason to protect Bavarian autonomy. This mistrust was also reflected in Bavaria's air service, which I will discuss later in this chapter. For more, see Helmut Walser Smith, *German Nationalism and Religious Conflict: Culture, Ideology, Politics, 1870-1914* (Princeton: Princeton University Press, 1995). See also, Rebecca Ayako Bennette, *Fighting for the Soul of Germany: The Catholic Struggle for Inclusion after Unification* (Cambridge: Harvard University Press, 2012).

most obviously, is the role of the airplane itself, which blended with some previously established discourses and disrupted others. The manner in which Germany's first generation fliers adapted to the airplane, made sense of themselves and their world through it, and subsequently expressed their identity with it, defined both their understanding of aviation, and influenced the popular perception of it.

Regionally directed education was likely the earliest mode of social construction in the lives of young Germans. Even after unification in 1871, Germany's public education system was still divided into local jurisdictions which defined student curriculum and assigned textbooks. The lessons taught from these works centered on the notion that the region was defined by distinctive occupations, customs, or expressions, and these resonated with particular strength in Bavaria. Textbooks in the region educated children on Bavarian identity by anchoring it within the foundations of the landscape. One piece entitled, "On the Green Isar," highlighted the beauty of the River Isar and was filled with evocative words like "*lieblich,*" *freundlich,*" "*herrlich,*" or "*schön*."[14] The central imagery of the story, that of the child of a mountain woodcutter and his father floating down the river, ties the self, the family, and the wider nation to the landscape and its natural resources. The narrative is accompanied in the textbook by images of medieval castles, which in turn root the characters within the deeper discourse of Bavaria's distant past. They also highlight the raft as a mode of transportation, which symbolizes the economic and industrial importance, not only of family and paternal nurturing, but also

[14] Katherine Kennedy, "Visual Representation and National Identity in the Elementary Schoolbooks of Imperial Germany," *Paedagogica Historica,* 36, No. 1 (2000), 235.

the invaluable influence of the river.[15] "On the Green Isar" is a typical rendering of *Heimat* culture in German literature, and represents only one of a litany of stories which instilled young Germans with a sense of the self, the region, and the nation as being rooted in the landscape around them.[16]

Heimat became a strong cultural anchor for German students at the close of the nineteenth century. As noted in chapter one, contemporary historical analysis of *Heimat* culture refutes the previously-held notion of the movement as somehow anti-modern.[17] Indeed, Celia Applegate notes that after 1871, the *Heimat* movement became more inclusive and was not anti-urban or anti-modern, and worked to incorporate Germans from diverse backgrounds into a single, unifying narrative.[18] Regional education served only to further contribute to this narrative. The regional histories of Bavaria or Saxony or Württemberg often worked in conversation to construct individual and local notions of what defined a broader sense of German identity from within a regional context.

School textbooks at the end of the nineteenth century also attempted to connect German identity to a deeper, shared, and often revised, historical past. One unifying event that was covered in textbooks across the country was the defeat of the Romans in the *Teutoburg* forest by the Germanic leader, Hermann in the ninth century. Nearly a thousand years later, at the end of the nineteenth century, Hermann was rhetorically

[15] Ibid.
[16] Kennedy, 232.
[17] See Alon Confino, *The Nation as Local Metaphor: Württemberg, Imperial Germany, and National Memory, 1871-1918* (Chapel Hill: The University of North Carolina Press, 1997). See also, Matthew Jeffries, *Imperial Culture in Germany, 1871-1918* (New York: Palgrave, 2003).
[18] See Celia Applegate, *A Nation of Provincials: The German Idea of Heimat* (Berkeley: The University of California Press, 1990).

resurrected as the father of German national identity.[19] The social importance of this historical moment was further reinforced through the construction of a massive monument, in which the hero Hermann is shown wearing period armor and brandishing a sword while readying for battle. Construction on the monument began in 1838 and was not completed until 1875. The story of Hermann's triumph over the Roman invaders was published in nearly every school textbook in Germany, and the generation of 1914 grew up with reading the narrative of a Teutonic knight throwing out an invading force bent on their destruction.[20] The ahistorical imagery of medieval knights would appear again in the stories of Germany's aviators.

Education and military service served to reinforce social and economic class status among Germany's youth before the First World War. Rudolf Berthold, who had been born into a middle-class family in Bamberg, had the option at just ten years of age, to enroll in the Bavarian military cadet system. Rather than attending the military academy, Berthold's family could elect instead to send him to the *Humanistische Neue Gymnasium*.[21] Despite his family's desire to withhold Berthold from military life, at least in the short term, the young German was still surrounded with the iconography of military service. Two army regiments were stationed in his home town at the time, and Berthold was constantly surrounded with the visual grandeur of infantry and cavalrymen in full dress uniform as they roamed the streets of the town.[22]

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[19] Kennedy, 237.
[20] The story of Hermann was only one of several narratives that reinforced the sense of Germany endlessly fighting defensive wars. For more, see Robert L. Nelson, "Germany and Germans at War," *The International History Review,* Vol. 31, No. 1 (Mar., 2009), 85-95.
[21] Peter Kilduff, *Iron Man: Rudolf Berthold: Germany's Indomitable Fighter Ace of World War I.* (London: Grub Street Publishing, 2012) Kindle Edition, chap 2.
[22] Ibid.

The influence of seeing those who represented masculine protectors of the homeland played a heavy role in Berthold's young life, ultimately leading him to enlist in the Bavarian army once he completed his studies at *Gymnasium* at age nineteen. By contrast, Manfred von Richthofen, who was born into an aristocratic Prussian military family in Kleinburg, near Breslau, in Lower Silesia, enrolled in a military cadet academy at age eleven, and joined a Uhlan cavalry regiment upon graduation.[23] Thus, the close relationship between education and military training for young men in Germany further informed their view of regional and national identity, and their place within local and wider communities. The visual culture of military academies too, informed a sense of identity, with each regiment, and each regional academy issuing differing uniforms. The visual difference created by a variety of uniforms, fostered a sense of regional distinctiveness among those serving in the First World War.[24]

Returning a final time to the influence of *Heimat* culture, Alon Confino too, notes that *Heimat* culture was particularly adaptive, largely because of its amorphous nature, to the changing technological and economic acceleration within Germany at the turn of the twentieth century. Embedded within the discourse of *Heimat* culture, was the intense contradictions between a celebration of progress and a yearning for the past. Confino argues, "In this light, the *Hemiat* idea - combining an attraction to and celebration of progress with an anxiety over technological change, and a yearning for a past of putative wholeness and authenticity - seems at the center of Germany's experience of

[23] See Manfred von Richthofen, *Der rote Kampfflieger.* (Berlin:Verlag Ullstein & Company, 1917).
[24] Berthold notes that upon arriving for assignment to a squadron, the variety of jackets worn by soldiers from different regiments across Germany. The visual impact of this difference highlighted regional peculiarities as well as national urgency in 1914.

modernity."[25] Embedded within the confines of *Heimat* discourse, the Zeppelin shed and the centuries' old farmhouse could comfortably coexist.

It is important to note, however, that while the airplane and the Zeppelin might appear to be the same technological innovation, they represented very different perspectives on what the future of powered flight meant for the nation. Unlike the Zeppelin, the airplane represented an international, or at the very least, a pan-European technological development. Begun by the Wright Brothers and accelerated by the French and the British, the airplane represented both an opportunity for communities to cross traditional boundaries, as well as a threat to German sovereignty. Again, as noted in chapter one, the cartoons featured in *Jugend*, show us a view of the airplane that, for some, was seen as a tool of the ruling elite, the militaristically-minded, and the power hungry. For those who would become military aviators, however, the airplane represented an opportunity to establish themselves as a member of Germany's officer class while serving their country in a manner that reflected their educational background as well as a culture that embraced both tradition and new technology.

Aviation's trajectory as an increasingly realistic military pursuit coincided with the recent widening of the German officer corps, which opened the previously aristocratic ranks of the German military to the new and growing middle class. The culture of the army, with its ardent nationalistic stance, also appealed to some in the German middle class. Peter Supf, who would serve as an observer with a Bavarian reconnaissance unit during the war, was a highly educated member of this class. Born in Nurnberg in 1886,

[25] Alon Confino, *The Nation as Local Metaphor*, (Chapel Hill: The University of North Carolina Press, 1997), 122.

Supf studied law in Geneva and later, Oxford University, before returning to Germany to study in Munich and Berlin. In 1912, he completed a dissertation entitled, "Alsace-Lorraine and the constitutional nature of the German Reich," in Greifswald.[26] Thus, the arrival of war two years following his dissertation defense likely served as an opportunity for Supf to realize the political ideologies he had espoused in writing. The fact that Supf then created and curated a large photo album of his military experience, literally from the moment of his unit's organization in August 1914, further illustrates the importance of this moment in his life.

It was from this political, social, and cultural conversation that Germany's first generation of aviators formed their notion of the self, of community, and of the wider nation that they would ultimately defend. Regionally specific histories and lessons coincided with the malleable embrace of *Heimat* culture to create a Fatherland that was both locally expressive and nationally inclusive, particularly for the middle and upper class members of society who largely served in the *Fliegertruppe*.[27] It would also provide new privileges and spaces to express regional differences and personal identity. All along the Western Front, German squadrons would find ways of replicating their local and national experiences in the middle of an active battlefield. For those serving in Bavarian squadrons in particular, the regional differences in Germany would have life and death consequences.

[26] Biographical data from finding aid for Peter Supf, NL 063, Deutsches Museum, Munich, Germany.
[27] See Ute Frevert, *A Nation in Barracks: Conscription, Military Service, and Civil Society in Modern Germany* (Oxford: Berg, 2004).

Bavaria's Air Service and the Complexities of Regional Autonomy and Identity

Aviation added another dimension of complexity to the interplay of regional peculiarity, national discourse, and exacerbated already contentious levels of bureaucratic infighting between Prussia and Bavaria. For Bavarian pilots tasked with flying over the Western Front, the ongoing power struggle between the two kingdoms would directly affect the types of aircraft given to their squadrons. For aviators, regional distinction often created grief in their daily work, and their reaction reflected their anger, not towards the political machinations of war ministries, but by the inability of aircraft manufacturers to produce quality machines. The growing importance of capable combat aircraft in the minds of aviators signaled a transition from broader, more abstract notions of identity, to intensely personal relationships with the machines that framed their everyday experiences in war. This relationship manifested in idiosyncratic predilections towards certain machines, and further materialized through superstition, personal talismans, and individual expressions of identity through the material culture of aircraft. An examination of the *Königlich-Bayerische Fliegertruppen*, or Bavarian Royal Flying Corps, elucidates the degree to which regional distinctions within Germany affected the lived experiences of the nation's aviators, and how those experiences contributed to the growing relationship between pilot and plane. The subsequent manner in which this relationship was expressed extended beyond the aircraft and appeared in their privileged space on the ground.

Animosity between Bavaria and Prussia existed long before the outbreak of the First World War. The origins of Prussian military authority can be traced back to the Brandenburg recess of 1653, which bargained with the nobility in return for an increase

in funding for the army, resulted in a new relationship between the crown and the Junkers class.[28] As Robert Citino notes, this not only resulted in a well-funded and maintained army, but also in a Prussian officer class who enjoyed more flexibility and, consequently, more power within the military.[29] Bavaria maintained a degree of independence, so long as its royal dynasty, the Wittlesbachs, would continue to remain loyal to the Prussian crown, the Hohenzollerns.[30] As Robert Nelson deftly points out, "the 'starting date' for this German way of war was the battle of Warsaw in 1656."[31] Thus, in the minds of many, the German way of fighting was dictated almost exclusively by both Prussian officers, and the culture they embodied.

As the twentieth century began, the competition between the two powers extended into the burgeoning field of aviation, as powered flight became yet another space where Prussia sought to dominate the less powerful kingdom to the south.[32] To do so, Prussia encouraged the development of locations like Johannisthal airfield in Berlin, which grew to become the nexus of German aviation in the north. In response, Bavaria worked to foster the flourishing of aviation in the south. Under royal decree, construction began on the Oberschleißheim airfield north of Munich.[33] Even the materials used in the construction of the two airfields highlights the degree to which Bavaria worked to maintain distinct regional difference between itself and its Prussian antagonist. Seeking to

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[28] See Robert L. Nelson, "Germany and Germans at War," *The International History Review*, Vol. 31, No. 1 (March, 2009), 85-95.
[29] Nelson, 86.
[30] Bavaria continued to enjoy an autonomy of infrastructure as well, with an independent railway and postal service. Thus, the logistical and technological works of the kingdom expanded into that next innovation, the airplane.
[31] Nelson, 86.
[32] For more on the role of Prussia in shaping the wider German Reich, see Christopher Clark, *Iron Kingdom: The Rise and Downfall of Prussia, 1600-1947* (Cambridge: Belnap Press, 2009).
[33] Flugwerft Schleissheim Exhibit, Deutsches Museum at Oberschleißheim in Munich, Germany.

maintain a distinctly Bavarian style, the airfield's utilitarian buildings were constructed to mirror the architecture of ornate royal palaces nearby. Even the airfield's control tower and work hangers, buildings not usually deigned for architectural flourishes, were built to model the luxurious features of the Bavarian palaces.[34] Constructed in 1912 by the Bavarian Royal Flying Corps, the airfield became the central hub for air activity in the region before and during the First World War.[35] There, the Royal Bavarian Flying Corps worked to train its own cadets using aircraft sourced from local aviation firms.

Bavaria also worked to maintain independence in its air operations, ever since its war ministry expanded into the field of military flight in 1910. Bavarian flying units served under independent command, but were grouped under the broader jurisdiction of the *Fliegertruppe* and, after reorganization in 1916, the *Luftstreitkräfte.*[36] The kingdom struggled for years to maintain varying degrees of autonomy within the wider German air service, although, as noted by John Morrow, "the Prussian War Ministry determined the Bavarian Army's aviation budget, the Prussian research unit set procurement guidelines, and the Prussian Army ultimately controlled the mobilization and deployment of the Bavarian air arm."[37] Through contracts, licenses, and bureaucratic power struggles, Prussia would ultimately find ways to assume control over Bavaria's air service.

Having no practical means to maintain their independence under the thumb of Prussian authority, the Bavarians attempted to find autonomy, not through military power struggles, but through the production of locally sourced aircraft. But while the two

[34] Flugwerft Schleissheim Exhibit, Deutsches Museum at Oberschleißheim in Munich, Germany.
[35] Flugwerft Schleissheim Exhibit, Deutsches Museum at Oberschleißheim in Munich, Germany.
[36] John Morrow discusses the logistical reorganization of Germany's air service in 1916. See, John Morrow, *German Air Power in World War I,* (Lincoln: University of Nebraska Press, 1982).
[37] Morrow, 9.

kingdoms were on essentially even technological footing at the start, the rate of aircraft development meant that the goal of building locally designed machines on par with Prussian firms became increasingly difficult to maintain. The central issue facing the Bavarian government in 1913 was the location and ownership of the most advanced aviation firms in Germany. The major aviation works in the nation, Albatros, Rumpler, Fokker, were all located in Prussia. To counteract this, the Bavarian government moved to support local aviation firms in the hopes that they could create new aircraft to compete with those of their Prussian counterparts. Failing to accomplish that, the war ministry also sought to simply acquire the licenses to produce copies of Prussian aircraft in Bavarian factories. Neither approach would yield much success.

In 1913, the Bavarian war ministry approached the Albatros firm, which was based in Johannisthal, just outside of Berlin. The negotiations for the rights to produce Bavarian-made copies of Albatros-designed machines fell through. Inter-region backbiting also played a role in fomenting further animosity between the two kingdoms. The members of the Bavarian war ministry believed in favoring local firms, even at the expense of fostering the competition they believed was required to produce better aircraft. In doing so, the Bavarian flying corps believed that it would maintain autonomy by pouring funds into local aviation firms in the hopes that they could produce aircraft of a similar sophistication to their Prussian counterparts. First, the Bavarian Flying Service invested in the aviation firm, Pfalz, and contacted local financier named Gustav Otto, who later formed his own company, the Aerowerke Gustav Otto.[38] The two firms would

[38] Morrow, 9.

produce some of the early military aircraft used by the Bavarian Flying Service. Bavarian insistence on using only regional factories to supply the army with military aircraft, however, would result in serious consequences; Bavaria lacked suitable military machines for service at the outbreak of the First World War and Bavarian air firms only continued to fall further behind the development work of their Prussian rivals as the war continued.

The regional differences between Bavaria and Prussia also created distinctly different interpretations of the impending war in 1914. John Morrow notes that, "the [Bavarian] war ministry, worried about having too many rather than too few aircraft, contrasts starkly with that of the Prussian Inspectorate of the Flying Troops, which was frantically seizing every available airplane in north Germany."[39] In Morrow's summary of Bavarian attitudes, we see a fundamentally different view of war time between the two kingdoms. The seemingly strange worry over having too many valuable war weapons rather than too few, is reflected in differing perspectives of war time. Sir Hew Strachan notes that Prussian military planners knew from the outset that the nation was in for a long, difficult, and potentially catastrophic war of attrition.[40] Contrary to previous scholarship, Strachan contends that Prussian planners also came to this realization during mobilization in 1914, and not later in the conflict.

Thus, the concern over acquiring too many or too few aircraft reflects a fundamentally different perception of the seriousness of the coming war.[41] It is apparent

[39] Morrow, 29.
[40] Sir Hew Strachan, conference presentation, "The Long and the Short of it: Time and Strategic Planning in the First World War," War Time Conference, Oxford University, November 2016.
[41] Morrow, 29.

in the response of Bavarian war planners that they did not share the same view of the war as a grueling and long-term event that required logistical stockpiles to survive. The Prussians based their reaction around the urgent need to gather as much war materiel as possible, including aircraft. Bavaria, by contrast, clearly perceived the new war as a short engagement, and the consequences of this philosophy left many of its newly formed aviation units without suitable machines during the opening weeks of the conflict. Indeed, the prevailing fear within the Bavarian military was not being caught without enough aircraft, but rather being saddled with unusable machines that could not be sold off to counterbalance war expenditures after the conflict. This concern reflects not only the differing perspectives on how long and how destructive the war would be, but also in the speed of aircraft development, where machines produced within the previous six to twelve months could be woefully out of date before they could be sold.

Rudolf Berthold lived through logistical chaos that manifested from Bavaria's bureaucratic shortsightedness. Berthold, who was originally mobilized with his infantry unit, was soon separated out to continue service in his new role as an observer with a newly formed flying detachment. He notes his emotions, or his lack thereof, upon leaving his infantry unit: "I had soon forgotten my old [infantry] regiment… who have already suffered heavy fighting… Poor, dear chaps!"[42] Once transferred to his new squadron, disorganization defined the early days of Berthold's war experiences, as his unit struggled to procure the aircraft needed to fight. Berthold's frustration is evident in his private war diary: "The unit consisted of six planes, under the unit's leader, his adjutant,

[42] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 10.

seven pilots, and an equal number of qualified observers. Our commander, Vogel von Falckenstein, was a real Prussian soldier, and he was a tried and tested old flier. It was thanks only to his experience and tireless work that anything went smoothly at first. For as much preparation had been made for the mobilization of the troops, it was damn slow for the fliers. This was partly excusable as the flying troops still lacked experience. The airplanes were poorly made. They came out of the factory and were hardly able to fly."[43] Eventually, Berthold's unit was forced to scrounge for aircraft wherever they could find them, including aircraft that were never intended for military service on the front lines. "How we cursed the factory, which plays with human life. We fetched an old flight school bi-plane; and old box, but useable at least."[44] Berthold's anger in this passage is clearly directed towards the manufacturers of the aircraft his unit requires, rather than the consequences of Bavaria's struggle to maintain autonomy. Finally, after weeks of waiting, and with additional lobbying by von Falckenstein, FA23 received more suitable machines and deployed to the fast-moving front lines.

Berthold's thoughts, written in the early weeks of the First World War, can be unpacked to reveal the complexities of regional animosity, local and national culture, the consequences of Bavaria's decisions regarding aviation, and the chaos of war as a moment that casts these issues into high relief. Within a few short sentences Berthold reveals the following pieces of information to us. First, he confirms the manner in which the *Fliegertruppe* responded with painful slowness to the organizational needs of its units. Despite Prussia's overarching jurisdiction of authority, the Bavarian air service

[43] Ibid.
[44] Ibid.

ultimately had to muster, organize, and deploy their squadrons. The inability to procure or produce the necessary aircraft for war left Berthold and his fellow airmen flat footed as the war began. As the war continued, the Prussian military authorities actively worked to ensure that Bavarian recalcitrance would no longer hinder air operations.

Second, Berthold touches on the manner in which his identity transformed from soldier to aviator within the matter of just a few days. There is no doubt that he viewed his transfer from infantryman to aerial observer as a promotion above his comrades, in both a metaphorical and literal sense. His comment of "I had soon forgotten" elucidates the compression of time brought on by the coming of war, as well as the chaos of transferring from one unit to another. He also notes the casualties suffered by his former comrades with an emotion of sorrow and sympathy, as well as relief for having not been with them.

But while noting his emotions at not being involved in the first battles of the war, Berthold also reveals the third important piece of information in his frustration at not taking an active role in the conflicts opening days. With no coherent plan to assign men to squadrons and squadrons to respective armies, Berthold experiences the process as an excruciatingly slow procedure, one which removes him from active participation in the war. When Berthold was finally given the post of observer with *Feldflieger-Abteilung 23,* he notes first in his diary, that the unit possessed only six aircraft.

The lack of sufficient aircraft moves us to Berthold's fourth point: the poor quality of the few machines that his unit possessed. Berthold complains about the kinds of aircraft his unit was given, all of which were produced in local Bavarian factories. He also discusses the need to use older machines not suited for combat duty. These remarks

once again highlight the different perspectives on war-readiness between the Bavarian and Prussian war ministries. These older machines, obviously produced before the war, were simply not suited for active combat duty. As a result, it is Berthold's commanding officer who must find a way to source the machines they will need to participate in the war.

Berthold's assessment of his commanding officer, a man named Vogel von Falckenstein, provides the fifth piece of information and highlights the complexities of the symbiotic relationship between regional identities. Berthold expresses his belief regarding what particular traits made his commander officer and effective leader who could cut through the sluggish bureaucracy that ultimately hindered his squadron's entry into the war. Berthold makes a special point of noting that the issue of finding suitable aircraft for use at the rapidly evolving front was solved, not through official channels, but through von Falckenstein's personal connections. He notes too, that his commanding officer's "Prussian disposition" also played a role in fettering out needed machinery. This simple note in Berthold's diary highlights the interplay within regionality even at the beginning of the First World War. Despite the animosity between the two war ministries, Berthold finds von Falckenstein's background to be a positive gain for the squadron. It is also likely that Berthold's comment refers to von Falckenstein's efficiency at correcting the squadron's logistical problem, by playing on pre-existing tropes of Prussian stereotypes regarding ruthless organizational skills.

Finally, Berthold combines von Falckenstein's Prussian disposition with his

technical ability and seasoned status as a flier.[45] It is a combination of von Falckenstein's age, and his time as an aviator, which Berthold ranks as "tried and tested old flier," that creates he combination of traits needed to move from inaction to action. From this point, Berthold quickly takes issue with the way the Bavarian flying corps mobilized for the outbreak of war. The painful inefficiency does not create any points of Bavarian distinction in Berthold's mind, quite the opposite is apparent in his tone. Nor is there any pride in the quality of aircraft produced by Bavarian factories.[46] This point is made even more apparent when Berthold notes that his unit was forced to find second-rate training machines to use for front line service. The ongoing issue of inferior machines haunted Berthold during his service in the Bavarian Royal Flying Corps during the First World War.

The Consequences of Regional Autonomy: The Bavarian Royal Flying Corps

In May of 1916, Rudolf Berthold stood in front of his replacement aircraft, staring at its engine, filled with doubt.[47] Berthold had moved from the role of observer and had, through the violence of losing his observer and subsequently avenging his death by shooting down a French aircraft, had become a fighter pilot. By the spring of 1916, Berthold had downed five enemy machines and was a rising figure in his squadron. A few days before, in an entanglement with an enemy aircraft, Berthold's machine, a

[45] In the final chapter of my dissertation, I will further explore the nature in which the compressed experience of time separated aviators into novices and veterans, with the distinction being differentiated by only a few weeks or months of time.
[46] This point will be further explored later in this chapter, when a Bavarian produced aircraft almost killed Berthold in a flying accident caused by poorly made equipment.
[47] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 44.

Fokker *Eindecker*, was damaged and required extensive repairs. The only machine left for him to use was built by the Bavarian firm *Pfalz*. He recorded his misgivings in his journal. "Because *Pfalz* was universally disliked, I thought I should look it over thoroughly. When the machine was disassembled, it was clear that something was wrong, and its bad reputation from the factory in Speyer was deserved. The plane was a poor French imitation."[48] Berthold's misgivings, which were so strong as to warrant expression in his journal, highlights the difficult position that aviators found themselves in. The infighting between the Prussian and Bavarian war ministries resulted in aviators being left to fly aircraft of wildly varying quality. Yet, this regional animosity was not at the forefront of Berthold's writing, which instead centers around the central question of having capable aircraft for the war over the Western Front. The experience of aviators like Berthold and others reveals that regional infighting mattered little to pilots beyond the types of airplanes they received for their daily missions.

Berthold's passage reveals a wealth of information about the manner in which their daily lives were affected as aviators during the First World War. The ongoing struggle over the autonomy of the Bavarian Air Service created very real, life and death situations for the airmen serving along the Western Front in the first two years of the conflict.[49] In addition to a shortage of machines, which Berthold noted early in his journal, the efforts by the Prussian war ministry to bring Bavaria to heel resulted not only in low production numbers, also in markedly inferior aircraft. Rather than lessening the

[48] Ibid.
[49] In 1916 the *Fliegertruppe* was reorganized as the *Luftstreitkräfte* and aviation firms were forced to cooperate. For more on these mergers, see Richard Byers, "An Unhappy Marriage: The Junkers-Fokker Merger," *Journal of Historical Biography* 3 (Spring 2008).

strain on Bavaria's beleaguered air industry, Prussian authorities actively worked to limit the contractual rights to produce first-rate aircraft. This left firms like *Pfalz* in the unenviable position to produce second-rate copies of German, or even French aircraft.[50]

Berthold's machine, a *Pfalz* monoplane, was a poor copy of the Fokker *Eindecker* which had earned a positive reputation among German pilots after wreaking havoc among French and British aviators all along the Western Front. Aviators like Oswald Boelcke and Max Immelmann achieved combat success and popular acclaim at the controls of Fokker's invention.[51] Berthold's machine was designed to resemble the Fokker, but was not nearly as well made. Berthold also mentions the plane as being "a poor French copy," which, in all likelihood, refers to the rotary engine that powered the plane. The engine, which was based on the French rotary designs powering their fighter planes at the time, was not of similar quality and gave Berthold serious doubts about the performance of the machine. If badly manufactured, the engine could misfire, and the subsequent movement of the heavy engine, the full weight of which spun while in operation, could twist and pull the airframe out of flight, leaving the pilot powerless to prevent a crash.

Despite his misgivings, Berthold later flew the machine in a test flight, with nearly fatal results. "I began by lifting off from the ground and, at that moment, the engine failed… I was about 100 meters up. In an instant, the bird went down. I heard the aircraft splintering, felt a blow to my head, suddenly I was in agony and from then on I

[50] The Pfalz Parasol is an example of a Bavarian firm left to copy a French machine almost part for part. While Prussian firms like Albatros took inspiration from French machines like the Nieuport series of fighters, the Parasol was a direct copy of a French design, rather than a design based on a French idea.
[51] See Oswald Boelcke, *Hauptmann Bölcke's Feldberichte.* (Gotha: Perthas, 1917).

can remember nothing more."[52] Berthold was rescued from the crash site, but his injuries were life-threatening. "I had a compound leg fracture, my upper jaw and nasal bone were both broken, and there was damage to my eyes. The worst thing for me was the thought that I would have to lie in bed for weeks, perhaps even months."[53] Berthold was horribly injured, yet lucky to escape the incident with his life. The consequences of Bavarian made aircraft, which were largely inferior to their Prussian counterparts, continued in reconnaissance units as well.

The photo album of Peter Supf also reflects the nature of the aircraft given to Bavarian observation squadrons. His photographs continue to echo the camaraderie of pilot and observer by posing the flight crews together in front of their machines.[54] The machines featured in Supf's images are important to note. His early photographs, dating from the beginning of 1915 show the unit using Albatros reconnaissance machines, which were built by the firm in Prussia. Supf's unit, however, would not receive a full complement of these aircraft and, as a result, resorted to Bavarian firms to fill the gaps. Another photograph features the poorly made Pfalz copy of Fokker's Eindecker monoplane; the same type that nearly killed Berthold. Again, this demonstrates the degree to which Bavarian squadrons were left to make do with second-rate aircraft in order to fulfill their duties.

Supf's unit also captured a French Farman multi-seat aircraft and repainted the machine in German markings, either for testing or, perhaps, use in the field as a

[52] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 45
[53] Ibid.
[54] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.

reconnaissance aircraft. The album also includes photos of a reconnaissance machine built by the AGO company. The machine, called the AGO GII, was an unusual looking aircraft for the period, featuring a twin tail configuration and center-housed nacelle cockpit with the engine bolted to the rear. What is telling about the machine, besides its low production numbers, is the manner in which it is photographed throughout the album.[55] While the machine is captured in a few images in flight, many of Supf's photos of the plane feature the aftermath of aerial accidents. The AGO is featured in two series of photographs after crash landing and breaking up on impact. One of Supf's photographs is a close-up of an AGO GII which has crashed into a berm either on landing or an attempted take off. The exposed cockpit, which projected far out in front of the rest of the air frame, is completely smashed against the hillside. It is a telling reminder that the types of aircraft assigned to Bavarian aviators in the early years of the air war resulted in serious life and death consequences once they were pressed into service.

The animosity that aviators felt towards badly made machines was not only limited to Bavarian firms. Berthold notes that he and his fallen comrade, Josef Grüner, once joked about the *Luft-Verkehrs-Gesellschaft* company, which produced reconnaissance and bombing aircraft for the German air service, by transposing the LVG acronym to mean *"Leichen-Vertriebs-Gesellschaft"* or "Cadavers Distribution Company."[56] Indeed, it is apparent that the German approach of giving the nation's air industry wide independence on development and production had wide-ranging

[55] For production numbers of AGO aircraft, see John Morrow, *The German Air Service in World War I*.
[56] Comment regarding Berthold as cited in Kilduff, chap 6.

consequences.[57] Manfred von Richthofen wrote angrily about inadequate aircraft early as the summer of 1917, a full year and a half before the end of the war:

> "I can assure you that it is no longer any fun being the leader of a fighter unit in this army… For the last three days the English have done as they please… Our airplanes are inferior to the English in a downright ridiculous manner… The [Albatros] D5 is so antiquated and laughably inferior that we can do nothing with it. Yet the people in the homeland haven't produced any better machine than this lousy Albatros in almost a year and have stuck with the Albatros D3, with which was I was already fighting in the fall of last year. We must unconditionally support the use of every firm that produces a type merely somewhat better than this damn Albatros, even if its earlier conduct has been shabby and unreliable…"[58]

Thus, the added dimension of the air war transcended any sense of Bavarian or Prussian identity. Once in active combat over the Western Front, pilots cared only about survival, and that was entirely dependent on the types of machines they were given. Even the most privileged fliers like Richthofen, whose close personal relationship with Antony Fokker placed him in an extraordinarily advantageous position to lobby for aircraft, was left to fight in inferior machines. As the air war progressed, aviators looked not towards their respective war ministries, but rather to their own airplanes, for survival and, subsequently, a way of expressing personal identity. The airplane, that disruptive technological force, provided a space of privileged self-expression both in the air, and on the ground.

[57] Again, these topics are explored in depth in John Morrow, *German Air Power in World War I.*
[58] Letter from Richthofen to von Falkenhayn as cited in John Morrow, *German Air Power in World War I,* 109.

Bavarian Expressions of Personal and Community Identity on the Western Front

Despite the intense difficulties that aviators faced on a daily basis: from a dangerous combat environment to unreliable machinery, they enjoyed a great deal of privilege in regards to the space they inhabited and the time and resources at their disposal. As such, the aviators of the Bavarian Royal Flying Crops provide a fascinating case study into the ways that personal and community identity was expressed both on the ground, and in the air. As the air war progressed, German aviators developed individual preferences for certain types of aircraft, and in turn, established personal idiosyncrasies and superstitions in regards to their machinery. They were also given the privilege - and military permission - to personally paint and decorate their aircraft. The resulting relationship between man and machine shows a picture that is less about the two melding into one autonomous unit, and more about the very human, and very emotional sentiments that arose between an aviator and the aircraft that kept him alive.

The trend of lackluster Bavarian aircraft continued into 1917. While most fighter squadrons along the Western Front were issued an aircraft called the Albatros D5 - which was built by a Prussian firm - many of the Bavarian squadrons received a counterpart to the D5 built, once again, by Pfalz. The resulting machine, the Pfalz D3 was similar in appearance to the Albatros D5, but was rated by many pilots to be inferior to its Prussian counterpart in terms of performance in combat.[59] Despite this conclusion, Berthold preferred the *Pfalz* aircraft instead, presumably because it had better performance in some

[59] Combat performance reflects a litany of traits. Turning radius, rate of climb, the ability to sustain a dive without suffering structural failure. The technical details of these machines has a massive literature base which remains largely un-historicized.

aspect of air fighting that gave Berthold confidence.[60] Berthold's choice was replicated countless times up and down the front by aviators who preferred one type of machine over another. It is important to note, too, that in the vast majority of squadrons, aviators were assigned a specific plane. Barring a fatal crash or irreparable damage, an aviator would serve with that specific machine until it was replaced with a newer model. Thus, the idiosyncrasies of a machine became known to the pilot who operated it, and many aviators describe a certain level of affection and attachment that developed between them and their machine.

Many of Germany's popular pilots developed preferences for one type of machine over another. Manfred von Richthofen lobbied personally for the Fokker Dr1 *Dreidecker* or Triplane to be put into production, favoring its odd ability to maneuver in tight circles and perform a trick called a "flat turn," where the aircraft could seemly pivot almost in place, making it a difficult opponent for British and French pilots.[61] Pilots also developed superstitious quirks the longer they remained at the front. One of Richthofen's compatriots, a man named Werner Voss, developed a nervous habit of wearing a knit cap whenever he was assigned a combat patrol.[62] Superstitions, predilections, and good luck talisman were used by German aviators to establish, no matter how intangible, some sense of agency in an environment where one simple mistake, or one mechanical failure, could mean life or death. Thus, when a machine was working well, and some sort of good luck charm continued to provide protection, aviators developed incredibly strong

[60] As the commanding officer of his unit, Berthold would have had free reign over any machine he would want to use as his personal aircraft. His choice of the Pfalz D3 then, is telling of his personal preference.
[61] Morrow, 110-112.
[62] Richthofen, 75.

emotional attachment to their assigned aircraft.

This emotional bond materialized not only in their preference for one machine over another, but in the manner in which aviators decorated and expressed their personal identity through their aircraft. During the First World War, German aircraft became associated with vivid paint schemes that provided for easy identification in the air. Besides the tactical advantage of being able to quickly pan the skies and locate one's wingman, the types of colors and insignias also represented one's personal and, in some cases, regional identity. One such aircraft belonged to Hans Böhning, a Bavarian aviator born in Bremen in 1893, later served with FA(A) 290 as well as the fighter squadrons *Jasta* 36, 76, 79b, and served as the commanding officer of *Jasta* 32.[63] Böhning's aircraft were emblematic of the lingering influence of regional identity on German aviators during the conflict. Two of his most notable aircraft, both Albatros D5's, the type that Richthofen so vehemently complained about in his letter to von Falkenhayn, were painted, in part, to reflect his Bavarian background.

The first machine to feature these colors was a D5 painted with a bright blue Bavarian state crest just below the cockpit.[64] The rear half of the plane was then intricately colored in the blue and white diamond pattern of the Bavarian state flag and the Wittlesbach royal crest. His second machine, which presumably replaced the first, shows an evolution both in his regional sense of self, as well as his perception of the danger he faced in the air. This design, used while serving with *Jasta* 79b, was painted

[63] See "Hans Böhning" in Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service and Flanders Marine Corps, 1914-1918* (London: Grub Street, 1993).
[64] See, Norman Franks, *Above the Lines: The Aces and Fighter Units of the German Air Service, Naval Air Service and Flanders Marine Corps, 1914-1918* (London: Grub Street, 1993).

from nose to tail in blue and white stripes, similar in color to those used in the diamond pattern of his earlier plane.[65] Replacing the Bavarian crest, however, was a poker card: an ace of spades. The tongue-in-cheek reference to having good luck in the air was appropriate by 1918, when German losses were mounting ever higher each day. Rudolf Berthold too, developed a paint scheme that reflected both his regional identity and personal sense of self. Later in the war, Berthold, who had been wounded several times by this point, is featured next to a Fokker D7, one of the last machines built by the firm before the end of the First World War. Berthold's machine was painted a bright shade of blue, again similar to that used by the Bavarian state flag, and included a red nose. Berthold's personal insignia, which was featured predominately on the fuselage just behind his seat, was an avenging sword suspended by wings.[66] Regional identity was expressed beyond the aircraft, however, and some Bavarian flying units went to extraordinary lengths to promote not only their German identity, but also their Bavarian individualism from their comrades on the Western Front.

Expressions of regional origin coalesced with strong senses of nationalism and privilege in geographic locations containing homogeneous populations. In other words, the Western Front, which consisted largely of white, western European populations, provided a space in which the expression of localized identities were the most effective method of creating a defining sense of self and community. An analysis of material culture along the Western Front provides an effective means of excavating these

[65] Ibid.
[66] See image of Berthold's plane in Peter Kilduff, *Iron Man: Rudolf Berthold: Germany's Indomitable Fighter Ace of World War I* (Grub Street, 2012).

expressions of regional and national identity. From photographs to poetry to the material German airfields and the odd decorations that appeared, there is a litany of source material that demonstrates the ways in which regional units, like Bavarian squadrons, expressed their background, as well as their place within the broader national narrative, in a combat environment. What makes these expressions all the more intriguing is the utter lack of any military or strategic necessity in those expressions. Constructing Bavarian hunting lodges, enacting local culture that included full costumes, painting aircraft in Bavarian colors, all distracted from the war effort, yet the men of these units, as well as their commanding officers, felt compelled to stake out their regional sense of self in the midst of unprecedented death and destruction.

For what is perhaps one of the most fascinating examples of privilege and expression, we turn once again to the photo album of Peter Supf, the observer poet who served with the Bavarian squadron, 286b. Supf's album, which was constructed over the course of his service with the unit on the Western Front from the outbreak of the war in 1914 to the end of 1917, provides a glimpse into the everyday lives of the men who served in the unit.[67] The private photographs that make up the body of the album also elucidate the unusual ways in which community identity manifested itself in the middle of a combat zone. The unit's fervent pride in its regional and national heritage is apparent in a series of photographs taken in the summer of 1917.

At the mid-point of the album, a photograph of what is clearly a German style hunting lodge stands out among a series of photographs of the daily operations of the unit

[67] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.

along the Western Front. The lodge's main room is constructed out of wood and cut and designed to resemble rustic hunting lodges from the nineteenth century; the kind that would easily be found across Germany. Featured prominently on the outside wall of the lodge is a large moose head. Other small touches differentiate the hunting lodge as having markers of Bavarian regional identity. Planted in the ground around the borders of the lodge are saplings of evergreen trees, likely meant to remind the men of FA286 of the pine forests back home. The walls of the lodge are made with split logs which have been interlocked together to create a rustic, rural aesthetic to the building. Planted outside of the building is a flag staff with what appears to be a Bavarian flag. The lodge also features a thatched roof design. The interior of the building is constructed out of dark wood paneling on the lower half of the walls and white paneling on the upper half, again resembling a mountain lodge. The rooms are remarkably well-furnished, likely owing to the connections of one of the unit's officers.

Another series of photos a few pages further into the album document a "*Kegelbahn*" or bowling alley, which has clearly been constructed at FA286's base of operations. Bowling, which was a long-standing sport in Bavaria, appears to be important enough to warrant spending time and material on constructing an alley along the Western Front. The alley that Supf photographed also includes decorative artwork featuring pilots, women, Greek gods, mythological figures, and aircraft. These decorations also feature poetry, likely penned by the "poet pilot." One image showcases an observer bowling from the wing of a reconnaissance plane. Another shows a member of the squadron in his dress uniform singing next to Mars, the god of war. Another image, which features text that is more difficult to read, includes the image of a pilot and observer flying a crowd of

friends and, notably, attractive women, in their aircraft, while a final image includes a couple embracing tenderly. A final series of images shows Supf's compatriots drinking with a frightening depiction of the god Neptune, while a final image appears to showcase *Germania* standing guard over an aviator. The theme of the *Kegelbahn* runs throughout, with even deities depicted holding bowling balls.[68]

Bavarian customs extended beyond Supf's hunting lodge. Placed in conversation with the photos of FA 286's comfortable quarters and bowling alley, are images of the unit's men re-enacting a traditional Bavarian *Volksfest*.[69] The unit is divided between band members, who play brass instruments, and those dressed in traditional Bavarian clothing. Fascinating gender roles are revealed in these photographs. The unit, located in the middle of an active battlefield, clearly could not invite any women to participate in their festival activities.[70] To substitute, members of the squadron were dressed in Dirndl to provide dance partners for the men who were wearing traditional Lederhosen. Judging from the facial expression of one of the men wearing Drindl, some were less than pleased with playing a feminine role. Other photos feature groups of men dressed in both roles, with their Dirndl wearing comrades wearing heavy face makeup. Another photograph, which has been damaged, shows what appears to be the same group dancing on stage to a crowd of onlookers. The stage is decorated with evergreens and features two smaller

[68] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.
[69] For a further discussion of the role of traditional *Volkfests* in German culture, see Denise Phillips, *Acolytes of Nature: Defining Natural Science in Germany, 1770-1850* (Chicago: The University of Chicago Press, 2012), 194-195.
[70] Robert Nelson's research on German trench newspapers offers a fascinating counterpoint to this observation. He notes that in German newspapers, women were everywhere, including the Front. See Robert L. Nelson, *German Soldier Newspapers of the First World War* (Cambridge: Cambridge University Press, 2013).

Bavarian flags. Landscape too, played a role in shaping the manner in which Supf's unit expressed its collective identity. The Western Front by late 1917, the date that these images were taken, was largely a lunar landscape of shell holes, devastated towns, shattered forests. The outward decorations of the lodge, which featured small evergreen trees, likely dug up and replanted near the lodge from a copse of trees nearby, is a way of remaking the landscape in a manner that rendered the environment knowable, controllable, and inhabitable.

Supf's album demonstrates the interplay of the discourses of class, the individual, community, region and nation, at work in the types of expression found at 286b's airfield. The rustic hunting lodge, which represents German identity, aristocratic traditions, and some Bavarian tropes, highlights the degree to which airmen possessed both the means and the privilege to bring part of their homeland to the Front to a degree not enjoyed by the infantry. These social and cultural markers indicate both the influence of longstanding discourses within German culture, as well as the desire to maintain continuity between the world before the war, and the one that existed in their present. In other words, the privilege of aviators - that of having the space, time, and means to produce such expressions - provided a way of rendering a hostile environment recognizable to them. It also served as a way of rationalizing a war of defense fought exclusively on foreign soil. By establishing a part of Germany in Flanders, Supf's unit likely reinforced their own understanding of the nation defending itself from attack.[71] While infantrymen on the

[71] Robert Nelson also notes that German solider newspapers are filled with discussions about the need for Germany to defend itself in a conflict that involved millions of German soldiers sitting entrenched on French and Belgian soil. See Robert Nelson, *German Soldier Newspapers of the First World War* (Cambridge: Cambridge University Press, 2011).

ground might decorate the corner of a trench, or carry a fragment of home with them on their uniform, no unit could have constructed such an ornate, well furnished, and decorative space while serving in the trenches.

Moving away from the comfortable accommodations of FA 286b's surroundings, we find examples of the central educational pillars of regional distinctiveness, national unity, and the ever-present influence of *Heimat* culture still at work at the end of four years of war. Towards the end of the First World War, as Rudolf Berthold convalesced in his hometown of Bamberg, he noted his emotions regarding impending defeat and his inability to take part in the war's final, climatic, conclusion. By this point in his journal, Berthold's tone had changed considerably from the man who penned his experiences in the early week of the conflict. Gone was the excitement and anxiety about the unknown consequences of war. Gone too, were the overtones of nationalistic pride, of comments about men being made of iron as a consequence of the war. It is apparent that, by late October 1918, as the walls closed in around him, Berthold reached back to his foundational experiences, those from his youth and adolescence, to make sense of the emotions he felt.

"These days I am in the confines of my hometown near Bamberg. It is a beautiful patch of German soil. In the splendid German forest, the solemn spruce trees seem to me to be more melancholy than before – indeed, sad. They mourn with me the weakness and humiliation of our people."[72] It is clear that the cultural discourse of the late nineteenth century, which sought to create a sense of regional identity that was tied to a broader

[72] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 65.

national discourse by utilizing abstract tropes of landscape and *Heimat* culture, carried through the traumatic experience of war. The narrative of the emotions of the forest, the shared connection between the land and the people who were tied to it, forms the frame through which Berthold processes impending defeat.[73] As the world around him began to make less sense, and the foundational markers of what it meant to grow up in Germany - a strong military presence, a Kaiser as head of state - began to break down, these older tropes held the waypoints by which men like Berthold navigated the autumn defeat of 1918. It is perhaps fitting that Berthold, whose father was a game warden, found some form of comfort in the dark woods around him.

It is clear that aviators expressed their personal, regional, and national identities in nearly every facet of the performance of their duties in combat. From their personal preference for aircraft, to the way they decorated them, to the extraordinary privilege they enjoyed in fashioning German living quarters in Flanders, aviators were the product of late nineteenth century discourses of German regional and national identity. Those discourses manifested themselves both in the mentalities of aviators, and in the physical realm they inhabited throughout the war. For the aviators of Bavaria's squadrons, personal and community identity embodied both regional cultural markers and a broader sense of national participation. As Bavarian units moved further away from the Western Front, however, these practices became more muted. A combination of logistical challenges, harsh living conditions, and most importantly, a truly different population,

[73] The German forests played a critical role in shaping the discourse of regional and national identity, and served not as an anti-modern marker of a lost past, but as an active participant in Germany's transition into an industrial modernity. See Jeffrey Wilson, *The German Forest: Nature, Identity, and the Contestation of a National Symbol, 1871-1914* (Toronto: University of Toronto Press, 2012).

left Bavarian fliers to express their identity in broader, less specific, and more nationalistic terms. In such a space, expression of identity became less an act of signposting one's background, and more about othering those considered "alien" in a foreign environment.

German Nationalism in Foreign Lands: The Case of 304b

Regional identity, formed from a collection of social and cultural markers, was most prominently expressed on the Western Front. Bavarian units, serving alongside squadrons from across Germany, highlighted their particular sense of regionally influenced national identity through multiple modes of expression. From aircraft paint schemes, to rustic German hunting lodges, to bowling alleys filled with mythical gods, these units marked themselves as distinct while at the same time, fitting in with a larger narrative of Germans serving at the front. As Johnathan Smith contends, sharp cultural and social differences are most firmly displayed among neighbors.[74] Bavarian units tasked with military duty away from the Western Front, however, expressed their identity in markedly different ways from their comrades in Europe. In doing so, their method of "othering" themselves and their neighbors involved highlighting broad cultural markers of identity, and focused intensely on what made the surrounding population different, rather than highlighting their own regional distinctiveness.

In these circumstances, broad cultural markers signaled not to regional

[74] Johnathan Smith, "What a Difference a Difference Makes, in *To See Ourselves as Others See Us: Christians, Jews, "Others" in Late Antiquity*, ed. Jacob Neusner and Ernest Freichs (Chico: Scholars Press, 1985).

peculiarity, but to nationalistic discourse and a sense of racial and intellectual superiority. *Bayern Flieger-Abteilung* 304b, or Bavarian Flying Detachment 304b, which served primarily as a reconnaissance aviation unit, mobilized at Oberschleißheim airfield, outside of Munich, on July 20, 1917.[75] The unit's service, which was, perhaps, militarily insignificant, provides an ideal case study in ways that expressions of identity changed in distant environments. The experience of 304b also shows us the ways in which aviation, even in distant lands, still serves as a disruptive historical force. The squadron acquired the unofficial squadron nickname of "Pasha" soon after formation, and would not transfer to the muddy fields of the Western Front of Europe, but instead, would travel by rail to the deserts of the Middle East, to serve in Palestine near Iraq el-Manshiyeh.[76]

The process through which 304b "othered" the inhabitants they would encounter began long before deployment in late 1917. The logistical challenge of moving men and materiel to such a distant area of operations began this mental process long before the men of 304b while they were still in training in Germany. This shift in tone, towards othering those they would encounter in the Middle East highlighted in the squadron's military communications, which were used to plan the movement of the squadrons fliers, observers, mechanics, doctors, as well as the aircraft, equipment, lodging, and food and medical supplies needed for the endeavor. The tenor of these documents is infused with a strain of nationalistic overtones, and at times, racist perspectives about the people who lived near their base of operations. In other words, the strain of training and preparation,

[75] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077 Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 5-6.
[76] Nada Atrash, "Mapping Palestine: The Bavarian Air Force and World War I Aerial Photography," *Jerusalem Quarterly*, vol 56, (2014), 95.

which was of a far higher order than those squadrons who would serve nearby on the Western Front, began the mental process of "othering" their location almost immediately. The need for strong, able bodied recruits, tons of equipment and materiel, and suitable aircraft for operations in such a harsh climate, placed an enormous strain on the squadrons commanding officers.

The first set of communications between the commanding officers of 304b and the German military centered around the need to bring in new recruits and process them rapidly for training. A telegram from August 7, a mere three weeks before departure, requests the transfer of more training recruits, into the unit from other areas within the air service. The challenge of the planned operating environment for 304b necessitated the medical assessment of the new men.[77] Once transferred into the squadron, these men were subjected to a medical examination which was filed with a requisite intake form. These intake forms catalog the new recruits basic vital information; weight, height, resting heart rate, raised heart rate after preforming ten squats, urine test, and lung function.[78] Forms also included space for the listing of any faults with the subject's various body parts as well as inquiries into the men's personal habits, which asked for information regarding alcohol and tobacco consumption, as well as questions about opioid, morphine, and cocaine use.[79] The vast majority of the men who transferred into

[77] This was standard operating procedure for most of the German Air Service during the war. It is plausible, however, that these men would be evaluated carefully, as the extreme conditions they would serve in would require individuals who were particularly fit. This would have been a growing challenge by the summer of 1917.
[78] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich., 22-54.
[79] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich., 22-50.

the squadron reported drinking and smoking on a semi regular or regular basis.[80] The recruits were also fairly young in age; most were born between 1890 and 1895.[81] The urgency of rapidly processing their intake is evident in the paperwork left behind in the squadron's files. The medical intake forms vary between pre-fabricated and standardized documents, which leave space for all of the requisite medical information needed for the processing of the individual, and blank pages that have been typed manually to mirror the standard documents and include the patient's vital information. Delineations in handwriting too, indicate that the haste of patient intake required multiple doctors to complete the intake forms in order to process more men as quickly as possible.[82]

Nearly as urgent as the need for men were requests for equipment of all kinds. A telegram sent out to the airplane replacement depot discusses the need for aerial and ground surveying equipment as soon as possible. The urgency is again apparent in the messages tone, which closes with "in accordance with the division's preparedness to assign me by August 8th, 1917, I would like to request an accelerated establishment."[83] Other messages discuss the need for strategic maps of the Palestinian theater to be sent to the squadron for use as part of their service to Army Group F, one of the main forces serving in the region, and a subsequent request that "all of the [maps] are sent together according to a specific place of use."[84] It is apparent that the environment of Palestine is

[80] Ibid.
[81] Their respective ages were reflective of the "generational shift" occurring in the German army at this point, as the previous "generation," those born about 10 years prior, had likely been killed or maimed by this point in the war. I discuss this compression of time and generations in chapter five.
[82] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 52-54.
[83] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 54.
[84] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 59.

markedly different from the known space of the Western Front, which had been mapped by tens of thousands of images for nearly three years by late 1917. The need to produce documents, too, is noted in a telegram asking for typewriters, which had to be purchased for the squadron rather than supplied from a material depot.[85] The need for additional transport trucks, undoubtedly required to move all of the men and equipment to and from their training facilities at Oberschleißheim, is also noted. Squadron entertainment is also of some importance in official communications. A note from July 31, 1917, requests an order of 160 books, 1-2 gramophones, and twenty records for each player.[86]

By August the need for military equipment became a far greater concern as their deployment date grew closer. The unit requested "six sets of telephones for connecting the reception stations, one control cabinet with approximately forty kilometers of cables. The telephone replacement department is asked to notify whether or not the above mentioned telephone sets can be delivered immediately."[87] A second cable, marked "Secret!" is addressed to 304b and references the "decree of July 2… the deadline for the "Army Group Commando F" (Falke) and 'Pasha II'" to submit their budgets for hand held weapons as well as other weapons, ammunition, and equipment.[88] The communique asks that "departments responsible for the formation of these units are asked to request the weapons, cartridges, etc., at the arms and ammunition procurement office, Depot

[85] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 61.
[86] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich., 62.
[87] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 77-78.
[88] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 105.

Inspection DI, as soon as possible, specifying which items are missed… Duplications must be avoided."[89] Aerial equipment such as luminous compasses, which were needed for nighttime navigation, as well as binoculars for viewing targets from the air, were also requested.

The training instituted at Oberschleißheim for 304b would have been some of the best in Germany.[90] Despite building often inferior aircraft, the Bavarian Royal Flying Corps spearheaded training for observation and bombing crews. Special instruction in wireless radios, aerial gunnery for observers, and artillery ranging were instituted at the airfield. The images from Peter Supf's album reflect the training he likely received at the airfield. Multiple photographs show his commanding officer, Fritz Sendel, wearing a headset and sitting with small model replicas of artillery, while an observer sits atop a ladder practicing his ranging technique on a small model of enemy positions.[91] These techniques were employed at Oberschleißheim and were undoubtedly employed to train up the men of 304b before their departure.

Still, the strangeness of their destination weighed in the documents of the squadron as their departure grew nearer. The difficulties of operating aircraft during the First World War are apparent from the logistical communications between the squadron officers and the wider German military. Aircraft during this period were not capable of flying the long distance between Oberschleißheim airfield in Munich to their theater of operation in Palestine. In order to move the necessary aircraft, support equipment,

[89] Ibid.
[90] Flugwerft Schleissheim exhibit, Deutsches Museum at Oberschleißheim in Munich, Germany.
[91] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich..

supplies, and living accommodations, the entire squadron would need to be packed onto rail cars and shipped to their final destination. The harsh climate meant that extra testing would be required to ensure that sensitive and non-replaceable equipment, would work in dry, desert conditions. The challenge of operating sensitive machinery in the harsh desert climate of Palestine was evident in official communiques, "motor vehicles must be tested for their suitability for this special undertaking, and must prove their reliability in practice, since replacement is impossible, due to the special circumstances."[92]

The extra time needed for testing equipment created additional logistical difficulties in getting both the needed supplies and the requisite rail transport aligned. "The equipment, aircraft, spare parts, lighting equipment, clothing, and other goods will be supplied to 304b and will arrive on time, with the exception of spare parts and photographic equipment, which are not in stock at the factories. Some of the individual deliveries have already rolled off from Berlin."[93] Another communication, this time from the Medical Inspection Department, discussed the need for sanitary equipment for all of the airmen serving in Palestine under Army Group F, which included 304b. "Squadrons 301 and 304, to which the list refers, consists of 20 officers and 200 men, the airport, which is also included in the list, of 5 officers and 80 men. In addition to the hygienic nature of the destination (Turkey!), it will not be not possible to replenish supplies efficiently because of the spatial distance of larger sanitary stockpiles."[94] Additional

[92] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 124.
[93] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 124.
[94] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 210.

notes warn of snake and scorpion bites while listing the percentage of men likely to contract Cholera, "nervous exhaustion" or even Malaria.[95] The following pages of documents then catalog the massive inventory of medical equipment and medicine needed to sustain the trip to Palestine and, presumably, the units operation for the foreseeable future.

The train itinerary for 304b highlights several aspects about German aviation, German culture, and the realities of the war just before 1918. The complexities of transporting hundreds of tons of equipment and several hundred men to the desert thousands of miles away from Munich necessitated the drawing up of exacting and detailed orders. The lumbering reconnaissance aircraft that were to be used in Palestine were broken down, packed into crates, and then carefully loaded onto trucks, which were then subsequently loaded onto the train crash. The engine, which operated on coal, posed an intense fire hazard for the moving of aircraft constructed mostly out of wood and canvas. The orders note under the "General Information" section that opens the document, cautions that "Since the locomotives demonstrate, sparks are a danger while in motion. Plenty of fire extinguishers and filled water buoys are needed near the airplanes."[96] The need to keep the unit's men healthy on the trip, too, is made apparent in the squadron orders. "Look for thorough cleansing of the car, since, despite disinfection commands, there is often a lot of dirt! Danger of lice!"[97] "Stay in the field kitchen to keep coffee or tea in stock, so that those on the trip do not drink boiled water from the stations!

[95] Ibid.
[96] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 124.
[97] Ibid.

Isolate people with diarrhea."[98] It is apparent from the outset that health concerns weighed heavily on the logistical challenges of moving to Palestine. The challenge of preventing dysentery coincided with the need to protect clean drinking water, so that the unit did not run out.

The document continues to highlight the alien and hazardous space to which the men of 304b were traveling. First is a warning about where to find fresh food, stating "eggs and fruit can be purchased during the trip, mostly at native stations. However, caution is needed in the enjoyment of raw fruits. Thoroughly clean them first."[99] The desire to obtain good beer, a German staple, was so important as to necessitate its own note in the orders: "Be sure to take beer from Constantinople, since this is the last possibility to supply."[100]

Perhaps most telling, are words of caution regarding native populations supposedly friendly to the Reich. "No natives or Turkish soldiers allowed [near aircraft cars]. These men often try to jump on the train at the last moment of departure… All the Turkish officials and officers appear to be arrogant but determined. Loud scolding does not accomplish anything, but only drives the Orientals to more clandestine activity."[101] There are also warnings stating, "Proper guarding is needed at railway stations, as thefts are frequent."[102] The most damning order appears towards the end of the general information section, "When transporting Turkish workers, be sure to supervise. Ten Turks are needed to do the work of one German. Again, do not become impatient. The

[98] Ibid.
[99] Ibid.
[100] Ibid.
[101] Ibid.
[102] Ibid.

cooperation of German soldiers also spurs the Orientals to work. Gifts of cigarettes often inspire only laziness."[103] These comments highlight latent German racism regarding populations outside of Europe and, in particular, populations of Middle Eastern descent.

The journey was timed to take precisely seven days of travel time. In a secret squadron document, the unit's itinerary was discussed in painstaking detail, tracking the hours between stations, with some stops separated by as much as 23 hours of travel. Notes on the types of food, "German," or "Turkish" are indicated, as well as notes about the state of hygiene at each stop, "good and clean," or whether the station included a "disinfection car." Due to fear of sabotage, the itinerary notes in careful detail which stops will be met by German connection officers or German liaison officers. Each stop is also noted of any special facilities or personnel at each location: doctors, an officer's quarters, small kitchens, are all noted. The primary worry in the train orders, besides allowing undesirables anywhere near the aircraft packed in crates, is the need for clean drinking water, and access to disinfection cars.[104]

Once established at their base of operations, the airfield of Afoule, 304b's mission focused on observing the logistical and strategic moves of the British army who were already making life difficult for the German forces stationed in the area. Reports from the squadron commander, Franz Walz, indicated activity in the following categories: flights conducted, flight hours recorded, photographic recordings, aerial combat, bombing missions conducted. Walz's reports would then dissect enemy activity in the area to

[103] Ibid.
[104] The fear of disease in a foreign environment is reflected in the primary "other" theater of the First World War, the Eastern Front. See Vejas Liulevicius, *War Land on the Eastern Front: Culture, National Identity, and German Occupation in World War I,* (Cambridge: Cambridge University Press) 2005.

include observations on British rail traffic, which continued to spike as the Palestine campaign of 1918 wore on, as well as shipping traffic near the Gaza coast, wagons stacked at railway depots, and car parks used to marshal men and equipment for military operations.

The difficulties of operating in the region are apparent in the first pages of the squadron's operational documents. Photographs included in the reports of 304b a series of a half-dozen images with the included text, "crash at airfield Afoule of…" with the name of the pilot included.[105] Nearly a dozen images of these types of incidents depict two-seat reconnaissance aircraft in various states of damage from crashing upon landing. It appears, from the state of the aircraft, that most rolled over on landing, likely a consequence of high winds and rough terrain. The harsh operating conditions meant that a significantly high number of machines suffered mishaps while landing. Another series of photos includes images of British aerial forces bombing the Afoule airbase around the same period.[106] 304b clearly received a rough welcome to the harsh deserts of Iraq el-Manshiyeh.

Walz's reports continued through to September 1918, and reflect the difficult operations faced by 304b in Palestine. Constant reports of engines failing on the unit's two-seat reconnaissance aircraft are noted, as is the rotation of men in and out of the unit, although it is never fully clarified as to why they have rotated out of duty. Another series of photos documents the unit's only losses during their time in the theater. In June 1918,

[105] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 13-19.
[106] Ibid.

three aviators were killed in aerial combat and were recovered and buried by the squadron. Of note in the photographs of the funerals is the crowd of local onlookers who border the images. Standing in the center are German officers and airmen accompanied by other men wearing the Fez. It is unclear whether these men are part of the Ottoman air service or if these are German officers who have appropriated the traditional head wear for their own. It is important to note that on a visit to the men of 304b, General Erich von Falkenhayn was photographed wearing a Fez while inspecting the men on duty. It is also clear from the photographs of 304b that no Bavarian flags or other symbols of regional identity were on display. The German imperial flag, however, is seen to be clearly displayed in one image of the unit while operating in Palestine. The narrative of German nationalism was reinforced by the commanding generals of the forces stationed in Palestine. A farewell order from General von Falkenhayn specifically praises the pilots under his command, "The fliers were always dear to my heart… On this front, too, the airmen have stood their full strength under difficult circumstances."[107] He continues with more praise for those who flew during the conflict in Palestine, "I have often spoken of the costly work performed by the airmen for me and my troops. Wherever I go, I will tell of the German airmen who are the "guard" of the Orient."[108]

Von Falkenhayn's words speak of Germany's airmen as a unified group. The language used also distinguishes German airmen as the protectors of the Orient, guarding the exotic land of the east as great warriors. It is also apparent through the tone of Von

[107] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 1.
[108] Ibid.

Falkenhayn's note, that Germany is still viewed as fighting an inherently defensive conflict, even in the distant sands of the Middle East. Through the hardships of combat in the desert climates of Palestine, the unit's commander, Franz Walz, earned another title, the "Eagle of Jericho." Here the imagery used to describe Walz intersects multiple forms of identity. The most apparent, of course, is the eagle of the Reich, which is intrinsically nationalistic and represents a unified Germany. The discourse of flight is also implicit in Walz's moniker. The inclusion of Jericho, the ancient and biblically significant city that men like Walz undoubtedly read about in school textbooks while in school, is open to multiple interpretations. He is both shaped by the landscape, while also imposing German will over it. It is at once appropriating local culture while simultaneously stamping German authority on the landscape and those living within it.

By January 1919, the men of 304b would be held as war prisoners, awaiting release back to the green fields of Bavaria. In their negotiations with the Entente powers to secure transport back to Bavaria, the squadron notes that changing national alliances directly affected the treatment of former adversaries. With noticeable disdain for the Italians who "undoubtedly treated [Austrian troops] better than their German counterparts."[109] The document continues, complaining that "[the Austrians] small number, the fact that many civilian Austrians had acquired Italian or Romanian or Czechoslovak nationality, received a shorter route home."[110] Reflecting the same tone as their train documents from a year and a half before, the document continues by noting

[109] Squadron Records and Correspondence of F.A. 304b 'Pascha,' Finding Aid: WK2077, Bayerisches Hauptstaatsarchiv: Abt. Kriegsarchiv, Munich, 118.
[110] Ibid.

that while the Turkish delegation is negotiating their release, "the differences between the German and Turkish working methods are also more noticeable than before."[111] Thus, even after defeat, the complex interplay of national identity and foreign territory created a sense of unease among the German airmen and support staff waiting to go home. The alien environment, the harsh conditions, and a population they little understood only intensified their sense of being in an unrecognizable place.

Conclusion

The conclusion of the First World War did not end the ongoing antagonism between Bavaria and Prussia. The official history of the Bavarian Royal Flying Corps in the conflict was quick to note the degree to which Bavaria maintained its autonomy despite incessant Prussian interference, while noting that its independence was forfeited during the Hindenburg Program of 1916, which reorganized Germany's air service. John Morrow notes too, that the "Prussian, or imperial, perspective reproaches Bavaria for its resistance to a unified air arm in 1916 and the deleterious effect of its independence on mobilization through 1916."[112] Post-war histories of the First World War in the air reflected the complicated interplay between regional powers and the nation's air industry. In particular, Prussian and Bavarian narratives once more competed for the dominant story of the air war. Works by the leaders of Germany's air service were published alongside regional narratives of Bavaria's experience in the conflict. General von Hoepnner wrote his account of events in the simply titled, *Germany's War in the Air,*

[111] Ibid.
[112] Morrow, 68.

which competed with an edited volume by Bavarian authors entitled, *Bavarian Airmen of the World War: A Book of Their Memories and Deeds.*[113] The need and subsequent demand to commemorate the experiences of Bavarian airmen specifically reflects the ongoing social and cultural practices of creating what was, for some, a distinctly Bavarian experience in the First World War. No doubt both works appealed to audiences hungry for stories about the war in the air, and how local regions played a significant role in those events.

The ending of the First World War, then, continued the conversation regarding regional and national identity and how those spaces made sense of defeat. The generation that predominately served during the conflict, those born around 1890, were dramatically shaped by the educational, social, and cultural practices of their childhood. The formative experiences of youth, that of reading books filled with regional history and great figures of local prestige, melded with the elastic discourse of *Heimat* culture, created a locally colored yet national perspective of one's place within the Reich. The Bavarian case, in particular, resulted not only in regionally distinct mentalities, but in the material realities of German airmen serving in Bavarian squadrons.

Aviation once again served as a vehicle for shaping the perception and subsequent expression of personal and regional identity. The difficult relationship between Prussia and Bavaria led to markedly different responses to the coming of war in 1914. Such differences led to distinctly different interpretations of time and danger, with Prussia

[113] See Ernst Hoeppner, *Deutschlands Krieg in der Luft* (Leipzig: K.F. Koehler, 1921); Max Zeidelhack, ed., *Bayerische Flieger im Weltkreig: ein Buch der taten und erinnerungen* (Munich: Verlag der Inspektion des bayerischen Luftfahrwesen, 1919).

frantically confiscating every available airframe in the region, while Bavarian officials worried, instead, about having too much war materiel and incurring the subsequent debt of owning outdated and unusable aircraft. These decisions, much the product of disparate perspectives, had very real consequences for the lived realities of those serving at the front lines. Rudolf Berthold's account of frustration and limited aircraft only affirms John Morrow's assessment of the policies of Bavaria's war ministry. The choice to use regional aircraft firms too, had near fatal consequences for Berthold, who nearly died when his poorly built *Pfalz* copy of a Fokker monoplane crashed shortly after takeoff. Peter Supf's squadron also experienced the difficulties of using inadequate machines in the field, as his photo album documents the crashes of Bavarian built, AGO GII aircraft intended to observe enemy troops but instead ended up in twisted heaps just beyond his airfield. Still, within the disruptive technological force of aviation, the role of personal preference and even superstition played a part in shaping aviator's perspectives on the air war. Despite nearly losing his life in a *Pfalz* built aircraft, Rudolf Berthold came to depend on his *Pfalz* D3 and even marked the machine with his personal insignia as a mode of expressing his personal identity.

Aircraft too, served as a mode of expression for German aviators. Color schemes reflected personal identity, but could also embody regional backgrounds. Aircraft painted in the colors of the Bavarian state flag or crest, expressed in the most outward manner available, the regional origins of the man sitting within. Airmen were also privileged enough to have the space, time, distance, and resources to bring aspects of their regional identities to the battlefield, as the hunting lodge and *Kegelbahn* of Peter Supf's squadron in the middle of the Western Front powerfully demonstrates. The odd visual combination

of moose heads, rustic woodwork, and small evergreen trees served as the backdrop for the re-enacting Bavarian traditional festivals, complete with airmen dressed as Bavarian women. It served as a way of expressing regional and national identity, as well as bringing part of Germany to the front, where its soldiers and airmen consistently rationalized a defensive war fought on foreign soil.

When moved to more distant territories, the discourse employed by German airmen grew broader, and more at odds with their surroundings. The documents of Bavarian unit 304b, which was tasked with moving from Oberschleißheim airfield in Munich to Palestine, highlight the discourse of German nationalism, as well as intellectual and racial superiority. The challenge of moving to such a distant location highlighted the fragile nature of aviation technology, and only served to heighten the sense of "otherness" in the minds of those who would serve in the unit. Few embodied this mentality more than Franz Walz, whose moniker of "The Eagle of Jericho" expressed the complex ways in which broader cultural markers of German identity both expressed its will over foreign lands while simultaneously appropriating the historical and cultural heritage of those they sought to dominate. By 1919, the men of 304b were stranded between the battlefield and home, and even in defiant defeat, noted with contempt, the inferiority of other nationalities.

Memory and death too, would ultimately come to shape the conversation of regional and national identity among Germany's aviators after the First World War. Competing histories sought to tell the experience of "Germany's war in the air," while others remained dedicated to the same regional delineations that shaped local and national conversations before the First World War. The mere difference in title between

Germany's War in the Air and *Bavarian Airmen of the World War: A Book of Their Memories and Deeds,* demonstrates the flattening effect of national discourse against the markers of delineation embedded in the title of regional war histories. The conversation shaping national and regional narratives would continue through the 1920s and into the 1930s. In the interim, Germans would fight, not only over the question of memory, but over the political direction of the nation. Bodies too, occupied the space between national and regional narratives. Once more, Rudolf Berthold, returns to the historical narrative, having served from mobilization in Bamberg in 1914 until his death fighting with the *Freikorps* in 1920. Berthold's own corpse would come to embody the ongoing debate between national and regional identity. Following his gruesome murder, Berthold, who had written so poetically about the green forests of his home town, would not be buried in Bavaria, but would instead be interred in Berlin.

CHAPTER FIVE: PRIVILEGED DEATHS

Introduction

From 1960 to 2003, the grave of Rudolf Berthold, the decorated First World War German aviator, vanished, first within the fortified border between East and West Berlin, and then as an unmarked grave following reunification. In a century defined by unprecedented technological progress, and previously unimagined destruction in war, Berthold's body is emblematic of the complicated relationship between Germany and its First World War aviators after 1918. Berthold's life and death, also embodied a complex negotiation with time during and after the conflict. We can best access the intricacies of time as it was lived and experienced by men like Berthold, through the Greek terms *chronos* and *kairos*, which demarcate time between periods of chronological time - *chronos* - and heightened "moments of decision" represented by *kairos*.[1] While those who fought might not have actively, consciously engaged with classical categories, their experiences are expressed in ways that reflect these conceptions of time and which clearly demonstrate different perceptions of time during and after the war. The conflict's unprecedented nature, both in its employment of new technology and its subsequent violence, resonated as distinct, knowable periods of *kairos* for those who served. Aviation also added a new dimension to the lived experience of *kairos*, by regimenting time and creating order, even in the midst of immense bloodshed. Similarly, the conflict created a redefined perception of *chronos* in the minds of Germany's aviators. Their

[1] Several works inform my interpretation of *chronos* and *kairos*. See Phillip Sipiora and James Baumlin, ed, *Rhetoric and Kairos: Essays in History, Theory, and Praxis* (Albany: State University of New York Press, 2002). See Kimberly Hutchings, *Time and World Politics: Thinking the Present* (Manchester: Manchester University Press, 2008). See, "Chronos and Kairos" in John Spencer Hill, *Infinity, Faith, and Time: Christian Humanism and Renaissance Literature* (Montreal: McGill-Queen's University Press, 1997).

technologically driven, violent, and often short lives, elongated short spans of time into longer epochs. Aviators divided along generational shifts that did not reflect their respective ages but rather, the longevity of their service in the war and the intensity of violence surrounding certain periods. Here, the work of Germany's aviation industrialists dramatically shaped the experiences of the nation's fliers.

Germany's aviation firms fed the carnage over the Western Front with ever faster, ever more lethal machines. Over the course of the war, Germany's aviation industry manufactured 47,931 airplanes.[2] These industrialists worked within their own perception of time as the war progressed. These men were defined by generational differences of their own, and their responses to government meddling and the ever more urgent need to produce aircraft created their own response to time. Their work, however, was ultimately geared to producing ever faster and more lethal aircraft. The latest machines produced in Germany's factories consistently transcended pervious conceptions of space and time, and continued to compress the experiences of both as the war progressed.

As a result, aviators who fought earlier in the war had a far different perception of time from those who arrived to serve later. The experience of time, as passing chronology or heightened moments of decision, was most starkly felt within the realm of aerial violence. The act of killing in the air, a wholly new form of warfare, profoundly altered perceptions of time for those engaged in combat. This new kind of war also repurposed time to resurrect older tropes of medieval combat to make a new and terrifying kind of fighting knowable. Thus, aerial violence, combined with aviation's rapid development,

[2] John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982), 202.

distorted time for those who flew, dividing Germans from the same generation of soldiers into "new" and "old" fliers, while compressing space and time in ever more violent aerial combat.

Time, as it was experienced in war, transformed again with the end of hostilities, and fundamentally altered the identities of \aviators and derailed the plans of industrialists. The compressed sense of *chronos* collapsed into the endless space of an uncertain future, and despite the dangers of *kairos*, many aviators longed for knowable moments of decision and action. Beyond the battlefield, designers and managers like Hugo Junkers, Ernst Heinkel, and Antony Fokker all prepared for a post-war world, even before the conflict ended, only to find their markets shattered by the peace treaty that ended German aviation for the foreseeable future.[3] Fliers, both living and long-dead, were re-purposed, re-buried, and rhetorically reconstructed, as either representations of an earlier time or standard bearers for a new, National Socialist Reich. For men like Berthold, who died not in the war, but in one of Germany's many riots in 1920, aviation's relationship with a shattered homeland collapsed their wartime memories and uncertain future into a new and unrecognizable present. Aviation, then, transcended a diverse range of times, as daily sorties created a profound but brittle identity for Germany's fliers, death transformed fliers, and defeat shattered the narrative of the airplane in German culture. In death, Berthold and others like him, transcended time, though their mortal remains were left mired in a contentious discourse of mourning, memory, and nationalism. The lives of Germany's aviators then, did not create the palpable sense of *kairos* during the war, but

[3] See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska, 1982).

rather added new delineations to an ancient concept.

Military Aviation and War Time

As discussed in Chapter One, Germany's social fabric at the turn of the century was one of a myriad of perspectives; a multiplicity of conversations centered around questions of national identity, industrialism, modernity, empire, gender, and regionality.[4] Germany in 1900 was a rapidly industrializing power, and consequently experienced the changing relationship with time shared by other developed nations. Stephen Kern notes that the pre-war era was defined by a new sense of the present as defined by "a thickening of its temporal length beyond a 'knife edge' between the past and future into an extended interval that included part of the past and future."[5] This created a new concept of the present, one articulated by Gertrude Stein as a lived moment that "involved streaming from the past and into the future."[6] Germany's own narrative before 1914, that of being both inherently modern and traditional; embodying both the factory floor and the *Heimat* landscape, demonstrates this complex and often contested relationship with time. Aviation too, before 1914, exemplified this new narrative and stretched its interpretation further by collapsing space between distances previously traveled in days, or not at all. The airplane then, was the physical manifestation of this new present, the next step in an evolution begun by the railroad; full of power, potential, and quite possibly, peril.

[4] For more on German Culture before 1914, see Matthew Jefferies, *Imperial Culture in Germany, 1871-1918* (New York: Palgrave MacMillan, 2003).
[5] Stephen Kern, *The Culture of Time and Space, 1880-1918* (Cambridge: Harvard University Press, 1983), 294.
[6] Kern, 294.

The arrival of war in 1914 fundamentally changed the relationship between time and aviation. National lines hardened, and the pan-European spirit of aviation, cooperative and competitive, evaporated as the foundational "community of fliers" were called up by their representative armies.[7] Pioneering aviators of pre-war flight became the founding members of new military air forces. Time, too, changed. Kern states, "The war contradicted such notions of an extended present on a grand scale by isolating the present moment from the flow of time. However, the other extension of the present that we observed - a spatial extension that included a multiplicity of distant events - was dramatically embodied in the war experience."[8] Rudolf Berthold's war diary reveals this fracture of time in his entries from the first weeks of the conflict. He notes the term "war standard" as the dominant the phrase used in military drills, and that a heightened sense of urgency, of perilous time, had arrived.[9] War, in the modern sense, has always created a heightened sense of urgency. The compression of time, the creation of a perilous future, and the regimentation of military life, often erodes any sense of reliable consistency in the present or any notion of a predictable future. "Gradually, imperceptibly the images and thoughts of ordinary civilian life begin to fade; thoughts of home, wife, friends, even begin to grow dim and recede in the memory. The present, the vital present, occupies and grips the mind."[10]

Aviation, however, added new delineations to this experience. The airplane, that

[7] For more on the pan-European spirit of flight, See Richard Wohl *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* (New Haven: Yale University Press, 1994).
[8] Kern, 294
[9] See Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv.
[10] Hereford Carrington, *Physical Phenomena and the War* as quoted in *Stephen Kern, The Culture of Time and Space, 294.*

invention which compressed space and time, also revolutionized the spatial perception of the battlefield - not from the height of high ground or a tall tree - but from thousands of meters above what would become a sprawling network of trenches and fortifications.[11] Aircraft expanded the perception of the battlefield while simultaneously shrinking its scale. Miles of terrain could be traversed in minutes, rather than hours or even days. The information gathered by these aviators proved invaluable. From the opening weeks of the conflict, ocular reconnaissance from aircraft proved vital to the decisions made by ground commanders. By 1915, photographic reconnaissance provided remarkably clear images of the trenches, information of vital importance to winning the war. In essence, aerial photography provided frozen snapshots of time, that could be internalized as intelligence for future action.

The development of military aviation over the course of the war also reordered the perception and experience of time by those tasked with flying daily sorties over the Western Front. As early warplanes were replaced with purpose-built machines, the lived experiences of pilots, observers, and ground crews, became highly regimented and ordered. Pilots and observers flew multiple daily missions over the Western Front, mapping enemy fortifications and new trench positions. By 1915, purpose-built fighter aircraft, designed to destroy enemy reconnaissance machines, grew in number and importance.[12] With these new machines, a novel dimension of war time emerged, as a unique breed of *Kampfflieger* rose to prominence.

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[11] The dual-nature of aviation, that of promise and peril, is also seen in the development of the defining technological breakthrough of the nineteenth century: the railroad. See Wolfgang Schivelbusch, *The Railway Journey: The Industrialization of Space and Time in the 19th Century* (Berkeley: The University of California Press, 1986).

[12] See John Morrow, *The Great War in the Air* (Washington, D.C.: Smithsonian Institution Press, 1993).

The maturation of the air war over the Western Front, then, created two markedly different experiences in the perception of war time. First, the military demands of acquiring daily photographic reconnaissance, ranging artillery, and later in the war, the punitive bombing of infantry positions, necessitated multiple sorties each day. Each mission, assigned over dangerous areas of the Western Front and, sometimes, behind enemy lines, represented a heightened sense of *kairos*. These missions represented moments of decision that could shape the course of the war and, possibly, cost the lives of the airmen assigned to carry them out. Reconnaissance flights conducted daily sorties to gather photographic data of the Western Front. Images relayed back to military intelligence noted any valuable strategic information: increased troop concentrations which could signal an impending offensive, new troop fortifications or artillery batteries, damage done to friendly trench emplacements, all factored into the decision-making process by those on the ground. The need for such information meant that sorties were divided into morning, afternoon, and evening patrols that created a highly regimented, predictable sense of time for aviators serving over the Western Front.[13] Pilots serving in both reconnaissance and bombing units, as well as those assigned to *Jasta* or "hunting" squadrons flew with grinding regularity as the war progressed. Even by 1918, as the war turned decidedly against Germany, daily missions were still conducted routinely as the *Luftstreitkräfte* attempted to create localized air superiority in the place of regional dominance.

Second, the speed at which aviation developed during the war created an artificial

[13] Weather remained an unpredictable factor in daily patrols, with weather fronts sometimes scrubbing all scheduled sorties for days at a time.

sense of distinct "eras" to the air war.[14] These eras reached out through time, redefining the perception of *chronos* experienced by aviators. This redefinition of time was facilitated through technological improvements to aircraft. The rapid speed of technological development in aviation often meant that the next generation of military aircraft eclipsed those already in service.[15] In an instant, a once reliable machine could be rendered militarily obsolete by newer aircraft coming into production.[16] Aviation's expeditious development created a psychological shift in pilots' perception of time over the arc of the war years. In other words, whereas missions created a crisis moment, a specific point of *kairos*, in which aviators faced the possibly fatal risk of military flight, the rapid development of military aircraft redefined what "long term" time, or *chronos,* felt like.

This elongation of time is apparent in Manfred von Richthofen's writing, when describing his encounter with aviation in 1914: "At the time I hadn't the slightest idea what our fliers did. I considered every flier an enormous fraud. I could not tell if he were friend or foe… Even today the old pilots tell how painful it was to be fired at by friend and foe alike."[17] Richthofen's definition of early aviators as "old pilots" highlights how the violent nature of the air war, coupled with its disorientating speed of development,

[14] For a history of Germany's aviation industry, see John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).
[15] An example of the rapid rate of technological improvement comes from the technical figures of aircraft. In 1915, the Fokker Eindecker had a top speed of 87 mph. The Fokker DVII of 1918, by comparison, flew at a top speed of 165 mph. While details like these are often quoted in works dedicated solely to the technical specifications of aircraft, they highlight the rapid increase in the sense of speed, and the further collapsing of space experienced by aviators during the conflict.
[16] This often placed combat aviators in a precarious position. A new, superior machine provided an extremely overdeveloped sense of agency in the air, whereas an outdated aircraft left aviators feeling a complete loss of that agency.
[17] Manfred von Richthofen, *Der rote Kampfflieger* (Berlin: Verlag Ullstein & Company, 1917), 25.

could, in the space of a few short years, separate, nearly contemporary Germans into "new" and "old" pilots. The technical rate of development in the field of military aviation over the air war's dominant years – 1915, 1916, 1917, and 1918 – created machines that not only improved drastically over time, but utterly eclipsed the technology which came before.[18] Consequently, aviators could neatly divide the air war into the subsequent "eras" that they either personally experienced, or which preceded their arrival on the Western Front. These delineations of time were, of course, artificial. For those away from combat, the separation of mere weeks or months into epochs appeared irrational. For aviators, however, it is apparent through their writing that each separate "era" of the air war's development was distinct. Whereas ground combat troops would mark eras through survival, aviation added a technical delineation, that of the development and implementation of new machines, to the perception of *chronos* and *kairos*.

The physical manifestation of that agency was, of course, designed and built by Germany's aviation firms. War time, for these companies, fueled a heightened sense of urgency. Every design, every decision made by these firms represented a moment of *kairos* in an uncertain present. The ramifications of these decisions could mean the next cutting-edge design, or a tremendous misstep for the company. Within this sense of *kairos*, the addition of dramatic generational and cultural variances also created markedly different responses to these moments of decision. Within these firms, Germany's aviation designers and engineers worked against increasing government intervention and,

[18] The technical aspects of military aviation have a voluminous historiography. For a technical history of the development of First World War aviation, see John Morrow, *The Great War in the Air* (Washington, D.C.: Smithsonian Institution Press, 1993).

eventually, its heavy-handed intrusion into the design and construction of military aircraft. The process of inventing new designs or improving current machines and subsequently bringing them into production further reinforced this sense of *kairos*.[19]

Beyond these moments of decision, the social and economic position occupied by aviation industrialists, left them insulated from the violence and suffering of war, which also created an elongated sense of *chronos* time.[20] In the longer view of some industrialists, their perception of events was not the urgency of *kairos*. Instead, it was time's projection forward, not into the daily, regimented duties of military flight, nor the epochs that developed in the minds of Germany's aviators, but into the future of flight, as new designs moved from blueprint to prototype to production. Here a new regimentation of time emerged as the methodical chronology of research and design helped give shape to an uncertain present. Thus, an inherent tension existed within the culture of Germany's aviation industrialists; one that placed the urgent, perilous *kairos* of the needs of war – the need to produce new and viable machines – with the *chronos* of design's longer view of development. The perception to these types of time largely reflected the backgrounds of individual industrialists.

Aeronautical development during the First World War fed off a disparate range of technical approaches. Hugo Junkers, already an established designer of innovative industrial technologies before the First World War was, perhaps, the most methodical and

[19] John Morrow's *German Air Power in World War I* describes the political/industrial relationship between German aviation firms and the military during the conflict. My interest here is how that relationship contributed to the sense of regimented "war time" and how that perception shattered, not only with defeat, but with the imposing of Versailles comprehensive restrictions on aviation. Thus, my approach examines the cultural ramifications of this political/industrial relationship.

[20] Kern notes that "In war or peace the rich and powerful have a stronger and more active sense of the future than the poor and powerless. Great wealth is a bridge to the future." See Kern, 296.

cautious aircraft engineer in Germany. While Junkers was one of the oldest aviation industrialists in the country, his work was also the most forward looking. Moving beyond the accepted materials of the day, Junkers created a design for a machine called the J-1, which embodied not only of his view of aviation's technical development, but also of his perception of time both before and during the war. The J-1 differed from any other machine in production, using an all-aluminum construction, it was utterly unique for its time. Junkers also pushed the boundaries on the J-1's shape, insisting on a mono-wing design, which ran counter to the wishes of the German military.[21] Beginning in 1911, Junkers researched the requirements to develop his unique aircraft. After the outbreak of war, the all-metal machine attracted the attention of the *Idflieg: Inspektorat der Fliegertruppen* (Inspectorate of Flying Troops) in 1915. The story of its design, and the machinations of *Idflieg* and Junkers' company, elucidates the markedly different perceptions of time between the two entities during the war.

The J-1 was moved from initial design to prototype in early 1916. The machine was so extreme, so alien from the wood and canvas aircraft that defined the era, that no test pilot was interested in being the first to fly the J-1.[22] Despite fears that the machine was designed to crash in a heap of twisted metal, the J-1 was a success. In this momentary triumph, however, we locate the stark differences between Junkers far-reaching approach to the urgent needs of wartime planners. For *Idflieg*, the J-1 was a viable solution to an immediate, and pressing military problem - that of using aircraft for

[21] See Richard Byers, "Power and Initiative in Twentieth Century Germany: The Case for Hugo Junkers" (PhD Dissertation, University of Georgia, 2002).
[22] Richard Byers, "An Unhappy Marriage: The Junkers-Fokker Merger," *Journal of Historical Biography* 3 (Spring 2008), 8.

low-altitude, attack sorties in support of ground troops. For Junkers, however, the J-1 was a step in a much wider, more ambitious process. He did not intend to push the J-1 into mass production. Instead, the machine proved the viability behind his desire to develop a new system of production for all-metal aircraft. For Junkers, the J-1 was a step, not a solution.

Junkers long-range planning was rooted in *chronos*, that of creating a fully realized production system for building all-metal aircraft, which would take considerable time and resources to fulfill. For *Idflieg*, however, the J-1 was a machine designed within *kairos*, a heightened moment of decision required to solve an urgent matter. With the request for six machines from the German military, Junkers began work on the next design, the J-2.[23] As Richard Byers notes, Junkers decision to expand research and development on the J-2 rather than focusing his resources on the manufacturing of the J-1 put the company in financial straits.[24] Thus, it is apparent that Junkers' view of time was fundamentally different from that of the German military. Even while placing his firm at great financial risk, Junkers' insistence on pressing ahead with long-term research plans, indicates his sense of time as a far-reaching force that would ultimately even out the short-term turmoil of war.

The disagreement between *Idflieg* and Hugo Junkers represents more than a logistical, economic, or industrial issue, and highlights two fundamentally differing points of view on time. Development, for Junkers, occurred along two intersecting points that met somewhere in a long-term future. The first point represented the ever-increasing

[23] Ibid.
[24] Ibid.

power output from Germany's airplane motors as production and technical ability improved. The second represented the increasing the increasing weight loads that those motors could carry. Junkers projected time outward, and found the intersection of those two points to be the ideal moment to launch his next creation, the J-2. Development, then, was not to be rushed. For *Idflieg*, time was a fundamentally different experience, that of pressing, urgent military necessity. Thus, the two came to radically different interpretations of *kairos.* For Junkers, that moment of decision lay along the intersection of improving technologies. For *Idflieg*, the moment of decision was now.

The machinations of *Idflieg* served the central aim of maximizing efficient use of war time through the production of the most effective warplanes for the German military while simultaneously reducing costs and increasing output by any means necessary. Some firms, like the Albatros company, were far more compliant to the demands of the Inspectorate of Flying Troops.[25] Others, like Junkers, were less willing to subordinate future designs to the demands of the German military. Time again, in the form of age, played a role in the decision making by the Junkers firm. Hugo Junkers, the oldest of Germany's aviation industrialists, understood powered flight from a much wider view. Born in the mid-nineteenth century, Junkers viewed flight as yet another step - albeit an important one - in a longer trajectory of industrial and technological development. The Junkers firm then, did not rely entirely on aviation, although it came to depend more and more on its aeronautical departments for the stability of the company.

For Junkers, the war represented an intrusion into the important work of research

[25] See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).

and development in the field of powered flight. Thus, the pressing needs of war time did not intrude on the longer, slower development cycle of aeronautical development within Junkers' from. His differing view of time, and the consequences that such a perspective held, were often in conflict with that of his military supervisors. Consequently, *Idflieg* and the German military would later view Junkers with a disparaging eye. He eventually earned a reputation as being rigid and obdurate. Junkers looked forward to a day when the war would end, and his firm could return to the *chronos* of development time that he found more productive. Despite the interference of government intervention, the First World War offered a financial and industrial boon for Junkers. His from grew from fifteen employees in 1915 to two thousand by the end of the war in 1918.[26] The war shaped Junkers company, and the relationship between his firm and the state. His relationship with time, too, changed during the war, and time would also affect the experiences of his competitors.

Ernst Heinkel was Junkers' junior by nearly three decades. Consequently, he came to the world of aviation at a much younger age and viewed the world of powered flight from an entirely different, and more emotionally visceral, perspective. In his autobiography, Heinkel retroactively bends time to his narrative, noting, "My real life did not begin in 1888 when I was born."[27] For the young Heinkel, his "official" entry into the world coincided with the record-breaking flight and subsequent crash of the LZ4 airship in 1908. Heinkel was twenty years of age when the LZ4 crashed and burned to the

[26] Richard Byers, "Power and Initiative in Twentieth Century Germany: The Case of Hugo Junkers," (Doctoral Dissertation, The University of Georgia, 2002), 41.
[27] Ernst Heinkel, *Stürmisch Leben* (Stuttgart: Europäischer Buchklub, 1953), 11

ground. His choice of this moment to represent the beginning of his life, illustrates the degree to which Heinkel became obsessed with aviation. He differed from Junkers, who was already middle-aged when aviation quite literally, took off. Instead, Heinkel was born into the world of flight as a lived reality experienced in the present tense.

Flight then, was an unfolding phenomenon for Heinkel. As a result, he felt a strong emotional attachment that Junkers never quite possessed. The urgency and the immediacy of flight from Heinkel's younger perspective, created a sense of time more in line with Germany's military needs. Heinkel also stood to lose less than the more established Junkers. Consequently, Heinkel developed a pragmatic nature in regards to his dealings with *Idflieg*, particularly when working with new aircraft designs. While working for the Hansa-Brandenburg firm, Heinkel found his work largely dictated from above, with the Imperial Naval Office particularly interested in the development of float planes for military service. Heinkel's designs worked with the same limitations faced by all German aircraft firms during the war, that of poorly performing motors and difficulty creating high quality machines in large numbers.[28] As a result *Idflieg* often intruded not only in the production numbers of machines, but even in the specific details of an aircraft's design and construction.

Ernst Heinkel was, first and foremost, an engineer. He stated that he often operated under the idea of "über den Daumen gepeilt" (the rule of thumb), in other words, engineering through trial and error. As a result, he was especially receptive to the feedback of his test pilots.[29] Late in the war, Heinkel was assigned to the design of yet

[28] See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).
[29] Heinkel, 55.

another float plane for the German Navy. His test pilot reported that the machine was tail heavy and therefore, unbalanced. Heinkel and his crew at the factory reacted by removing the upper wing and moving it rearwards to correct the issue. When he was told by a fellow worker that "the Navy would never allow [the design change]," Heinkel retorted, "then for once we won't ask the Navy's permission."[30]

In this regard, Heinkel differed from Junkers in important ways. First, he knew how to placate his supervisors from *Idflieg* and the German Navy while still maintaining some level of autonomy. Unlike Junkers, who often antagonized his superiors, Heinkel was adept at finding areas of aircraft design that would often fall past the scrutiny of his overseers. Second, Heinkel perceived the pressing concerns of war time with a different urgency than Junkers. This difference in perception was the result of two factors. First, Heinkel's position within Albatros and Hansa-Brandenburg firm was that of an engineer, not an owner. Therefore, Heinkel had less at stake than Hugo Junkers. Second, Heinkel's age created a greater sense of urgency for wartime production in that the war was a foundational experience of a young life, rather than a middle-aged one. Thus, his work, first at Albatros and then at Hansa-Brandenburg focused on creating war planes for immediate production, rather than working towards long-range, often abstract goals that were more in line with the projects undertaken by the Junkers firm.

If Junkers represented the most methodical aviation industrialist of the war, one who viewed *kairos* as an event existing within a moment in the future, and Heinkel viewed aviation as an exciting moment within a heightened urgency in the present, then

[30] Heinkel, 55.

Antony Fokker embodied the purest interpretation of *kairos* of any of Germany's designers. Fokker remains one of the exceptional figures in the field of German aviation, not only for his designs, but for his unorthodox approach to engineering and his pliable relationship with patent laws.[31] Fokker was not German-born, but a Dutch citizen who immigrated to Germany before the First World War. Having migrated to Germany in 1910 to learn to fly, Fokker eventually established a permanent base within the country.[32] Fokker's approach to flight differed from both Junkers and Heinkel. He was less educated than either of his contemporaries and preferred to work up designs based on experimentation rather than calculation. He also benefited from Germany's lax patent protection laws by "incorporating" designs from other companies into his own.[33]

Fokker's aviation ambitions coincided with the coming of war in 1914 to create an ever-present sense of *Kairos* within his work and his perception of time. After being naturalized as a German citizen in the interest of national security, Fokker set to work competing against the largest and most established aviation firms in Germany.[34] Some of Fokker's earliest designs were widely successful, none more than the Fokker EIII monoplane which wreaked havoc on allied planes in 1915.[35] Fokker also leveraged the power of personality by cultivating relationships with Germany's leading combat pilots. Thus, the Dutch aircraft designer tied his fortunes to Germany's rising *Kampfflieger*. His choice of aviator, the fighter pilot, also reflects his perception of the present as a moment

[31] For a detailed discussion of the ways in which Fokker worked around patent laws in his designs, See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).
[32] Byers, 3.
[33] See Marc Dierikx, *Fokker: A Transatlantic Biography* (Washington, DC: Smithsonian Institute, 1997).
[34] See Dierikx, *Fokker: A Transatlantic Biography* (Washington, D.C.: Smithsonian Institute, 1997).
[35] See Morrow, *German Air Power in World War I* for a full discussion on the EIII's impact on the air war.

of *kairos*. No other flier experienced the moment of decision – of life and death action – more so than the fighter pilot. Fokker's designs worked actively to serve those at the cutting edge of the air war, by creating the most advanced aircraft possible, even if those designs were less than sound. The consequences of these decisions, often made in the moment, would nearly cost Fokker his company.

By 1916, however, Fokker's fortunes turned against him, as several of his machines failed in flight, killing the German aviators with whom he identified. Eventually his firm was in such dire straits that the German government sought to sell his machines to the Dutch government rather than press them into service over the Western Front.[36] The following year, Fokker's company was forcibly merged with the firm headed by the obdurate Junkers. The relationship would prove to be a miserable failure for both men.[37] Fokker, however, continued to work on creating cutting edge designs for Germany's fighter pilots, as he worked against an ever-pressing sense of *kairos* during the war. Fokker too, sought to transcend time through the praise of Germany's fighter pilots, and the acclaim of the popular press.[38] Fokker then, was a contradiction; a man who desperately worked within the paradigm of *kairos* while seeking ways to transcend it.

Thus, the interpretation of time among aviation industrialists, engineers, and designers, differed starkly from one another and reflected not only their differing backgrounds and approaches to flight, but in their discernment of war time. Hugo

[36] Byers, 7.
[37] Byers, 1.
[38] A few images of Fokker appear in Richthofen's autobiography. Here he is seen wearing a pilot's flying suit and cap, while standing next to men like Richthofen. See Manfred von Richthofen, *Der rote Kampfflieger* (Berlin: Verlag Ullstein & Company, 1917).

Junkers, born before the *Kaiserreich*, viewed flight as another technical development that his firm could revolutionize over the long term. Ernst Heinkel, in retrospect, viewed aviation as the defining experience of his life, and actively worked his way up German aviation firms to be a part of its development, viewed flight as an urgent and exciting field that he could shape. Antony Fokker, perhaps, viewed flight through the most urgent lens of all, that of the fighter pilots tasked with using his aircraft.

For these men, the First World War largely played out in board rooms, design bureaus, and government meetings and left the question of *kairos* up to a broad range of interpretations. Junkers' all-metal designs did not see full scale production until the final year of the conflict and consequently, made little measurable impact on the outcome of the war. Fokker, however, had a much more direct hand in the war, with his designs produced in large numbers and embraced by the *Kampfflieger* of the Western Front. His camaraderie with the men who flew his machines appears to have formed both out of admiration for their work, and the pragmatic need to maintain favor with those whose input could sway *Idflieg*'s decision regarding production orders. Heinkel's work was often absorbed in the details of design, and engineering the best machines he could in the present. Thus, war time in the realm of Germany's aviation industrialists highlights radically different interpretations of *kairos* as either a moment of decision in the future, the unfolding needs of the present, or in the urgent call from the battlefield to produce cutting edge machines for fighter pilots.

Violence, Death, and War Time in the Air

There is a theme, as old as the mythology of Icarus, of supreme confidence that is evident in those who became aviators.[39] Before becoming a pilot, Manfred von Richthofen, served with a cavalry unit. Writing to his commanding officer, Richthofen asked to be transferred and, after being rebuffed at first, was eventually granted a post with the flying service in 1915. He writes in his autobiography that, "my greatest wish was fulfilled."[40] By 1915 Rudolf Berthold had gained his pilot's license and was relieved of the frustrations of passively observing from the air to piloting his own machine. His war diary reveals the extreme sense of confidence he held as an aviator: "As soon as it can happen, I want to be a pilot. Should my skill, my will, always be dependent on another person? Should the weakness of one person hinder my strength, which knows no barrier?"[41]

It is in Berthold's war diary that we see the degree to which aviation not only cultivated a sense of extreme personal agency in fighter pilots, but also the ways in which flight changed perceptions of time. As the war on the ground deteriorated into static, trench warfare with no end in sight, the development of aircraft from fragile reconnaissance machines into weapons of war empowered the men who flew them. The skill set required to be a successful combat pilot also cultivated the notion that the airplane provided the aviator with a sense of individual agency that his compatriot in the

[39] Peter Fritzsche notes that "airmen emerged as representatives of a more tough-minded, popular patriotism that was technologically able and ruthlessly chauvinistic." I agree with Fritzsche's interpretation, but would further stress that aviation provided an extraordinary sense of agency to those who flew. See Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press, 1992), 100.
[40] Richthofen, 24.
[41] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 13.

mud below would never have.[42] Berthold's writing denotes an extraordinary sense of confidence that rose as he moved to take the controls of the aircraft he was assigned. That sense of agency, of power, was of course artificial. The power of a pilot to control his plane ultimately rested on the reliability and fragility of his machine. A mechanical failure, or damage suffered in battle, would render a fighter plane into little more than a plummeting coffin. From the perspective of the aviator, however, even a fragile sense of agency represented a far better fate than none at all, and from the confines of the cockpit, aviation presented a chance not only to survive the war, but to thrive.

Thus, the foundational experience of the aviator, that of controlling his aircraft and fighting against another opponent, returns us to the question of violence. By revisiting the violent experiences of German aviators during the war, however, we can elucidate another perspective on pilot identity, that of their relationship to time. Aviators like Richthofen and Berthold experienced violence in the air in extremely heightened sense of *kairos*, where minute decisions often meant the difference between life and death. In his published autobiography, Richthofen reminds us about the difference between hunting and shooting, "My father makes a distinction between a hunter, a sportsman, and a shooter whose only fun is shooting."[43] While Richthofen's description here undoubtedly highlights his extraordinary privilege as a killer, it also demonstrates a different approach to time. The act of shooting, from Richthofen's perspective, seems to represent a failure in capitalizing on the opportunity presented through *kairos*. In other

[42] Indeed, that skill set is noted many times by Richthofen in his autobiography. As the war progressed, the number of aerial "victories" required to win the *Pour le mérite* rose. Richthofen noted with frustration, "Earlier in the war one received [the medal] after his eighth victory, but no longer, even though it is becoming ever more difficult to shoot down an enemy plane." Richthofen, 57.
[43] Richthofen, 103.

words, shooting for the fun of shooting ignores the greater moment of decision at hand, and renders the shooter as less capable of being decisive. A hunter, by contrast, seems to slow *kairos* down, and extract every advantage from the moment. The analogy, presented for public consumption, illustrates the difference between an aviator who views the moment of decision with the gravity it deserves, and those who are more reckless.

Richthofen also reminds us that these experiences changed over time. After downing an opponent, Richthofen writes, "I had the feeling of absolute satisfaction. Only much later did I overcome that and also became a shooter."[44] This short statement underscores a wealth of information regarding his perception of time as the war progressed. His "feeling of absolute satisfaction," which he felt during his phase as a "hunter," was derived from his conquering of the moment of decision, of moving with precision and accuracy and downing his one opponent. He notes immediately after, that he was forced, through the necessities of war, to become a shooter. This concession highlights the changing nature of war over the Western Front, as the skies became ever more populated. The other phrase, "only much later," however, shows us the extreme compression of time felt by pilots during the war. Richthofen is referencing a period of time of little more than twelve to fourteen months. His use of the term, "much later," shows us how that experience of war, created an elongated sense of *chronos* time, punctuated by extraordinary moments of *kairos*.

This same sense of *kairos* is apparent when revisiting Berthold's words as well. Berthold, after the traumatic loss of his friend and observer in 1915, vowed revenge for

[44] Ibid.

his death. For Berthold, his deep personal loss and the subsequent need to enact vengeance, transformed him into a fighter pilot, and entered him into a realm of struggle and death. [45] Berthold did so by shooting down a French Voisin biplane. Describing the attack, Berthold writes, "What happened now was a few minutes' work! … My machine gun began its monotonous 'tack-tack.' It was not long before the Frenchmen went over… emitting smoke and crashing." [46] Later Berthold describes the confirmation, by phone, of his victory. "Then came the message from the foremost troop that two downed aircraft were confirmed… Half an hour later, cars drove towards [the crash.]"[47]

Berthold's victory, and his description of it after the fact, highlights his mental and physical experience of *kairos*, a moment of intense violence and danger. The "few minutes' work" described by Berthold likely took a matter of seconds. Extrapolating from his narrative, it is clear that a short burst of machine gun fire hit the engine of the French machine, sending it out of control to the ground. But the experience, that of intense focus and a heightened sense of the immediate, dangerous present, forms the foundation of his memory of the event. We can sense through his entry, every tense aspect of the fight: maneuvering a machine into position against a moving target, feeling adrenaline pouring through his body while closing to a range of a few feet, opening fire and hearing his guns over the din of his engine; all of these details were cast into high relief in Berthold's mind.[48] The contrasting delay, that of landing his machine and then waiting hours for ground crew members and German infantry to confirm his victory, also

[45] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 40.
[46] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 42-44.
[47] Ibid.
[48] The machine guns on First World War aircraft were often located just a few inches in front of a pilot's face. Thus, firing the weapon would have been incredibly loud and violent.

expresses a sense of prolonged *chronos*, of waiting to verify the intense, physical and psychological experience which just occurred in the air. There is a sense, in Berthold's language, of time not only slowing down, but of a clear sense of that deacceleration.

Peter Supf's photo album too, demonstrates the intimate role that violence played in shaping the perception of time, even within a fighting unit whose primary task was photographing enemy positions. Placed in conversation with Supf's snapshots of comrades and social gatherings are images of death and destruction: crashed aircraft, bombed out buildings, and funerals for Supf's compatriots.[49] Their placement in such close proximity, often on the same page, denotes the influence of violence on Supf's mentality. Supf's album, which spans the outbreak of war in 1914 until the end of 1917, is marked by the destruction of enemy and friendly airplanes, the deaths of his friends, and the carnage of the war as viewed both from the ground and from above.

Supf's photo album demonstrates a profound and complex relationship between the viewer of the album and time. Photography, more than any other medium, captures time in the past at a precise and unmovable point. It differs from the descriptive nature of text and the inherent characteristics of moving film. Time then, is frozen in a moment of decision.[50] Supf's album captures his comrades before they are killed in combat. It also features the machines that dominated the air war in the varying epochs of the conflict. Large, underpowered machines recall the first year of the war, when Supf's role as an observer would have been largely that of ocular reconnaissance. The end of the album

[49] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.
[50] For an analysis of photography in German culture immediately following the First World War, see Dan Magilow, *The Photography of Crisis: The Photo Essays of Weimar Germany.* (University Park: The Pennsylvania State University Press, 2012).

reflects the increasing violence of the conflict, and his sense of *chronos* being reshaped, as eras within short spans of time begin to feel longer. The album then, creates a curious relationship with the past. Through the images, Supf and his comrades could, metaphorically, step back into a seemingly distant past, one that might have existed only months earlier. [51]

By late 1917, aviation's development had reached a new era of ruthless efficacy, such that it began to devour the very aviators that defined the air war's earlier years. The deaths of prominent airmen often denoted the ending of a perceived epoch within the air war's history. Max Immelmann, who rose to fame during the Fokker Scourge, died in the summer of 1916. His death was closely followed by that of Oswald Boelcke, who died in the autumn of the same year. For those who followed, men like Manfred von Richthofen and Rudolf Berthold, the era of Boelcke and Immelmann represented a bygone era, one comprised of simpler machines and less hazardous skies. Such a narrative would continue through the rest of the air war. Werner Voss, a protégé of Manfred von Richthofen, died after a prolonged fight against the 56th Squadron of the Royal Flying Corps in September of 1917.[52] Even Richthofen, who remained the spiritual leader of the air service and embodied the false sense of invulnerably that pilots cultivated, had been badly wounded and left to convalesce after being shot in the head by an enemy observation machine. Rudolf Berthold was also wounded on several occasions, his worst injuries suffered on October 10, 1917 when his right arm was shattered by enemy gunfire and, barely

[51] Peter Supf, Photo Album, Finding Aid: LR-02118, Archiv der Deutsches Museum, Munich.
[52] For the British account of that battle, see James McCudden, *Flying Fury: Five Years in the Royal Flying Corps* (Philadelphia: Casemate Publishing: 2009).

conscious, he managed to land his machine at his home airfield. It is also worth noting that Peter Supf's album ends after 1917.[53] Given the fierce acceleration of the air war by this point, it is entirely plausible that Supf no longer had the means, or the desire, to continue documenting the carnage of the air war over the Western Front.

Certainly, the most significant death of the air war came on April 24, 1918, when the German Army issued the following grim report: "Rittmeister Freiherr von Richthofen has not returned from pursuit of an opponent over the Somme Battlefield. According to an English report, he has fallen."[54] The death of Richthofen fundamentally changed the mentality of Rudolf Berthold who noted the loss in his war diary: "Now that Richthofen is dead, I am the last [of the old *Geschwader* Commanders]. It is ugly and wears one down. The death of Richthofen has been very depressing. Now I have to move on as one of the old guard. Maybe I will also be killed."[55] Berthold's comments illustrate the degree to which German airmen identified with the era of the air war that they entered. For Berthold, who served from the early weeks of war in 1914, the summer of 1918 represented an alien time from the one he knew four years prior. As the summer of 1918 wore on, more of Germany's "old pilots," those who had served since the "early days" of the air war, fell one by one.

While Berthold would not be killed, he would not escape the First World War without further horrific injury. That summer, as the air war had turned decisively against

[53] Supf's album contains multiple blank pages at the end of the album and features no marginalia beyond 1917.
[54] Supplemental material from Manfred von Richthofen, *The Red Baron.* Translated by Peter Kilduff, (New York: Doubleday & Company, 1969), 141.
[55] Berthold letter, as cited in Peter Kilduff, *Iron Man: Rudolf Berthold: Germany's Indomitable World War I Fighter Ace* (London: Grub Street, 2012).

the Germans, Berthold was shot down by enemy aircraft, and nearly died when his crippled Fokker DVII slammed into a house after having its control wires severed by enemy fire. Berthold, whose right arm was already paralyzed from his previous injuries, was unable to use his newly issued parachute to escape. Instead, he was pulled, unconscious, from the shattered wreckage of his machine and transported to a field hospital. After dozens of injuries, this final and most serious incident grounded him for the rest of the war.

War's Ending, War Time Continuing

For men like Rudolf Berthold, war proved the defining experience of their lives. Berthold entered military service early in life, and the First World War represented a distinct space and time that, even with its horrors and loss, was a comprehensible and knowable horror in which those who were destined to survive, could thrive. Berthold, then, even with his life-threatening injuries, refused to accept that his role in the First World War was over. Despite being physically absent from the battlefield, the war still raged in Berthold's psyche. His sister, who served as a nurse and who would occasionally write for her brother in his war diary, noted after his injuries that he "watched with increasing concern the operations at the front and at home. Soon after his crash, he was notified that his command would be given to someone else, and that he would be assigned to another use for Germany."[56]

Berthold, a highly decorated and respected fighter pilot, would watch the war end

[56] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 63.

for Germany from the confines of his convalescence. By October, Berthold, who was physically broken, was convinced that air fighting would again be a possibility for him. Once well enough to write, he corresponded with his sister, stating, "the will and the skill are still there. I want my Jagdgeschwader 2 once again."[57] By the end of October, Berthold was still recuperating from his injuries. He fumed in his war diary, "In a few days, what powerful men have built over centuries will be destroyed. What has gone wrong? One cannot say. 'Peace at any price!' So shouts the people! Peace! Yes, but on what conditions? Man has lost his head. They doubted the Army… We are still far in enemy territory… O Germany, where is your national pride? It is still present in France, despite the devastation in their own country... You have slowly but surely undermined the good spirit of the Front."[58] November 11, 1918 marked the end of the First World War for millions, but for aviators like Rudolf Berthold, the transition from war time to peace did not represent the longed-for end of war but rather the ushering in of a new and incomprehensible present.

For four years, aviation provided not only a military duty, and a sense of identity, but a highly regimented, ordered, and predictable sense of time. Patrols had been divided neatly into morning, afternoon, and evening sorties. The space below them defined their world. Richthofen called the Somme river valley a most "beautiful hunting ground."[59] The air war itself divided neatly into perceived epochs and the individuals who defined them: Bloody April, the Fokker Scourge, Manfred von Richthofen, Oswald Boelcke. The

[57] Berthold letter, as cited in Peter Kilduff, *Iron Man: Rudolf Berthold: Germany's Indomitable World War I Fighter Ace,* (London: Grub Street, 2012)
[58] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 65.
[59] Richthofen, 55.

Armistice of November 11th, then, did not mark a new beginning, it signaled the shattering of a knowable order; a fracturing of *kairos,* and a return to an extending, and disorienting *chronos*. For Germany's aviators, and in particular, long-serving fliers like Rudolf Berthold, the previous four years had been lived almost exclusively within the realm of *kairos*. The heightened sense of purpose, of agency provided through powered flight, of certainty that their actions, no matter how limited, had affected the course of the war, was terminated with the stroke of a pen.

For Germany's aviation interests, the subsequent treaty signed at Versailles in 1919, was a seismic and devastating document, which comprehensively terminated war time, and left thousands to transition into a post-war world. It single-handedly scattered the network of aviators, observers, officers, engineers, designers, and industrialists who had built German aviation over the course of the war. Versailles removed in a most comprehensive way, the regimentation of war time provided by aviation, and disbanded the very industry that provided Germany's aviators with not only their military duties, but their core sense of identity.

The Treaty of Versailles enacted a series of articles designed specifically to prohibit any development in the field of aviation within Germany.[60] Article 198 stated the German armed forces not include military or naval air arms. Article 199 stipulated that "the personnel of air forces on the rolls of the German land and sea forces shall be demobilized." For the men who served as aviators, observers, and aircraft mechanics in

[60] The historiography on the ramifications of Versailles on Germany is substantial. For assessments on the impact of the treaty, see Manfred Boemeke, Gerald Feldman, and Elisabeth Glaser, ed. *The Treaty of Versailles: A Reassessment after 75 Years* (New York: Cambridge University Press, 1998). See also, Norman Graebner and Edward Bennett, *The Versailles Treaty and its Legacy: The Failure of the Wilsonian Vision* (Cambridge: Cambridge University Press, 2011).

the First World War, military obsolescence would not translate to comparable roles in civilian aviation. Article 201 decreed that "the manufacture and importation of aircraft, parts of aircraft, engines for aircraft, and parts of engines for aircraft, shall be forbidden in all German territory." 201 fundamentally ended the construction of any type of aircraft or aviation related materials within the German borders. Article 202 went a step beyond manufacturing and targeted research and development by ordering the surrender of all military and naval aeronautical material to the Allied and Associated Powers. This article grouped any material even remotely related to aviation under an umbrella of expressly prohibited material. The country which had been, for the better part of the First World War, on the cutting edge of aircraft development and production, was banned from continuing any work in the aviation industry. Thousands of engineers, workers, aviators, designers, and intellectuals were put out of work. For those whose lives were defined by the experience of the First World War, their very identity, that of aviators, was rendered not just obsolete, but illegal.[61]

Germany's aviation industrialists too, had to respond not only to the ending of the war and the corresponding market chaos, but to the eventual restrictions of the Versailles Treaty. Time then, for those who built companies around aviation, moved to a distinctly urgent sense of *kairos*, requiring moments of committed action. Hugo Junkers foresaw the end of the war as early as July 1918, and began to subsequently plan for the transition from military aviation to the largely undeveloped field of civilian flight.[62] The end of the

[61] John Morrow offers a wider assessment of Versailles on Germany's aircraft industry. See John Morrow, *German Air Power in World War I* (Lincoln: University of Nebraska Press, 1982).
[62] For a detailed analysis of Junkers post-war business strategies, see Richard Byers, "Power and Initiative in Twentieth Century Germany: The Case for Hugo Junkers" (doctoral dissertation, The University of Georgia, 2002).

war was not a time of loss and disillusionment for Junkers but rather, a moment of liberation. His company was imperiled by an uncertain market, but he was released from his forced merger with Fokker and finally free from the oversight and meddlesome interference of governing bodies like *Idflieg.* The fortunes of his company were again, his own.

For Heinkel, the end of the war came not with defeat, but with grave personal danger. In November of 1918, Heinkel was warned against turning up at the Hansa-Brandenburg factory, after socialist sailors from the Naval mutiny in Kiel. His close friend and fellow aviation industrialist, Camillo Castiglioni, cautioned Heinkel that "the sailors will kill you!"[63] Heinkel was undaunted and proceeded to work anyway. Within a few weeks, Heinkel would find himself unemployed for the first time since 1910. Castiglioni told Heinkel, "Germany and Austria will be forbidden to build planes."[64] Unlike the more established Junkers, Heinkel found himself without a clear way forward in the field of aviation with the ending of the war.

Ever the self-promoter, Antony Fokker reinvented his own narrative by rejecting the story of German defeat and remaking himself as the founding member of Dutch aviation. His Dutch citizenship was restored and eventually his financial obligations to Germany were all but forgotten in the following years. Before leaving Germany, however, Fokker made sure to take "six trainloads of equipment, as well as millions of marks in liquid capital, more than enough to begin again in Holland."[65] Thus, Junkers

[63] Heinkel, 62
[64] Ibid.
[65] Richard Byers, "An Unhappy Marriage: The Junkers-Fokker Merger," *Journal of Historical Biography,* (Spring 2008), 23.

assessment of Fokker proved true. The Dutch designer who used any means necessary to succeed would do just that in the coming years.

Thus, the end of the First World War signaled a transition point, from the experience of war time, to the new world of civilian aviation in the new, post-war world.[66] Germany's aviation firms initially tried to adjust to the hugely undeveloped civilian market before the arresting acts of the Versailles Treaty ultimately ended German aeronautics for the foreseeable future. Germany's industrialists, however, were ultimately survivors. Junkers, in spite of being labeled as difficult by the German government, would continue operations in other fields before returning to flight in the late 1920s. Heinkel too, found work, albeit outside of the restricted borders of his home country. Fokker would reemerge as well, influencing German aviation on the steppes of Russia during the Reichswehr's secret aviation development programs. For the designers, engineers, and industrialists who supplied Germany's warplanes during the First World War, the war's ending was as abstract as its lived present, and represented a survivable shift from one era to another. It was a privileged view, one not shared with the aviators who suffered defeat along the Western Front.

Disillusioned fliers like Rudolf Berthold, who were highly decorated and respected combat pilots during the war, viewed a shattered present through the prism of a Wilhelmine past. It is apparent from Rudolf Berthold's war diary that, as the fall of 1918 gave way to the early winter months of 1919, the war he had fought for four years was

[66] I argue that civilian aviation was an abstract experience at this point because, for all intents and purposes, there was no civilian market for powered flight before the First World War. Post-War aviation initially began around mail delivery and, as technology improved, branched out to begin flying passengers. Thus, for companies like Junkers, civilian flight was an untapped and largely unknown market. Of course, all of this potential was stymied with the aviation restrictions imposed by the Versailles Treaty.

not over. Indeed, the rising specter of Bolshevism, for Berthold, represented the next grave threat to Germany. His war diary, which continues after November 1918 until his death, reveals his sentiments regarding the transgressions committed by his fellow servicemen in turning to Bolshevism. He declared, "the dress uniform jacket that I have worn for so long is now defiled. How difficult it is, how hard it will be for me to go on."[67] The search for meaning amid defeat as well as social and political chaos would elicit a range of responses from both the German public, and the nation's surviving aviators. For Peter Supf, the pre-war occupation of writer would serve as a prism through which to make sense of the shattered present. The "pilot poet" expounded upon his pre-war publications by drafting a multi-volume history on the military significance of the *Luftstreitkräfte* in which he served from 1914 to 1918.[68] Post-Versailles Germany also created a social and political need to look back at the war, and find new meaning in those famous fliers long dead as well as those still living.[69]

For Berthold, the abdication of Kaiser Wilhelm II did not signal an end to war, rather it represented another, far more disastrous phase of an ongoing struggle. As he reflected, "Hopefully there will soon be a reckoning for the villains who have used our misery. The Kaiser and the princes have been deposed. Incomprehensible! The human mind cannot grasp how terrible it all is."[70] Berthold, who lived his life within the span of the *Kaiserreich*, could not comprehend the chaos that enveloped Germany as war ended

[67] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 66.
[68] See Peter Supf, *Das Buch der deutschen Fluggeschichte, 2 Bände*, (Berlin: Drei Brunnen, 1935.)
[69] Jay Winter rightly notes that the scale of grief following the First World War was such that the belligerents surviving populations felt compelled to look back, rather than forward, to assuage their grief. See Jay Winter, *Sites of Memory, Sites of Mourning: The Great War in European Cultural History* (Cambridge: Cambridge University Press, 1998).
[70] Rudolf Berthold, Persönliches Kriegstagebuch, MSG2-10722. Freiburg Bundesarchiv, 66-67

on the Western Front and social riots and political unrest overcame the nation at home. For a staunch monarchist like Berthold, the uprisings of 1918 and 1919 represented a catastrophic present. After initially being assigned to airfield duty within the newly formed *Reichswehr*, Berthold soon lost his position after being ordered to shutter the airfield, as stipulated by the Versailles Treaty. Suddenly, his prowess as an aviator, even a broken one, could do little to change the course of events enveloping Germany. In April of 1919, he decried the taking of Munich by a group of socialists and anarchists. Suddenly, the very heart of the Reich that Berthold had served - indeed, sacrificed his body for - was at risk. It was the singular moment that radicalized Berthold, and drove out of the *Reichswehr* and into the *Freikorps*.[71]

Berthold used his status as a respected German combat pilot to encourage young men to join his own *Freikorps* unit. The right-wing anger that rankled many *Freikorps* units led Berthold and his troops into a right-wing putsch to overthrow the fragile Ebert government in Berlin. Despite being ordered to disarm and disband, Berthold and his men continued the fight. After a tense standoff in the town of Harburg, Berthold and his men attempted to surrender, only to be attacked in the streets. Rudolf Berthold, the decorated aviator, who had survived four years of war over the Western Front, was brutally killed in the streets of Harburg.[72] His body was later found, all but unrecognizable from multiple gunshot wounds and blunt force injury to his face. His uniform had been stripped, his paralyzed arm pulled from its socket. For Rudolf Berthold, an incomprehensible present - a world without a conservative *Kaiser*, a world threatened

[71] Personal Diary of Rudolf Berthold. MSG2-10722. Freiburg Bundesarchiv, 82.
[72] Personal Diary of Rudolf Berthold. MSG2-10722. Freiburg Bundesarchiv, 106.

by Bolshevism and anarchy - ultimately represented a war that never ended in 1918. In that violent space, Berthold lost his life on March 15, 1920. In life, Berthold was never able to be repurposed in what was, for him, an incomprehensible present. In death, Berthold transitioned from an impossible present, into a reimagined past. He was buried in Berlin's *Invalidenfriedhof,* a site which, in the coming years, would serve as the space for Manfred von Richthofen's reburial and subsequent repurposing for a National Socialist Reich.

Aviation as a Site of Memory, Meaning-Making, and Mourning

Aviation had transcended time and space in the years before and during the First World War. In the aftermath of war, however, and in a nation where flight was deemed illegal, Germans found ways of re-appropriating aviation to render a new kind of time – one marked by intense loss, anger, and fear – knowable. The specter of death in cities like Berlin, had, by the mid-1920s, become so routine as to almost fade into obscurity. Unidentified victims of violent crimes were displayed at police precincts and, according to novelist Joseph Roth, were utterly ignored by the public.[73] Yet the reburial of Manfred von Richthofen in 1925, at Berlin's *Invalidenfriedhof,* would be the site of grand public, as well as political, ceremony.[74]

Despite dying in April of 1918, Richthofen would again serve the social, cultural, and political needs of the German people. Five years after the death of Rudolf Berthold,

[73] Monica Black, *Death in Berlin: From Weimar to Divided Germany* (Cambridge: Cambridge University Press, 2010), 19.
[74] As noted by Monica Black, many Germans frowned on ornate funerals after the suffering of so much mass death during the First World War. Richthofen's ornate reburial then, clearly serves other social as well as political needs. Black, *Death in Berlin,* 20.

the Richthofen family petitioned to have the remains of Manfred transferred from his grave in Flanders to their private family plot in Germany. Politics soon intervened. While the family wished to have him buried next to his brother Lothar, the German Defense Ministry, hoping to raise the profile of Richthofen's reburial, persuaded the family to locate him in the *Invalidenfriedhof* in Berlin.[75] Richthofen's reburial in 1925, however, was deliberately anchored in a highly idealized past, one that provided more meaning than fact. Germany, still searching for stability and answers following defeat in war, and the political, economic, and social turmoil that followed, latched on to Richthofen as a point of pride; a hero to the German people and an adversary still respected by his opponents.

Richthofen's death, as it had actually been experienced in the lived present of 1918, however, was significantly different from the images propagated at the 1925 reburial. The illustrated cover of the magazine, *Simplicissimus* commemorating the death of Richthofen in May of 1918, could not be starker compared to the one which marked the passing of Oswald Boelcke two years' prior.[76] The *Heimat* scenes of German forests which marked Boelcke's cover, are replaced with a stark, wilted silhouette of a single evergreen. Anchored into a foreboding hill is a shattered propeller and upon it, sits a black eagle, overlooking a singular grave. Gray fighter planes seem to continue fighting in a rambling circle in the distance. Most importantly, there is no body, as Richthofen still lay behind enemy lines. There are no classical motifs, there is no Icarus for the masses to

[75] Lothar von Richthofen was also a famous ace in World War I, and served alongside Manfred in *Jasta* 11. He died in a flying accident in the 1922.
[76] Cover of *Simplicissimus* as cited in Peter Fritzsche, *A Nation of Fliers*, 99.

mourn, only the ongoing circle of violence and death, and the obliteration of the landscape.[77]

By contrast, Richthofen's second funeral in 1925, more closely resembled Boelcke's ornate ceremony in 1916. The privileged deaths of Germany's aviators were again echoed in the repatriation of Richthofen's body to Berlin. As in the case of Ernst Heß, Oswald Boelcke, and Max Immelmann, the fallen aviator was afforded in death what so many of his comrades in the trenches were not: a singular, identifiable, and momentous burial. The reburial of Richthofen in Berlin offered a space to craft a new narrative about Germany's experience not only in the skies over the Western Front, but about the war as a whole. In doing so, Richthofen's reburial served to repurpose time to create a new interpretation of the past in the face of an uncertain present. As a result, Richthofen came to represent not only an idealized past - an era when honorable Germans jousted in the skies over Flanders, an era marked by individual heroism rather than senseless slaughter, an era when ambitious and hyper-masculine aviators seized the agency given to them by the machines they controlled - but also the Germany of the future.

In what can only be assessed as a highly propagandized piece, Richthofen's youngest surviving brother, Bolko, writes "the family agreed to this in the knowledge that the remembrance and memory of Manfred were not theirs alone, but rather, belonged to the entire German people."[78] Bolko's writing sits awkwardly between two distinct

[77] Fritzsche, 99.
[78] Richthofen, 151.

periods: the German defeat of 1918, and the Third Reich of his lived present, in 1933.[79] At once his prose both recalls the events that led to Richthofen's repatriation to Germany in 1925, while echoing the sentiments of an ascendant National Socialist Germany. Field Marshal von Hindenburg's correspondence from 1918 expressed similar emotions: "As master of the German flying force, as a model for every German man, he will live on in the memory of the German people. May this be a comfort in your grief."[80]

The contradiction of the two Richthofens, that of the living aviator who rose to notoriety during the First World War, and the new symbol of a resurgent German Luftwaffe fifteen years later, elucidates the complexities of memory, and ultimately, the role of memory in serving not the past, but an ever-evolving present. Richthofen, the landed baron from an influential, aristocratic family, was a staunch supporter of the Kaiser. Unlike Berthold, who lived and ultimately died in the aftermath of Wilhelm II's abdication, Richthofen died before Germany signed an armistice. The timing of Richthofen's death, just before the war turned decidedly against Germany in the summer of 1918, created a malleable figure, one who could come to represent a host of cultural and political meanings.[81]

In the aftermath of the First World War, Richthofen was largely left in the wreckage of the conflict. His reburial in November, 1925, opened a conversation within

[79] The 1933 re-issue date of Richthofen's autobiography is immediately telling, and the new introduction from Reichsmarschall Herman Goering is indicative of the heavy hand of National Socialism in the book's republication.
[80] Richthofen, 142.
[81] Katina Lillios notes that, "Memories are not primarily about revisiting the past, but are about defining the present and managing the future of individuals and groups within meaningful, yet shifting, contexts. Thus, the control of memory and objects of memory is an important component of power" See Katina Lillios, "Creating Memory in Prehistory: The Engraved Slate Plaques of Southwest Iberia," in *Archaeologies of Memory,* ed. Ruth Van Dyke and Susan Alcock (Malden: Blackwell Publishing, 2003), 146.

German culture, one that could look back on the war and mourn both the loss of a singular figure, and the collective loss of the nation. The account of Richthofen's reburial encapsulates this conversation. His reissued autobiography recalls, "All the bells of the small Baden city began to sound… And so the whole population, from the oldest man to the youngest child who could walk, came to respectfully greet Manfred's body on German soil… The honor guard included men who had been officers in his *Jagdgeschwader* and in the 1st Ulan Regiment. In unbroken succession Berlin's population filed past the coffin the whole day."[82] Here Bolko's recollection of his brother's reburial is both rooted in a remembered past and in a repurposed present. The language used in his account demonstrates the tension between the two narratives. Richthofen was, no doubt, welcomed back to German soil by onlookers and his rail car procession received significant attention. The description of the crowds as "unbroken" and consisting of "the oldest man to the youngest child who could walk," create the narrative of a universally beloved figure. The process of mourning featured in Bolko's narrative is for a hero, not a fully realized human being. Thus, in reburial, Richthofen too transcended time, from the living world of *chronos*, to a future where his death, rather than his life, would serve a new generation of Germans.

The description of Richthofen's character by Bolko is further dehumanized in the final passages of *Der Rote Kampfflieger*. Manfred is characterized as being usually gifted, tenacious, and inspirational. Bolko writes that "Manfred put an unusual amount of energy into whatever he did from the days of his youth."[83] During the war, that character

[82] Richthofen 155.
[83] Richthofen, 163

inspired his fellow fliers, "all of his subordinates in the *Jagdgeschwader* had unshakable faith in him… he was an example to all who followed him in war."[84] "The harder and more difficult the battles became, and the more meaningful the air battle for Germany's destiny, the greater was Manfred's own sense of responsibility."[85] In these passages, we view a Richthofen who was devoid of fear, or anger, or resentment. It is the antithesis of the writings of Berthold during the war, who often described fits of depression, sadness, and anger over the loss of fellow airmen. Perhaps most ironically, Bolko recites a Latin verse featured in Wilfred Owen's *Dulce et Decorum est,* saying "And the *dulce et decorum est pro patria mori* that his teachers once preached to him, though not always to his joy… became the meaning of the short life of combat that was allotted to him."[86]

The reprinting of *Der Rote Kampfflieger* in 1933, then, reinforced the "new" Richthofen as a symbol of a resurgent Germany. The new edition featured an introduction written by Richthofen's successor as the commanding officer of *Jasta* 11: the fighter pilot, morphine addict, and Nazi, Hermann Goering. Goering, in the introduction of the new 1933 edition of Richthofen's autobiography, re-appropriated the Baron as an example for the German people in the new Third Reich. The language used by Goering is nationalistic and bombastic. Far from the cold, resigned prose of the newspaper accounts reporting Richthofen's death in 1918, Goering states, "21 April 1933 marks the fifteenth anniversary of the day in which Rittmeister Freiherr von Richthofen, at the zenith of his glory, met a hero's death."[87]

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[84] Richthofen, 165
[85] Richthofen, 166
[86] Ibid.
[87] Richthofen, 183.

Thus, Richthofen was reanimated rather than remembered. The German air hero who returned in the 1920s and 30s bore little resemblance to the cold, calculating pilot who died as the First World War turned against Germany in 1918. In his place was a proto-Nazi, bent on securing Germany's place as a leading world power. Goering states: "We will hold Manfred von Richthofen as a great symbol. His memory will help us to use all means in our power to reach our national goal of again giving Germany an air weapon equal to those of other nations, but superior to them in spirit and courageous sacrifice, as was the *Jagdgeschwader Richthofen* in the World War."[88] Richthofen himself would likely have not recognized the warped figure he became as Germany grew ever-more militaristic in the 1930s. But certain aspects of Richthofen's character made his re-appropriation by National Socialism easier to achieve. Richthofen's love of military discipline, his desire to hunt his victims, his view of war as sport rather than violence, and his ability to inspire confidence in his subordinates all resonated with the radical right. By removing his human characteristics, his fear of death, and the injuries he suffered in combat, National Socialism easily recast the monarchist as a torch bearer for National Socialism. Thus, the memory of the Richthofen who died in 1918, was repurposed to serve the needs of Germany in 1925 and again, in 1933.

During the same period, Rudolf Berthold, that other flying hero buried at the *Invalidenfriedhof,* was similarly reanimated, in a changed form, by the Third Reich. Streets in Bamberg, his hometown, bore his name as he was extolled as yet another proto-National Socialist by a regime bent on re-writing the history of its fallen Kaiserreich

[88] Ibid.

aviators. Berthold then, joined the ranks of other deceased First World War aviators. Like his repurposed fallen fliers, Berthold was not remembered for his vehement defense of the Kaiser, but rather for his achievements in the air: that of destroying British and French aircraft in the name of the Fatherland.

The reach of National Socialism also extended to Peter Supf, who moved further to the political right. In 1935, he published the *Book of German Aviation History* in two volumes.[89] Here again, the specter of Goering appeared in the foreword, mirroring his words in the opening to Richthofen's reprinted autobiography. Supf then combined his experiences as an aviator and observer over the Western Front with his innate passion for writing. During the Second World War, Supf went on to publish histories extolling the success of the new German Luftwaffe as it devastated the European continent immediately after the outbreak of the Second World War. Thus, Supf's two identities mutually reinforced each other, and served a popular demand - at least among those of right leaning, National Socialist ideologies - for works that celebrated Germany's prowess in the field of military flight.

Conclusion

New technologies often transcend our perception of space and time. The ascendency of powered flight at the beginning of the twentieth century furthered the compression of space and time which began with the railroad a century earlier. This transformation of time is best accessed historically, through the prism of *chronos* and

[89] See Peter Supf, *Das Buch der deutschen Fluggeschichte, 2 Bände* (Berlin: Drei Brunnen, 1935).

kairos as a method of demarcating chronological time and heightened moments of decision that were often experienced by aviators. Military flight added a highly regimented sense of time, where daily sorties required constant and precise work, military aviation created a profoundly exhilarating but brittle identity for Germany's fliers, one which struggled for meaning outside of powered flight. Within the hazards of war, aviators also experienced extraordinary moments of *kairos* where minute decisions could mean the difference between life and death.

The further development of military aviation, in the form of the fighter plane, gave pilots an extraordinary sense of agency in a war marked by growing individual powerlessness amid incomprehensible carnage. An analysis of both public and private writings reveals the degree to which aviators sensed and reacted to different experiences of time. Manfred von Richthofen's hunting discourse, in addition to illustrating great privilege, also reveals a command over time, and the ability to heighten one's senses to such a degree that perceived time slows doing. Doing so, for him, creates an advantage within the moment of decision. Rudolf Berthold's private words also illustrates the ability of some fighter pilots to slow down time by heightening their sense of it. The "few minutes' work" of his machine guns contrasts starkly with the colorless time spent waiting for the confirmation of his success within his moment of *kairos*.

Violence then, shapes the perception of time among aviators. This violence was only furthered by the technological evolution of aviation during the war. Germany's aviation industrialists also viewed time differently from one another, with generational differences often shaping the perception of war's urgency and the action required of the moment. The work by these firms, however, was prodigious. The rapid rate of such was

so disorientating as to radically elongate the chronological experience of war for Germany's aviators. In a war which occupied just four years, pilots could be defined as "new" and "old" with mere weeks or months separating the two. Thus, lifespans could prove correspondingly abbreviated. *Kairos and* death, then, appear intertwined as a marked a transcendent moment, a point where fallen comrades were memorized in private photo albums, war diaries, published autobiographies, and even in the changing language of *Sanke* postcards. Death transformed the aviator from the living world of the *Kampfflieger* to the realm of the *Fliegerhelden.*

The end of the First World War shattered a highly regimented, organized, and knowable, if horrific, existence for the fliers of the German *Luftstreitkräfte*. The Treaty of Versailles, signed the following year, systematically dismantled Germany's aviation industry. The end of the war, coupled with the end of flight, left men like Berthold utterly shocked. His only option was to throw himself back into a conflict that never ceased. In that sense, Berthold abandoned his identity as an aviator and transitioned to the only comparable role that remained, that of soldier. In repurposing his identity, he served the Freikorps against the next wave of "threats" against the Fatherland. His incomprehensible present, that of a world devoid of a Kaiser and under perpetual external danger, ultimately cost him his life. Peter Supf, the "poet pilot" used his writing skills to draft a history of the German *Luftstreitkräfte*. And those long dead, like Manfred von Richthofen, were resurrected both physically and rhetorically. As Berthold passed from the world of the living, he too became what Richthofen would soon represent to a new generation of Germans: a good National Socialist.

Germany's First World War aviators, then, occupied a different space of

experience and memory from their fellow Germans. Aviation harnessed both technological promise and peril, creating machines that could achieve individualistic success while potentially killing those who flew. War hardened the identities created by powered flight. It was a mode of existence that ceased to exist with the armistice of 1918. And it was a world rendered extinct with the passing of the Versailles Treaty a year later.[90] When processed through the prism of aviation, the meaning of the war splintered into a multiplicity of interpretations by the living: of a struggle that never truly ended, of an epoch that demanded authorial intention. For the dead, repurposing was perhaps easier, as Germany reanimated rather than remembered its fallen aviators to make sense of the loss. Men like Richthofen and Berthold then, embodied the great paradox of Germany's relationship with its First World War aviators. These fliers simultaneously represented an idealized past and an unfulfilled future. It is perhaps fitting then, that Berthold's body remained trapped in an unmarked grave - situated in a "neutral" zone between East and West Berlin - for four decades of a divided Germany. Berthold's physical purgatory is emblematic of Germany's historical relationship with its First World War aviators; a generation of fliers who lived and died within a nation that reimagined them, reburied them, and repurposed them, but never fully realized their lived, horrific and, often tragic, reality.

[90] Germany, of course, found ways to circumvent the restrictions of Versailles. See Chapter 3 of Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge: Harvard University Press: 1992).

CONCLUSION

Powered flight was a powerfully disruptive force for aviators during a massive point of rupture in the wider history of Germany. In the span of just fourteen years, a fractious and rapidly industrializing German society sprinted from the spectacle of the airship to the specter of the airplane. The diverse range of responses to the airplane reflected both the ambiguity of new technologies, as well as the potential power that aviation represented. Germans viewed the airplane as everything from a national spectacle to a potential threat to the nation. The resulting discourse that grew around flight before the First World War, reflected broader cultural markers within Germany, and reflected wider anxieties about technological and economic change in the new century.

Aviation also reflected differences between generations, with the resentment of *Jugend* towards their elders evident in the cartoons which depicted flight as just another tool for the older guard to threaten the dreams of young Germans. Within this swirling array of changes, *Heimat* culture served as a language which could embrace seemingly disparate populations within the country, placing the farmhouse and the zeppelin shed side by side within its discourse. Aviation then, represented the theoretical possibilities to usher in a new post-national, transcendent age, or a new and terrifying era of rampant militarism and slaughter. Aviation was a technological promise that could literally raise Germans to the heavens, but it could also kill the very people who sought to harness its power. The arrival of war did not end these conversations; it only moved them from a space of possibility and rhetoric into the stark relief of reality at a point of rupture and crisis.

Technologies seldom operate in a vacuum, however, and often feed off other existing innovations to further validate their importance. The airplane that went to war in the summer of 1914 was at best an embryonic representation of the potential of powered flight as a weapon. When the airplane intersected the photographic camera, however, both technologies transformed into mutually dependent, and incredibly important tools for military planners and aviators alike.

At the outset of the First World War, military aircraft were incapable of being used to deliver weapons over the battlefield. Inefficient engines and light airframes meant that an aircraft could barely hoist a pilot and observer aloft in the first weeks of the war. Therefore, the only practical use for air power at the time was the observation of enemy troop movements over what was, at the moment, a rapidly shifting battlefield. As the war of maneuver stalled out in the autumn of 1914 and both sides dug in for a long war of attrition, the airplane continued to monitor the construction of defensive fortifications or the buildup of men and materiel the would signal an impending offensive.

By the beginning of the following year, however, the photographic camera had become a weaponized tool of war. One such example was the *Maschinengewehrkamera*, or "machine gun camera," developed by Oskar Messter and built for German aerial observation units by the Erneman company in Dresden.[1] The camera had been weaponized both in form and function, resembling the MG08 machine guns then used by aerial observation crews to defend themselves from attack. The airplane could now carry

[1] Wilhelm Füßl, "Luftbildfotografie im Ersten Weltkrieg," *Visual History: Online-Nachschlagewerk für die historische Bildforschung*, accessed September 15, 2014, Reference URL: https://www.visual-history.de/2014/03/11/luftbildfotografie-im-ersten-weltkrieg/.

enough weight to lift pilot, observer, camera, and defensive weapons into the air over the Western Front.

The effects of an airplane equipped with photographic equipment was a revelation for the battlefield. Previous observation flights relied entirely on the notes taken by an observer at altitude and were subject to the limitations of his ability to see the enemy through a pair of binoculars, and the accuracy of his note taking while under the duress of flying in a harsh environment and, often, under fire. The camera replaced the observer's eyes with high resolution glass plates that captured extraordinary detail and definition of the actions of enemy troops on the ground. Observation crews could count, almost to the man, the number of enemy soldiers in a particular location and, when placed together with a series of photographs, could literally map out sections of the Western Front in remarkable detail. The kind of information captured by these crews was invaluable to intelligence gathering efforts on the ground. Reports that accompanied these photographs noted, in precise detail, the "thickness" and "thinness" of enemy positions, the number of new guns moved into an era, or whether the enemy was constructing extra defensives or repairing for an attack. Such information was invaluable, and soon both sides worked on ways of preventing their adversaries from acquiring it. With those efforts, the fighter plane and a new type of aviator, entered the battlefield.

Aviation, which had always been a dangerous undertaking, further transformed the relationship between fliers and killing as the air war progressed. Aviators viewed the process of flight itself as an inherently violent struggle, one where the man and machine fought against the very forces of nature that were determined to drag them back to earth. Losing such a fight often ended in a fatal crash. Thus, airmen like Manfred von

Richthofen viewed their first flight as a transformational experience of violence, one where survival marked their transcendence from frightened passenger, into seasoned pilot.[2] The early discourse of flight itself, which encapsulated flight in animalistic and frightening terms, embodied the dangers that were embedded in the field of aviation at the start of the First World War.

As the air war progressed and aviation technology improved in its ability to carry more weight higher, farther, and faster, aviators experienced new forms of violence that moved beyond the confines of the airplane and extended to the battlefield below. For observation and later, bombing crews, violence in the air was often an abstract experience. Even though an observer's photographs or reconnaissance notes could help plan an offensive, the kind that might kill hundreds of soldiers, aviators did not view their actions as part of killing troops on the ground. As technology progressed, these observers could later range artillery batteries directly using wireless transmitters. The increasing role they played in killing troops on the ground was reflected in squadron newspapers. Here, images of overworked and overburdened observers show the strain that technological progression placed on their shoulders, as a world-weary observer looked out from the pages of his newspaper, encumbered with hundreds of pounds of equipment. Still, the abstraction of his task, described with terms like, "ranging, targeting, and observing" distanced himself from his actions. Even bombing focused on target areas, rather than men. The use of large aircraft for these duties too, placed the observer within a discourse of defense, as he was often left to fight off attack from fighter aircraft.

[2] Manfred von Richthofen, *Der rote Kampfflieger* (Berlin:Verlag Ullstein & Company, 1917).

The men who occupied the confines of single-seat aircraft represented a new type of warrior on the battlefield. Rather than working in teams to utilize the weapons on board an aircraft, the fighter pilot, who controlled his aircraft and fired his machine gun, was the weapon. Thus, their perspective on violence shifted from an abstract and fleeting engagement with the enemy, to a much more personalized mode of killing. Aviation, however, disrupted even killing by providing new spaces and new discourses to frame the act of killing in new and privileged ways. Rudolf Berthold, who longed to become a fighter pilot, and who felt great satisfaction in enacting revenge for fallen comrade, still refused to visit the crash site of his victim, citing the ugliness of the sight as his reason to ignore the consequences of his actions while still celebrating their results. In stark contrast, Manfred von Richthofen gleefully landed at the mangled wrecks of his victims to both confirm his victories, and to cut off a souvenir of his victim's machine as a way of marking his success in yet another aerial fight.

Confirming victories, and the process of knowledge creation that the task entailed, created yet another new and abstract discourse around killing; one which counted machines instead of men, and which actively incentivized the continued killing of enemy airmen by Germany's fliers. Aviators filled out remarkably detailed reports around the events that involved killing another human being in the air. Aircraft serial numbers, types, engine types and serial numbers, and an inventory of any equipment on board, were part and parcel of German military reports. Such exacting detail signaled a hierarchy of importance in killing within military discourse. While an infantry unit might report the number of men killed in attack, such close detail was never called for. Thus, in the minds of both the military and aviators, a privileged sense of the importance of

specific types of killing emerged. Aviators were awarded silver victory goblets for killing another airman, and victory tallies were often the top sheet report on German air service intelligence briefings. As the war progressed, leaders within the *Luftstreitkräfte* became increasingly concerned, not with how the air war was impacting events on the ground, but with the individual victories of its most talented fighter pilots. Even in death, fighter pilots received extraordinary attention from the *Luftstreitkräfte,* as squadrons sent out search parties to find downed aircraft and retrieve the bodies of its airmen. The funerals afforded to fliers created a privileged sense of dignity in death that was seldom afforded to their counterparts on the ground.

Aviation also created privileged spaces for the expression of regional and national identity on the behalf of aviators and the members of their ground crew. These expressions reflected the discourse of regional peculiarity embedded within discourses of national identity that reached back through the long nineteenth century. Military aviation was directly affected by the acrimonious relationship between the kingdoms of Bavaria and Prussia. The Royal Bavarian Flying Corps worked to maintain autonomy within the wider German air service, as Prussia sought to work, through contractual constraints and jurisdictional authority, to strip that autonomy away from the kingdom to the south. This power struggle was not in the forefront of the minds of German aviators, but the logistical results of the contest were. Bavarian squadrons were often equipped with inferior machines built by local firms, as Prussian contracts severely limited the use of aircraft constructed to the north. Bavarian pilots often made do with aircraft that were poor imitations of their Prussian counterparts, or direct copies of aircraft built by Germany's adversaries. In this sense, regionalism directly affected the course of the air war in

Germany.

Aviation also reflected regional idiosyncrasies by creating new and often privileged spaces for the expression of identity. German aviators, like most members of the "generation of 1914," were a product of long reaching discourses in a regionally shaped, national history of the Fatherland. Local heroes, mythological characters, and the role of the landscape within the flexible discourse of *Heimat* culture, all contributed to one's perception of their place in the greater narrative of German history, and their role in the First World War. All along the Western Front, Bavarian aviators incorporated a reciprocal relationship of regional peculiarity and nationalistic discourse that made them a part of the German experience while also differentiating themselves from those around them. Aviation provided space and privilege that soldiers in the trenches never enjoyed. Peter Supf's squadron, FA 286b constructed a rustic German hunting lodge, replete with Bavarian trappings, as well as a *Kegelbahn* filled with images of mythological gods fraternizing with squadron-mates. These expressions extended to the iconography displayed on aircraft as well, with personal paint schemes reflecting colors that either directly or indirectly reflected Bavarian heritage, as well as personal identity.

In foreign territory, Bavarian squadrons expressed their identity in broader, more nationalistically rooted tropes. In the deserts of Palestine, the process of "othering" reversed, from expressing what made Bavarians distinct, to the attributes and infirmities that made the local populations in the Middle East different and therefore, inferior, to their German counterparts. 304b "Pasha" began othering those in Palestine the moment they began training at Oberschleißheim airfield outside of Munich. The logistical challenge of brining hundreds of men and tens of thousands of pounds of equipment to

the harsh deserts of Palestine embedded a discourse of "othering" in the minds of those preparing for the trip. Here again, we see the ways in which the environment shaped both the practical use of the airplane as well as its perceived power. Machines designed for use in Western Europe were never meant for high temperatures and sandy, dusty environments. The need to bring several spares of every part, as well as marking locations where German beer would last be found, all served to denote their destination as a harsh and alien environment.

Even military orders, which seemingly deal with the dry details of moving men and materiel, take the time to chastise local populations as lazy, or clandestine, or dangerous. Once at their airfield near Iraq el-Manshiyeh, the daily operations of 304b only served to reinforce the dangers of their environment, with the squadron noting multiple crash landings as aviators struggled to deal with setting down skittish aircraft on rough, uneven airfields built in the desert. Continual bombardment from the British forces in the region, and a failing German line on the Western Front, combined to create a mentality of a squadron under siege. Its commanding officer, Franz Walz, earned the moniker "the Eagle of Jericho," for his steadfast devotion to duty under difficult circumstances. His nickname representing both German authority and cultural appropriation that was commonly seen in the region. Even General von Falkenhayn's farewell address to his men reflected both a sense of German superiority and the narrative of constantly fighting a defensive war on foreign soil, as he branded his airmen as the "guardians of the Orient." In defeat, the discourse of nationalism and an inherent sense of superiority permeated even internal memos regarding the squadron's release to go home to Germany in 1919.

Perhaps the most fundamental disruption created by powered flight was its capacity to transform perceptions and experiences of time. For men like Rudolf Berthold, the outbreak of war in the summer of 1914 created a split in his perception of time, best encapsulated by the Greek words *chronos* and *kairos*, which divides time between chronological, limitless time, and sharply highlighted moments of decision and crisis. Indeed, the war's utterly distinct and, in many ways, unprecedented nature, both in its technological innovations and the scale of its slaughter, became a sharp, lived experience of *kairos* for those who fought. Aviation disrupted this process further by compressing space and time in concrete ways, as ever-faster machines propelled men and weapons across greater distances in shorter spans of time.

Flight's rapid development over the Western Front compressed time in the lives of German aviators. Aircraft progressed at such a frighteningly expeditious rate distorted time for those who served, dividing Germans from the same chronological generation into airmen of the "new" or "old" guard. Living through such progress was a difficult task. Airmen trained in 1915 were accustomed to aircraft that would fly at a top speed of roughly 85 miles an hour. Just three years later, that speed had almost doubled, with front line fighters of 1918 flying at speeds in access of 165 miles an hour. Thus, staying alive in an environment where time compressed the lived and perceived realities of airmen was exceedingly difficult, and weighed on airmen's understanding of time.

Aviation also regimented time into distinct patterns. This sense of war time, the *chronos* experience of morning, afternoon, and evening patrols, gave a sense of structure and regimentation to the lives of aviators. Even after being wounded and sent to the hospital for a third time, Rudolf Berthold still lamented his absence from the front. This

emotion resonated both a sense of duty, but also an attachment to the predictability of life as an airman, with its combination of *chronos* and *kairos* experiences of time. As aviators fell during the war, their deaths marked particular epochs in the air war; the era of Boelcke, Immelmann, Voss, and later, Richthofen, all signaled a particular time and technological space to those who flew. For those who continued to serve, it seemed as if time and death would claim them as well, and a growing sense of fatalism accompanied their perception of time and space as a chasm that would eventually swallow every flier at the front.

The end of the First World War shattered this sense of both time and identity for many German aviators. For men like Rudolf Berthold, the inability to renegotiate his relationship with the system of *chronos* and *kairos* time that defined his life for four years, led to a perception that the war never ended, but rather, merely changed theaters. For him and many others, the First World War bled into the social and political uprisings that resulted in violence and bloodshed in the streets of Germany's cities in 1919 and 1920. For the airmen who served through the outbreak of the First World War, and its four years of slaughter and death, many did not recognize the country they inhabited in the postwar period. For Berthold, the threat of Bolshevism fashioned a new enemy for him to rage against as yet another threat to the Fatherland. As a member of the *Freikorps,* Berthold struggled to return the Kaiser back to the throne, and his anger and disgust towards what his country became was evident in his writings until his death in 1920.

Airmen following the First World War struggled to find their way into a new sense of time that little resembled the world of conflict they had known for four years. Before the war, aviation's influence contributed to important questions regarding German

national identity, generational disputes, and the role of technology in shaping society; in the essence of how Germany could modernize while retaining its soul. The tenor of these conversations shifted dramatically after November 1918. Most Germans were exhausted from war, as well as economically and socially devastated from defeat. Over two million German soldiers died during the conflict, and another 430,000 civilians perished at home as a result of the famine and disease wrought by the blockade of German ports.[3] The world of post-war Germany seemed to have no place either for aviators, or for the airplane itself. If aviation disrupted the social and cultural conversation in Germany before the First World War, its own disruption by defeat and the Treaty of Versailles and postwar fallout would continue to shape Germany well into the next decade.

The importance of Germany's contribution to the field of powered flight was evident by the length the victorious powers went to prohibit its development after the First World War. Articles 198 through 202 expressly banned German aviation firms from constructing aircraft, prohibited German institutions from conducting research in the field of aeronautics, and ordering the surrender of all military and naval aeronautical material to the Allied and Associated powers. With the stroke of a pen, the entirety of Germany's aviation industry was rendered illegal and, consequently, extinct. German aviation industrialists like Ernst Heinkel, began working outside of the country.[4] Antony Fokker, the Dutch aviation pioneer who designed, or copied, some of the most influential aircraft of the conflict, absconded back to his home country of Holland, leaving a trail of unpaid bills while taking trainloads filled with aeronautical equipment. Hugo Junkers doggedly

[3] Hew Strachan, *The First World War* (New York: Penguin Group, 2004), 337.
[4] See Ernst Heinkel, *Stürmisch Leben* (Stuttgart: Europäischer Buchklub, 1953).

pressed on, convinced that at some point, his all-metal aircraft would find a place in a resurgent German aviation industry. Beyond aviation, however, the social and cultural landscape of Germany transformed dramatically in the decade following the First World War.

The culture of the Weimar Republic culture little resembled the world of the *Kaiserreich*. Peter Gay famously noted that Weimar largely fostered the culture of the "outsiders" of Germany that had been so repressed during the *Kaiserreich*. Liberals, artists, and the *Aufklärer*, all moved from a submerged discourse to becoming the predominant paradigm within cosmopolitan centers like Berlin.[5] The German capital was remade in the 1920s, and become a revitalized, energetic, and socially open city.[6] The myriad of fields explored in Weimar exploded; the study of psychology flourished in Berlin with the founding of the Psychoanalytic Institute; political research grew under the *Deutsche Hochschule für Politik*. In Hamburg, the Warburg Institute studied art history, and the *Bauhaus*, perhaps the most famous contribution of Weimar culture, created its own genre of architectural design. Aviators, who represented the harsh, atonal strains of militarism and regimentation, found little cultural signposts to identify with. Largely prohibited from flying within their homeland's national borders, those German aviators who survived the war often did not survive the peace, as Lothar von Richthofen, the brother of the famous Red Baron, died in a flying accident in the Swiss Alps in the 1920s.

Weimar culture intensified pre-existing strains of ambivalence toward modernity that were present during the *Kaiserreich*. Indeed, Weimar viewed technological

[5] See Peter Gay, *Weimar Culture: The Outsider as Insider* (New York: W.W. Norton & Company, 1968).
[6] See Eric Weitz, *Weimar Germany: Promise and Tragedy* (Princeton: Princeton University Press, 2007).

innovation with a far greater degree of fear and uncertainty than had been present before the First World War. Films like *Metropolis* stressed the inhumanity of modern industrialism, and the manner in which it cheapened the value of human life. This sentiment is reflected in the film's iconography, such as factory workers who have no names and are represented only by numbers. Even the opening scene of the film only features a lone passing aircraft, emphasizing the degree to which aviation had faded from public consciousness in the aftermath of Versailles. The movie's storyline reveals a city slowly devolving into chaos and hedonism as the machine age continues to rise. Faint echoes of the sentiments of *Heimat* remain at the end of Lang's masterpiece, with the ethos: "between the mind that plans and the hands that build, there must be a mediator, and this must be the heart."[7]

The culture of the Weimar Republic, however, also represented a far darker side of German intellectual discourse. Martin Heidegger's *Sein und Zeit* presented a troubling and often amoral method with which to engage with the world - stressing that engagement was all that mattered and that ethics were essentially meaningless. The political writing of Oswald Spangler's "*Preussentum und Sozialismus*" presented the intellectual underpinnings for future political distortion. Beneath this philosophical tampering was the *Vernunftrepublikaner*. These Germans represent a large body of intellectuals and everyday citizens who neither loved nor loathed Weimar. The hyperinflation crisis of 1921 to 1924 created an intense sense of inherent, intractable instability within the Republic. The resulting political apathy eventually gave way to

[7] Fritz Lang, *Metropolis*. Film. Directed by Fritz Lang, 1927, Berlin: UFA.

resentment and then eventual dismissal of Weimar by the German people. Within this space, the rhetoric of the right, and with it, the mentalities of many disaffected aviators, would find new resonance.

It was perhaps telling then, that in 1925, the body of Manfred von Richthofen, the defining German aviator at the end of the First World War, was exhumed from his grave in Flanders to be reburied in Berlin. The location of Richthofen's new grave, also revealed the political undercurrents behind his reburial. Rather than being placed within the Richthofen family plot, the fallen aviator was repatriated to the German capital of Berlin. Richthofen's body, represented a wider discourse that looked back to the First World War for meaning, and for many, heroes. Within that discourse aviation maintained its place as a technological innovation that served the dual purpose of looking back to an idealized past and towards a not yet realized future.

The timing of Richthofen's death, in the spring of 1918, also created extraordinarily malleable interpretations regarding his life. Having not lived long enough to witness defeat, the Richthofen embodied in the man who died at the climactic moment of battle in the First World War. As a result, he could represent a wide range of discourses, from the emotions of personal loss to nationalistic longing. For Germans seeking meaning in the destruction of war, the rise of great men like Richthofen demonstrated the manner in which war strengthened the individual against conflict. Authors like Ernst Jünger only served to reinforce these ideas with his book, *Storm of Steel* which not only celebrated the crucible of war and violence during the First World

War, but openly advocated its repetition with each subsequent generation of Germans.[8]

It is clear that the rhetoric of National Socialism resonated with many First World War aviators. Franz Walz, the "Eagle of Jericho," who served on the Western Front and later as the leader of 304b "Pasha" in the Middle East, became a police commander following the First World War. The regimentation of military life found an easy translation to the work of the police force. Later, in the 1930s, Walz joined the resurgent Luftwaffe and served in the Second World War, dying in a Soviet prisoner of war camp in 1945. While Peter Supf did not actively serve in World War II, it is clear from the litany of correspondence he kept between the 1930s and 1940s that he was sympathetic to the cause of National Socialism.[9] In addition to publishing works of poetry and a history of the German *Luftstreitkräfte* during the First World War, he wrote several "histories" of the Luftwaffe's actions in places like Poland and France while the Second World War was ongoing.

Other noted German aviators, like Hermann Göring, who became one of *Jasta 11*'s commanding officers after the death of Manfred von Richthofen, became part of Hitler's inner circle during the Third Reich. Rudolf Hess served in the 7th Bavarian Field Artillery Regiment during the First World War before becoming an airman. He later served as Deputy Führer under Hitler. Ernst Udet, who survived the war and became a stunt flier, would later serve within the ranks of the Nazi party, before eventually committing suicide in 1941. Perhaps it is not surprising that Richthofen's autobiography,

[8] See Ernst Jünger, *Storm of Steel* (London: Penguin, 1961).
[9] , Biographical data from finding aid for Peter Supf, Finding Aid: NL 063, Archiv der Deutsches Museum, Munich.

Der rote Kampfflieger, which was originally published in 1917, was reprinted eight years after his reburial in Berlin. This new edition featured an introduction from Hermann Göring, who quickly re-appropriated Richthofen, not as a hero of the past, but as a beacon for the future, and the figurehead of a resurgent Luftwaffe that would soon reign terror across Europe and Russia at the outbreak of the Second World War.

The question of why Nazism resonated so intensely with Germany's First World War fliers remains an important point of historical inquiry. The cultural signposts engrained within the aviation pilot community, and particularly in fighter pilots: aspects of *Heimat* culture, the expression of a love of nature, of identifying with both the landscape and the deep historical traditions of Germany, of intense pride in the Fatherland and an exaggerated sense of individual agency, certainly contributed to Richthofen's easy malleability into a National Socialist after death. By coopting the imagery that defined so much of Germany's First World War youth, the National Socialist movement could then appeal to that generation while simultaneously coopting them as examples of what National Socialism could achieve.

Aviation then, played an important role, yet again, in the cultural conversations of Germany after the First World War. In this second conversation, powered flight became an expression of political ideology, and the imposition of power and terror on the enemies of the Third Reich. The speed of aviation's innovation did not cease during peace, and only accelerated under the direction of men like Göring. The old aviation industrialists, like Ernst Heinkel, would contribute once again to military aviation, as new pioneers, like Willy Messerschmitt and Kurt Tank designed a new generation of aircraft that would redefine time and space, and reshape perceptions of everything from killing to

the ferocity of war itself.

Perhaps it is appropriate then, that our examination of the disruptive nature of aviation in Germany during and after the First World War ends where many Bavarian flying careers began, at Oberschleißheim airfield, outside of Munich. The airfield itself would represent the intersection of aviation and German history throughout the twentieth century. Oberschleißheim airfield was built by royal decree in 1910, an act of governance more at home in the nineteenth century than the twentieth. Its architecture was also defined by the previous epoch, with modern buildings like hangers and control towers designed to model the stylistic cues of royal palaces rather than the utilitarian nature of their intended use. The airmen trained at Oberschleißheim would serve on the Western Front and in far off locations like Palestine during the First World War. Their experiences not only defined their identities as aviators, but specifically as German fliers.[10]

Within a space designed to resemble the past, Oberschleißheim was the home of a new kind of fighter for the future. It trained and sent men to Flanders and Palestine, and perfected training methods that made aviation a more effective and deadly tool on the battlefield. And since spaces exist after the wars that shape them, the airfield would house the carcasses of warplanes rendered illegal by peace treaty, and slated for demolition. Following a period of relentless stagnation, Oberschleißheim was reborn as a center for innovation in powered flight, this time to serve the menacing needs of National Socialism.

[10] See, Flugwerft Schleissheim exhibit, Deutsches Museum at Oberschleißheim in Munich, Germany.

During the Second World War, the airfield would continue to train pilots, whose sleek metal fighter planes bore Swastikas on their tails that emboldened Germans at home and terrified civilian populations abroad. Oberschleißheim also bore witness to Hitler's crimes against humanity, as Jewish prisoners worked to maintain the airfield's facilities after being bombed by American B-17 Flying Fortresses, whose bomb bays carried quantities of explosives never imagined in the First World War. Aviation continued the disruptive conversation that it began in Germany in 1908. Its manifestation as a fragile technology capable of transcending space and time transformed German conversations surrounding the potential and perils of new technologies. Its maturation during the First World War provided the foundational, if disruptive experience of the lives of thousands of fliers, while providing comforting, if illusionary reassurances of continuity to Germans at home. In the aftermath of the Great War, aviation's development temporarily ceased while Germans found ways to repurpose its meanings to form new narratives about a resurgent Germany. Flight too, would ultimately contribute again, not to the realization of the Thousand Year Reich, but to its destruction.

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