The Pathless Sky: Violence and Culture in First World War Air Services



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ABBREVIATIONS & TERMINOLOGY

Common Abbreviations

GQG	Grand Quartier Général
RAF	Royal Air Force
RFC	Royal Flying Corps
RNAS	Royal Naval Air Service
SPAD	Société Pour L'Aviation et ses Dérivés

Archive Codes

BNF	Bibliothèque Nationale de France (FR)
CCOHR	Columbia Center for Oral History Research (USA)
IWM	Imperial War Museum (UK)
MHS	Massachusetts Historical Society (USA)
NASM	Smithsonian National Air & Space Museum (USA)
RAF	Royal Air Force Museum (UK)
SHD	Service Historique de la Défense (FR)
TNA	National Archives (UK)

Terminology

This thesis concerns the experiences, identities, and practices of Allied pilots who flew in single-seater, combat-oriented aircraft during the First World War. These pilots and machines had a variety of wartime names including 'scout', 'pursuit', and '*chasse*'; I use 'fighter pilot' as a convenient English-language umbrella term to differentiate these roles from bombing and reconnaissance.

The thesis focuses on the air services affiliated with the French, British, and American armies during the First World War. The British Royal Flying Corps became the world's first independent air force, the Royal Air Force, in April 1918; the use of these terms indicates their chronological context, e.g. 'Royal Air Force pilot' to describe a British pilot in June 1918. Members of the French air service referred to it alternately as the *Service Aéronautique* and *Aéronautique Militaire.* I have used the former term throughout this thesis to reflect most French pilots' wartime usage.

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INTRODUCTION

This thesis explores First World War military aviators' relationships with aerial violence. It illustrates the practices, emotional and physical experiences, and communities of active service fighter pilots in French, British, and American air services. Violence – its individual and collective practice, impact, interpretation, justification, legacy, and embodiment – is the core axis around which the analysis of these lived aspects revolves. Violent experiences, particularly those of soldiers, continue to structure the majority of academic and popular responses to the First World War. The word 'unprecedented' was omnipresent in both the scholarly assessments and commemoration of the centenary years, often with the result of obscuring more thoughtful enquiries about how and why we deploy that qualification to the conflict's staggering scale. My intention has not been to re-establish military aviation's own genuine lack of precedent, a topic that has been thoroughly explored by better strategic and tactical thinkers than me, but rather to use a multi-national case to illustrate the full consequences of a 'new' form of violence that seems to challenge convention and regulation. By locating and investigating a fast-changing type of combat within the particular geographic, temporal, and strategic contexts of the air over the First World War Western Front, I aim to answer larger questions about why violence occurs and how it relates to the communities it produces, harms, and benefits. The first airborne soldiers demonstrate with vivid, instructive, and uniquely modern clarity the ways in which cultural, psychological, and technological factors interact both to create violence and make it survivable.

The First World War was the first conflict in history to mass-mobilise flight technology for violent ends. Eighteenth, nineteenth, and earlier twentieth century warfare had seen the use of hot air balloons for reconnaissance and rudimentary attempts at aerial bombing; imagined forms of air war dated much further back, with death from the skies becoming an especially urgent theme in fiction, visual art, and politics as the twentieth century approached.[1] Predating the Wright brothers' first flight in December 1903, the possibility and proposed regulation of aerial warfare arose at the 1899 Hague Conference; from the realisation of manned flight onwards, right-wing civilian lobby groups in major powers like Britain, France, Russia, Germany, and the Ottoman Empire urged national militaries towards flight technology.[2] These civilian voices were an unusual but significant presence in the rapid development of military aviation, not least because militaries themselves wavered as to the usefulness and feasibility of aerial warfare. Michael Paris cites late Victorian science fiction and adventure writers like F.S. Brereton, H.G. Wells, and Jules Verne as disproportionately influential to curing British military scepticism of aviation and shaping the organisation of the Royal Flying Corps, whilst the civilian *Aéro Club de France*'s pilot certification served as French military pilots' qualification well into the First World War.[3] This collaborative, sometimes ad hoc start to military aviation – or, as Malcolm Cooper describes the formation of the Royal Flying Corps, a multi-service, civilian-muddled 'blueprint for confusion' – was in many ways a natural response to a distinctly unpredictable, still primitive

[1] John Morrow, *The Great War in the Air: Military Aviation from 1909 to 1921* (Washington D.C.,
[2] Morrow, *The Great War in the Air*, 5; International Peace Conference, *The Hague Declarations of 1899 (IV, I) and 1907 (XIV) Prohibiting the Discharge of Projectiles and Explosives from Balloons* (1915); Michael Paris, *Winged Warfare: The Literature and Theory of Aerial Warfare in Britain, 1859-1917* (Manchester, 1992), 89.
[3] Paris, *Winged Warfare*, 16; Paul Jackson, *French Military Aviation* (Earl Shilton, 1975), 11.

technology. Even as some reports of actual airborne violence began to filter to Western Europe with the 1911 Italian bombing of Turkish forces in Libya, early Mexican Revolution bombing and makeshift air-to-air combat, and First and Second Balkan Wars uses of aerial bombardment, it was difficult to locate aviation's practical potential within a collaboratively imagined aerial war.[4]

As military officers and civilian enthusiasts alike debated the deployment of aviation and wildly popular new air displays drummed up cross-cultural enthusiasm for manned flight, the nations that would become the First World War's primary belligerents began developing their air power in distinctly different ways. Allocations of government funding and the subsequent military organisation of flying machines reflected to an extent each nation's burgeoning relationship with aviation. In the case of Germany, Peter Fritzsche argues that 'zeppelins were widely regarded as *volksgut*': the emerging popular mythology surrounding the homegrown invention directly influenced Germany's pre-war prioritisation of dirigibles over airplanes. Whilst Russia's investment in mostly bomber aircraft reflected its manufacturing culture, i.e. the rise of Igor Sikorsky, the British government's hesitation to invest in its home-based manufacturers until later on in the First World War resulted in a smaller force of mostly French-designed planes at the war's outset. Of the major combatant-powers-to-be, France was the distinct exception to the assumption that aerial warfare would primarily involve bombing. Foreshadowing some of the alternative ideas articulated in the run up to war by senior military officials like French air service founder Pierre Roques, e.g the possibility of mounting guns on aircraft for

[4] Malcolm Cooper, "Blueprint for Confusion: The Administrative Background to the Formation of the Royal Air Force, 1912-19" in *Journal of Contemporary History*, Vol. 22, No. 3 (July 1987): pp. 437-453; John Buckley, *Air Power in the Age of Total War* (London, 1998), 24-27.

ground attacks, the French military prioritised light reconnaissance aircraft when creating what would be the largest national aerial force by August 1914.[5] The war's evolution would transform these reconnaissance airplanes for the realisation of the air-to-air aerial combat that remains popularly synonymous with First World War aviation. With the first mass distribution of aircraft fitted with synchronisation gears in the summer of 1915, which enabled German pilots of light and manoeuvrable single-seater Fokker Eindeckers to fire forward-facing machine guns through their own propellers, a new and deadly kind of aerial violence had arrived.

Fighter-based aerial combat was not only a departure from both popular imaginations and military expectations of aerial warfare, but also a profound psychological, cultural, and practical reconfiguration for wartime pilots. In the just over three years between late 1915 and the November 1918 Armistice, pilots saw their machines nearly double in speed and ceiling and their jobs change from unarmed reconnaissance flights to shooting at moving targets. National air services repeatedly rearranged pilots' organisation and specialisations, issued sometimes-contradictory advice and training, and provided little in the way of practical survival methods. Fighter pilots gained social prestige and press acclaim as cultural icons whilst facing increasingly specific and dangerous combat conditions that departed from the experiences even of other aviators. Though this particular social cachet elevated First World War 'knights of the air' to near-mythical icon status from 1916 to the present, it

[5] David Edgerton, *England and the Aeroplane: Militarism, Modernity, and Machines* (London, 2013), 43; Philippe Bernard, "Mythes et realités de la stratégie aérienne pendant la première guerre mondiale" in *Revue d'histoire moderne et contemporaine*, Vol. 16, No. 3 (July-Sept. 1969), 353-55; Morrow, *The Great War in the Air*, 38-40.

is the specificity – and, indeed, exclusivity – of the violence these men experienced and practiced that underlies their lasting transnational appeal. This apparently unique culture of violence, as well as its relative absence from critical scholarship even of the First World War, is the subject and driving force of this project.

Writing an Aerial History of the First World War

The existing body of scholarly approaches to aviation has offered both open ground for rigorous cultural history and audible rumblings for a disciplinary shake-up that complement current silences within First World War studies. With a few notable, mostly recent exceptions, the historiography of First World War aviation evolved out of the spaces where flying was written about during the war itself. Military-oriented, technical popular histories abound; areas of interest disproportionately favour famous squadrons, flying aces, and significant battles, usually written within a strictly national context. Indeed, John Morrow's 1993 *The Great War in the Air* has yet to be surpassed or updated as a comprehensive multi-national work combining operational and cultural histories of the first air war.[6] Meanwhile, cultural historians have taken an increasing interest in the industry, regulation, and technologies of twentieth century aviation as entry points into broader examinations of economic change, imperial power, and political and cultural aesthetics. Building off of original social histories like Edmond Petit's 1977 *La vie quotidienne dans l'aviation en France* and the 1990s concentrated burst of interest in aviation that sparked definitive national cultural histories like Peter Fritzsche's 1992 *A Nation of Fliers* and Michael Paris' 1992 *Winged Warfare* as well as Robert Wohl's formidable

[6] Morrow, *The Great War in the Air.*

transnational histories of Western aviation,[7] scholars including Jenifer Van Vleck, David Edgerton, Fernando Esposito, Michael Paris, and Annamaria Andreoli have produced compelling, vital works within the last two decades on aviation's historical relationships with nationalism, art, economics, and modernism.[8] Notably, however, these recent cultural and political histories have deliberately set themselves apart from military histories by avoiding categorisation via national air services or specific conflicts, which has often meant treating the first war in the air as contextual rather than as a standalone subject.

Why this seeming reluctance to tackle First World War aviation as a multi-faceted phenomenon? A good deal of this, I think, has to do with the markedly less substantial impact of aviation on civilian lives and military outcomes of the First World War in comparison to the Second. The significant differences in the cultural and military realities of these two air wars cannot be understated, and deserve more comprehensive comparative study: Susan Grayzel's detailed exploration of the change in British home front 'air raid cultures' from the First to the Second World War is a prime example of the kind of work that should be continued on the perceptions and experiences of aerial violence.[9] Militarily speaking, the full and terrible realisation of mass bombardment during the Second World War has sparked decades' worth of

[7] Edmond Petit, *La vie quotidienne dans l'aviation en France au début du XXe siècle : 1900-1935* (Paris, 1977); Peter Fritzsche, *A Nation of Fliers: German Aviation and the Popular Imagination* (Cambridge, MA, 1992); Michael Paris, *Winged Warfare* and *From the Wright Brothers to Top Gun: Aviation, Nationalism and Popular Cinema* (Manchester, 1995); Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination, 1908-1918* (New Haven, 1994) and *The Spectacle of Flight: Aviation and the Western Imagination, 1920-1950* (New Haven, 2005).

[8] Jenifer Van Vleck, *Empire of the Air: Aviation and the American Ascendancy* (Cambridge, MA, 2013); Edgerton, *England and the Aeroplane*; Fernando Esposito, *Fascism, Aviation and Mythical Modernity* trans. Patrick Camiller (Basingstoke, 2015); Annamaria Andreoli, Giovanni Caprara, & Elena Fontanella (eds.), *Volare! Futurismo, Aviomania, Tecnica e Cultura Italiana del Vol* (Rome, 2003).

[9] Susan Grayzel, *At Home and Under Fire: Air Raids and Culture in Britain from the Great War to the Blitz* (Cambridge, 2012).

charged academic scholarship and public debate, most notably with controversial works like Jörg Friedrich's *Der Brand* (2002) and Richard Overy's decades of military aviation scholarship culminating most recently in *The Bombing War* (2013).[10] Though the latter book pushed back against the lasting perception that the Allied bombing campaign in Europe was a strategic 'success', military aviation's technological evolution by 1939 did result in more visibly decisive, materially complex, and subsequently historicised air campaigns in the Second World War, e.g. the Battles of France and Britain or the Pacific or European bombing wars. The far-reaching consequences and depth of human involvement in aerial warfare during the Second World War has therefore overshadowed much of the complexity of First World War aviation.

Historiographical preoccupation with Second World War bombing has also drawn a clear disciplinary line between the victims and practitioners of aerial violence, prioritising the voices of grand strategists and communities under siege over soldiers who flew.[11] Even the Royal Air Force fighter pilots of the Second World War, arguably some of the most recognisable and culturally celebrated military aviators, only recently received a critical cultural analysis with Martin Francis' 2008 *The Flyer*; Frances Houghton has called bomber aircrew 'the missing chapter' in histories of Second World War combatants.[12] Looking at broad trends in cultural histories of twentieth century combat, I believe the perceived class-based 'air force elitism' associated with pilots has

[10] Jörg Friedrich, *Der Brand*: *Deutschland im Bombenkrieg 1940-1945* (Berlin, 2002); Richard Overy, *The Bombing War: Europe 1939-1945* (London, 2013).
[11] See for example the tone and focus of scholarship on RAF Bomber Command during the Second World War, e.g. Max Hastings, *Bomber Command* (London, 1979) and Mark Connelly, *Reaching for the Stars: A New History of Bomber Command in World War II* (London, 2001).
[12] Martin Francis, *The Flyer: British Culture and the Royal Air Force* (Oxford, 2008); Frances Houghton, "The 'Missing Chapter': Bomber Command Aircrew Memoirs in the 1990s and 2000s" in Lucy Noakes and Juliette Pattinson (eds.), *British Cultural Memory and the Second World War* (London, 2013).

been less compelling for historiographical schools interested in reclaiming, examining, and theorising majority combatant experiences.[13] Military aviators across conflicts and cultures are indeed always a specialist and often self-selecting minority. Their physical, social, and technical removal from more universal battlefields, as well as their sometimes very different responses to violence from infantry soldiers', have more often than not made pilots exceptions to the rule rather than incorporated parts of combat histories and theories of violence.

Aviation history's own 'cultural turn' over the past two decades has nevertheless influenced some significant works bringing military aviation into First World War cultural history. This centenary-era push towards a re-assessment of pilots' combat experiences and identities has almost exclusively focused on single national contexts: in the case of France, Ronald Hubscher's *Les Aviateurs au Combat* (2016), for the United States, Samuel Hynes' *The Unsubstantial Air* (2014), and for Germany, Robert Rennie's forthcoming *Germany's First World War Aviators*. All three works take slightly different approaches to their subjects' emotional lives and material conditions, with results that have nevertheless been tremendously instructive for my own work. Hubscher applies a more traditionally French social history lens in exploring French pilots, grounding his fitting subtitle 'entre privilèges et sacrifice' with a rigorous examination of pilots' social origins, education, and military context; *Les*

[13] E.g. the source base explicitly emphasised by Samuel Hynes in *The Soldiers' Tale: Bearing Witness to Modern War* (New York, 1997), or within the context of First World War combatant experiences, Stéphane Audoin-Rouzeau's influential use of soldiers' presses in *Men at War, 1914-1918: National Sentiment and Trench Journalism in France during the First World War* (London, 1992). For a detailed analysis of the class dynamics of military aviation in a British context, see Michael Paris, "The Rise of the Airmen: The Origins of Air Force Elitism, c. 1890-1918" in *Journal of Contemporary History*, Vol. 28, No. 1 (Jan. 1993): pp. 123-141.

Aviateurs au Combat is perhaps the most thorough sociological portrait of a national air service in the First World War, though Hubscher spends surprisingly little time speculating on the specific nature of the *violence* his combatants faced. *The Unsubstantial Air* is more in line with Hynes' career-long interest in more abstract questions of combatants' emotional survival, self-expression, and (especially flight) sensation, an approach that works well for a more socially homogenous group of pilots than the French context.[14] Rennie's work appears to take a middle ground approach between the two, balancing explorations of German aviators as a distinct social group with a clear desire to name and illustrate the diversity of violent aerial experience. Above all, these works are histories of wartime pilots as individuals and communities, not military air services or national aviation projects: this is what distinguishes them from predecessors in First World War aviation history, and makes them necessary, challenging works both for histories of aviation and of combat.

Some historians have joined these recent attempts to complicate First World War aviation by deliberately working outside the obvious structure of national air services. John Morrow's aforementioned *The Great War in the Air* (1993) nevertheless remains the only significant academic history of First World War aviation to use a thoroughly multi-national source base, though Morrow's work is by design a more straightforward history of military aviation than a portrait of combatants' relationships to violence. James Hamilton-Paterson's excellent *Marked for Death: The First War in the Air* (2016) makes use of some German, French, and American sources and, as the title suggests, begins to draw

[14] For a synthesis of Hynes' historical and literary approach with his personal experiences of flying, see Samuel Hynes, "The Feeling of Flying" in *The Sewanee Review*, Vol. 95, No. 1 (Winter 1987): pp: 90-106.

some broader conclusions about wartime aviators' experiences, but rarely departs in substantial ways from the training contexts, social cultures, and tactical, strategic, and technological evolution of the British Royal Flying Corps/Royal Air Force and Royal Naval Air Service (RNAS).[15] Maryam Philpott's 2013 multi-service exploration of 'combat and experience' in the British Royal Flying Corps and Royal Navy has more compelling implications for violence historiography. Taking a comparative approach to two specific, under-explored combatant experiences and services, Philpott emphasises environmental and cultural factors as shaping communal experiences of war violence: her assessments of how and why British flyers and sailors fought, related to one another, and self-identified bear methodological resemblances to my 'combat culture' framework. Finally, works like Linda R. Robertson's *The Dream of Civilized Warfare* (2005), though only addressing one national case, crucially posit First World War aviation culture as a collaborative exchange between military reality and civilian imagination.[16] These scholars have begun the vital work of showing ways into cultural histories of military aviation that acknowledge the specificity and shaping power of aerial violence. There has nevertheless been ample space for a new, comprehensive, especially transnational approach to the first air war's combatants.

Towards a New Cultural History of Violence

Whilst writing this thesis during the centenary commemorations of the First World War, I have been both deeply grateful for and keenly conscious of a

[15] Morrow, *The Great War in the Air*; James Hamilton-Paterson, *Marked for Death: The First World War in the Air* (London, 2015).
[16] Maryam Philpott, *Air and Sea Power in World War I: Combat and Experience in the Royal Flying Corps and the Royal Navy* (London, 2013); Linda R. Robertson, *The Dream of Civilized Warfare: World War I Flying Aces and the American Imagination* (Minneapolis, 2005).

collective disciplinary nudge towards a new phase or form of scholarship, especially as someone straddling cultural histories of war and more traditional military. John Horne's recent thoughtful reflection on the 'cultural paradigm' in First World War historiography rightly warns of a 'risk of atrophy through repetition, of blunting the conceptual edge', and speaks to some of the restlessness many of my cohort felt whilst working on the First World War immediately after its passage from combatant living memory. Horne urges a more intentional, thorough synthesis of different fields of history with the cultural, especially when it comes to the critical studies of violence that have primarily driven the trajectory of First World War cultural history. 'For the violence of the war was not intrinsically cultural but above all technical, industrial, economic, and military,' he emphasises. 'It needed power and authority for its application.'[17] Indeed, the perspective of the centenary years has been invaluable to framing this work: whilst this project has always been a deliberate blend of cultural and military history, I believe that it begins to address some of these still-needed practical logistics of synthesising the abstract and material realities of First World War violence.

As a group of combatants notoriously under-examined by cultural historians, First World War aviators are an ideal place to assess the usefulness and possibility of combat culture as a way forward both for the particular paradigm stalemate within First World War historiography identified by John Horne and for histories of violence at large. In the years since the mid-1970s cultural turn in First World War studies led by scholars like Paul Fussell and

[17] John Horne, "End of a Paradigm? The Cultural History of the Great War" in *Past & Present*, Vol. 242, No. 1 (Feb. 2019), 185, 170.

Samuel Hynes, historians have honed thorough, excellent cultural approaches to combatant groups from small units to whole armies, but continued to struggle with what Annette Becker and Stéphane Audoin-Rouzeau described a decade ago as a fundamentally non-combatant 'reticence' towards confronting the methodological challenges and full scope of the First World War's 'unprecedented' violence.[18] This project's focus on an unusual combat culture with a mostly technically- and tactically-oriented historiography, then, represents a deliberate choice to clear the slate to re-evaluate First World War cultural history's limits and potential. I have deliberately centred *violence* and proximity to combat, rather than combatants' places within their parent cultures, to bring cultural history into new, vigorous dialogue with non-historical approaches to violence, warfare, gender, geography, and labour.

Indeed, scholars whose early careers within First World War studies launched larger, inter-disciplinary theoretical enquiries into war cultures have been particularly influential to the shape and lens of this project. Alexander Watson's examination of the relationship between parent cultures and human responses to combat, for example, articulates the need for a critical synthesis of older, psychology-based approaches to combat motivation and cultural histories of military communities and identities. Writing a decade before the end of the First World War centenary, Watson explicitly identified the need for non-Western and Western comparative histories to further studies of this multi-faceted relationship between culture and combat.[19] Watson's own work on German and British armies' morale between 1914 and 1918 has nevertheless

[18] Stéphane Audoin-Rouzeau and Annette Becker, *1914-1918: Understanding the Great War* (London, 2002), 14.
[19] Watson, "Culture and Combat in the Western World, 1900-1945", 544-545.

been a compelling and instructive starting point for reassessing the palpable legacies of these approaches within First World War historiography, whilst approaches like Sheldon Garon's "comparative/transnational" assessment of Japanese, German, and British responses to aerial bombardment in the interwar period and Second World War have begun to reveal the full potential of cross-cultural studies on histories of violence.[20] Similarly, Joanna Bourke's dynamic mid-1990s exploration of First World War British soldiers' masculinities proposed specific, useful sites of exchange between soldiers' social and cultural lives and the material impact of war on bodies and communities, leading her work on into wider, related scholarly explorations of sexual violence, the history of emotions, and warfare studies. One of Bourke's arguably most interdisciplinary works to date, her 2015 *Deep Violence: Military Violence, War Play and the Social Life of Weapons,* was an especially vital resource for demonstrating to me the power of combining a cultural history lens with the specific practices, tools, and incentives of violence, e.g. her framing of 'the social life of weapons'.[21] Such scholarship has been essential not only for reconsidering the place of violence within First World War historiography, but for challenging the basic concepts that have organised how military and cultural historians think about violence. Edward Shils, Morris Janowitz, and S.L.A. Marshall's aforementioned late 1940s sociological and psychological studies of 'primary groups' and combat motivation entered military historiography with 1970s and 1980s scholars like John Keegan and Richards Holmes; as their arguments

[20] Alexander Watson, *Enduring the Great War: Combat, Morale and Collapse in the German and British Armies, 1914-1918* (Cambridge, 2008); Sheldon Garon, "Defending Civilians Against Aerial Bombardment: A Comparative/Transnational History of Japanese, German, and British Home Fronts, 1918-1945" in *The Asia-Pacific Journal*, Vol. 14, No. 2 (Dec. 2016): pp. 1-20.
[21] Bourke, *Dismembering the Male* and *Deep Violence: Military Violence, War Play, and the Social Life of Weapons* (Berkeley, CA, 2015).

remain central in combat histories, e.g. Omer Bartov's much-contested 'brutalisation' thesis, it stands to reason that their scholarly inheritors should continue to be considered in dialogue with cultural histories of war.[22] Meaningfully interdisciplinary works, then, have modelled some insightful ways to continue this critical conversation, as has the chance to examine aviators in departure from studies that still focus predominantly on soldiers who lived, fought, and understood themselves on the ground.

The most recent major areas of exploration within First World War studies have helped me further hone my approach to the subjects of this thesis. My cohort-mates of Oxford's Globalising and Localising the Great War network recently comprehensively assessed the centenary era's cultural historiography as emphasising questions of time, e.g. periodization, generations, and memory. This roughly corresponds to strategic studies' recent critical focus on the uses and realities of attrition,[23] making centenary-era First World War scholarship a notable step away from the methodological challenges and diversification of war violence grappled with by 1990s and 2000s First World War historians.[24] The turn away from explicit reassessments of violence is a curious, complicated one, though in many ways to be expected: combatant experiences drove the

[22] Edward A. Shils and Morris Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II" in *The Public Opinion Quarterly*, Vol. 12, No. 2 (Summer 1948): pp. 280-315; Marshall, *Men Against Fire*; John Keegan, *The Face of Battle* (London, 1976); Richard Holmes, *Acts of War: The Behaviour of Men in Battle* (London, 2004); Omer Bartov, *Hitler's Army: Soldiers, Nazis, and War in the Third Reich* (London, 1994).

[23] Louis Halewood, Adam Luptak, & Hanna Smyth (eds.), *War Time: First World War Perspectives on Temporality* (London, 2018), 42-44; e.g. Gary Sheffield and William Philpott's work on British and French strategic command, and more recently studies like Jonathan Boff, *Haig's Enemy*: *Crown Prince Rupprecht and Germany's War on the Western Front* (Oxford, 2018).

[24] E.g. Alan Kramer, *Dynamic of Destruction: Culture and Mass Killing in the First World War*, (London, 2009), Stéphane Audoin-Rouzeau and Annette Becker, *1914-1918: Understanding the Great War* (London, 2002), and Roper, *The Secret Battle*. As discussed just before the centenary period – but, notably, not urged as an area for growth – in Heather Jones, "As the Centenary Approaches: The Regeneration of First World War Historiography" in *The Historical Journal*, Vol. 56, No. 3 (2013): pp. 857-878 (pgs. 873-874).

aforementioned cultural turn in First World War studies, and the loss of combatant living memory just before the beginning of the centenary years was an obvious opportunity to reassess common thematic approaches within the field. Despite the relative absence of a definitive new genre of violence historiography in the 2010s, recent approaches to First World War history centring geography, material culture, and time have enriched and complicated some of the questions about violent experiences raised within this project. Collaborations with other early career First World War historians during the centenary years, e.g. the 2016 International Society for First World War Studies 'War Time' conference and the 2016 *Historial de La Grande Guerre*'s summer school, demonstrated to me the clear usefulness of such recent critical lenses for reassessing combat studies. Conversations with specifically aviation historians, especially other young scholars working on World War aviation like Robert Rennie, Damien Accoulon, and Lynsey Shaw Cobden, further confirmed to me the potential of flight for disrupting common understandings of 'war time'.

Methodology & Approach

This thesis is an exploration of combat culture, which I define as the social conditions – including group dynamics, mental states, moral or ethical codes, and labour roles – produced by the disruptive presence of an imminent combat event. Combat culture is more abstract and temporary than the well-assessed phenomenon of military culture. Whilst the formal, parent-culture-influenced hierarchies and traditions of an organised military do profoundly impact soldiers' lives,[25] combat culture is largely temporary; it exists only when its

[25] Stephen Peter Rosen, "Military Effectiveness: Why Society Matters" in *International Security*, Vol. 19, No. 4 (Spring 1995), 6.

participants are mobilised to fight and might reasonably expect to encounter danger. Combat culture assumes that the basic foundations of any group or wider society are disrupted by the trauma, adrenaline, and violence of life-threatening environments, and therefore in wartime become disproportionately influenced by the geography, resources, technology, terms of engagement, and cultural precedent of the battlefield. Crucially, the framework of combat culture considers personal *experiences* – emotions, thoughts, memories, physical sensations, and actions – within communal *practices* that evolve out of the immediate material and emotional demands of war violence, e.g. rituals, uses of tactics and weapons, informal organising hierarchies, and collective survival strategies. It acknowledges the complicated, diverse range of human expression and community in wartime whilst the specificity of a combat environment. Examining a combat culture therefore relies upon a carefully selected group of combatants who share similar core experiences of violence, including organisation, community, practices, geography, language, motivation, and proximity to danger and harm. This thesis therefore focuses on the experiences of pilots in French, British, and American air services who flew armed fighter aircraft – a type of combat that would have only occurred from late 1915 onwards – on the Western Front.

My work on combat culture comes from a long-standing desire to synthesise and bring into more critical dialogue cultural histories of violence and largely military-oriented psychological and sociological war studies. This uneasy tension between military-focused social sciences or medicine and cultural historians is present throughout histories of war, even within the exceptionally thoughtful and well-developed cultural historiography of First World War

violence. Witness Richard Holmes' self-conscious participation in infantry training exercises to empathise with his subjects, for example, or Michael Roper's sometimes-clunky use of Freud to discuss First World War infantry soldiers' relationships with their mothers and period-specific understandings of psychology.[26] My intention has not been to centre combatants within on-going conversations about psycho-analytical history,[27] but rather to use many of the basic concepts articulated in military sociology – ideas like unit cohesion, combat motivation, command, morale, and primary group theory – to focus my investigation into the consequences of war violence. Perhaps the most common failing within the last decade's worth of cultural histories of twentieth century warfare, I think, has been an inability to incorporate into otherwise excellent assessments of community dynamics or identities some 'military' understandings of how soldiers behave. A reluctance to use explicitly pro-military or –police sources is understandable, and an especially critical eye to military-commissioned psychology is needed,[28] but avoiding it entirely often results in historians failing to incorporate central factors like tactics, technical skills, and battlefield geography into combatants' relationships with violence. Hew Strachan rightly identifies morale as a focal point for bringing military theory and history together, a theme has already begun to take hold in cultural

[26] Richard Holmes, *Acts of War: The Behaviour of Men in Battle* (London, 2004), 1-7; Michael Roper, *The Secret Battle: Emotional Survival in the Great War* (Manchester, 2009).
[27] See, for example, Joan Scott's excellent assessment of current efforts out of 1970s-style psycho-analytical history in "The Incommensurability of Psychoanalysis and History" in *History and Theory*, Vol. 51, No. 1 (Feb. 2012): pp. 63-83, or John Carter Wood, "A Change of Perspective: Integrating Evolutionary Psychology into the Historiography of Violence" in *The British Journal of Criminology*, Vol. 51, No. 3 (2011): pp. 479-498.
[28] See some thoroughly compelling (if US-centric) reasons in Peter Watson, *War on the Mind: The Military Uses and Abuses of Psychology* (Harmondsworth, Middlesex, 1980) and Frank Summers, "Making Sense of the APA: A History of the Relationship Between Psychology and the Military" in *Psychoanalytic Dialogues*, Vol. 18, No. 5 (Aug. 2008): pp. 614-637.

histories of war, but work that further challenges this stark disciplinary divide is sorely needed.[29]

This thesis' approach to violence is therefore partly informed by critical engagement with sociological, psychological, and medical work focused on military-affiliated combatants. Though soldier-oriented psychology and psychological medicine has a long history, combat motivation research largely dates to the immediate aftermath of the Second World War with S.L.A. Marshall's definitive but much-contested *Men Against Fire*.[30] Marshall's research initially focused on rates of fire as reflective of soldiers' combat motivation and effectiveness, creating space for later twentieth century psychological framings of morale, combat-specific trauma, and training. This genre of combat-specific research has subsequently influenced different strands of histories of war, including work on military organisation, training, combat motivation, trauma, and even genocide.[31] It is important to note that nearly all of this theory, and indeed the subsequent history it has influenced, applies to soldiers on the ground. I have therefore drawn selectively from this vast corpus, either to illustrate a useful way to think about violence or to position my aerial

[29] Hew Strachan, "Training, Morale and Modern War" in *Journal for Contemporary History*, Vol. 41, No. 2 (Apr. 2006): pp. 211-227; see the extent to which 'morale' remains a nationally-focused question in Jasen Castillo, *Endurance and War: The National Sources of Military Cohesion* (Stanford, 2014).

[30] S.L.A. Marshall, *Men Against Fire: The Problem of Battle Command* (New York, 1947); see critiques like K.C. Jordan, "Right for the Wrong Reasons: S.L.A. Marshall and the Ratio of Fire in Korea" in *Journal of Military History*, Vol. 66, No. 1 (Jan. 2002): pp. 135-162.

[31] For training and organisation, see David French, *The British Way in Warfare 1688-2000* (London, 1990) or *The British General Staff: Reform and Innovation c. 1890-1939* (London, 2002) and Hew Strachan, *The Politics of the British Army* (Oxford, 1997); for particularly formative works on combat motivation and trauma, Joanna Bourke, *An Intimate History of Killing: Face-to-Face Killing in Twentieth-Century Warfare* (London, 1999), Stéphane Audoin-Rouzeau & Henriette Asséo, *La violence de guerre 1914-1945: approches comparées des deux conflits mondiaux* (Brussels, 2002), and Anna Krylova, *Soviet Women in Combat: A History of Violence on the Eastern Front* (Cambridge, 2010); finally, see use of combat psychology in significant studies of genocide like Jan Gross, *Neighbours: The Destruction of the Jewish Community in Jedwabne, Poland* (Princeton, 2001) and Christopher Browning, *Ordinary Men*: *Reserve Police Battalion 101 and the Final Solution* (New York, 1992).

combatants against common ground-based organising ideas of combat; particular attention has been paid to the few multi-national medical and psychology studies about military aviators. Perhaps most influential to my attempts to translate military-generated interpretations of combat into rich, complex cultural history have been Joanna Bourke, John Lynn, Helen McCartney, Sönke Neitzel, and Alexander Watson. Building on the genre-defining work of scholar-combatants like Paul Fussell and Samuel Hynes, these historians have been vital for demonstrating to me the necessity of a thoroughly considered multi-disciplinary approach to combat. All of these scholars have centred the material conditions of war violence first and foremost, even when examining ideological considerations; this has been essential to my framing of violence as culturally specific not primarily to participants' parent cultures, but to the survival-focused, environment-specific ones they make themselves.

Appreciating the nuances of these communities and the violence that shapes them has led me into some fundamental ethical dilemmas inherent to the field. Some of my most useful and yet most troubled sources have come from the few people who have translated technical military concepts on the uses and practice of violence for a wider audience. Dave Grossman's *On Killing* is perhaps one of the most thorough, accessible sources available breaking down the individual processes and wider cultural contexts of violence, as well as one of the few works on the emotional lives of combatants to articulate the fundamentally different psychology of aerial combat. Though I make occasional use of his more recent book *On Combat*, Grossman's own turn towards enthusiastic apologism for American police brutality colours this research: I have sometimes struggled to locate critical reflections on *experiencing* violence out of works like his that

read more like instruction manuals for *doing* it.[32] Conversely, recent sociology and political science research on the increasingly pressing militarisation of present-day policing has provided welcome, thought-provoking alternatives to existing bodies of scholarship on strictly military practitioners of violence within conventional war zones. I position the aerial violence described in this thesis as unusually unregulated by contemporary states and militaries, a reality that has parallels to the extra-judicial violence examined by scholars of policing.[33]

How to locate and explore community within these diverse approaches to violent experience? My approach to combat culture emphasises that it is temporary and unique to the presence of certain violent conditions; this phenomenon often subverts conventional social signifiers of identity and power. For my purposes of establishing the relationship between combat violence and culture, then, it would not have been sufficient to produce a comparative history of French, British, and American fighter pilots' social origins, or simply describe the dynamics of squadrons on the ground according to factors like class, nationality, training, etc. To get to grips with some of the fundamental temporal and spatial peculiarities of aerial combat, I have therefore curated a deliberately multi-disciplinary approach for this particular cultural history of violence. Three major theoretical considerations – gender, geography, and labour – mirror the thesis' exploration first of aerial combatants' bodies and agency, then of their wider communities and culture.

[32] Dave Grossman, *On Killing: The Psychological Cost of Learning to Kill in War and Society* (New York, 1996) and *On Combat: The Psychology and Physiology of Deadly Conflict in War and in Peace* (Milstadt, IL, 2008).
[33] For example, Alex S. Vitale, *The End of Policing* (New York, 2017) and David Correia and Tyler Wall, *Police: A Field Guide* (New York, 2017).

Pilots' bodies whilst in the combat zone included airplanes, a framework that has necessitated creative re-framings of masculinity and embodiment. Queer theory has offered some useful launch points for this analysis, though ones sometimes more obviously relevant to violence's (gendered) *recipients* than its *perpetrators*. Judith Butler's concept of gender performativity has been central to my illustration of an evolving communal identity; her later work's clarification of performativity as a fundamentally material process has guided some of my re-location of the influence of violence on gendered identity and embodiment.[34] Critiques of Butler from more recent gender, feminist, and queer studies, too, have been vital. Lise Nelson's space-specific critique of performativity and Jennifer Beste's reading of the self in *Gender Trouble* influenced this thesis' heightened attention to geography and location of agency, respectively.[35] Further honing my analysis of aerial combatants have been disciplines that engage with the sometimes-messy, even contradictory materiality of unusual bodies, often within related historical and gendered contexts to my subjects.[36] Understanding the drastic impact of factors like altitude, cold, G-force, speed, and low oxygen on bodies in flight, for example, has been essential, bringing me both to recent psychological and medical research and to primary sources and histories of medicine illuminating the development of high-altitude and aviation-specific medical treatment and language. Bodies in states of emergency outside of a conventional war context, e.g. within the context of a natural disaster, have been

[34] See Judith Butler, *Gender Trouble* (New York, 1990) and *Bodies That Matter* (London, 2011).
[35] Lise Nelson, "Bodies (and Spaces) Do Matter: The Limits of Performativity" in *Gender, Place & Culture*, Vol. 6, No. 4 (1999): pp. 331-353; Jennifer Beste, "The Limits of Poststructuralism for Feminist Theology" in *Journal of Feminist Studies in Religion*, Vol. 22, No. 1 (Spring 2006): pp. 5-19 (pgs. 9-11).
[36] E.g. Lorraine Bayard De Volo, "Unmanned? Gender Recalibrations and the Rise of Drone Warfare" in *Politics & Gender*, Vol. 12, No. 1 (2016): pp. 50-77.

vital reference points, especially in conjunction with theories of labour and communal response. In addition to queer studies-specific critiques and analyses of masculinity, I have also drawn extensively from the recent historiography of masculinity in the World Wars, paying particular attention to distinctions between combatant vs. non-combatant masculinities explored by scholars like Juliette Pattinson and rigorous investigations of embodiment and disability in the work of Jessica Meyer and others. I have been keen to expand Geoffrey Field and others' critical re-consideration of military service as labour, and therefore often engage with the apparent dichotomy of civilian versus combatant labour within this work.[37]

The theoretical implications of a distinct class of *aerial* bodies/workers, either within a combatant or non-combatant context, have yet to be explored thoroughly within history writing. Drawing from historians like Field's positioning of soldiers as workers and pilots' own articulation of their flying as work, I have attempted to use First World War pilots to illustrate further the relationship between labour and violence as a cultural cornerstone. In conversation with histories of masculinity, disability studies have provided some critical, occasionally aviation-specific insights into the logistics of embodiment and bodily relation to work and agency, e.g. my framing of the airplane as a prosthetic.[38] Some in-person experience, too, has been important for my own conceptualisation of pilots' material realities. I am grateful to the pilots and

[37] See Juliette Pattinson and Linsey Robb (eds.), *Men, Masculinities and Male Culture in the Second World War* (Basingstoke, 2017) and Juliette Pattinson, Arthur McIvor, and Linsey Robb, *Men in Reserve: British Civilian Masculinities in the Second World War* (Manchester, 2017); Jessica Meyer, *Men of War: Masculinity and the First World War in Britain* (Basingstoke, 2009); Joanna Bourke, *Dismembering the Male: Men's Bodies, Britain and the Great War* (London, 1996); Geoffrey Field, *Blood, Sweat, and Toil: Remaking the British Working Class, 1939-1945* (Oxford, 2011).

[38] A related idea is posited in Russell Meeuf, "John Wayne as 'Supercrip': Disabled Bodies and the Construction of 'Hard' Masculinity in *The Wings of Eagles*" in *Cinema Journal*, Vol. 48, No. 2 (2009): pp. 88-113.

ground staff of Old Rhinebeck Aerodrome in Rhinebeck, New York for their time and generosity in facilitating me learning about the everyday maintenance, flight handling, and materiality of their original and replica First World War-era airplanes. I spent several days with them exchanging knowledge and performing some of the physical tasks with which this thesis' subjects would have been familiar, including working on, sitting in, and flying as a passenger in some of the machines that feature in this thesis. Though of course highly subjective, the experience of occupying airspace in a period-typical machine – feeling unfamiliar physical sensations, struggling to communicate in the air, becoming aware of a small airplane's quirks and responses to air conditions – emphasised the need for an explicitly environmentally informed approach.

Geography scholarship on flight and the air – which has perhaps most dramatically shaped this project's structure – is, thankfully, abundant and open to historical collaboration. My second chapter, "The Aerial Battlefield", describes the disruptive potential and diverse characteristics of the new militarised airspace over the Western Front, whilst my fifth chapter, on aerial communities, examines the cultural specificity of life in the air and on the ground during the First World War. Most central to shaping my historical uses of aerial geography has been Peter Adey, whose work explicitly considers the cultural dimensions of airspace and violent flight. Adey's frequent framing of airspace as *lived* space, as well as occasional crossover with history, e.g. his critical analysis of the influence of 'airmindedness' on inter-war nationalism, speaks more succinctly and convincingly than many historians about the undeniable potential for cultural

histories of the air.[39] Eyal Weizman's framing of the 'politics of verticality', especially as applied to warfare and colonial occupation, was instructive for reconstructing via sensory historiographical approaches the specific historical 'battlefield' of Western Front airspace. Weizman and others' critical assessments of the complex geography of present-day vertical militarised airspace demonstrated the need to approach airspace from the inside out rather than assigning it value and significance from below à la the perspective of most First World War strategists.[40] Indeed, literature on the past two decades' use of drone warfare provided a clear model for challenging the often-assumed omnipresence of the 'front' in Western Front-focused First World War historiography.[41] This thesis' approach to the aerial battlefield that shaped fighter pilots' communities, emotional lives, and labour cultures deliberately shifts perceptions of the First World War in Western Europe as static, and aims to contribute a strong historical grounding to the geography of modern aerial warfare.

This geography-informed focus illuminates the inherent transnationality of aerial combatants' combat experiences, practices, and communities, hence this thesis' focus on French, British, and American air services on the Western Front. Though initially hesitant to contribute further to the disproportionate focus on

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[39] See especially Peter Adey & Mark Whitehead, *From Above: War, Violence, and Verticality* (London, 2013), Peter Adey, *Aerial Life: Spaces, Mobilities, Affects* (Chichester, 2010), and "Air/Atmospheres of the Megacity" in *Theory, Culture & Society*, Vol. 30, Nos. 7-8 (Dec. 2013): pp. 291-308; also "'Ten thousand lads with shining eyes are dreaming and their dreams are wings': Affect, airmindedness, and the birth of the aerial subject" in *Cultural Geographies*, Vol. 18, No. 1 (Jan. 2011): pp. 63-89.

[40] See Eyal Weizman, "The Politics of Verticality" on *Open Democracy* (1 May 2002) (accessed 8 August 2017): <http://www.opendemocracy.net/conflict-politicsverticality/article_810.jsp> and subsequent uses in Peter Adey, Mark Whitehead, & Alison J. Williams, "Introduction: Air-target: Distance, Reach and the Politics of Verticality" in *Theory, Culture & Society*, Vol. 28, Nos. 7-8 (Dec. 2011): pp. 173-187; for an excellent example of sensory histories of combat, see Mark M. Smith, *The Smell of Battle, The Taste of Siege: A Sensory History of the Civil War* (New York, 2015).

[41] Even within recent cultural geographies, e.g. Ross J. Wilson, "'Tommifying' the Western Front, 1914-1918" in *Journal of Historical Geography*, Vol. 37, No. 3 (2011): pp. 338-347.

Western Europe in First World War scholarship, I discovered as my research progressed an insular – yet multi-national – aerial combat culture clearly shaped by the environmental conditions, communication networks, and tactics specific to army-affiliated air services in France and Belgium between 1914 and 1918. As the last chapter in particular demonstrates, this combat culture set the dominant narrative for aerial combatants from the First World War onwards, and is therefore worth thorough consideration in its own right within wider exploration of the relationships between culture, war violence, and 'universal' human behaviours.[42] These fighter pilots' culture was indeed too distinctive to be explained satisfactorily by psychological assessments of (usually ground-based) soldiers' common responses to combat, but illuminating that culture further required acknowledging its transnationality. I have chosen to focus on Allied pilots whose tactics, language, and identities developed specifically in opposition to German enemies; though I was occasionally surprised by how often German pilots were included in community-wide conversations.

Examining this culture has meant embracing a range of contextual combat-related experiences that went beyond the weeks, months, or years that men spent as fighter pilots at the front. Though each national air service approached specialised training differently as the war went on, pilots who entered aviation before the armament of light aircraft would have had experience in another field, e.g. flying as pilot or observer for reconnaissance aircraft, performing a maintenance, administrative, or training role on the ground, or even transferring from another military service like the cavalry or

[42] See Alexander Watson, "Culture and Combat in the Western World, 1900-1945" in *The Historical Journal*, Vol. 51, No. 2 (Jun. 2008): pp. 529-546.

infantry. The geography of these pilots' wars would have been diverse: even those who only saw combat on the Western Front in Belgium or France might have done active service or training flying in their home countries or on another front entirely. Even the national cases of this thesis were not necessarily indicative of every pilot's national, racial, lingual, or ethnic background. Royal Flying Corps (RFC) and Royal Air Force (RAF) pilots included many white Commonwealth and some non-white colonial officers, and several nationalities and races served in the French *Service Aéronautique*; Americans served in multiple air services before and after the April 1917 US entry into the war. Though an exclusive, minority experience even within the military context of the Western Front, the life of an Allied fighter pilot was far more diverse than the stereotype of the aloof, one-dimensional killer flying ace, and indeed challenged many conventional organising structures of a soldier's wartime existence including rank, class, masculinity, and work.

Violence – as an individual, communal, environmental, and material experience – was the primary phenomenon shaping this culture. This thesis therefore focuses primarily on fighter pilots who actually experienced war violence as combatants. As has been implied, 'war violence' cannot be limited to tangible quantifiable actions like an ordered charge or an exchange of bullets: it is an inherent part of existing in life-threatening combat environments and so is present in the traumas of mobilisation, displacement, and waiting to fight. I therefore differentiate clearly between pilots who served in active service units, i.e. in a designated combat zone with a role that involved potential contact with an enemy, and those who did not. Despite aviation having largely negligible impacts on the war's overall outcome in retrospect, Western Front aviators felt

the distinction between combatant and non-combatant flying acutely.[43] A three-dimensional battle space was an entirely new phenomenon in the First World War; one that required specifically embodied skills, forms of mental and physical resilience, and new rules and language to survive. These demands in turn created behaviour and communal identities that often departed drastically from those of soldiers on the ground, even those of the same nationality. This emerging combat culture included the production of new types of violence in the form of informal, largely unregulated tactics, military and political power conveyed through aerial experience, and even commodified and celebritised representatives of First World War-specific aerial violence. It is this complex exchange between violent conditions and the communities they shape that is complicated, examined, and drawn out through the lens of an exceptional – and, indeed, perhaps truly unprecedented – group of combatants.

Sources

The study of combat culture necessitates centring combatants and the vital informal communities they create in response to violent conditions, which means deliberately stepping away from military institutional frameworks. The thesis is therefore based primarily on the personal sources of just over one hundred men who fought as fighter pilots in French, British, and American Western Front air services during the First World War. Other individual voices, such as those of family, friends, colleagues, ground crew, other soldiers, naval air service pilots, and non-combatant pilots, supplement these perspectives, but fighter pilot combatant sources have been clearly delineated and prioritised throughout. During the First World War, the pilots in this thesis ranged in age

[43] Paris, *Winged Warfare*, 154-56.

from their late teens into their mid-forties; all were men, with the exception of air ambulance pioneer Marie Marvingt flying volunteer bombing missions over Germany in 1915.[44] Though all were members of the British Royal Flying Corps and/or Royal Air Force, the US Army Air Service, or the French *Service Aéronautique*, their national origins also included Ireland, northern Africa, Canada, Australia, Mexico, South Africa, India, New Zealand, China, and Russia. Many of the American pilots began their aviation careers before the US entry into the war as members of the Royal Flying Corps or *Service Aéronautique*, adding complexity to their identities, uses of language, and national allegiances. To identify where and how aerial violence impacted these people's lives, I have used not only a wealth of personal primary sources including correspondence, diaries, memoirs, fiction, visual art, published articles, scrapbooks, poetry, oral histories, transcribed interviews, and flight logs, but also the wider contexts of biographies, census data, press accounts, and family memories, documents, and objects relating to individuals of interest. These range from private unpublished sources, like those preserved by families and local historical societies, to correspondence archived by civilian institutions like the universities or press agencies with which pilots were affiliated, to military sources like wartime censor files, squadron histories, and medical records.

These personal sources incorporate the full lived experience of pilots' lives, including oral histories conducted or personal accounts written when some pilots were well into their nineties. Whilst clearly differentiating between wartime and post-war sources, I believe this deliberately broad chronological

[44] *Le Miroir des sports*, No. 17 ("Une femme qui pratique tous les sports: Mlle Marvingt", 28 octobre 1920).

spread approach best complements the relative lack of precedent for aviators' narratives during the war itself and the unusual degree of agency pilots had in moments of violence. In the first chapter, I discuss the former's impact on popular aviation narratives that emerged during the war and the ways in which fighter pilots in particular responded to those accounts throughout their lives. To illustrate these combatants' relationships with their own agency, I have deliberately brought pilots' wartime and post-war language into dialogue with work on other narratives of violence and trauma, e.g. Pamela Ballinger and others' emphasis on themes of passivity, helplessness, and memory loss in the 'culture of [Holocaust] survivors' or Dave Grossman's work on sensory 'perception distortions' and patterns of memory inherent to combat on the ground.[45] One of the opportunities presented by the framework of the temporary, specific phenomenon of combat culture is the ability to challenge one-dimensional, ground-oriented ideas about how combatant memory/trauma operates. Pilots' recollections far removed from the high-stress, geographically and technologically structured space of aerial combat have tremendous value, though they have required a greater degree of scrutiny when individuals began speaking to the press, historians, or another wider reading audience during the formative years of the war itself. A wide-ranging chronological approach also brings more depth to the specific environmental factors shaping pilots' wartime experiences and recollections. Richard Holmes' work touches upon combatant perspective as a source issue: he points out, for example, that soldiers in Western armies have only recently been issued with individual maps or briefed with

[45] Pamela Ballinger, "The Culture of Survivors: Post-Traumatic Stress Disorder and Traumatic Memory" in *History and Memory*, Vol. 10, No. 1 (Spring 1998), 110; Grossman, *On Combat*, 54.

accurate intelligence about an environment before entering combat, operational realities that significantly impact soldiers' perceptions and memories of where they are and what they are doing.[46] As discussed in depth in the second chapter, pilots' aerial perspectives and altitude-based navigation profoundly impacted what they noticed and how they moved through space. I have therefore found great value in using a range of sources to get to grips with pilots' more abstract experiences and articulations of violence, especially when it has been possible to compare individuals' wartime and post-war accounts and memories.

Whilst foregrounding the forces and priorities that structured combatants' active service lives, I have contextualised the environment and rapid evolution of wartime aviation with a thorough grounding in sources from French, American, and British militaries. This involved accessing records at these three countries' major military-related archives, namely the French *Service Historique de la Défense* and *Bibliothèque Nationale*, the British National Archives, Royal, Air Force Museum, and Imperial War Museum, and the American National Archives and Smithsonian Air & Space Museum. Though I attempted to gather a baseline level and type of information from these three national cases, particularly in regards to the major case studies I conducted (of flying aces in the fourth chapter, and of squadrons in the fifth) and to air services' wartime responses to the militarisation of aviation, I did make very different uses of these archives based on available and relevant resources. For example, the French SHD's archives of the *Contrôle Postal*, the major centralised collection of censored French military correspondence from the First World War, has no direct equivalent in American or British military archives; it provided an

[46] Richard Holmes, *Firing Line* (London, 1985), 76.

wealth of incomparable private wartime correspondence from soldiers within military air services, including from British- and American-affiliated pilots.[47] Discussions with fellow aviation historian Lynsey Shaw-Cobden led me to largely untapped, disorganised medical records of Royal Flying Corps and Royal Air Force pilots at the National Archives in Kew, sources that only appeared sporadically in the American and French cases. Finally, the unusual nature of American entry into military aviation meant that a disproportionate number of pilots' wartime personal papers and oral histories were stored at Ivy League and other military-oriented universities that had created air squadrons and other gateways into volunteer European military service before formal American entry into the war, e.g. Yale, Columbia, Harvard, and Washington & Lee. Nearly all of my military sources are tightly focused on the period in which fighter-based aerial violence was developed and practiced, i.e. from the 'Fokker Scourge' of July 1915 to the immediate demobilisation period after the November 1918 Armistice. To illustrate the transnationality of aerial combat culture in this project, I have chosen to prioritise creating a corpus of personal sources that represents my three national cases roughly equally; more rigorous multi-national history of Allied First World War military aviation, especially one that addresses how different air services' administrations communicated and shared information, is still needed.

[47] For a thorough overview of this archive, see Jean-Noel Jeanneney, "Les archives des commissions de Contrôle postal aux armées (1916-1918) : Une source précieuse pour l'histoire contemporaine de l'opinion et des mentalités", *Revue d'histoire moderne et contemporaine*, Vol. 15, No. 1 (1968): pp. 223-249 ; John Horne, "Entre expérience et mémoire : les soldats français de la Grande Guerre", *Annales : Histoire, Sciences Sociales*, 60e année, No. 5 (sept.-oct. 2005): pp. 903-919 provides an example of more recent use within cultural history and histories of memory. I am grateful to John Horne for his assistance in navigating this vital, sometimes-daunting corpus.

Perhaps most unique to these combatants as a body of primary sources has been the mostly wartime-era popular publications about military aviation that featured regular input from pilots. I have benefited tremendously from the digitised archives of French, American, and British aviation periodicals that covered wartime flying like the BNF's holdings of *La guerre aérienne illustrée* and *Flight*'s online archive, not just for the detailed accounts from pilots at the front but for the delightfully specific informal social networks and community trends they reveal. These publications differ from contemporary sources like trench newspapers because they were largely civilian-run and -funded, revealing civilian collaboration in crafting popular narratives and understandings about the air war. This also means that most of the articles contributed by active service pilots were written to entertain, though notably multiple pilots' and journalists' wartime correspondence reveal that military pilots, not civilian enthusiasts, were the majority readership. These publications have been invaluable for following on-going in-community conversations during the First World War, and reveal wider trends about the distribution of knowledge, popular narratives, and social norms during and after the conflict.

The fast-paced nature of First World War fighter-based aviation meant that these and more mainstream presses prioritised certain 'successful' units and individuals during the war itself, which translated into commemoration and popular histories. Naturally, given the culturally-oriented focus of this thesis, I have tried hard to push critically against this individualist approach, especially where flying aces are concerned: my fourth chapter goes into detail about the reasons for, characteristics of, and less considered violent origins of the First World War flying ace's still-present mythology. However, the sheer number of

available primary and thorough secondary sources on these people and units cannot be denied. Where I have engaged with famous units like the Lafayette Escadrille or '*Les Cigognes'*, I have tried to use their sources thoughtfully and creatively by approaching these groups not as celebrated individuals but as in-flux working communities, ones that were deeply relevant to a wider culture of aerial combatants. Though not representative of the average fighter pilot's experience, these units were clear and important cultural touchstones that I position as shapers of aerial violence.

Outline

This thesis follows a thematic rather than chronological structure, with each chapter examining different foundations of aerial combat culture on the First World War Western Front. It begins with the personal, describing the physical and mental reconfigurations vital to becoming a flyer, and expands to consider the space, work, practices, and emotions underlying First World War aerial violence. The latter half of the thesis then explores the cultural consequences of these diverse and specific violent conditions, identifying flying aces as shapers of fighter pilots' communities and following First World War aerial combat culture from its lived wartime day-to-day to its re-imagination and use in the immediate post-war.

The first chapter, "Flying and the Machine", illustrates pilots' relationships to aviation before entering combat. I argue that wartime pilots' experiences were primarily shaped not by war violence, but by the largely positive, even joyful physical and emotional processes of learning to fly. Considering gendered and labour-specific forms of embodiment, I illustrate the symbiotic working relationship between pilots and their airplanes, which

functioned as the primary means for aerial survival in the absence of a conventional unit or 'primary group'. This relationship also contained types of violence and risk inherent to flying fragile, rapidly changing early aircraft, setting up a complex emotional palette that would evolve further with the introduction of intentional combat violence. The chapter establishes the means by which pilots articulated these early interpretations of flight and began to make them communal via the transnational social and press networks of early entertainment- and record-focused aviation, which became highly practical lifelines and community spaces for aviators during the war.

"The Aerial Battlefield" takes the thesis' focus from the individual aerial body to the larger geographic and environmental conditions of wartime flight. It radically re-evaluates the idea of the 'front' with the addition of a new three-dimensional battlefield above, contrasting contemporary military attempts to conceptualise and quantify an aerial combat zone with pilots' altitude- and weather-specific experiences and navigation of the air. The physical geography of the airspace accessible to manned aircraft, I argue, was the primary shaper of First World War pilots' conception of duty, agency, and practice of violence. Navigating this airspace required not only new, rapidly evolving technical skills, but also significant, under-considered reconfigurations of the senses, depth perception, time, and self-orientation. I begin to explore informal tactical practices and survival strategies that emerged in response to these environmental and technological factors, putting these into critical conversation with simultaneous efforts from air service administrations to organise and regulate military aviation.

The third chapter, "Violence in the Air", returns focus to pilots' individual relationships to flying for a detailed exploration of the emergence and consequences of what I term 'violent flight', or flying specific to the wartime conditions above the Western Front. Contrasting the realities of aerial combat with common psychological, tactical, and geographic conceptualisations of combat on the ground, I establish fighter pilots' individually-oriented, environmentally-shaped motivations and justification for flying and fighting in wartime airspace. Many pilots described these processes and practices as 'work', leading me to establish the on-going theme of examining the individual-seeming business of aerial combat as both labour and leisure. I argue that shared work-related hierarchies, language, and rewards were vital to sustaining a community exposed to a particularly unregulated, thoroughly embodied form of violence, whilst pleasure and tangible aerial 'successes' helped maintain combat motivation. Finally, I place the aerial body characterised in the first chapter within the fundamental wartime experiences of killing, dying, and facing trauma. Drawing from the significant corpus of work on ground-based wartime trauma and violence, this chapter illustrates the psychological and logistical challenges posed by violent aerial death, including pilots' often distinctive trauma symptoms.

"Flying Aces" re-locates highly successful 'ace' pilots beyond their existing status as cultural icons. Aces were disproportionately responsible for tangible 'outcomes' of aerial violence, e.g. the competitive 'scoring' system for shooting down enemy aircraft. I position these pilots as barometers for civilian and military perspectives on the air war, and expand this approach to examine these aces as models of masculinity and soldierly behaviour for their peers. Using a

case study of nine prominent French, British, and American aces celebrated both in civilian circles and by other fighter pilots, I emphasise aces' seemingly unrivalled personal and practical approaches to aerial violence and track their influences on and uses by average combatant pilots. This case study explores common factors in these ace pilots' pre-war lives, approaches to violence, and personal identities, drawing on queer theory and gender studies to explore many of these men's apparent departure from hegemonic national masculinities via their particular uses of aerial violence. It demonstrates that aces' apparent non-conformity to conventional military hierarchies established new, aviation-specific markers of authority and agency, and explores how these ideas were disseminated and emulated by most fighter pilots.

The fifth chapter, "Aerial Communities at War", brings these building blocks of violent aerial experience to bear on the social communities and material resources that sustained pilots during active service. It establishes the existence of a truly unique 'combat culture', one shaped by common understandings of violence and work. I then deploy another case study, this time of three squadrons predominantly composed of French, British, and American pilots, respectively, to establish the profound transnationality of this combat culture. Pilots did not have immediate access to a 'primary group', the unit of fellow combatants largely assumed in military sociology and psychology to be vital to doing violence and surviving a combat setting. In the absence of having another soldier at their side as they navigated a life-threatening environment, pilots created practices in the air and structures on the ground to support and sustain their 'work'. Using the case study squadrons as a foundational but not exclusive focus, I establish the importance of rituals, informal, cross-national

social networks, and experience-based hierarchies that often elevated individuals' proximity to aerial violence over peacetime social signifiers like class, race, gender presentation, and disability status. I also explore cultural variations based on air service, and consider the implications of a combat culture that often appeared to transcend national affiliation.

"Air War Between Practice and Imagination", the final chapter, explores the immediate post-war life of First World War aerial violence as a specific form of performed and commodified flight. I argue that individual participation in First World War aerial violence was supplanted by a specific and powerful *idea* of flying in the first air war, one that required careful curation and dissemination to influence national cultural and political projects. The chapter begins by identifying a post-war phenomenon of wartime flyers continuing to perform First World War-specific 'violent flight', especially as stunt flyers in cinema or air displays or as record-breakers. I use performance theory and gender studies to examine how post-war pilots performed First World War-type aerial violence as embodied memoir. The chapter then addresses how these performances, which heavily impacted public perceptions of wartime aerial death and danger, were deployed to shape the post-war aerial future. It identifies the specific uses of a transnational *wartime* combat culture by a *post-war* 'next generation' of First World War-coded non-combatant flyers for distinctly national political, imperial, gendered, racial, and economic projects. First World War aerial violence, transformed and deployed as a commodity and removed from the temporality of wartime combat, became a powerful tool to legitimise political, racial, class, and gender transgressions within a national sphere. This post-war usage, I argue, speaks to the characteristics and long-term impact of wartime aerial violence.

The thesis emphasises First World War aerial combat culture as a both diverse and temporary phenomenon. It uses fighter pilots' communities and practices to explore the multi-faceted impact of violence on identities, hierarchies, and shared transgressions and traumas. Central to the transnational combat culture described in this thesis, and indeed under-explored by historical and sociological approaches to war violence, are largely unspoken, informal communal understandings of a specific combat zone's temporality and geography. Focuses on first flying aces as practical role models, then squadrons in the air and on the ground, demonstrate the potential of gender, labour, and leisure as alternative lenses into a highly technical and socially insular military community. Rather than following wartime French, British, and American pilots into their post-war lives, the thesis focuses on the central topic of First World War-specific aerial *violence* as an experience and commodity that developed its own life and uses after the Western Front Armistice. Combat cultures have symbiotic relationships with the specific forms of violence they face and do; the dramatic, unprecedented nature of the first air war created communities uniquely suited to exposing this process.

CHAPTER ONE
Flying and the Machine

> *The plane remains a steady thing, a part of yourself, and you are not flying the plane – you are flying the world*.
>
> – Samuel Hynes, 'The Feeling of Flying'[48]

People who write about flying linger over their own first encounters with the sky. Learning to fly an airplane was a mostly unarticulated cultural

[48] Hynes, "The Feeling of Flying", 92.

experience by the time the First World War began; aviation had only entered most wartime pilots' worlds when they were teenagers, after Orville and Wilbur Wright's flight on 17 December 1903 exploded across international headlines. In letters home, interviews, and diaries, pilots tripped over themselves attempting to put words to the feeling of flying and its apparent ability to transform individual and cultural psyches. First flights initiated a pilot into a way of being that post-war theorists would dub 'airmindedness': literally, expanding one's cultural and spatial awareness to include the airplane.[49] American pilot James Norman Hall described this psychological process revealing itself in his fellow trainee pilots midway through the First World War:

> They were all in the flush of their first enthusiasms. They were daily enlarging their conceptions of distance and height and speed. They talked a new language and were developing a new cast of mind. They were like children who had grown up over night, whose horizons had been immeasurably broadened in the twinkling of an eye. They were still keenly conscious of the change which was upon them, for they were but fledgling aviators. They were just finding their wings. But as I listened, I thought of the time which must come soon, when the air, as the sea, will be filled with stately ships, and how the air-service will develop its own peculiar type of men, and build up about them its own laws and its own traditions.[50]

Though Hall and his comrades were training for combat, their 'new cast of mind' would have profound cultural consequences beyond the battlefield for flyers and non-flyers alike. These early articulations of flight were positive, forward-looking, and often political; intriguingly, they also contradicted official understandings of what the airplane was for in the lead-up to the First World War.

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[49] Adey, "'Ten thousand lads with shining eyes are dreaming and their dreams are wings': Affect, airmindedness, and the birth of the aerial subject", 64.
[50] James Norman Hall, *High Adventure* (New York, 1917), 80.

From most pre-war political and military perspectives, the airplane was explicitly a weapon. The Wright brothers actively hawked their invention to militaries, entering into serious correspondence with the British War Office and others less than a year after their first flight.[51] Recollecting his interactions with Wilbur Wright, French aviation pioneer Maurice Farman would claim that 'Wright himself did not believe at all in aviation, except for war…. He thought that aviation would be of use during the war, but not possibly during peace. He didn't believe in it.'[52] Farman's brother Henri, a fellow manufacturer who partly monopolised the early French aviation industry, waxed similarly enthusiastic about aviation as a destructive force in an October 1912 public lecture in Paris: 'The war of tomorrow will be the war of the airplane. With the airplane…I can prove that it is easy to destroy entire cities and fortresses.'[53] Aerial violence, the subject of this thesis, was arguably inevitable from before the first aviators constructed their machines; this possibility was certainly clarified and hastened by the minds behind the developing aviation industry. Though the First World War would not develop the technology enough to have a significant impact on conflicts' outcomes, aviation had been made inherently violent by way of imagination long before the war broke out.

What the Wrights and others militarising aviation in the first years of the twentieth century did not appreciate, however, was the airplane's self-propelled departure from a strictly warlike sphere into a wider, less predictable collective consciousness of people learning to fly. Hall's assessment of his peers as 'children who had grown up over night' speaks to the deep and immediate

[51] Edgerton, *England and the Aeroplane: Militarism, Modernity, and Machines*, 3.
[52] Maurice Farman, oral history interview 4074329, November 1960, by Kenneth Leish. CCOHR.
[53] Henri Farman in Bernard, "Mythes et realités de la stratégie aérienne pendant la première guerre mondiale", 354.

impact of the airplane on the psyches of pilots navigating this new technology and space. Student pilots' accounts of their first flights depart from fundamental concepts assumed to sustain life on the ground; they reveal people abruptly re-imagining geography, dimensionality, speed, human relationships, and even spirituality. Before and during the First World War, pilots were developing a culture of 'airminded' people for whom flying, not fighting, was a transformative personal and communal experience.

Violence and death were omnipresent in early aviation. These took on new meanings as pilots began to function as soldiers, targeting people on the ground and in the air. Michael Paris has argued that First World War flyers themselves altered the trajectory of military aviation by anticipating and inserting the possibility of combat into their early non-combatant reconnaissance and intelligence roles.[54] Whilst this prospect was certainly forefront in most pilots' minds at the war's outbreak, the writings and memories of those who made it through their first flights into combat reveal a clear, persistent mental distinction between aerial violence and the actual process of flying. This separation between the pilot as *flyer* and pilot as *combatant* is a curious one: it suggests a complexity of identity that has gone overlooked in aerial warfare historiography and ground-focused military sociology. The question of soldiers' motivation and morale is particularly central to the latter field, as well as to this thesis. Many fundamental organising ideas of combat, such as the theory that soldiers' emotional survival and ability to kill is dependent not

[54] Paris, *Winged Warfare,* 11.

on abstract ideologies but rather a 'primary group' of close comrades,[55] are inapplicable to the long-range, self-reliant fighting of First World War pilots. Combat historians' interpretations of these pilots' experiences have in turn been coloured by this individualised type of combat and the mythical figure of the fighter ace associated with it. Joanna Bourke's seminal work *An Intimate History of Killing* dedicates only a few pages to military aviators, focusing on fighter pilots in largely symbolic terms as the inheritors of a warrior myth tradition where the feat of combatants' overcoming of the limits of their own bodies obscures the ugly realities of warfare. Bourke rightly highlights the relative psychological ease with which fighter pilots subsequently killed 'human machines', i.e. pilots in other airplanes.[56] Her interpretation of this 'human machine' view to aerial combat, however, is incomplete in that it does not incorporate the lived experiences of aviators to explain their distinctive relationships to violence as her analyses of soldiers do. Aerial combat, as is illustrated in depth in Chapter Three, disrupts conventional explanations for why and how humans kill, suggesting that flight itself has some unique influence on soldiers' psychology; indeed, the process of learning how to fly was vital for pilots' emotional and psychological resilience in combat.

First World War pilots' experiences must therefore be considered beyond a conventional framework of war violence. Understanding their kind of combat requires a thorough examination of the physical, mental, and technological processes that got them into the air in the first place. This chapter therefore examines the variety of personal and cultural impetuses for militarised flight,

[55] See debate begun in Edward A. Shils & Morris Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II" in *The Public Opinion Quarterly*, Vol. 12, No. 2 (Summer 1948): pp. 280-315.
[56] Bourke, *An Intimate History of Killing*, 52.

deconstructing flyers' physical relationships with their machines and contextualising how pilots translated flight into a survivable, viable existence phenomenon. Such an analysis requires the context of the eleven years of pre-war aviation culture, where a close-knit community of international aviators laid the groundwork for translating the emotional and physical aspects of flight into a sustainable vocation. Though this chapter discusses in depth the difference between flying with the incidental possibility of violence and flying intentionally for combat, or what I term 'violent flight', it is important to acknowledge the overlap of pre-war and wartime aviation communities. This inter-generational continuity firmly established the ways in which wartime pilots communicated their aerial experiences. Flying was an introspective, adrenaline-fuelled process that demanded pilots' full emotional and physical participation; the imagined self produced by learning to fly was a sustaining force that saw pilots through frightening, violent realities. As a pre-war and wartime collective, this 'immeasurably broadened' new flying culture established communal working relationships to flight that enabled survival in wartime.

1.1: The Body and the Machine

Charles Watson, one of the longest surviving veterans of the Royal Flying Corps, gave a final interview to the Imperial War Museum at the age of 103. An observer in 11 Squadron during the First World War, his memory was going at the time of the interview and his speech in the recording is often stumbling and confused. Watson firmly interrupted his interviewer, however, as they spoke about his being the 'last of the RFC'.

> I think it's a pity. Have you been to Shuttleworth [a British historical aircraft museum]? Well, they've got a Bristol fighter there. And now, when I look at it, I think, God damn me, what a great big thing it was! I used to think it was quite small [before I saw one]. But when you saw one, and saw how you had to get in it, you thought it was a great big thing. So if you've been to Shuttleworth, and seen the Bristol fighter, you'll know what it looks like.[57]

Watson's lasting impression of his first airplane was of its size – or, rather, the myriad ways in which his imagination, memory, and changing frame of reference could surprise him when faced with a flying machine over the course of his long life. Early airplanes presented a conceptual challenge just as much as a learning curve; they defied expectations of early twentieth century travel and moved within two- and three-dimensional spaces. It is no wonder that Watson, who had only seen photographs of airplanes before he joined the Royal Flying Corps, would retain the memory of 'what a great big thing' his airplane was even speaking from the twenty-first century. The Bristol F2B fighter was monstrous compared to other individually manpowered machines of the time, towering over bicycles and about double the length of a Model-T Ford, with a formidable wingspan stretching several feet further. Airplanes grew in size over early pilots' lifetimes, with flimsy, canoe-like gliders evolving into multi-winged bombers at a pace accelerated by war; First World War air service mechanics would sometimes be caught off guard by the arrival of airplanes they did not know how to put together.[58] For wartime pilots, these machines were nevertheless the only alternative to seemingly vital human support in a combat space. Pilots' ability to fly in combat therefore relied upon their ability to create a symbiotic working relationship with the airplane. Surviving as part of a machine

[57] Charles Alfred William Watson, oral history interview.
[58] TNA AIR 1/132/15/40/225/2 2 (Formation of Units and Programme of Development for the RFC, 81 Squadron correspondence August 1916).

that became a 'great big thing' when boarded, literally altering a pilot's sense of embodiment and self-orientation, was an abstract skill that could be applied across a variety of machines.

This process was more complicated than most pilots might have wished. At any point in the First World War, individual airplanes were fragile, volatile machines that were not immediately compatible with the limitations of the human body. As they moved from reconnaissance to intentionally combat-designed aircraft in late 1915,[59] the main components enabling an airplane's flight remained essentially the same across national lines, with variations for different manufacturers and makes. Airplanes were made out of hard woods like ash, beech, elm, and walnut, light metals including steel, bronze, and aluminium, and cotton or linen fabric fortified with dope lacquer.[60] Most initially ran on rotary engines, with the first Allied fighter-built aircraft, the French Nieuport 11 and British DH.2, running only slightly faster than their reconnaissance predecessors on eighty and one hundred horsepower engines. At nineteen and twenty-five feet long, respectively, these machines set the mould for fighters as small, compact, closed-fuselage aircraft with open cockpits nestled in the middle of their hollow, wire-and-wood bodies.[61] Cockpits held the minimal amount of information needed for flight – a compass, an altimeter, a map in a roller case, and a tachometer that indicated the propeller's revolution speed – and had no built-in armour, radio, or closed canopies.[62] Most models also had no accurate fuel read-out, requiring pilots to learn their machines' ranges and calculate fuel consumption with their wristwatches. As aerial combat and therefore flying

[59] John Morrow, *The Great War in the Air*, 26.
[60] Hamon et James, *Manuel de l'aviateur* (Paris, 1914), 38-40.
[61] J.M. Bruce, *Warplanes of the First World War: Fighters Volume One* (London, 1965), 110, 128.
[62] Hall, *High Adventure*, 30.

became more intense and disorienting, it was not uncommon for pilots to lose track of time and crash-land not out of mechanical fault, but because their watches had misled them.[63] Unlike contemporary cars, airplanes also lacked the equivalent of emerging 'rules of the road' to regulate their movement around existing infrastructure and other vehicles.[64] They relied entirely upon close, individual human attention to work properly in the air, and needed constant attention from specialists on the ground.

Pre-war and wartime aircraft required daily maintenance and went aloft by way of an intensely physical process that usually required participation from multiple people. As the pilot pressed the starter button in the cockpit, a member of the ground crew hand-started the machine by winding the propeller and using two hands for a full-body downwards swing that often had to be repeated several times. When the engine caught and the propeller buzzed to life, flames spat from the cowling, eventually scorching the sides of the engine block black. Airplanes did not have braking mechanisms, meaning that two or more ground crew had to guide an individual machine whilst on the ground; before take-off, these crew members would use wheel chocks aided by the full weight of their bodies to hold the machine back as the pilot ran the engine full-throttle for a mandatory pre-flight test.[65] Machines needed several hundred yards of space to take off, rolling on shock-less wood and rubber wheels that stayed down

[63] *La Guerre Aérienne Illustrée* Vol. 1 (Sous-Lieutenant 'M', "La Risques de la Chasses", 16 November 1916).
[64] For examples of early twentieth century discourse about efforts to establish and regulate collaborative road safety, see P.V.R.M., "Negligence and the 'Rule of the Road" in *University of Pennsylvania Law Review and American Law Register* Vol. 60, No. 6 (March 1912), 448, and "Rule of the Road" in *The British Medical Journal* Vol. 2, No. 2703 (October 1912), 1072.
[65] Ken Cassens and Christopher Bulko, interviews by Jack Doyle. 15-20 August 2016. Cassens and Bulko are the lead restorer/mechanic and flight director at Old Rhinebeck Aerodrome, an American museum and working airfield for original and replicated pre-war and First World War airplanes; Periscope Film LLC Archive 72072H (Lafayette Escadrille silent World War I newsreel) <https://www.youtube.com/watch?v=5wbjh6xhGm8)>.

during flight. As these fixed undercarriages were one of the most common breakages on aircraft,[66] military squadrons were mostly based on grassy airstrips rather than the concrete runways that became standard with interwar commercial aviation and the Second World War. Unwieldy and vulnerable on the ground and most prone to accidents during take-off and landing, airplanes were in many ways more 'safe' in the air, where pilots were more focused on flying than avoiding impact.

Though airplanes' operation was a learned skill, the mechanisms for doing so were surprisingly simple and physically intuitive. Aircraft were steered with a joystick held between the legs and rudder pedals, a full-body configuration that allowed pilots to feel a close physical correspondence with the airplane's movement. With few formalised flying manuals by August 1914, this notion of 'learning by feel' was central to how experienced pilots translated flight to novices. RFC pilot Hugh Lewis remembered of his pre-war private flight training that 'the instructions seemed to be very vague': 'I always made a joke that I had a book by Gustave Hamel, a Frenchman who flew the Channel in one hand, and the joystick in the other, and I would by those means learn what I had to do!'[67] American volunteer pilot Ross Browne learned to fly under the tutelage of Roland Garros, a leading pre-war French exhibition flyer who toured several continents before joining the *Service Aéronautique* with the outbreak of war. He recalled being startled by Garros' casual, non-technical approach to teaching, as well as his instructor's offhand assessment that 'Oh, he'll be able to fly in no time' a few days into his flying career:

[66] Hamon & James, *Manuel de l'aviateur*, 139.
[67] Hugh Gwilym Lewis, oral history interview 15455. IWM.

> He said, "When we get down, you feel your tail, and just pull it back a little. If you feel your tail going down, let it go very, very casually, and it'll lift itself. But don't go high – just a foot, even – just to feel that you're off. You can tell when you're off the ground. And then just let it sag back. Don't turn your controls; leave your controls as you have them, but shut off your gas." And I did. And I was amazed; I felt like going right on up, but I realised that the landing was the hardest part of it…. The centre of gravity was so fine that working your wheel back and forth even an inch would make a big difference and it would be very easy to turn on your nose.[68]

Garros' approach to flight corresponded closely to the language many pilots would use about their wartime flying. His instructions to Browne explicitly emphasised a physical co-existence with the airplane as a vital component to mastering flight. In his 1913 *Guide de l'Aviateur*, one of the first practical flight manuals that provided the base for the few tactical fighter manuals that did emerge during the war,[69] Garros himself would frequently re-emphasise this by-feel approach and 'confine [himself] to giving general advice', claiming that 'Good flying practice is too complex, too delicate to be taught in entirety in this manual.'[70]

From practical to memoirs writing, Garros and many of his contemporaries agreed that the process of learning to fly was a deeply emotional one, with the potential for terrifying 'shivers' to profound joy.[71] 'I cannot express the delight of a novice at feeling once more he is handling a living machine which obeys him and not a dead thing over which he has no control,' wrote French squadron leader Georges Thenault shortly after the First World War about his experiences of training French and American pilots on early airplanes.

[68] Ross Browne, oral history interview 4072839, September 1960, by Kenneth Leish. CCOHR.
[69] E.g. Albert Deullin, *La chasse en monoplane* (Paris, 1917) and *Les patrouilles de chasse* (Paris, 1917).
[70] Roland Garros, *Guide de l'Aviateur* (Paris, 1913), 44.
[71] Ibid., 16.

Thenault's description of the process of moving from student to pilot, which in French military aviation training schools involved mastering the basic acrobatic manoeuvres of the spin, *renversement*, and barrel roll,[72] assumes an obvious turning point in both pilots' emotional lives and technical skills as they learned their new trade. At what point, exactly, was the human-machine connection fully realised? The most obvious contemporary parallel to this working relationship was the pleasurable, personal connection between horse and rider, in many ways a direct predecessor to the airplane and pilot. First World War reconnaissance aircraft were originally intended as replacements for cavalry horses, to the extent that this translated into some pilots' perceptions of their duties. American volunteer pilot George Vaughn recalled that his Royal Flying Corps peers originally called their airplanes 'scouts', as opposed to 'pursuit', '*chasse*', or 'fighter' planes, suggesting an infantry support cavalry role.[73] Airplanes even retained some of their inherited horse-like characteristics, with many pilots continuing to mount their 'steeds' from the left side and even, in the British case, occasionally wearing spurs.[74] Despite Thenault and many of his contemporaries' insistence on an embodied, highly emotional synchronicity with the airplane, however, airplanes were still ultimately inanimate objects that were so frequently discarded by crashes and defects that French military aviation training centres kept 'graveyards' to store wrecked machines.[75] Unlike cavalry officers, pilots were not directly responsible for looking after their

[72] Georges Thenault, *L'Escadrille Lafayette* (Paris, 1921), 23.
[73] Paris, *Winged Warfare*, 134-5; George A. Vaughn, oral history interview 4072684, 1 November 1960. CCOHR.; TNA AIR 1/1283/204/11/11 (Records, Royal Flying Corps Military Wing, Report on Aerial Conference 11 May 1910-3 August 1910).
[74] Cuthbert Orde, *Pilots of Fighter Command* (London, 1942), 11.
[75] Raoul Lufbery Collection (Raoul Lufbery, unpublished memoirs, undated 1917). Wallingford Historical Society.

individual 'mounts': a straightforward emotional or material attachment to a single airplane was not an obligation, or indeed very practical despite the privileged soldier status and sense of self-worth it implied.[76] Front-line squadrons commonly shared machines, further discouraging a connection or special significance assigned to a particular one.[77] As American volunteer pilot James McConnell wrote home to his family in 1916, 'To find oneself the sole proprietor of a fighting airplane is quite a treat, let me tell you. One gets accustomed to it, though, after one has used up two or three of them – at the French government's expense.'[78]

This abstract but frequently articulated ability to fly as a living part of an airplane, then, was infinitely more valuable than any individual machine. Early aviation pioneers like Louis Blériot alluded to humans' need to relate to other flying things to conceptualise their own first encounters with flight: 'In seeking to conquer space, men were inspired by a model…the bird. After all, there's no bird I know of that looks like a biplane.' Behaving 'like a bird' was a convenient and popular shorthand for becoming a flyer. Bird names abounded for pre-war and wartime aircraft; Blériot himself called his first machine 'Canard', the elite French fighter *Groupe de Combat* 12 were known as 'Les Cigognes', and American pilot Victor Chapman dubbed his first Nieuport 11 'L'alouette' in honour of the skylarks that made his first airfield their home 'on account of the way they climb in the air'.[79] Pilots' illustrations of the process of learning to fly, which featured prominently in wartime aviators' publications like

[76] Stephen Badsey, *Doctrine and Reform in the British Cavalry, 1880-1918* (London, 2008), 38.
[77] Hamilton-Paterson, *Marked for Death*, 118.
[78] James McConnell, *Flying for France* (Raleigh, NC, 1917), 15.
[79] Louis Blériot in Jacques Mortane, *Les Héros de l'Air* (Paris, 1930), 54-55; Victor Chapman, *Letters from France* (New York, 1916), 168.

La Guerre Aérienne Illustrée and RFC cadet magazines, used metaphors like 'clipped wings' and 'fledglings' to describe the in-between stage between trainee and fully realised flyer.[80] To fly 'like a bird' was considered desirable in both leisure and combat situations, as it implied a lack of conscious thought for the technical aspects of flying; being a bird, rather than a horse, suggested that the pilot was not an external rider but rather part of a shared consciousness when he sat in an airborne cockpit. Achieving this state was not simply a matter of following a teacher's instructions and learning how to take off, fly, and land an airplane. It required a deliberate reconfiguration of pilots' language and bodies in order to realise collective flying work in the air.

Gender theorist Ulf Mellström draws a distinction between 'physical toughness and mechanical skills' and 'a professional calculative rationality of the technical specialist' as two different 'expressive and constitutive' forms of masculinity embodied through a professional relationship to technology.[81] Mellström's own work focuses on mechanics, who belong largely to the former category as a group whose identities are based on physical, machine-focused labour in a community setting; wartime pilots were portrayed, both in training rhetoric and in popular media, as the latter group of 'specialists' whose connection to their machines was intellectualised and highly individualist. The three-dimensional view of the world seen from a cockpit, as well as changing notions of distance and speed, appealed strongly to artistic, literary, and political movements seeking to resolve late nineteenth and early twentieth century tensions between man and machine, as seen most bluntly in Futurist writers and

[80] *La Guerre aérienne* Vol. 31 (14 June 1917); *The Fledgling* Vol. 4 (1918).
[81] Ulf Mellström, "Patriarchal Machines and Masculine Embodiment" in *Science, Technology, & Human Values* Vol. 24, No. 4 (Autumn 2002), 462.

painters' reverence for the airplane but stretching into avant-garde scenes across Europe.[82] Pre-war pilots, a disproportionate number of whom were university-educated and middle or upper class, usually seemed aesthetically and culturally to compliment this notion of the flyer as a well-bred, highly evolved technocrat or even, as in the proto-fascist writings of Filippo Tommaso Marinetti and Gabriele D'Annunzio, a pseudo-Nietzschean superhuman whose relationship with flight was primarily ideological.[83] The type of flying these pre-war celebrity flyers did mattered tremendously to this contemporary construction of the aviator as politically-motivated specialist: they flew for sport, entertainment, competition, and reinforcement of imperial power, making flying as labour or obligation a clear afterthought.

Wider cultural enthusiasm for the intellectual and artistic potential of flight, however, largely obscured the diverse physical realities of pilots' bodies, especially after the material circumstances of the First World War began to expand drastically the uses of aviation. In analysing the more immediate in-flight experiences of aviators, it is perhaps more appropriate to set aside contemporary intellectual interpretations of aviators as 'technical specialists' and consider pilots from the perspective of Mellström's mechanics, whose work and eventual expertise is built on physical and multi-sensory primary relationships with machines. As workers, they must 'encounter and acquaint [themselves] with the machine…work with the materials rather than against

[82] See for example the aviation-related writings of Filippo Tommaso Marinetti, especially "The New Religion-Morality of Speed (May 1916)" in Lawrence Rainey, Christine Poggi, & Laura Wittman (eds.), *Futurism: An Anthology* (New Haven, 2009), 226-227. For discussion of the place of aviation in pre-war cultural imaginations, see Robertson, *The Dream of Civilized Warfare*, 195; Robert Wohl, "Republic of the Air" in *Wilson Quarterly*, Vol. 17, No. 2 (Spring 1993), 110.
[83] Paris, "The Rise of the Airmen: The Origins of Air Force Elitism", 136-37; Fernando Esposito, *Fascism, Aviation and Mythical Modernity* (New York, 2015), 311-312.

them, and…communicate with the materials and read their messages.' This kind of physical, kinaesthetic work, Mellström suggests, eventually eliminates 'subject-object dualism' as the worker improves and becomes highly skilled, including the machine in the worker's consciousness and embodiment. This conjoined labour state de-intellectualises the work process, making it more difficult for a person to articulate why and how they do certain tasks.[84] Mechanics themselves, of course, worked closely with airplanes; Mellström's analysis nevertheless applies most immediately to pilots, to the point that, as Roland Garros claimed, experienced flyers' intimate connection meant they could read their airplanes better than any mechanic.

> What is astonishing about aviation is the extent to which it depends certain qualities in one, to a truly extraordinary degree. The speed of thought becomes fantastic, the pilot is able to feel the organs of the motor, even without being a technician, to the point that, when he descends, he can describe to his mechanics precisely where they need to apply their efforts for development.[85]

Besides closely mirroring the way pilots spoke or failed to speak about flight and their airplanes, this interpretation of expertise as a conjoined, sensory-based physical state between human and machine helps explain why pilots were able to work and survive in environments that otherwise could not accommodate their bodies. First World War pilots' non-conformity to national infantry soldiers' muscular masculinities, e.g. the sturdy *poilu*, is striking: indeed, many pilots were frequently physically unfit by their corresponding armies' standards, with many pilots transferring from the infantry or artillery after being injured. This included some of the war's most celebrated pilots. French ace Charles Nungesser, who was himself wounded many times, frequently featured

[84] Mellström, "Patriarchal Machines and Masculine Embodiment", 465-466.
[85] BNF 8-G-10262, 95.

in propaganda photographs with a walking stick, and had significant disabilities by the end of the war, eulogised fellow ace Georges Guynemer as a man with a 'frail and delicate constitution' who only 'succeeded by force of will to stay in the air 7 or 10 hours a day'; British ace Edward 'Mick' Mannock was blind in one eye and struggled with his sight and balance.[86] This significant reconfiguration of the '[dis]abled' body even amongst the most iconic aviators, who as Chapter Four establishes modelled distinctive masculinities for other pilots, speaks volumes about the necessity of reconceiving of an airplane as an extension of a pilot's body. Though appearing to many contemporary cultural commentators as an ideological exercise or expression of hypermasculinity, this process for pilots was in fact primarily an attempt to compensate for human bodies' inherent 'disability' in an aerial space. James Norman Hall described this embodied vulnerability to flying as feeling like 'a man adrift on a raft in the ocean':

> Underlying this feeling, and no doubt in part responsible for it, was the knowledge of the fallibility of that seemingly perfect mechanism which rode so steadily through the air; of the quick response that ingenious arrangement of inanimate matter would make to an eternal and inexorable law in the few frail wires should part; of the equally quick, but less phlegmatic response of another fallible mechanism, capable of registering horror, capable – it is said – of passing its past life in review in the space of a few seconds, and then – capable of becoming equally inanimate matter.[87]

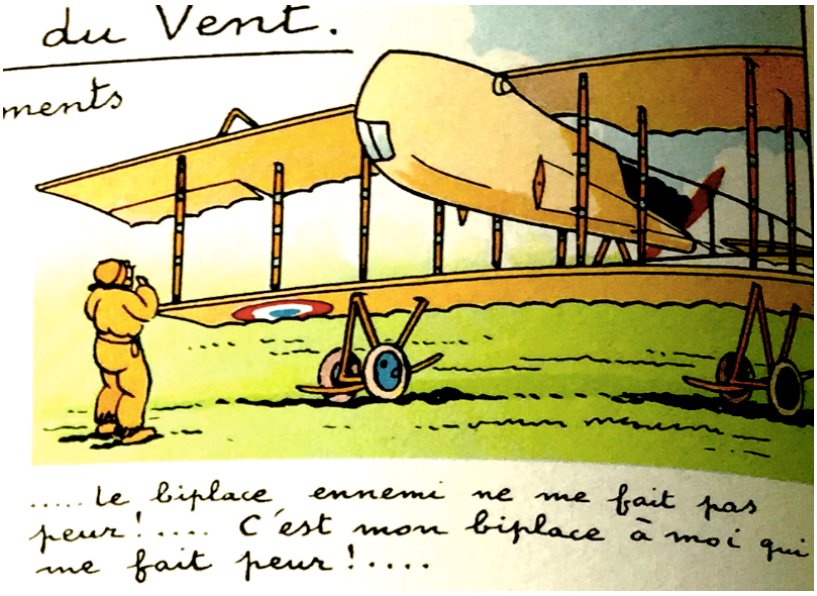
Hall's reference to the human body as 'another fallible mechanism' is telling: he characterises pilots and machines in the air as having equal potential for being living or 'inanimate matter'. Airplanes, similar to prosthetic limbs,[88] could be

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[86] Esposito, *Fascism, Aviation and Mythical Modernity,* 311-312; *La Guerre aérienne illustrée*, Vol. 49 (Charles Nungesser, "Nous les vengons", 18 Oct. 1917); Edward Mannock, *The Personal Diary of Major Edward 'Mick' Mannock* (London, 1966), 12.
[87] Hall, *High Adventure*, 56.
[88] Vivian Sobchack, "A Leg to Stand On: Prosthetics, Metaphor, and Materiality" in Marquard Smith & Joanne Morra (eds.), *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future* (Cambridge, 2006), 18-19.

vital to facilitating a complete lived experience and mutual work in an environment that challenged 'normal' physical expectations.

Getting airborne in the first place relied upon getting this connection right. Marcel Jeanjean, an artist who transferred from the French infantry to air service in 1917, illustrated his own development into a fully-fledged pilot with his 1919 cartoon collection *Sous les cocardes*. With his tongue-in-cheek, bright style, Jeanjean captured many of the absurdities and frustrations of military aviation life. His light-heartedness captures some of the underlying anxieties in the lead-up to his first flight:



'...Le biplace ennemi ne me fait pas peur!.... C'est mon biplace à moi qui me fait peur!....'[89]

Many novices hesitated to fly not out of a fear of heights, but because they lacked a learned, competent connection with their machines. Faced with his own two-seater airplane as a trainee pilot, Jeanjean discovered just this: the machine itself represented a more present danger than an enemy combatant, with its potential for piloting error, mechanical failure, or a deadly combination of the two.

[89] Fig 1 : Marcel Jeanjean, *Sous les cocardes* (Paris, 1919), 18.

Conversations in training acknowledged that some elusive – but communally understood – catalyst or skill was needed to close this gap between the machine and the body and therefore become a pilot. Excitedly dashing down his impressions of his first training flight in November 1917, American pilot Arthur Raymond Brooks described his newly acquired version of 'the sixth sense they talk about – which in my humble opinion is no more than the sense of balance' as his reference point for whether he was going up, down, or banking in the air.[90] Brooks, who went on to become a successful fighter pilot, did not seem to be far off in his initial impressions of the human-machine dynamic; stretching one's consciousness to incorporate an airplane could change someone's sense of 'balance' permanently. On the ground, airplanes' presence lingered in pilots' bodies, which translated into memories where they used subconscious hybrid language like 'my wings', 'his tail', and 'he dived'. Well-known pilots like Raoul Lufbery even failed military physicals late in the First World War due to a literal lack of balance, in Lufbery's case with doctors left puzzled by his inability to walk backwards in a straight line or stand up after spun around on a swivel chair due to his long hours of flight-specific disorientation.[91]

Achieving this 'sixth sense' connection with the airplane required establishing a new common language. In the air, this meant assigning human experiences of emotion or communication to aerial sounds, smells, and physical sensations. British pilot Reginald Fulljames frequently linked his emotional state to the sounds and smells of his airplane, remembering his anxiety when the engine 'coughed or spluttered', especially on take-off when he knew he had little

[90] NASM 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary, 13 November 1917).
[91] W. David Lewis, *Eddie Rickenbacker: An American Hero in the Twentieth Century* (Baltimore, 2005), 113-14.

room to find a safe landing spot.[92] Similarly, Edward Mannock recorded how he 'howled like a dervish' when feeling the strain of a steep dive on his body and machine.[93] Many squadrons established manoeuvres and engine noises to communicate concepts like victory, danger, or celebration, signals that were in some cases later formalised across air services.[94] Anthropomorphising airplanes' behaviour amplified pilots' own reactions in the air; it also complimented the emotional extremes that accompanied wartime flying. Without the immediate support of human comrades, airplanes could be used as larger-than-life, physical expressions of emotion and vital information in a dangerous combat space. Crucially, this complex relationship with the airplane was predominantly centred on an existing, learned experience of flight that was *compatible* with but not *reliant upon* the presence of war violence.

Fighter pilots' ability to anthropomorphise machines was not, as Joanna Bourke argues, simply a facet of their emerging First World War warrior mythology or an abstract symptom of rapidly technologised total warfare. Pilots could conflate people and machines because they themselves needed to forge a sustaining bond between the two in order to fly. Though pilots' 'human machine' selves had the *potential* to kill, the ways in which they physically and emotionally related to the machine were not centred on the inevitability of combat, but rather a solitary, often pleasurable working experience that fully engaged and reconfigured the mind, body, and senses. It is this 'inside-out' understanding of flight, rather than contemporary cultural representations of aviation, that drove pilots' subsequent engagement with new aerial battlefields and the ways in

[92] Reginald Fulljames, oral history interview 14, 21 February 1973. IWM.
[93] Mannock, *Personal Diary*, 59.
[94] Fonck, *Mes Combats,* 110; SHD AI 1 A 22 (Escadres et groupes de combat).

which they navigated and survived combat. Unlike the implications of the Second World War US Marines' infamous Rifleman's Creed ('This is my rifle. There are many like it, but this one is mine…. My rifle is human, even as I, because it is my life. Thus, I will learn it as a brother.'), the consequence of this particular human-machine relationship had far broader potential than death and killing.

1.2: Articulating Flight

In most conflicts, aviators stand out as soldiers with the least qualms about liking their war experience. Joy is a recurrent theme in the recorded emotional lives of First World War pilots who had passed from 'fledglings' to full-fledged pilots, especially in moments where they revelled in their newfound connection to the machine. 'Flying is the simplest thing in the world,' James Norman Hall marvelled about his first solo flight. 'Why doesn't every one travel by route of the air? If people knew the joy of it, the exhilaration of it, aviation schools would be overwhelmed with applicants.'[95] British pilot Hugh Lewis recalled the 'fantastic' way the cold would disappear when he flew for fun; French officer Jacques Duval claimed flying was the 'best sport in the world'. Even men like American pilot Arthur Brooks, who expressed dislike for 'the hero stuff that the magazines are full of nowadays', confessed to his diary that he loved stunting in an airplane again after an injury: 'Well, this beats everything for excitement. Doesn't the world look great!' he crowed.[96]

Delight, joy, and exhilaration are sensations not out of place on a battlefield. Positive emotional highs are common responses to adrenaline rushes, especially in moments of intense violence. Combat theorist Dave Grossman

[95] Hall, *High Adventure*, 80.
[96] Lewis, oral history interview; Jacques Duval, *L'armée de l'air* (Paris, 1918); NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary, 30 November 1917).

emphasises that soldiers' 'killing response' often contradicts the notion that war is hell; to process the potential trauma of killing others, many soldiers describe and go about killing, shooting, and attacking as fun or a game.[97] Military pilots were decidedly not immune to this reflex, as is expanded in Chapter Three's exploration of the relationship between pleasure and aerial combat 'work'. As has been discussed, aviation technology was well on its way to being explicitly built for combat before the outbreak of the First World War. Aircraft became fully militarised within the first two years of the conflict, and military pilots like Roland Garros and Joseph Frantz, who used observers and rifles in August and October 1914 respectively to bring down enemy aircraft, enthusiastically put themselves at the forefront of making aerial combat a reality.[98] What is striking, then, is that so many pilots relished joyful moments in the air – and, indeed, centred this sensation in their war memories – that seemed to be entirely detached from war violence.

Though flying in the context of war, both in training and over the front, new military aviators were enjoying themselves; learning to fly well enough to have a working relationship with the airplane was a deeply pleasurable experience. Expressions of pleasure associated with aerial *combat* have been studied in the context of other conflicts, most relevantly Harald Welzer and Sönke Neitzel's analysis of Second World War *Luftwaffe* pilots' pleasure at killing enemy pilots and civilians on the ground[99] and Bourke and Grossman's historical and sociological works on killing. This pleasure in *flight*, however, was something different to what Bourke identifies as 'slaughter [as]…an orgasmic,

[97] Grossman, *On Killing,* 233-242.
[98] Thenault, *L'Escadrille Lafayette*, 14.
[99] Harald Welzer & Sönke Neitzel, *Soldaten: On Fighting, Killing, and Dying* (London, 2011), 49.

charismatic experience'.[100] Was this a universal experience, and if so, what implications did it have for flyers going into combat?

During the Vietnam War, military psychiatrist Roger F. Reinhardt conducted a study of 105 'superior' US Navy fighter pilots that touches upon these questions. Reinhardt's aim was to produce a proscriptive portrait of 'the outstanding jet pilot', a question that had interested air services since the advent of military aviation. His findings were telling: namely, that the majority of pilots he interviewed identified the best part of their military service as the sheer fun of flying. Over 50 of his participants, who Reinhardt claimed had loosely similar personality types, reported that they had frequent recurring dreams about flying for pleasure. A 2005 research project at Bangalore's Institute of Aerospace Medicine had comparable findings, noting that joy was 'always present in the personal memories of fliers' and that 'This joy had a sense of power, control, and freedom'. This project, which was specifically aimed at profiling, recruiting, and maintaining military pilots, recommended that air services emphasise training that 'convert[ed] fear to thrill'.

When asked what he liked about his job, one participant in Reinhardt's study captured the nonviolent joy adjacent to military flying with his enthusiastic response: 'This is the best and the fastest fighter in the world, and the beauty of it is that no one can take hold of the controls except me, the pilot.'[101] His words have frequent, emphatic echoes in First World War pilots' articulation of their war experiences. It is significant that identity-shaping

[100] Bourke, *An Intimate History of Killing*, 3.
[101] Catherine Joseph and Ganesh A, "Motivation for flying in military aircrew: A review" in *The Indian Journal of Aerospace Medicine*, Vol. 49, No. 2 (2005), 61; Roger R. Reinhardt, "The Outstanding Jet Pilot" in *The American Journal of Psychiatry*, Vol. 127, No. 6 (December 1970), 734.

turning points for pilots, from mental reconfigurations of their bodies to the physical sensations and sensory changes of their first flights, were predominantly associated not with combat, but with this positive conversion of 'fear to thrill'. Pre-war flyers had established aviation as an exciting, highly individual journey associated with both sport and enlightenment; the adrenaline rush of flying emphasised this for many wartime pilots and led their emotional and linguistic responses to wartime flight. As they moved into combat flying, this sensation also served as much-needed morale in the absence of other people in an aerial battlefield. It is essential, then, to identify how these powerful, seemingly universal flight experiences were articulated and deploy by pilots going into combat.

What, for example, did a fighting aviator look like? That question was certainly on the minds of all levels of First World War air services, from trainee pilots to administrators. By 1914, a distinctive model had already emerged to offer precedent to military pilots, one strongly associated with fun, power, and competition. This aviator icon shone through clearest in France, where, as American First World War pilot Harold B. Willis observed, 'The French had the idea that a pilot who taught himself to fly on a little monoplane would get a certain spirit of elan and combativeness that would fit him peculiarly for flying.'[102] The booming popularity of *grandes semaines* air displays from 1909 onwards saw popular enthusiasm for flying and a burgeoning aviation press culture explode, particularly in urban centres such as Paris, Toulouse, and Reims.[103] Vivid French aviation writing and journalism played a significant role

[102] Harold B. Willis, oral history interview 4073731, November 1960, by Kenneth Leish. CCOHR.
[103] Rosemary Wakeman, "La Ville en Vol: Toulouse and the Cultural Legacy of the Airplane" in *French Historical Studies*, Vol. 17, No. 3, 773-774.

in shaping the image of pre-war and wartime flyers, with prominent figures like sports-journalist-turned-aviation-expert Jacques Mortane writing dozens of articles and books in close consultation with pilots themselves. Journalists who jumped ship from sport reporting to aviation writing were usually unabashed in their admiration for pilots, which gave birth to well-worn flowery phrases like 'knights of the air'. They were also keen to speculate about the wider cultural implications of aviation, with one correspondent from *L'Auto* giving voice to the thoughts of many in the 500,000-strong crowd at the *Grande Semaine de L'Aviation de la Champagne* who watched still-unfamiliar technology rising into the air: 'Will our life be better? Will we ourselves be better?'[104]

Perhaps the most well known example of this pre-war aviator icon was not one of the first to fly, but rather French pilot Roland Garros. Unlike most big-name manufacturers who came immediately after them, the Wright brothers lacked the charisma and public savvy of their interwar American aviation successor Charles Lindbergh; though they toured in France and had strong international business connections, their lack of showmanship was a factor in their failure to create a lasting brand despite having invented the airplane.[105] Garros, by contrast, was a strikingly handsome, daring pilot in his twenties who used the press, his middle-class colonial bureaucratic family connections, and his own publications to his advantage. With his successes in air racing, international aviation, and altitude records, he maintained an influential circle of friends from manufacturers like Ettore Bugatti to artists like Isadora Duncan and Jean Cocteau. Like many early aviators, he was a self-taught 'young sportsman' – in

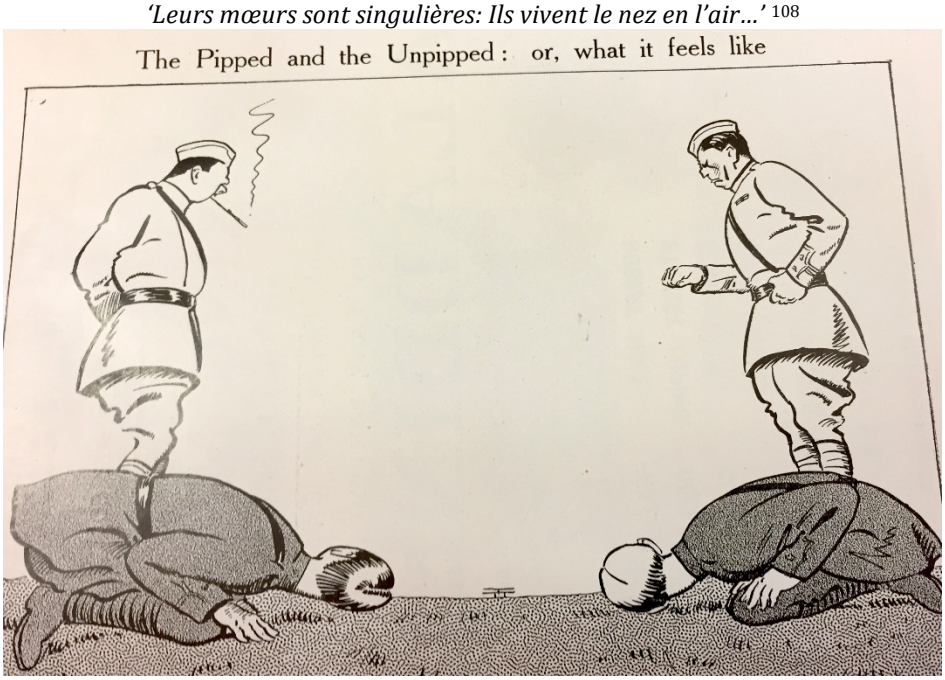
[104] Wohl, *A Passion for Wings,* 107-9.
[105] Lawrence Goldstone, *Birdmen: The Wright Brothers, Glenn Curtiss, and the Battle to Control the Skies* (New York, 2014), 11.

Garros' case, a former amateur cycling champion – who contemporary Edmond Audemars remembered as having 'the same penchant that all young men had at the time' for flight as it developed as a sport.[106] Dashing, global, and carefully self-promotional in his popular memoirs, Garros set the standard for men who flew from the context of the leading nation for pre-war aviation. His 1913 assessment of flight portrayed it as a kind of addiction in visceral, tellingly physical terms: 'An association of ideas mix prodigiously fast in the brain in ways that aren't always agreeable… Certainly, aviation assails the pilot with a multitude of sensations in turn delicious and truly unpleasant, but that's why we love to fly, because it is the sole sport that continues to awaken the spirit in ever-changing ways.'[107] Garros balanced a stylish, eloquent public persona with an instinctive understanding of flight. Both factors determined the shape of the pre-war aviator, which translated into artistic representations of wartime pilots like those seen in French popular aviation presses and sketches by Royal Flying Corps cadets enviously observing their full-fledged counterparts.

[106] Edmond Audemars, oral history interview 4072458, October 1960, by Kenneth Leish. CCOHR.
[107] Garros, *Guide de l'Aviateur*, 94.



'Leurs mœurs sont singulières: Ils vivent le nez en l'air…' [108]



A sketch from The Fledgling*, a quarterly Royal Flying Corps cadet magazine. 'Pipped' cadets were flight-worthy; 'unpipped' cadets were not.*[109]

Aviators were well-dressed, slender, and flamboyant, often sporting luxurious furs in addition to distinctive tailored uniforms. Some British and French pre-

[108] Fig. 2 : Réne de Chavagnes & Georges Villa, *Le Groupe des Cigognes: De Guynemer à Fonck* (Paris, 1920), 6.
[109] Fig. 3: Unknown artist, *The Fledgling*, Vol. 2 (June-December 1917), 229.

war aviators established their celebrity with tours of their empires' colonies, garnering them social status closely associated with imperial power.[110] The performance of aviator masculinity was built around the extravagance and heightened reality of flight as developed in small aviation circles populated by middle class, technically minded, and internationally competitive figures like Louis Blériot, Roland Garros, Glenn Curtis, and Claude Grahame-White. This provided a framework for wartime pilots to present their experiences with a distinctive visual aesthetic and language heavily influenced by pleasure, competition, and sport.

Written and spoken languages of flight had been developing in earnest since Louis Blériot's 25 July 1909 Channel crossing, and by the outbreak of the First World War were decidedly French-dominated within Franco- and Anglophone flying communities. Edmond Petit credits this 'charged and secret language' to the close network of pilots linked to the *Aéro-Club de France*, and asserts that these aviators helped establish dialectical conventions that would frame how people spoke about aviation during and after the First World War.[111] These included terms for parts of the airplane that are still used today in French and English, e.g. 'fuselage' and 'aileron'. Indeed, American pilots would develop French-English glossaries to compensate for their lack of military aviation experience after the United States' April 1917 entry into the war, sometimes creating new words and phrases as equivalents for less-translatable French aviation terms, e.g. 'turn over on the wing' for '*renversement'* and 'oil grooves' for

[110] Paris, "The Rise of the Airmen: The Origins of Air Force Elitism", 127.
[111] Petit, *La vie quotidienne dans l'aviation en France,* 221-223.

'*pattes d'araignées*'.[112] Because aviation was rapidly evolving as a technology and practice, its language followed suit, especially when passing from expert use to common parlance. Authors of a compiled dictionary of British First World War military slang noted the following in a lengthy entry about the entomology of 'airplane': 'In the war, "Bus" had a wide popularity at first among airmen generally, when speaking of their own machines. Latterly, however, the word came to be regarded as rather bad form from its becoming a hackneyed expression and being taken up by outsiders.' A similar phenomenon occurred in France, with '*l'aéroplane*' becoming '*l'avion*' in wartime to differentiate it from pre-war machines associated with entertainment.[113] Aviation dialect's fluidity, especially its multi-lingual component, is essential to understanding how First World War pilots began to articulate their experiences. Faced with little military precedent for aviation, pilots reached outside of conventional language and communication networks to talk about flight, creating an exclusive and exciting spoken culture of insiders linked directly to celebrities like the Wrights and Roland Garros.

Uniquely amongst military services during the First World War, pilots had specialist civilian channels through which to exchange information about their evolving practical knowledge and lived experiences. These exchanges thrived in the established popular aviation press network in Paris, London, and northeastern American cities. Publications like *Flight* (founded in London in 1909), *L'Aérophile* (Paris, 1893), and *The Aeroplane* (London, 1911) had little trouble translating their sport- and technology-focused coverage to wartime

[112] Victor Page and Paul Montariol, *Termes d'Aviation / Glossary of Aviation Terms* (New York, 1917), 24, 62-64.
[113] Edward Fraser & John Gibbons, *Soldier and Sailor Words and Phrases* (London, 1925), 41; Petit, *La vie quotidienne dans l'aviation en France*, 223.

aviation developments, whilst some ultra-enthusiastic journalists like Jacques Mortane founded publications dedicated to the air war. These newspapers and magazines were built on popular enthusiasm for peacetime aviation and therefore often featured famous pilots' first-hand accounts, a practice that continued during the war and encouraged pilots to frame their flying experiences as action-packed entertainment. From 1914 onwards, these publications began to function not just as a leisurely pastime for hobbyists, but as a vital point of exchange for the first practitioners of military aviation.[114] Mortane's Paris-based *La Guerre Aérienne Illustrée* was particularly representative of military pilots' for a less military discussion forum. *La Guerre Aérienne* regularly featured not only the voices of French *Service Aéronautique* pilots, but also American volunteers, British pilots, and even occasional guest letters from Germans. Mortane, who also contributed to *Flight*, chased down writers so vigorously that within a year of *La Guerre Aérienne*'s first issue, French-American ace Raoul Lufbery declined an offer to publish a paid article in the paper, remarking in a letter to a friend, 'I also think that my little stories cannot be very interesting for the G.A. readers, the majority of them being pilotes [sic] have seen some fighting and know what it is.'[115]

Mortane's editorship of *La Guerre Aérienne Illustrée*, as well as the wartime correspondence of American journalists like James Norman Hall and Paul Rockwell, reveals an on-going negotiation of where the air war began and ended within the wider context of aviation's evolution. The 23 November 1916 edition of *La Guerre Aérienne*, for example, featured an interview with sport-

[114] Paris, "The Rise of the Airmen: The Origins of Air Force Elitism", 134.
[115] *Flight* (Jacques Mortane, "L'Oiseau Nageur (The Swimming Bird)", 24 October 1918); Paul Rockwell Papers 301a/4 (Raoul Lufbery, 1 August 1917 letter to Paul Rockwell). Washington & Lee University Library.

turned-military-reconnaissance pilot Brindejonc des Moulinais about his racing career; this was not considered incompatible with a report on the bombing of Essen or a lengthy thinkpiece musing about the nature of death in the air. Rather, des Moulinais conformed to existing aviation tropes as a university-educated, record-breaking flyer who neatly bridged pre-war and wartime flying.[116] Mortane, who later wrote multiple biographies of aviators whose careers spanned the advent of flight to the 1930s, was central to establishing some of these tropes in print; similarly influential was Paul Rockwell, the journalist largely responsible for coordinating and promoting the writings of the Lafayette Escadrille, a heavily publicised *Service Aéronautique* squadron composed of American volunteers before the United States' entry to the war. Lafayette Escadrille pilots published a significant bulk of personal writing during the war itself – of its thirty-eight pilots, ten wrote memoirs, articles, or letters that were published posthumously – some of which was frequently cited by American volunteers as an incentive to volunteer for aviation after April 1917.[117] This popular aviation writing presented an aerial conflict frequently blurred by the potential joys and excitement associated with pre-war flight. Individual achievements were commonly highlighted, as were aviation 'firsts', giving military aviation writing a strong sense of continuity with pre-war aviation journalism. Pilots included practical details that would be relevant to other pilots, e.g. altitude, weapons specifications, and reports about flying new machines. The rapidly accelerated development of aviation during the First World War required pilots to be actively learning at all times, often outside of

[116] *La Guerre aérienne illustrée*, Vol. 2 (23 Nov. 1916).
[117] Carroll Dana Winslow, *With the French Flying Corps* (London, 1917), 40.

official military spaces. Samuel Hynes stresses the obsessive importance wartime aviators placed on the facts behind their flights and the lengths to which they went to correct them in the public sphere. Lack of precedent and official guidance meant that aviators' relationship with the press was by necessity closer than other soldiers', and their incentive to write in closely linked to their own sense of safety and survival.[118] These themes are equally present in pilots' more personal writing about aviation, especially as the routines of aerial warfare became more structured and predictable. Military aviators were closely following one another's progress and working collectively to align their experiences with existing aviation culture.

There has been comparatively little recognition of a distinct genre of aerial literature specific to the First World War;[119] this is perhaps because much of this amateur writing never left aviation circles, e.g. the lively in-community audience of *La Guerre Aérienne Illustrée*. However, it is worth interrogating the impulses behind and tropes within pilots' writing beyond the obvious commercial and competitive incentives offered by the popular aviation press. Fighter pilots' recollections – both published during the war and constructed in oral histories and memoirs after the war – focus in disproportionate and significant ways on the on-going process of learning to fly, which runs as a parallel but sometimes disruptive narrative to the story of going to war. This arguably genre-defining preoccupation with nonviolent flight may in part be understood by considering contemporary alternative temporalities: John Horne's recent reflections on First World War soldiers' accounts of long sea

[118] Hynes, *The Unsubstantial Air*, 85.
[119] Joseph J. Corn, *Into the Blue: American Writing on Aviation and Spaceflight* (New York, 2011), 18.

voyages to and from fighting fronts, for example, convincingly demonstrates the disruptive power of movement and environment on soldiers' narrative priorities and foci.[120] Pilots' wartime correspondence and published writing also reveals a profound self-consciousness about *how* they told their stories in dialogue with emerging communal language, especially when it came to the apparent contradiction of non-violent, pleasurable flight within an explicitly combatant role. American volunteer pilot Victor Chapman captured this in a June 1916 letter to his family recounting recounted a flight over the lines:

> Every-one says they get tired of flying, "It's monotonous." I don't see it, but on the contrary, an infinite variety is this, when there is a slightly sprinkling of clouds. Clouds are not thin pieces of blotting paper; but liquid, ceaselessly changing steam. I played hide-and-seek in and out of them yesterday…There are such a lot of trumpet-shaped and wind blown clouds this evening that I should like to go out and examine them; but it's a bore for my mechanic, and I doubt if I could go high enough to warrant crossing the lines.[121]

Chapman's preoccupation with his own self-propelled, chosen travel through airspace – a journey that gave him time to 'play' and enjoy his machine despite the fact that he was technically flying a combat patrol at the height of the Verdun campaign – and simultaneous uncertainty about the beginnings of communal accountability are typical of many fighter pilots' wartime accounts.

Indeed, what important shared spaces like *La Guerre Aérienne* lacked in their action-focused, narrative-driven pieces was the reassurance that pilots were having the same emotional responses, especially ones that seemed to run contrary to those of peers in the trenches. In the privacy of personal diaries and correspondence, many pilots struggled with their own feelings by speculating

[120] John Horne, "Journeys into War and Back, 1914-1923", presentation for A *World Transformed: The First World War and Its Legacy*, Rothermere American Institute, Oxford, 20 June 2019.
[121] Chapman, *Letters from France*, 176.

about what their peers thought and felt about flying as a phenomenon separate from warfare. Though American volunteer pilot Victor Chapman's impulse to explore the sky in his time off was a sentiment echoed by many pilots, his off-hand claim that 'every-one says they get tired of flying' suggests a kind of uncertainty or even embarrassment about his own response to the 'infinite variety' of flight. Was it normal to enjoy flying for pleasure in the midst of a war, or was this outlet too good to be true? This underlying anxiety was conveyed in particular to friends and family outside of aviation circles, as well as other pilots in training. 'I don't know how the other fellows feel about it,' American pilot Arthur Brooks wrote in a diary addressed to his wife a few hours after his first flight in training school, 'but after actually controlling a bus aloft I am wild to do my own solo work.' In a lengthy entry, he went on to try and articulate his complex feelings about his first time in an airplane: 'I'll continue to hate aeroplanes as much as I hate automobiles – a sarcastic hate which, of course, amounts to love – until I get too much of a good thing or something happens…'[122] In his wartime memoirs, James Norman Hall recalled the moment when he and his best friend in training reunited after their first solo flights as 'if we had met on another planet after long and hopeless wanderings in space':

> He was an odd-looking sight in his flying clothes, with a pair of Meyrowitz goggles set back on his head, like another set of eyes, gazing at the sky with an air of wide astonishment. He paid no attention to my critical comments, but started thinking aloud as soon as I rejoined him.
>
> "It was lonely! Yes, by Jove! that was it. A glorious thing, one's isolation up there; but it was too profound to be pleasant. A relief to get down again, to hear people talk, to feel the solid earth under one's feet. How did it impress you?"

[122] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary, 13 November 1917).

> This was like Drew. I felt ashamed of the lightness of my own thoughts, but I had to tell him of my speculations upon after-the-war developments in aviation: nurses flying Voisins, with the cars filled with babies; old men having after-dinner naps in twenty-three-metre Nieuports, fitted, for safety, with Sperry gyroscopes; family parties taking comfortable outings in gigantic biplanes of the R-6 type; mothers, as of old, gazing apprehensively at speed-dials, cautioning fathers about "driving too fast," and all of the rest.
>
> Drew looked at me reprovingly, to be sure, but he felt the need, just as I did, of an outlet to his feelings, and so he turned to this kind of comic relief with the most delightful reluctance. He quickly lost his reserve, and in the imaginative spree which followed we went far beyond the last outposts of absurdity. We laughed over our own wit until our faces were tired.[123]

Hall's autobiographical protagonist's embarrassment at the 'lightness of [his] own thoughts' emphasises the profound self-consciousness many pilots felt when trying to establish a common emotional framework for flight. Leaving the ground for the first time did not only mean incorporating new physical and mental aspects into one's identity; it also meant losing basic points of reference that made flyers second-guess and obsess over the validity and veracity of their individual experiences. With senses altered and no easy means of human-to-human communication available in a cockpit, wartime personal writing and conversations were a means of clarifying a new pilot's place in the sky and reassuring aviators that they were, indeed, compatible with the pleasures and challenges of flight.

It is therefore significant that a predominant theme in pilots' writing was the often relished, sometimes troubling reality of the 'infinite variety' of aviation's emotional life. Both in training and at the front, pilots frequently flew outside the parameters of what their duties required for fun, exploration, commuting, and practice. Airplanes were not simply sites of battle, but

[123] Hall, *High Adventure*, 46.

transportation and vehicles for emotional expression. Not every would-be pilot, of course, enjoyed flying, and for good reason: flight training alone involved frequent violent crashes in fragile machines. However, it is significant that as pilots gained experience, they began to speak about pleasurable flying as the default. Canadian pilot Douglas Joy was taken aback when, after a brief period of private flight training in the United States, he enlisted in the Royal Flying Corps and encountered less experienced British cadets who were 'absolutely afraid of flying'. 'These men are not like Canadians,' he remarked in a letter to his mother. 'I never once saw a man at the Curtis [sic] School funk flying. He may have felt nervous, but none of them ever showed it and the wish was always for good flying weather.' With the smugness of someone with a whole three hours' of flying under his belt, Joy concluded, 'After finding out that these machines are not nearly as bad as they look and also that we knew a great deal more about flying than the average man here I have got back my confidence.'[124] For American Army Air Service pilot Arthur Brooks, confidence and experience came with his ability to articulate the profound strangeness of flight, and to reshape a potentially traumatic, sensually disruptive experience as something enjoyable:

> It's peculiar how quickly you can come down from a great height. One second the humans on the earth are dots and unless you noticed they moved you wouldn't know them as humans; building me little rectangular two by fours set in the patchwork quilt. The next minute the humans are waving to you and the hangars and buildings are many times larger than the plane you are riding in. The time it takes for the plane to change from the Big & Almighty to the Pigmy [sic] and Inconsequential is what seems strange. If an elevator took you half as quickly that instrument would be an instrument of torture for

[124] IWM 11772/01/35/1 (Douglas Joy, 26 August 1915 letter to his mother, Douglas Grahame Joy Papers).

> most people. But it's all in getting used to the game. I find I like it in as many degrees as I've been through.[125]

Sensations of joy and exhilaration were so omnipresent in flight that these became easy shorthand for flying achievement and prowess. As aerial stunting became increasingly possible, French and American air services in particular encouraged trainee pilots to enjoy their machines and push them to their limits. While the British Royal Flying Corps officially discouraged stunt flying,[126] some wartime training facilities disregarded this guidance as pilots began to see high-speed manoeuvring pay off at the front. In a 1960 oral history interview, RFC pilot Alan Campbell Orde remembered being awed by his first glimpse of an airplane stunting in the sky above him. When asked whether the prospect of learning to do the same made him nervous, he shrugged off the suggestion, saying, 'It was so interesting to fly that I think that any anxiety was completely subservient to the main wish to get into the sky somehow.'[127] When training in the autumn of 1915, RFC pilot Douglas Joy was surprised when fellow cadets at his new training squadron called him 'sleepy' for being reluctant to stunt his airplane. '...they all do trick flying here of course. They are supposed to be better pilots,' he wrote to his mother. Though he initially struggled with this new kind of flying, Joy was soon skipping classes to maximise his flying time, even asking the squadron doctor for permission to fly after high-altitude exploring made him cold and light-headed.[128] Even in the midst of combat, a flying challenge – especially in the form of a newer, faster airplane – could inject delight and

[125] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary, 13 November 1917).
[126] TNA AIR 1/2251/209/54/15 (70 Squadron War Diary, 1 March-30 April 1917).
[127] Alan Campbell Orde, oral history interview 4072512, November 1960, by Kenneth Leish. CCOHR.
[128] IWM 11772/01/35/1 (Douglas Joy, 9 September and 8 November 1915 letters to his mother, Douglas Grahame Joy Papers).

therefore motivation into a difficult situation. Writing in his diary in early 1918, Arthur Brooks delighted in his first flight over the lines in a French SPAD airplane. 'I just came down, half an hour ago, from my first [illegible] in, a SPAD! It was a remarkable experience and different from all others that I have endured or enjoyed,' he scribbled excitedly, leaping to back up his own experiences with his squadronmates' reactions. 'Sperry when he came down shouted "Dog-gone, but this is the flyingest 'bus I was ever in." Others said "Whoo-Boy!" and, "Say, just wait till you try it."' Just a few weeks, Brooks would confess to his diary that he wanted to go home.[129]

Pilots had little room to process the conflicting emotional highs that characterised active service. This was especially true of emotions and sensations that seemed to originate in the experience of flight itself rather than an emerging narrative of aerial combat, e.g. loneliness, a sense of displacement from earth, divine-like power, and happiness. As the war went on, expressions of the emotional life behind aviation became less welcome in the popular publications that had previously fuelled enthusiasm for flight. As Edmond Petit observes, pilots' public expressions of satisfaction at achieving aviation firsts and enjoying flight began to clash with the French public's increasing doubts about aviation after significant, heavily publicised *Service Aéronautique* casualties at Verdun.[130] In the British case, individual pilots' voices were often made anonymous in the press, effectively stifling a more dynamic conversation about the uses and experiences of flight.[131] Aviation was still sparking many of the same profound emotional responses as it had for the past decade amongst First World War

[129] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary, 5 and 21 June 1918).
[130] Petit, *La vie quotidienne dans l'aviation en France*, 69.
[131] Hugh Gwilym Lewis, oral history interview.

pilots; military air services, however, had no convenient place for such expressions, desires, and questions, leaving pilots to turn to existing civilian channels to talk about flying.

From the time they entered flight training, pilots themselves became active participants in creating a vital wartime narrative to flesh out and explain their military experiences. Largely absent from post-war representations of this popular First World War aviator narrative, however, were the positive, sustaining emotional and psychological forces that complemented the more traumatic, violent aspects of combatant aviators' experiences.[132] In the writing and reflections of aviators, these forces overwhelmingly appear in reference to the airplane itself. In learning to fly, pilots created a skill set that would sustain their physical and emotional selves in the air; with this came a distinctive language and culture that would evolve over the course of the war. When pilots passed from training and peacetime flying into combat, their established relationships with airplanes provided much of the vital support of a human unit on the ground.[133] Though airplanes were strange, sometimes inexplicable machines, they fostered the potential for a rich emotional life beyond the complex processes of killing and dying that will be discussed in later chapters, and indeed for transformed wartime identities. Flying allowed for emotional relief and a very different kind of joy to the 'joyful slaughter' of combat:[134] it put the possibility of emotional survival at the centre of pilots' wartime work.

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[132] See this explored further in Chapter Six.

[133] Robert J. MacCoun, Elizabeth Kier, & Aaron Belkin, "Does Social Cohesion Determine Motivation in Combat?: An Old Question with an Old Answer" in *Armed Forces & Society*, Vol. 32, No. 4 (July 2006), 647-8.

[134] Janet Lee, "'Knights of the air': Joyful slaughter and the pleasures of moral survival" in *Journal of Gender Studies* (2016), 1-2.

CHAPTER TWO
The Aerial Battlefield

Hell-raiser, razor-feathered
risers, windhover over
Peshawar,

power's
joystick-blithe
thousand-mile scythe,

proxy executioner's
proxy ax
pinged by a proxy server,

winged victory,
pilot cipher
unburdened by aught

but fuel and bombs,
fool of God, savage
idiot savant

sucking your benumbed
trigger-finger
gamer's thumb

– Amit Majmudar, "Ode to a Drone"

Aerial warfare exists today in forms even science fiction writers like H.G. Wells could not have imagined. In writing this thesis, I have been most often asked about the parallels with present-day remote warfare and the drone pilots savagely illustrated by Indian-American poet Amit Majmudar.[135] Even to historian colleagues, this modern kind of violence seems more obviously relatable to First World War pilots than their contemporaries in the trenches. There are, indeed, striking and under-examined similarities between the psychological experiences and cultural representations of today's drone pilots

[135] Amit Majmudar, "Ode to a Drone" in *Dothead* (New York, 2016).

and the pilots of the first air war. Long-range, emotionally removed individual warfare has changed drastically in the public eye over the course of a century, but our profound fascination with it remains. I believe that people who ask me, an historian, about drone operators are genuinely motivated by the same questions they have about First World War pilots: they are curious about a space and experience that is still stubbornly inaccessible to the imagination and moral defaults of non-combatants.

Despite the Second World War's dominance in pop culture, the First World War infantry soldier – the Tommy, the *poilu*, the doughboy – remains the West's most universal and perhaps most relatable individual face of modern warfare. Marching, sitting in a trench, or even shooting at another human being do not require a great exercise of imagination for the civilian historian or war film aficionado. Other types of war experience, even within the familiar landscape of the First World War, are more difficult to conjure up. Operating the engine room of a submarine or navigating a fighter plane through artillery fire, for example, require a degree of training and proximity to violence less accessible and familiar to non-combatants. These experiences are harder to access in the imagination, as they rely on spaces and geographies beyond our own two-dimensional everyday. Over a decade ago, Stéphane Audoin-Rouzeau and Annette Becker challenged the on-going reluctance of First World War historians to confront such gaps of the imagination by reconfiguring their own relationships to violence.[136] One legacy of their work, the *Historial de la Grande Guerre* in Péronne, deliberately pushes museumgoers and historians to interact with the material realities of the warfare that shaped the surrounding Somme

[136] Audoin-Rouzeau and Becker, *1914-1918*, 14.

region and its still-present trenches, vast cemeteries, and huge craters. The fact that such a vital mental exercise is less feasible when considering the air war suggests that Becker and Audoin-Rouzeau's approach must be pushed further in more recent historiographies of First World War combat, which despite explicitly geography-oriented, genre-pushing scholarship remains firmly ground-focused.[137] Soldiers at sea and in the air occupied fundamentally different spaces and had different proximities to and agency for violence: it is not possible to discuss the First World War in full without acknowledging the profound, sometimes contradictory separateness of these conflicts.

The relative lack of historiographical attention paid to aerial violence is not simply due to the dominance of ground-based narratives, but also soldiers' and pilots' own conscious differentiation between their participations in the First World War. In addition to pilots and soldiers' own multifaceted awareness and interpretations of the factors that separated their war experiences, it was important for militaries and home societies to maintain a distinction between the kinds of violence happening in the air and on the ground. Medical research pathologised pilots' trauma as other than the shellshock, neurasthenia, and other 'nervous' psychological conditions being diagnosed in infantry soldiers; emerging air services' insular cultures set them apart in military and civilian eyes alike. Pilots' own experiences were disproportionately shaped by the on-going, highly skilled work flying work they did; as discussed in the final chapter of this thesis, post-war media across national lines commodified aerial violence as a force tactically, aesthetically, and even morally other to the still-raw horror

[137] See, for example, Olivier Compagnon and Pierre Purseigle, "Géographies de la mobilisation et territoires de la belligerence durant la Première Guerre Mondiale" in *Annales*, Vol. 71, No. 1 (2016): pp. 37-64.

of twentieth century warfare on the ground. The presence of new aerial technologies created a new kind of battlefield whose meaning and structure was defined by violent aerial geographies.

Despite the media attention paid to aviators, most non-practitioners during and after the war struggled to make sense of where and how aerial violence began and ended. US Army Air Service mechanic Bob Sanford kept up a faithful documentary-style correspondence with his parents throughout the war, including photographs and postcards whenever he could to give his family a glimpse of the front. His parents seem to have been extremely anxious about their only child for his close proximity to aerial warfare; more than once, Sanford's father mentioned he had been considering joining the YMCA to work overseas closer to his son in France. Sanford was therefore quick to reassure them when he sent back particularly dramatic images of the airplane crashes he worked with every week. 'Mother: This is just a bad landing. No one hurt. We see lots of them,' he explained on the back of a snapshot in December 1917. He followed up the next week with another photo of a 'pancake', or a plane upended vertically on its own propeller: 'Father: This is the most ordinary of all. This fellow landed all right then the mechanics turned over on the nose. All he got was a black eye. I see eight of them in our day.'[138]

Sanford's amateur photographer's eye was not unique in its draw to smashed airplanes as an entry point to understanding aerial violence. Like the nineteenth century railway accident, an airplane crash was a powerful confrontation of the consequences of a disruptive, challenging new

[138] NASM 2004/0063 (Robert Sanford, letters to his mother and father, December 1917, Robert S. Sanford Collection).

technology.[139] Pilots and mechanics frequently included images of twisted fuselages and fabric explosions in correspondence and scrapbooks, both laughing off near-misses – 'This wild Frenchman sprained his thumb', was Willis B. Haviland's wry scrapbook caption beneath a photo of an airplane suspended improbably between two trees[140] – and solemnly bearing witness to the fallen bodies of airplanes and humans alike. The incredible violence of impact from the air was a spectacle seemingly particular to the scale of the First World War, simultaneously not unalike and strikingly alien to the blasted landscape of man's land or the disfigurement of *gueules cassées*.[141] For aviators and those who worked closely with airplanes, this specific sight of an airplane come to earth was a gateway into articulating the contradictions, realities, and ramifications of aerial violence, as well as the evolving practice of aerial combat.

The realisation of First World War aerial combat relied upon particular emotional and geographical landscapes around which pilots structured their wartime work. As established in the previous chapter, many of these structures were inherent to the experience of flight: men's new working relationships with machines generated a common language by which pilots expressed and navigated the air. This shared language is in turn vital for expanding the geography of First World War combat beyond what Paul Fussell describes as the 'troglodyte world' of the trenches below, bluntly organised by 'the walls of dirt and the ceiling of sky' and the anonymous communal ritual of morning and

[139]See Ralph Harrington, "The Neuroses of the Railway: Trains, Travel and Trauma in Britain, c.1850-c.1900", unpublished PhD thesis (University of Oxford, 1998).
[140] Willis B. Haviland, *An Early Bird's Scrapbook*. <http://wbhaviland.net/>.
[141] Fussell, *The Great War and Modern Memory*, 60; Ada Ackerman, "Redonner visage aux gueules cassées: Sculpture et chirurgie plastique pendant et après la Première Guerre mondiale", *RACAR: revue d'art canadienne*, Vol. 41, No. 1 (2016), 5-6.

evening stand-tos.[142] On the Western Front, such structures organised the practical routines of combat and day-to-day life in the combat zone; as has been thoroughly established in the generations of cultural history and literary scholarship following Fussell, this environment also profoundly influenced how infantry soldiers interpreted and articulated their war experiences. Pilots' own engagement with their fundamentally different battlefield therefore deserves close consideration. Aviators' preoccupations with crashed airplanes hints at the striking disparity between being a soldier on the ground and in the air. For pilots, these up-close encounters with death and disfigurement were rare moments of reflection rather than regular features of life on the ground.

The previous chapter discussed pilots' departure from the ground as a fundamental reconfiguration of embodied self as a human-airplane hybrid, establishing this transformation as vital to enabling life in the air. It argued that combat was not a guaranteed or fully realised aspect of this new aerial existence, and that many pilots struggled to reconcile the possibility of violence with the exciting, often joyful feeling of flying. Indeed, Maryam Philpott has established that the majority of First World War aviators did not shoot down other planes in combat:[143] flight was the dominant experience of most wartime pilots' time at the front. This chapter therefore examines wartime pilots' move into this combat space, establishing the aerial battlefield by joining aerial geography with violence scholarship. It considers the sensory and physical symptoms of fighting over contested ground and hones in on how pilots translated these phenomena into the communal 'rules' of combat discussed in the following chapter. Pilots'

[142] Fussell, *The Great War and Modern Memory*, 39, 55.
[143] Philpott, *Air and Sea Power in World War I,* 20.

own informal maps of their three-dimensional battlefield provided a much-needed framework for a war experience characterised by sharp departures from land- and sea-based practices governing the use of violence and regulation of trauma. Indeed, their navigation of three-dimensional aerial geographies required new approaches to identifying comrades and enemies, which determined how tactics and fighting practices emerged. The strategic question of 'aerial superiority' became a significant consideration for Allied and Central Powers militaries from 1916 onwards with the successful mass-militarisation of aerial technology.[144] Pilots' own militarisation of three-dimensional airspace, however, came earlier in the war as they began to imagine and articulate themselves as combatants. How did this process shape the battlefield above the front?

2.1: Militarising Airspace

The sky is neither empty nor boundless. Almost immediately after the advent of manned flight, the concept of 'airspace' entered legal, military, and aviation conversations as the hotly contested issue it remains today. Whilst many aspects of aviation and airspace were not widely regulated before the First World War, from the lack of formalised licencing policies in the United States to the murky legality of 'trespass by airplane' in Europe, a clear public awareness was developing about the potential boundaries of this seemingly limitless technology.[145] This came to an abrupt head in wartime where, despite the 1914 closure of 'air borders', airplanes could cross painstakingly defended trench lines

[144] Bernard, "Mythes et realités de la stratégie aérienne pendant la première guerre mondiale", 358.
[145] Stuart Banner, *Who Owns the Sky? The Struggle to Control Airspace from the Wright Brothers On* (Boston, 2008), 12-4.

and go to and from enemy territory in a matter of minutes, a reality that had been anticipated but not resolved in pre-war international aviation conversations between militaries and civilians like the 1910 Paris Aerial Navigation Conference.[146] The obvious implication of aerial technology's three-dimensionality was bombing, a spectre that had haunted European imaginations in particular since the turn of the century; but subtler politics, too, crept into airspace, challenging conceptions of national and imperial power with either actual or implied 'trespass by airplane'.[147] Strategies like distributing a photo-manipulation of a German Rumpler reconnaissance plane over the British-controlled Pyramids of Giza, German propagandists understood by 1916, had powerful and long-reaching consequences beyond the range of the machine itself.[148] These outside-in conceptualisations of airspace as a politically or nationally defined environment were vital to developing aviation both before and after the war. However, these peacetime considerations were upended by the experiences of pilots on the Western Front, who found themselves more concerned with navigating and working in their own complex flying space than attaching it meaning from the contested battlefield below.

Unlike other new 'frontiers', the sky has never been colonised in the traditional sense: it can be passed through and lived in temporarily, but not physically occupied.[149] For early aviators, cultivating a sense of residence or working life in the sky – an alien environment defined by movement and three-dimensionality – was therefore a vital part of the mental, emotional, and physical

[146] Christer Jönsson, "Sphere of Flying: The Politics of International Aviation" in *International Organization*, Vol. 35, No. 2 (Spring 1981), pp. 276-277; TNA AIR 1/1283/204/11/11.
[147] Corn, *The Winged Gospel: America's Romance with Aviation* (1983; Baltimore, 2001), 44-5.
[148] Dieter Gröschel & Jürgen Ladek, "Wings over the Sinai and Palestine" in *Over the Front*, Vol. 13, No. 1 (Spring 1998), 5.
[149] David T. Courtwright, *Sky as Frontier: Adventure, Aviation, and Empire* (Dallas, 2005), 18.

process towards self-identifying with the airplane. New pilots carried this emerging awareness of aerial geography into combat, transforming their understandings of a navigable battlefield and the war as a whole. In a busy sky that fought more vertically than horizontally between 'friendly' and 'enemy' lines, enemies were difficult to identify, much less attack. At the beginning of his active service, American ace Eddie Rickenbacker recalled going across the lines in an unarmed airplane led by French-American veteran Raoul Lufbery for the purposes of giving Rickenbacker and his peers a healthy appreciation for what some pilots termed 'vision of the air', or the 'sixth sense' described by Raymond Brooks in the previous chapter:[150]

> Both Campbell and I wore satisfactory countenances of bored indifference. We had had a little flip around over the Hun batteries and it had been most droll seeing the gunners wasting their ammunition. We must have cost the Kaiser a year's income by our little jaunt into his lines. As for enemy aeroplanes, none of them dared venture up against us…
>
> 'Just what I expected. They are all the same!' was the Major's only comment.
>
> We indignantly asked him what he meant by addressing two expert war pilots in such tones.
>
> 'Well,' said Lufbery, 'one formation of five Spads crossed under us before we passed the lines and another flight of five Spads went by about fifteen minutes later and you didn't see them, although neither one of them was more than 500 yards away. It was just as well they were not Boches! …You ought to look about a bit when you get in enemy lines.'[151]

Lufbery's veteran expertise suggested the need for a profound reconstruction of physical and sensory norms to conceptualise and inhabit airspace. Surviving in a violently contested airspace required pilots to create collective interpretations and practices that negotiated the presence of a diverse aerial community made up of friend and foe alike. Fundamentally, pilots' own

[150] See pg. 61.
[151] Eddie Rickenbacker, *Fighting the Flying Circus* (New York, 1919), 19.

temporary occupations of the air were understood through the environment's effects on the body and mind, rather than the conventional, tactically informed structure of a two-dimensional battlefield facing across no man's land from enemy lines. Though often informal and far less tangible than the layers of a trench network, this inside-out interpretation of airspace provided the basis for a viable battlefield in the air.

In the years immediately preceding the First World War, pilots had already begun to grapple with the physical and technological limitations imposed by the sky. Perhaps most fundamental of these was altitude, which added a complex new element to soldiering and had entered diplomatic discourse as a potential qualification for defining 'neutral' airspace during wartime.[152] Altitude removed flyers from primary sites of war violence, situating even combatant pilots as observers to a wider field of conflict. 'I do not get a chance to see much of the biggest battle in the world which is being fought here, remarked James McConnell in a June 1916 letter home to his family, 'for I'm on a fighting machine and the sky is my province.'[153] He was writing about the wrecked landscape of Verdun, the smoking, trench-pocked grey backdrop of his daily flights from an airfield some twenty-five miles behind the front lines. Even in today's conflicts, soldiers are rarely offered a physical view of an entire military operation stretching from horizon to horizon[154]: McConnell, a little self-consciously, was describing an uncomfortable and incredible new phenomenon remarked upon by most of his peers. In the context of military flying, this vast view needed translating into something more manageable and communicable; that is,

[152] TNA AIR 1/1283/204/11/11.
[153] McConnell, *Flying for France,* 25-6.
[154] Holmes, *Firing Line*, 152.

practical work spaces that reflected what early aerial geographers characterised as 'physical differences of the air in various locations and altitudes'.[155]

This was easier said than done, as changing perspectives on the world and war below were far from the sole consequences of reaching new heights. The expanding ceilings of new aircraft over the course of the First World War had dramatic physical effects on the human body, which in turn governed how pilots began to organise their own machine-aided movements through the air. Though many pilots remembered their own limitations differently in post-war recollections – one RFC pilot, Alan Campbell Orde, contested other pilots' claims of high-altitude flying as he recalled nearly blacking out in a spin over three miles above the ground[156] – it was not uncommon for daily patrols to exceed 10,000 feet. Bodies reacted drastically to the technical skills required by flying at such extreme elevations. Even a routine two-hour patrol could potentially have a serious physical impact, as explored in contemporary and current medical research on aviation and high-altitude sports like mountaineering and skiing. In an open cockpit airplane, mild hypoxia begins blurring vision and decreasing stamina and reflexes as low as 4000 feet; the average 120 blood pressure spikes to 200 at 6000 feet; high flights approaching the 13,000-foot range introduce the serious possibility of frostbite and lack of oxygen impairing the average human adult's ability to read instruments.[157] Even without the mental disorientation of a low-oxygen environment, extreme height itself distorts vision and depth perception. Pilots today are trained to avoid 'visual field myopia', or the illusion

[155] Stefan T. Possony and Leslie Rosenzweig, "The Geography of the Air" in *The Annals of the American Academy of Political and Social Science*, Vol. 299 (May 1955), 1.
[156] Alan Campbell Orde, oral history interview.
[157] Courtwright, *Sky as Frontier*, 41; Meriam L. Dennie & Elizabeth W. Bayley, "Into Thinner Air" in *The American Journal of Nursing*, Vol. 102, No. 9 (Sept. 2002), 8-9; Possony & Rosenzweig, "The Geography of the Air", 3.

that the sky is a blank canvas, by focusing their eyes on tangibly close objects like their own wingtips. A few thousand feet up, familiar reference points like the physical feeling of gravity, seemingly horizontal tops of clouds, and a visible horizon line fail to be similarly reliable for a pilot in a cockpit. A 1983 British aviation medical study determined that such 'spatial disorientation' was responsible for twelve per cent of airplane accidents and twenty per cent of military aviation crashes at the time; this rate would have been significantly higher with technologically less sophisticated First World War aircraft, as evidenced in part by the fact that more British pilots died in training crashes than in combat.[158]

The physical ability to move and fight greatly affected how pilots began to internalise aerial geography. Pilots of fighters like the French Nieuport 11 or the German Albatros D.III worked within three primary altitude ranges at which different work was conducted: 'low' patrols at around 1000 feet, 'middle' patrols between 4000 and 6000 feet, and 'high' patrols at upwards of 12,000 feet.[159] Actual fighter-to-fighter engagements were only one of the many jobs for fighter pilots by 1916, and indeed were only possible at certain altitudes, as moving between them to join a fight in a different patrol zone could take more time than an actual engagement.[160] Within a two-hour patrol, Allied fighter pilots could be ordered to knock down enemy observation balloons or protect their own, leaflet enemy trenches, fill in as reconnaissance, cross the lines to escort bombers or bomb German aerodromes themselves, or even machine gun enemy trenches or

[158] Richard M. Harding and John Mills, "The Function of the Special Senses in Flight: I: Vision and Spatial Orientation" in *The British Medical Journal*, Vol. 286, No. 6379 (May 1983), 1729; Denis Winter, *The First of the Few: Fighter Pilots of the First World War* (London, 1982), 27.
[159] Thenault, *L'Escadrille Lafayette*, 43-44.
[160] John Morrow, "Expectation and Reality: The Great War in the Air" in *Airpower Journal* (Winter 1996), 32; Thenault, *L'Escadrille Lafayette*, 44.

service roads at under a hundred feet off the ground.[161] All of these tasks were altitude-specific in terms of the demands they put on a pilot's body, further necessitating the informal organisation of the sky into work-specific altitudes. These would subsequently translate into more formal strategic practices, e.g. French *groupes de combat* at Verdun organising patrol rotations between squadrons to ensure that there was always a patrol in each of the three altitude ranges from dawn to dusk on days when it was possible to fly.[162]

Cold and bad weather sharply differentiated the work and sensory experiences of certain altitudes. Frostbite was one of the most commonly reported injuries in aerial services throughout the war, forcing high-flying patrols to bundle up and restrict their own mobility for certain tasks. Indeed, non-flyers often commented on the contrast between the popular perception of slim, neatly uniformed aviators and the sight of pilots struggling to walk and clamber out of airplanes from the constraints of their bulky furs and 'union suits'.[163] Even on clearer, warmer days, the diversity of air pressures, wind, and currents at different altitudes was startling. James Norman Hall recalled his 'first experience of passing from one air current to another' as one of pure shock: 'I was still a little incredulous,' he admitted. 'I had not entirely lost my old boyhood belief that the wind went all the way up.' Writing about some of his first flights over the front, Arthur Raymond Brooks tried to note down some practical tips for wrestling some stability into his airplane (and his lurching stomach) at a middle range altitude on a windy day:

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[161] *La Guerre aérienne illustrée*, Vol. 5 (14 Dec. 1916), 4; Edwin Parsons, *I Flew With the Lafayette Escadrille* (New York, 1937), 107.
[162] Jackson, *French Military Aviation*, 12; Parsons, *I Flew With the Lafayette Escadrille*, 108.
[163] TNA AIR 1/2251/209/54/15 (70 Squadron war diary, 1 March-30 April 1917); C. LeRoy Baldridge, *"I Was There" with the Yanks in France: Sketches by C. LeRoy Baldridge, Private, A.E.F.* (New York, 1919), 58.

> The [thing to] remember is to throw the machine into a position opposite to that in which the "bump" throws you, but to keep this up requires hard work and now I can agree with the returned aviator who said to us in Toronto that "one hour in bumpy weather is worth a whole week's work in the trenches." It scares you a bit – as if some unseen hand was "rocking the boat."[164]

Pilots' encounters with unfamiliar or disruptive physical sensations in the air, like Brooks' first flight through less than ideal weather, reveal acutely the use of altitude as a navigational and emotional locator in the sky. Altitude was in some ways the vertical equivalent of a first, second, or third wave trench on the front below, with each space possessing sharply different functions and proximities to different types of danger despite combatants moving identically through each. On 'high' patrols, pilots were 'comparatively safe from attack' given that enemy flyers were unlikely to risk blacking out in a dogfight.[165] 'Low' patrols meant less room to manoeuvre and a greater likelihood of being hit by ground fire or shells; even with the benefit of oxygen, these jobs were particularly disorienting and required more technical flying and concentration, making them one of the least desirable roles.[166] French pilot Marcel Brindejonc des Moulinais described one such flight at low altitude over enemy trenches in 1914 as new and profoundly disorienting:

> I was at an altitude that seemed considerable for the time, when I was at half the altitude that would be considered dangerous today. But what could we know? …The emotion behind this first glimpse then hit me, and I felt the wild urge to flee, to bank rapidly towards our earth to land, and whoever has felt stalked by thousands of eyes, thousands of rifles pointed at them, and them alone, then has heard the clatter of passing bullets that sometimes touch a wire, a nerve, will understand me and seize on that emotion I felt.[167]

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[164] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary).
[165] Hall, *High Adventure*, 92.
[166] Parsons, *I Flew with the Lafayette Escadrille*, 108.
[167] *La Guerre aérienne illustrée*, Vol. 2 (23 Nov. 1916).

Tellingly, Brindejonc des Moulinais associated his 'wild urge' to lose altitude – to dislocate himself from his established position in the air – with a total loss of physical and emotional control. 'Sous-Lieutenant M', an anonymous French fighter pilot writing into a Parisian aviation magazine in November of 1916, described a similar reaction upon seeing burning houses below him. 'The spectacle was so like a fairy tale,' he wrote, 'so horrifying, that – I admit – I took a bit of a stroll and wander.'[168] Specified altitude came with morning orders and was a fundamental, constant consideration when flying an airplane: it translated the sky into an understandable, survivable space, and linked pilots' duties and responsibilities with what they were actually doing. Boundless mobility in the 'province' of the sky, as romantic as it sounded in letters home or might have seemed in pre-combat flight training, was not actually a desirable reality in air fighting. As they gained experience, combat pilots began internalising height in relation to combat to the point of being able to identify their 'favourite' altitudes, often high up away from combat zones where they were less able to choose combat.[169] M's 'bit of a stroll and wander' outside of an immediate awareness of his height was a breakdown, one that briefly separated him from the working understanding of the sky he shared with his peers.

As pilots encountered new physical challenges peculiar to this layered aerial battlefield, their sensory palettes also began to change in conversation with their airplanes, aiding the development of these vital informal guides to their flying space. The sensory environment of even a tiny, cramped aircraft like the Nieuport 11, nicknamed 'Le Bébé', quite literally superseded the use of

[168] *La Guerre aérienne illustrée*, Vol. 1 (16 Nov. 1916).
[169] IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh); Paul Rockwell Papers 301/1 (Raoul Lufbery, "Shooting Down a Boche"). Washington & Lee University Library.

several human senses at once: its engine noise could exceed 125 decibels, louder than a pneumatic drill, and after its limited two hours in the air, its cockpit reeked of castor oil.[170] Limited hearing, increased reliance on different ways of seeing, and full-body engagement with the machine meant that unexpected sounds, smells, and sights cued new and unexpected physical and emotional responses in the air. Recent works on the senses in wartime, like Mark M. Smith's sensory history of the American Civil War, compliment current military research that explores the very real distortion of the senses and sensory 'truth' in combat. Smith locates war's assault on the senses, understood in mid-nineteenth century peacetime as 'helpful proxies for what it meant to be civilised and noble' that 'required cultivation and careful tending', as an accessible way through which to begin to articulate combat experience. He points to soldiers' specific recollections of battles through the unconventional means of sound and smell as clear departures from peacetime sensory experiences, and therefore tangible ways of measuring the extent to which their environment and selves were being changed by war.[171] This is an essential framework for conceptualising First World Wars pilots' battlefield geographies. Though combatants' memories often include vivid or odd sensory experiences, the three-dimensionality and speed that characterised pilots' aerial battlefield make their sense memories of combat, particularly the details retained in oral histories, profoundly specific.[172] As has been discussed, pilots' sight and depth perception was challenged so thoroughly by flight that in many cases, as Simone Gigliotti argues in relation to the sensory

[170] Courtwright, *Sky as Frontier*, 41; McConnell, *Flying for France*, 71.
[171] Smith, *The Smell of Battle, the Taste of Siege,* 1-2, 139-40.
[172] Mick Spick, *The Ace Factor: Air Combat and the Role of Situational Awareness* (Shrewsbury, 1988), 59.

witnessing of people forced onto trains during the Holocaust[173], non-visual sensory experiences are disproportionately important for understanding how pilots moved from learning to fly into navigating and surviving combat violence.

In addition to the physical sensations produced by cold and air pressure, sound was particularly key to creating rules for and governing reactions to dangers that had no obvious equivalents on the ground. Audible disruptions to the constant roar of a pilot's engine, particularly the sounds of machine guns and engines, signalled the immediate presence of a threat and triggered heightened emotional states. In a 1960 oral history, American volunteer pilot Reginald Sinclaire remembered the sound of machine guns specifically as interrupting the pronounced emotional detachment he felt when engaging with the enemy:

> Of course, you got excited when you heard machine guns fire behind you particularly. You knew you better get turned around somewhere and not make a target out of yourself.[174]

From within a cockpit in flight, a pilot's engine usually distorted other airplanes' machine gun fire into 'the sound of a sewing machine', according to French ace René Fonck.[175] British pilot George Vaughn recalled that he nevertheless tried to gauge horizontal distances in combat – which were less tangible and reliable than the vertical distances indicated by an altimeter – via the sound of enemy airplanes' guns, as this was one of his few frames of reference for speed, range, and proximity to the enemy.[176] Fellow RFC flyer Reginald Fulljames shared Vaughn's lasting memory of the rattle and pop of weaponry as a way to reassure and centre himself: he remembered of his own gun, which was mounted at an

[173] Simone Gigliotti, *Transit, Captivity, and Witnessing the Holocaust* (London, 2009), 129.
[174] Reginald Sinclaire, oral history interview 4075871, 1969. CCOHR.
[175] Fonck, *Mes Combats*, 19
[176] Vaughn, oral history interview.

awkward forty-five degree angle around his BE2's propeller, that 'it made a comforting noise, but it was pretty useless as a machine gun, really.'[177] With most pilots more likely to see a friendly crashed airplane at their own airfield than visual evidence of their own aerial kills, the sound of a machine gun, even an enemy's, was immediately quantifiable. Like a target through the sight of a rifle or a whistle signalling soldiers to go over the top, it provided some much-needed sense of proximity to danger and ability to fight back.

Other sounds outside the cockpit became routine, working their way into the fabric of aerial space over the front lines as pilots began to develop communal language and definitions of normalcy. Artillery, or 'archie',[178] became a familiar companion for many pilots as they gained experience flying over friendly and enemy lines. Arthur Raymond Brooks wrote about his first encounter with the smoke and loud explosions that shook the fragile frame of his airplane:

> Archie gives a fright somewhat like that which I imagine a countryman must have in his first descent into a New York subway when the roaring train comes tearing at him as he stands beside the pit. Add to his surprise and terror of the unfamiliar noise the fear of flying pieces of shrapnel and the countryman will be the picture of the novice aviator getting his baptism.

Brooks was not alone in interpreting this as the aviator's equivalent of a 'baptism' under fire. Upon landing, Brooks wrote in his diary, he confessed to his squadronmate Putnam that he had been jumping in his seat with the sound of every explosion. To his relief, Putnam replied emphatically: 'Me too!'.[179] When recalling his first encounters with artillery fire in an oral history interview,

[177] Fulljames, oral history interview.
[178] Fraser & Gibbons, *Solder and Sailor Words and Phrases*, 8.
[179] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary).

British pilot Hugh Gwilym Lewis used tellingly similar sense-heavy language: 'It was noisy and you could smell it…sure, we were quite upset and disturbed at times.'[180]

Despite its uncomfortably tangible presence, artillery fire was a given feature of the air, unlike individual, one-on-one aerial combats that varied enormously in frequency and quality. 'Archie' became the background to experienced pilots' daily flights and was spoken about accordingly as something to which novice pilots could and should adapt. After his first flight under the guidance of ace Raoul Lufbery, American pilot Douglas Campbell learned to spot the difference between Allied and German artillery fire, remembering how German shells 'burst in all directions' and Allied shells 'spray[ed] out all in one direction, a long strike of smoke'.[181] Other pilots developed an almost blasé, conversational attitude towards anti-aircraft fire and artillery, personifying the explosions as if they were companions in the sky. One French pilot advised a newcomer at Verdun to chat to exploding shells – 'I say, "*Bonjour, mon vieux! Tiens! Comment ça va, toi! Ah, non! Je suis pressé!*" or something like that. It amuses one' – while an American volunteer pilot writing home to a friend shortly after flying through a bombardment recalled his 'interest' in the sound of the shells to the point that he cut off his motor to glide and listen.[182] How to adapt to this myriad of sensory distortions and a new world navigated by unconventional means of sensation, from the feeling of air pressure to unnerving new sounds? Informal word of mouth passed down from veterans quickly became essential: in exchanging information about how artillery fire sounded in the air or what

[180] Hugh Gwilym Lewis, oral history interview.
[181] Douglas Campbell, oral history interview 4072684, June 1960, by Kenneth Leish. CCOHR.
[182] Hall, *High Adventure*, 77; Paul Rockwell Papers 301/2 (James McConnell, 13 March 1917 letter to Paul Rockwell). Washington & Lee University Library.

altitude was most conducive to quick thinking and warm hands, pilots were normalising and quantifying this new environment between themselves. Perhaps most challenging to new pilots in this sensory reconfiguration process, as frequently remarked upon in pilots' recollections, was their changing relationship to sight.

Writing about the 'panoptic premise' of First World War aerial photography, one of the earliest wartime tasks for pilots, Nicholas J. Saunders identifies early aircraft and the possibility of aerial photography as the entry of 'the technology of sanitised "distance"' into collective consciousness. He argues that the First World War 'recalibrated human sight, taking its focus away from the middle distance and towards the contrasted and contested extreme of the ultra-distant, and ultra-close'.[183] For pilots, this played out most obviously in their struggle with depth perception over the spread-out expanse of the battlefield below. It also profoundly distanced pilots from objects, landmarks, and people beyond the 'ultra-close' aerial body of their own planes, as is explored in the following chapter's exploration of pilots' emotional reactions to the prospect of shooting at another airplane. This sensory dilemma led pilots to develop, as they gained experience, what some termed 'vision of the air'; literally, the ability to see through a three-dimensional space, often through several of the informal combat zones determined by altitude.

Douglas Campbell, who had been on the other end of Raoul Lufbery's aforementioned telling-off for his fumbling first flight over enemy lines, described developing the very skill that had initially eluded him as a deliberate

[183] Nicholas J. Saunders, "Ulysses' Gaze: The Panoptic Premise in Aerial Photography and Great War Archaeology" in Birger Stichelbaut, Jean Bourgeois, & Nicholas Saunders, *Images of Conflict: Military Aerial Photography and Archaeology* (Cambridge, 2008), 29.

unlearning of how his eyes usually functioned on the ground: 'Well, the secret of seeing them was not to focus – just gaze around with your eyes unfocused, and then anything that crossed your field of vision, you'd see. If you were trying to focus on something, you couldn't see them.'[184] Several other pilots speaking and writing about this same phenomenon after the war described this 'unfocusing' technique to pick out moving aerial objects, from bullets[185] to other airplanes, as common knowledge, albeit a skill: 'One of the tricks in those days,' remembered George Vaughn, 'was to be able to see the other fellow in the air, which is not easy to do, without practice. I think almost everybody, the first combat they got into, had a feeling that this happened almost without warning. They didn't see these people coming.'[186] Roland Garros' observations of 'vision of the air' went so far to suggest that this skill needed practicing at different altitudes: though his own 'favourite' altitude to fly at was 10,000 feet, he admitted that this height was the least conducive to paying attention to the rest of the sky.[187] This 'secret' skill would later be clarified by later twentieth century medical aviation research, which demonstrates that pilots can see other flying objects objectively better in their peripheral vision and can anticipate other aerial bodies' movements far better when approaching them from the side.[188]

Pilots' physical and sensory adaptations to the aerial battlefield were collective and significant enough that, across national lines, their respective air services made strikingly similar adjustments to their formal doctrines over the course of the war. Air services' attempts to regulate and quantify pilots' informal

[184] Douglas Campbell, oral history interview.
[185] Charles Alfred William Watson, oral history interview.
[186] George A. Vaughn, oral history interview.
[187] Garros, *Guide de l'Aviateur*, 67.
[188] Harding and Mills, "The Function of the Special Senses in Flight: I", 1728.

communal practices had twofold purpose. One was the attempt to to collate best practices about flying that, as has been discussed, were naturally hard to pin down as technology rapidly accelerated during the First World War. The second was aerial administrators and strategists confronting a very real dilemma; namely, pilots' initial encounters with aviation did not inherently motivate them to fight. As pilots evolved new physical and mental skills and sketched out an instinctive aerial map of their flying space in absence of an overarching strategic directive, air services began to adopt practices that structured and monitored pilots' frontline flying for explicitly military purposes. The militarisation of the aerial battlefield over the Western Front, therefore, required conscious work on the part of Allied and German air services that sometimes ran counterintuitive to pilots' new knowledge about airspace and flight.

Even with the militarisation of airplanes in late 1915 and early 1916, pilots' close association of flying with pleasure and self-embodiment did not vanish once they reached the front. This was clearly acknowledged by air services as they struggled to align flying and fighting with training and eventual service in a combat zone. The evolution of service-issue pilots' logs over the course of the First World War, for example, hint at a growing effort to prioritise military service in every flight. At the beginning of the war, Royal Flying Corps training logs included a section for pilots to describe each flight; pilots typically used this to note down weather conditions, altitude, and hours flown. By 1917, the RFC had updated their training logs with the warning that the 'type of machine must always be shown, and no words such as "joy ride" or similar slang

[are] to be used'.[189] Beyond the squadron level, air services administrators often admonished fighter pilots for 'unprofessional' flying – namely, flying for pleasure, humour, curiosity, or personal travel. One of the more absurd examples of this was a sternly-worded memo from GQG in daily orders to *Service Aéronautique* pilots on the Western Front on 15 March 1917, which warned 'against the danger that could come from eating bonbons' thrown playfully by German pilots over Allied lines. Pilots' habits of dropping notes, objects, or sometimes even funeral wreaths for enemy pilots, or of stunting over enemy lines or an aerodrome – both common practices that continued to be documented into the Second World War – veered dangerously close to fraternisation: unlike temporary trench truces, which were concerning to military administrators in 1914 especially, these exchanges were frustratingly averse to regulation.[190] Pilots who crossed enemy lines and dropped objects from altitude, after all, were right where they were supposed to be. It was the space itself and the impact it had upon pilots that presented practical challenges to air services.

Pilots' encounters with airspace did lead to many practical changes that helped air services from the administrative to the squadron level run more smoothly. Not least of these was the formalisation of daily reports on air conditions, which were relayed to squadrons on active service via post and telephone calls from local balloon aerostations. These reports estimated the daily weather as closely as possible, allowing squadrons to coordinate about when and at what altitude they might safely go on patrol; they also included

[189] IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh); IWM PP/MCR/27 (The First World War Papers of Captain J.G. Kingsbury, RFC).
[190] SHD 19N 1117 (Décisions journalières du commandement de l'aéronautique, février 1917-janvier 1919).

sightings of enemy aircraft, specifying locations in relation to altitude and ground landmarks, combats, and other relevant details. From October 1917, the *Service Aéronautique* extended this practice by issuing to each escadrille daily relevant updates on the status of each Western Front aerostation, squadron, and aerodrome, a practice that was adopted by the US Army Air Service.[191] These reports also helped air services extend more control over pilots; they explicitly determined whether or not conditions were flight-worthy each day, preventing pilots from taking 'joy rides'.

Additionally, pilots' observations about how altitude, weather, and sensory changes affected flight often directly fed into the official manufacturing of new airplanes and attempts at standardising training. In France, manufacturers of increasingly specialised airplanes relied upon aces like Georges Guynemer to test new machines in different conditions.[192] British and American officers like Captain Walter J. Seaborn who were asked to adapt to French technology used pilot-focused considerations to communicate new airplanes' usefulness and operation to higher-ups. 'As you know,' Seaborn wrote excitedly to his commanding officer when asked about an impending shipment of French Nieuports, which he reverently called '*chasse* planes', 'these planes are very manoeuvrable and particularly fit to work at low altitudes and for work in cold weather because there is no difficulty with cooling water…. These planes, as they are to be delivered, have had all their weak points eliminated, and they should be very satisfactory.'[193] Aerial conditions also began to determine not just which airplanes got into the sky, but also which people. As evidenced in the expansion

[191] SHD 19N 490 (Comptes rendu statistiques des opérations aéronautiques, renseignements août 1917-janvier 1919); NASM 2013-0016 (Theodore E. Boyd Collection).
[192] SHD AI Z 10974 (Papiers de Félix Antonin Brocard).
[193] NASM 2003-0053 (Captain Walter J. Seaborn World War I Collection).

of aviation medicine over the course of the First World War,[194] the effects of flying, particularly of altitude, were increasingly cited in discussions about candidate selection for air services. One such discussion within the administration of the *Service Aéronautique* in 1916 cited a British medical study of the previous year, which concluded that 'scrutiny of the capabilities of these pilots has demonstrated that the man of 20-27 years is more likely to make an efficient flying officer than youths of 18-20'. Slightly self-consciously, the French report suggested that French pilot physical qualifications should probably be stricter too.[195]

Perhaps most jarring in air services' attempts to distil their pilots' diverse experiences was the language that strategists used to signify the 'successful' militarisation of airspace. Whilst pilots themselves were most physically impacted and intellectually struck by the three-dimensionality of the aerial battlefield, emerging consensus on the strategic use of fighter and bomber aircraft spoke of a two-dimensional 'aerial front' that stretched over the ground below. With the militarisation of the airplane and the formative experience of the Verdun campaign in particular, the notion of aerial superiority was becoming increasingly central to how aviation was deployed by combatant powers. A comprehensive August 1915 to October 1916 Royal Flying Corps report outlining recommendations for the service's expansion specifically identified airpower as an 'extension of the front', attributing the need for aerial superiority to 'the recent increase in the number of enemy aeroplanes and the expansion of our own forces' and calling for the 'further development of offensive tactics by

[194] SHD AI Z 10974 (Papiers de Félix Antonin Brocard, lettre de Georges Guynemer 28 août 1916).
[195] SHD AI 1 A 181/1 (L'aviation britannique).

the RFC such as the attack of troops on the ground by large numbers of aeroplanes'. A 1918 follow-up to this report further emphasised the top-down view of military airspace as overlaying the trenches, anticipating 'greater participation in the ground battle'.[196] Clearly, the air was considered a support act to the great military effort on the ground; this contemporary idea would be confirmed by many post-war assessments of the overall impact of aviation on the outcome of the war.[197] This emerging strategic interpretation of aviation through the powerful language of the 'front' is therefore a crucial contrast to the nuances of pilots' experiences. With air services working hard to qualify pilots' work within the context of a clear military struggle, how were pilots encountering combat in their newly mapped battlefield?

2.2: Organising Combat

Transposing strategic ideas of two-dimensional warfare into this complex three-dimensional space exacerbated tactical problems that had become less urgent on the ground with the advent of trench warfare. Internal air service communications reveal the frequency with which pilots failed to achieve what they were expected to do in the air. It was not uncommon for flyers to lose track of their objectives, fail to engage in proscribed types of combat, or confuse friendly airplanes with enemies. The latter in particular represented a significant problem for all airborne combatant nations: the reality that pilots were still establishing the fundamentals of how aviation worked, never mind the logistics of combat, lingered and caused conflict even between Allied air services. More than once, the Royal Flying Corps asked the *Service Aéronautique* to repaint their

[196] TNA AIR 1/520/16/11/2 (Air Policy – Expansion and Organisation of the RFC and RAF).
[197] Paris, *Winged Warfare,* 154-56.

airplanes to resemble British airplanes more closely. The French, who favoured more practical camouflage for most of the war, repeatedly declined despite encounters like that recounted by French ace Georges Guynemer, who wryly wrote to his commanding officer about 'the grand gestures of excuse' made by a British pilot who accidentally attacked him in September 1915 shortly after machine guns became standardised on fighter planes.[198] RFC pilot Douglas Grahame Joy told a similar story in a July 1916 letter to his sister Nina, writing to her about her fiancé, who was also a pilot:

> Tony, although only a few miles away, I have seen only once. We are quite annoyed at his Squadron. They have been shooting at us, thinking we were the Huns. I will admit our machines look very Hunnish with there [sic] fish tails. There is quite an amusing tale told of his Squadron escorting a party of Huns for about half an hour. Both English and Huns thinking that the others were friendly. One machine banked steeply showing his markings plainly, whereupon the grand shemozzle started.[199]

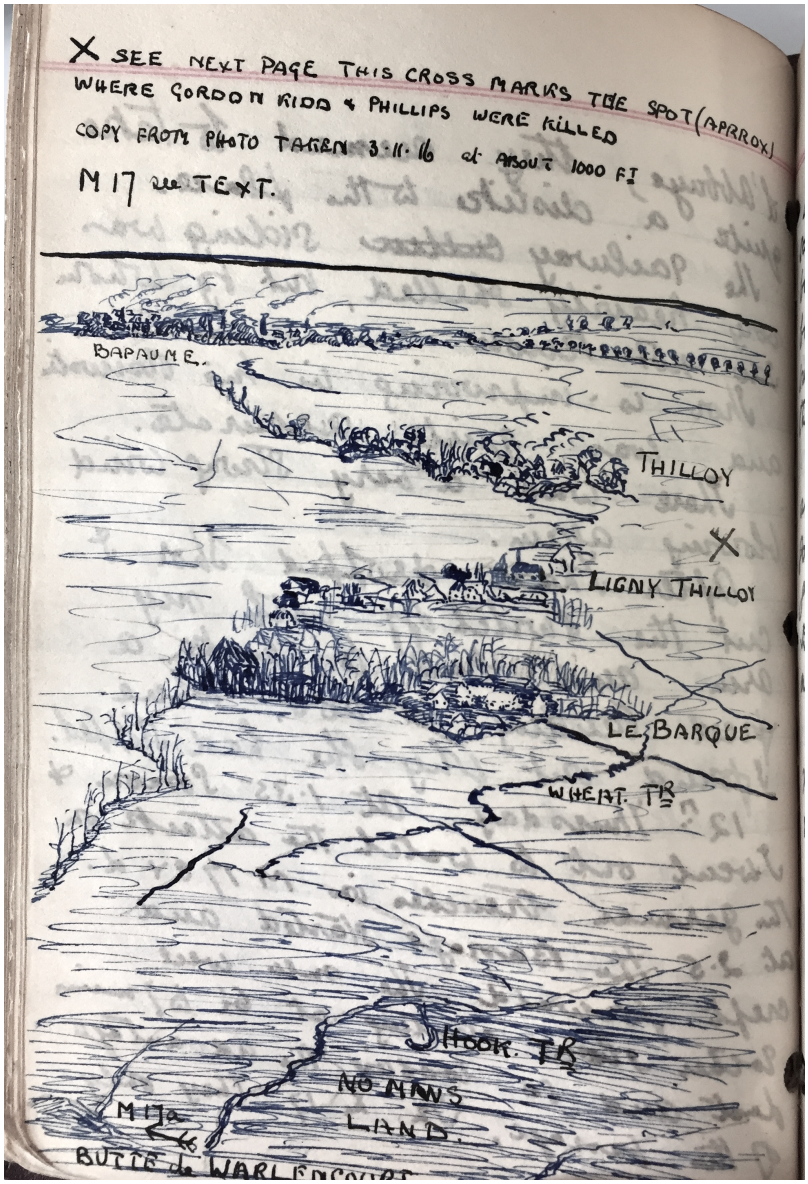
This struggle to make sense of the 'grand shemozzle' of aerial combat, between frequent accidental co-patrols and friendly fire, is an important lens through which to understand how pilots were adapting tactics and flying practices for their particular aerial battlefield. Between a rapidly changing technological backdrop and no standardised training for aerial combat, air services on both organisational and individual levels had no way to distinguish easily where aerial violence might acceptably begin and end. The sensory and physical requirements of combat flying disrupted conventional means of making sense of a battlefield; anecdotes like Guynemer and Joy's reveal a difficulty in aligning clear-cut motivations and strong emotions with specific actions and

[198] SHD AI 1 A 181 (L'aviation britannique); SHD AI Z 10974 (24 septembre 1915 lettre de Georges Guynemer; papiers de Félix Antonin Brocard).
[199] IWM 11772/01/35/1 (29 July 1916, Douglas Joy letter to sister Nina, Douglas Grahame Joy Collection).

tactical choices. Joanna Bourke rightly demonstrates that the complex, technical processes behind many forms of long-range combat lessened twentieth century combatants' emotional engagement with their enemies, fundamentally changing how they sought out and engaged targets.[200] Violence enacted from an airplane to the ground had different rules, ones that depended upon the great psychological and physical distance between airspace and groundspace. This makes it all the more important to consider how pilots as an aerial community were developing not just ways of navigating and surviving the air, but also informal tactics and rules of engagement.

Standardised aerial tactics and duties did not emerge across different air services during the course of the First World War, as evidenced by various attempts to theorise air war in the big picture during and immediately after the war.[201] Pilots' wartime conceptualisations of aerial warfare reveal a profound distance from the established world of ground tactics and strategy. As pilots began breaking up their complex, layered combat zone into defined working altitudes, the trenches, roads, buildings, and railway lines that facilitated and structured battlefields for infantry soldiers remained largely disassociated from violence for aerial combatants. Rather, these were reference points that primarily facilitated aerial experiences like navigation, as can be seen from how pilots marked up their maps or sketched the ground to translate aerial views, crashes, or bombing sites into communicable sites.

[200] Bourke, *An Intimate History of Killing*, 156.
[201] Such as Frederick Lanchester, *Aircraft in Warfare: The Dawn of the Fourth Arm* (London, 1916) and Giulio Douhet, *The Command of the Air* (1921; London, 1927), which established the notion later popularised by Stanley Baldwin that 'the bomber will always get through'.



Undated sketch in E.DJ. Routh's 1916-18 war diary: 'X SEE NEXT PAGE THIS CROSS MARKS THE SPOT (APPROX) WHERE GORDON KIDD & PHILLIPS WERE KILLED.' [202]

Whilst infantry soldiers fought in close relation to physical landmarks, from shell craters and trenches in which they took shelter to captured ground, pilots associated being on the ground with inertness, lack of agency, or danger. Some reported sitting in their machines to write letters or nap when there was no immediate flying to be done, to be closer to airspace if the need arose, whilst other diaries and correspondence only mention the ground in writing about combat in reference to crashes and death. RFC wing commander E.D.J. Routh

[202] Fig. 9: IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh); NASM XXXX-0230 (Robert Soubrian Collection, sketched map of Victor Chapman's crash site).

captured this vividly in a July 1916 diary entry: '….on taking off my engine failed, I thought of the funeral a mangled corpse in some hedge with the best part of a 2E on top of him so I watched every field very carefully….'[203] For RFC pilot Hugh Gwilym Lewis, there was a profound emotional and physical divide between the air and the ground because he so thoroughly disassociated the ground from a combat space:

> But it was true that in a few moments, one was whizzing over the lines and one was in an extremely exciting encounter, and the contrast between the two was absolutely complete. I think this encountered for, to some extent, that when one did come down…. I think it had a kind of full affect, and when one *had* made one's report, one dumped oneself on one's bed and perhaps went out for a couple hours.[204]

The lack of a common geography of violence between ground-based soldiers and military pilots resulted in frustration and frequent clashes between ground and air forces, both on individual and administrative levels. As Routh observed in his diary in 1917 when brainstorming potential ways to coordinate between his squadron and nearby British infantry and artillery, 'The whole trouble with the infantry is that they do not realise how much we can see and consequently do not trust us.'[205] It is striking that some pilots had more encounters and day-to-day exchange in some form with enemy pilots than they did their own troops on the ground, with note exchanges 'on a quiet sector' and aerial recognition of individual pilots not uncommon.[206] Lack of standardised training and therefore communal conceptions of the aerial battlefield presented practical problems as aviators began to move from reconnaissance, which was

[203] IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh).
[204] Hugh Gwilym Lewis, oral history interview.
[205] IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh).
[206] Eddie Rickenbacker, oral history interview NXCP87-A1128, October 1960, by Kenneth Leish. CCOHR.; Douglas Campbell, oral history interview; Alfred Heurtaux, oral history interview NXCP88-A692. CCOHR.

loosely organised by landmarks on the ground, into three-dimensional aerial combat that drew aviators' attention from the ground below to the airspace around them. As aviation began to militarise fully, pilots found that despite their greater field of vision of the overall battlefield, they lacked some of the basic structures facilitating their suspicious peers' combat experiences on the ground, a cultural discrepancy that sometimes led pilots to identify more with other aviators than even soldiers of their own nationalities, as is expanded more thoroughly in Chapter Five's examination of 'aerial communities'.

Perhaps most fundamental of these structures was where the combat zone itself began and ended. 'Enemy lines', while marked by trenches below and artillery fire in the sky, did not actually convey physical closeness to the enemy or danger. In a short story written whilst on active service, French-American ace Raoul Lufbery was remarkably blasé about the lack of bearing two-dimensional lines on a map had on his day-to-day routine: 'A glance at my map showed that I had crossed the enemy lines without my having noticed it. It did not matter,' he wrote. 'Often this happens, especially when the network of trenches is as narrow as in these sectors where there is never an important engagement.'[207] Collective attempts to apply altitude-based work zones to the sky were also not foolproof ways of signalling where the three-dimensional combat zone began and ended. High altitude patrols, where the likelihood of combat was relatively low due to the air's low oxygen content, could turn dangerous when a pilot inevitably had to descend.

[207] Paul Rockwell Papers 301a/4 (Raoul Lufbery, "A Hard Fight). Washington & Lee University Library.

Airfields themselves, though occasionally targets for bombing, were the most tangible marker for where pilots disengaged from combat. Most airfields were based at least eight to ten miles behind the front lines, offering pilots some respite in the places where they slept, socialised, and maintained their communities[208] whilst on active service. One *Service Aéronautique* administrative discussion in June 1918 actually debated whether or not it would be practical to create an as-of-yet non-existent 'front line airfield' where pilots could quickly take off without wasting flying time and petrol to engage the enemy; the idea was ultimately discarded, however, due to the impracticality of having a runway near muddy and uneven ground, as well as the potential psychological toll this would take on pilots stationed there.[209] A clearer, pilot-led understanding of how the aerial battlefield functioned – including where the combat zone began, and therefore how pilots engaged with the enemy – was needed.

The most significant (and acknowledged) pilot-led attempt to begin to theorise aerial tactics, and therefore apply some structure to aerial combatant space, were two pamphlets written by French lieutenant Albert Deullin in June and November 1917, "La Chasse en Monoplace" and "Les Patrouilles de Chasse". Beginning the war as a twenty-four-year-old non-commissioned officer in the infantry, Deullin transferred to aviation in April 1915 and by early 1917 was a member of *Groupe de Combat 12*, the collection of four escadrilles known colloquially as the *Cigognes*. This combat group, which included other young high-scoring aces like Georges Guynemer and Alfred Heurtaux, would have a disproportionately high impact on the image, technological developments, and

[208] See pgs. 275-77.
[209] SHD 17 N 171: (Service aéronautique: correspondance divers, 1917-1919).

combat practices of the *Service Aéronautique*, not least thanks to their commanding officer Felix Brocard's intentional collation of and frequent reports about writing and correspondence with and amongst his pilots. Copies of Deullin's pamphlets, including copies sent to GQG that appear to have been handwritten by Deullin himself, circulated amongst pilots at the front and were used to subsidise *Service Aéronautique* and Royal Air Force reports about the evolution of aerial combat. The scarce five months between "*La Chasse en Monoplace*" and "*Les Patrouilles de Chasse*" suggest the rapid pace at which aerial combat was changing from the consensuses of 1916 to late 1917: in the introduction to the latter work, Deullin wrote in reference to his earlier findings that 'Our fighter pilots were forced to admit that the time of the solitary single-seater had passed…. We had to look for something else.'[210] Deullin's popular works and the numerous contemporary reports in which they were included, e.g. a study on the use of combat aviation produced and distributed by the Sixth Army in February 1918,[211] echo the findings of pilots who wrote into *La Guerre Aérienne Illustrée*. They reveal some communal processes by which combatants were organising their airspace, namely that pilots were using their own aerial bodies as the equivalents of primary landmarks in the air.

Deullin emphasised the mastery of several key manoeuvres, including the *virage*, *vrille*, and *renversement*, as critical to the successful navigation of violent airspace. In "La Chasse en Monoplace", he identified pilots' access to the '*champ de tir*' – 'firing range', but literally 'field of fire' – as determined by the ability to manoeuvre into specific positions in relation to enemy aircraft. He urged pilots

[210] SHD AI 1 A 89/1 (Emploi d'aviation de combat, Albert Deullin, "La Chasse en Monoplace" et "Les Patrouilles de Chasse); SHD AI Z 10974 (Papiers de Félix Antonin Brocard).
[211] SHD AI 1 A 89/1 (Emploi d'aviation de combat).

to internalise aerial geography directly in relation to the turning axes and capabilities of their own airplane, specifically an enemy's blind spots, their own blind spot in the rear of the machine gun where there were 'neither eyes nor a machine gun', and aerial distance as measured by the ten to hundred metre range of a machine gun. This emphasis on manoeuvring as a way to orient oneself in the sky echoes in critical work on 'the feeling of flying' by ex-combat pilot and historian of First World War pilots Samuel Hynes, who analyses the function of basic acrobatics as pioneered by the first fighter pilots. 'Nobody *needs* to do a loop or a roll, not even a fighter pilot – but this skill extends your control of the plane and yourself and makes extreme actions in the sky comfortable,' Hynes explains. After a deliberately perspective-altering, physically taxing manoeuvre like a loop, he argues, re-orienting the world and horizon around the airplane clarifies an internal sense of geography and depth perception for the pilot.[212] Deullin's use of movement to conceptualise self-orientation in the air, therefore, begins to make sense in contrast to conventional ground-based methods of orienteering; it also aligns with the 'successful' realignment of embodied self described in Chapter One by pilots mastering flight.

Actual horizontal or vertical distance between a pilot and his enemy, according to Deullin, was less relevant in aerial combat; rather, the speed and manoeuvring ability of the airplanes involved determining whether a pilot was safe, in danger, or at an advantage. In "*Les Patrouilles de Chasse*", he applied the same basic concepts to group patrols, recommending that formations of multiple airplanes in the same patrol have an individual leader who could be a point of reference around which other airplanes moved. Unlike some contemporary

[212] Hynes, "The Feeling of Flying", 94-95.

civilian writing like that of Jacques Mortane, which focused on the flight leader's moral character and personal leadership skills, Deullin stressed the importance of the leader's ability to function as a coherent aerial body who provided a physical reference point for other pilots. This kind of central organising point was crucial in the altitudes where fighter-to-fighter combat could take place. 'A big patrol, good for a barrage well above enemy lines,' he explained, 'was impractical as an offensive aerial [fighter] group very close to the lines, a group whose qualities must be speed, manoeuvrability, cohesion, and obedience perfectly attuned to the leader.'[213]

By interpreting aerial geography via the aerial body, rather than traditional signifiers of space like distance and physical landmarks, Deullin and other high-scoring combat pilots were beginning to translate some basic structures for functional ground warfare into the air. These practices and structures began to emerge in official air service reports even as administrators continued to use cautious, deliberately vague language when faced with the challenging task of attempting to standardise aerial combat. One *Service Aéronautique* report from 1917 on the use of fighter aircraft, whilst insisting that 'the operation of a sole fighter plane cannot be limited to any one rule' and varied depending on factors like 'the mission to be undertaken, the personality of the pilot, his fitness, his audacity, the armament and speed of the airplane, etc.', stressed the importance of positioning oneself at particular angles in relation to the enemy and other aircraft. 'Try to attack by surprise,' it urged of one-on-one combat. 'To do this, circle at high altitude; to avoid being surprised yourself, to

[213] SHD AI 1 A 89/1 (Emploi de l'aviation de combat, Albert Deullin, "La Chasse en Monoplace" et "Les Patrouilles de Chasse).

always have the advantage in manoeuvring and speed, and to be as invisible as possible.' The report went on to establish, based on the reports of Deullin and several other of the *Cigognes*, the recommended formation and altitude of group patrols based on whether they were flying defensively or offensively. Taking up specific positions in relation to other airplanes, therefore, corresponded to certain altitudes and types of work; an individual pilot's relationship to other aerial bodies located them in the sky.

Making sense of the 'grand shemozzle' of aerial combat largely remained an informal, pilot-led project during the First World War. The US Army Air Service benefited to a degree from a later entrance into the war, as evidenced by some officers' participation in drafting late 1917 and early 1918 instructions for 'flying with a view to fighting' that explicitly recommended high-level patrols protecting lower-level patrols.[214] The Royal Flying Corps did not have a formally-circulated equivalent of Albert Deullin, though Edward Mannock's June 1915 list of rules for combat flying seem to have spread to some extent via word-of-mouth amongst RFC pilots after Mannock painted his list on the side of his own squadron's hangars and communal spaces. Despite many popular historians' claims that Mannock's 'rules' were 'published', there is no evidence to suggest that they were ever formally distributed by the Royal Flying Corps or Royal Air Force. Other British commanding officers created similar informal documents for the pilots under their immediate command; multiple wartime personal papers of flight leaders contain handwritten attempts to record tips for success and survival.[215] Higher-ups within the RFC, though, were aware that many British

[214] NASM 2003-0053 (Captain Walter J. Seaborn World War I Collection).
[215] TNA AIR 1/686/21/13/2253 (Papers of Sub-Lieut. C.R. Mackenzie including Notes on Air Fighting compiled by Fl. Com. C.R. Mackenzie, DSO, No. 4 Wing RNAS, January 1917).

pilots were coming to informal conclusions about how to organise their combat space. As one RFC observer to French air operations at Verdun remarked about the '"bird of prey" style' of one German prisoner of war, which the pilot in question described as positioning himself at a high altitude and diving towards an enemy's blind spots, 'They do themselves pretty well.'[216] Nevertheless, official British training guidance lingered in particular behind the experiences of their pilots, as is discussed in the following chapter.

One Royal Flying Corps pilot's recollection of how aerial combat worked, however, is deeply telling about the ways in which newly combatant pilots were internalising the distinctive geography of their new kind of battlefield.

> Q: Could you describe a dogfight?
>
> A: Electric and very exciting. One has to manoeuvre for position, one has to know how to handle one's aircraft, one has – perhaps leading a flight – and one has to know which way you're going to attack and what's gonna happen to your boys, and see that they're kept out of trouble. You're more experienced than most of them, and some of them are inexperienced. It's electric and fast-moving beyond anything you can contemplate and you've got to have your eyes in the back of your head and the front of your head and be rare-ready, because it was a complicated affair, very often reinforcements coming in from above, and more trouble to deal with and so on. You've got to know German tactics and your own and so forth…it was very difficult for me to *describe* a dogfight except it was very fast-moving.[217]

These vivid references to aerial bodies extending their senses for the purposes of survival perfectly illustrate the creation of a new geography for aerial combat. Even as this pilot struggled to articulate a straightforward account of his experiences, directional phrases like 'which way you're going to attack', an

[216] Thomas G. Bradbeer, "'Always Above': Major Edward 'Mick' Mannock in World War I" in *Air Power History*, Vol. 53, No. 1 (Spring 2006), 36; Edward Mannock in Chris McNab (ed.), *The World War I Aviator's Pocket Manual* (Oxford, 2018), 70-1. TNA AIR 1/1283/204/11/11.
[217] Hugh Gwilym Lewis, oral history interview.

awareness of keeping visual contact with ‘your boys’, ‘your eyes in the back of your head and the front of your head’, and ‘reinforcements coming in from above’ sketch out a complicated but tangible map of the aerial battlefield. Combat pilots flew according to their own emerging understandings of their bodies and those of other aviators; these were negotiated in relation to the complex geographical features of airspace and the physical and emotional responses they created. Whilst military strategists debated an ‘aerial front’, pilots were using their collective understandings of a three-dimensional combat space to carve out unique relationships to violence.

CHAPTER THREE
Violence in the Air

Has continual nervous starts, + tremors, accompanied by sharp catches of breath, + nervous fidgeting when spoken to… He suffers from insomnia and dreams of aeroplane "crashes".

– From the medical notes of Royal Flying Corps Second Lieutenant F.P. Blencowe[218]

Violence permeates every facet of wartime life. Though often treated as synonymous with combat, 'violence' as an imagined and real phenomenon in warfare has far broader potential to interact with people's mental and physical realities than the material danger of coming under fire. The majority of American soldiers during the Vietnam War, for example, defined themselves as 'combatants' – a term that identified them as active participants in a culture of violence – despite only fourteen per cent actually being directly involved in active combat.[219] Similar figures do not exist for First World War aviation, but it is certain that dogfighting and shooting down other airplanes was not the dominant day-to-day experience of most flyers. The very nature of pilots' work involved confronting and managing the potential for violence in relationship to powerful, fragile motorised technology. Their lives were at risk long before they encountered an armed and able opponent. Indeed, combat pilots' physical injuries and deaths were disproportionately flying-related rather than the fault of the enemy. The majority of Royal Flying Corps and Royal Air Force flying fatal casualties died in training crashes, not by being shot down; an estimated thirty-

[218] TNA MH 106/2202 (War Office Medical Case Sheets for Royal Flying Corps, 2nd Lieutenant F.P. Blencowe). After ten months of active service between June 1916 and July 1917, Blencowe was diagnosed with 'neurasthenia from aeroplane accident' and discharged from the hospital as 'permanently unfit' in April 1918.
[219] Holmes, *Firing Line*, 76.

five to forty per cent of *Service Aéronautique* pilots died in crashes unrelated to combat whilst on active service.[220] This reality stands in sharp contrast to the experiences of infantry soldiers, who whilst on active service on the Western Front were most likely to die by enemy artillery fire.[221] Though many pilots certainly saw a disconnect between their own experiences and those of their peers on the ground, they were keenly aware of their close proximity to injury and death through the occupational hazards of flight, enemy fire and bombardment, and the physical and mental wear of being on active service. Whether or not they actively defined themselves as 'combatants', military pilots were a distinctive part of the enormous cross-cultural reconfiguration of human relationships to violence sparked by the First World War.[222]

Aerial violence has largely been examined from the ground looking up; that is, considering the real and imagined horrors of bombing from pre-First World War experiments to drone strikes. This thesis seeks to expand investigations of early twentieth century violence to include the lived experience of pilots, centring their bodies and machines as the origins and recipients of violent acts. Specifically, this chapter argues for the establishment of a transnational aerial combat culture during the First World War that emerged from fighter pilots' heightened agency for and particular proximity to violence. It pinpoints the impetuses for the full militarisation of air services halfway through

[220] TNA MH 106/2202 (War Office Medical Case Sheets for Royal Flying Corps); SHD 19 N 490 (Comptes rendu statistiques des opérations aéronautiques, renseignements août 1917-janvier 1919); Ronald Hubscher, *Les Aviateurs Au Combat 1914-1918: Entre Privilèges et Sacrifice* (Toulouse, 2016), 215-16.
[221] Stephen Bull, *Trench: A History of Trench Warfare on the Western Front* (London, 2010), 8.
[222] Examples of some such reconfigurations are fleshed out in Diana Preston, *A Higher Form of Killing: Six Weeks in World War I That Forever Changed the Nature of Warfare* (London, 2015), a decent (if Western Front-focused) popular history. Preston's history-from-below approach to the U-boat war is closely analogous to some of the everyday moral questions and specialist conflicts faced by aviators during the First World War.

the First World War, examines the different types of violent acts that emerged from these circumstances, and the terms in which pilots across national lines structured and regulated their 'work' environment. The nature of this enquiry demands looking beyond the traditional time, space, and military delineators of combat and duty to define violence, considering as in the first chapter pilots' relationships to *flight* as the primary shapers of their combatant identities. It is essential that 'violence' not simply be relegated to direct mental, physical, and material harm. As well as the physical dangers of flight and combat aviation, this chapter deliberately reads violence into the collective state implied by the US Army maxim 'Hurry up and wait', focusing on the anticipation of danger and prolonged proximity to a combat zone as an active influence on pilots' combat culture.

Pilots' relationship to war violence, as has been established, was a profoundly unusual one defined by the geography of airspace and the rapidly changing strategic and tactical uses of aircraft in the First World War. Historians of the air war have made much of the intentional development of imagined aerial violence alongside the evolution of flight technologies, crafting histories of military aviation by emphasising pre-war predictions about what conflict in the air might entail.[223] Though accounts of the 'first' intentional use of aerial violence vary, it is generally agreed that the 'Fokker scourge' of July 1915 to early 1916, where German Fokker Eindecker monoplanes fitted with machine guns and synchronisation gears made the first definitive claim to Western Front airspace,

[223] See, for example, Robert Wohl, *A Passion for Wings: Aviation and the Western Imagination 1908-1918* (New Haven, 1994), which comprehensively describes the influence of early twentieth century conceptions of air war on the development of military air services beyond the near-compulsory reference to H.G. Wells that appears in most popular histories of the First World War in the air.

marked a clear transition from theoretical to practical uses of the airplane as a weapon.[224] British and French air services scrambled to adapt technology and tactics in response to the *Luftstreitkräfte*'s Fokker deployment, thereby shaping Allied aerial combat as it was realised in the last two years of the war. Michael Paris is right to highlight that pilots themselves had been anticipating and experimenting with deliberate uses of violence before the successful armament of airplanes, expanding and testing their agency for combat behaviour through the vehicle of flight.[225] However, this chapter aims to identify how and when this violence became communal, illustrating how aerial combat practice emerged in dialogue with larger administrative and technological changes. These moments, which occurred when pilots were given the material means to put imagined aerial violence into action, reveal a community encountering the consequences of violence largely unregulated by militaries, states, or other official bodies. To cope with this uneasy lack of military precedent, combatant aviators effectively reverted to the language, hierarchy, and structure of peacetime labour to regulate and qualify their community's war experiences.

Where does the impetus to use violence originate? Sönke Neitzel and Harald Welzer explored this question in relation to flyers in their seminal work *Soldaten: On Fighting, Killing, and Dying*, which examines Second World War German soldiers' relationships to these specific aspects of warfare as seen in the recorded conversations of German prisoners of war.[226] Neitzel and Welzer's work positions itself within several decades' worth of debate about Nazi soldiers'

[224] Hamilton-Paterson, *Marked for Death,* 86.
[225] Paris, *Winged Warfare*, 11.
[226] See Welzer & Neitzel, *Soldaten.*

uses of violence, especially during the Holocaust.[227] Scholars have long sought to deconstruct the Nazi regime's capacity for genocidal and war violence, often using Nazi soldiers as the basis for wider sociological conclusions about the conditions and innate psychological realities that allow soldiers to kill.[228] Neitzel and Welzer's deliberate focus on all branches and fronts of the Nazi-era military allow them to explore and establish types of violence that contradict long-standing scholarly understandings of the conditions that allow soldiers to fight and commit atrocities. Specifically, they use the recollections of *Luftwaffe* aviators to argue against the 'brutalisation' thesis made popular by historians like Omer Bartov. Bartov's work postulates that German soldiers on the Second World War Eastern Front were more able to take part in war crimes, mass killings, and other horrific individual and collective acts of violence because their own high casualties broke down the social expectations and conventional combat motivators present in a 'primary group', causing soldiers to fall back on Nazi ideology as a killing stimulus.[229]

Luftwaffe pilots who became POWs in late 1939 and early 1940, Neitzel and Welzer demonstrate, would not have experienced significant casualties or spent more than a few months' time on active service, yet were notably quicker than other soldiers to describe and express pleasure at graphic, distinctly non-civilian visual acts of violence like dropping bombs on populated areas, machine-gunning people on roads, and seeking out vulnerable targets. In specific

[227] While genocidal violence is distinct from combatant violence in important ways, critical studies of genocide and especially Holocaust perpetration have been deeply influential on the theoretical frameworks with which scholars have characterised twentieth century war violence.
[228] 'Primary group' theory began with Shils & Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II" in *The Public Opinion Quarterly*, Vol. 12, No. 2 (Summer 1948): pp. 280-315.
[229] Omer Bartov, *The Eastern Front, 1941-45: German Troops and the Barbarisation of Warfare* (London, 1985).

reference to pilots' experiences, Neitzel and Welzer introduce the concept of 'autotelic violence', or 'violence committed for its own sake without any larger purpose' – violence, in other words, that defies the conditions of strict ideological indoctrination or prolonged wearing down of innate psychological barriers to inflicting harm on other human beings.[230] Using the same language to that which they applied to the joys of flying, many First World War pilots demonstrated similar lack of inhibition to their Second World War equivalents in describing pleasurable and exciting acts of extreme violence, often without having served enough time on active service for these sights and sounds to have become everyday. Dave Grossman characterises fighter pilots as the most likely out of all types of soldiers to get 'stuck' in the natural psychological process of killing due to the removed, impersonal nature of long-range combat, meaning that military pilots are more likely to focus on the adrenaline and exciting of battle and engaging enemies than to reflect on or be traumatised by killing.[231] Whilst this thesis aims to complicate this conclusion with the specific context of the first air war, this was and still is a common reaction not just to flight but also specifically to aerial violence by its practitioners across conflicts. Such expressions of pleasure, play, and lack of remorse speak to the profoundly discomforting reality of autotelic violence; namely, its disconnect from state regulation, e.g. frameworks of justice around the violence of organised crime or the state-sanctioned violence of police.[232]

The implications of truly 'unregulated' violence are profound, both for militaries and for individual combatants. Pilots' immersion in pleasurable,

[230] Welzer & Neitzel, *Soldaten*, 61, 48. 'Autotelic violence' is a term coined by Willem Schinkel, *Aspects of Violence: A Critical Theory* (Basingstoke, 2010).
[231] Grossman, *On Killing*, 236-37.
[232] Welzer & Neitzel, *Soldaten*, 55.

impersonal violence seems to complicate conventional explanations for why people fight and kill. S.L.A. Marshall, Dave Grossman, and many other military sociologists agree, for example, that a key component to a fighting unit's willingness to use new types of violence is the knowledge that their actions are sanctioned and encouraged by their superiors and military service as a whole.[233] The first Allied attempt to develop a synchronisation gear to enable air-to-air combat, however, came not from an official military project or a soldier turned pilot after 1914, but from Roland Garros, a pre-war celebrity aviator who had made his flying career seemingly through individual initiative without military oversight.[234] Michael Paris rightly demonstrates the inevitability of military aviation's trajectory towards aerial bombing and combat before its broad-scale practical realisation from late 1915 onwards, citing individual efforts like Garros' as part of a wider project to realise the obvious military potential of aircraft. However, it is important to draw a clear distinction between wartime militaries' general incentive to realise new types of violence (e.g. through providing new technology or reconfiguring training programmes) and the agency of pilots effectively creating a new type of combat (via new tactical practices made in response to environmental conditions). Air services, in other words, did not begin the First World War with clear-cut goals and intentions for the realisation of aerial combat that they communicated to would-be combatants from the outset; military aviators in 1914 were not, after all, obliged to incorporate war violence into their identities and tasks. Pilots themselves sanctioned and put in motion their own violent acts, tactics, and rules, which I argue is an overlooked

[233] Grossman, *On Killing*, 55-56.
[234] E.F. Cheesman, *Fighter Aircraft of the 1914-1918 War* (Letchworth, 1960), 170.

but necessary component to the realisation of autotelic violence. This suggests the need for an unconventional theoretical approach to this type of violence.

Historians like Geoffrey Field and Nathan Wise have recently taken steps to re-frame traditional labour history narratives as analytical lenses on military service, treating military service *itself* as work rather than as a disruption of peacetime civilian working life or as an alternative to organised labour movements in wartime.[235] Whilst labour cultures and class have been primary shaping forces of especially British histories of First World War militaries, many such histories still avoid satisfactory syntheses of soldiers' ordinary working lives and their approaches to *wartime* work, i.e. (usually) temporary military service. No universal class experience existed across national air services, though the organisation of German and British air services in particular biased towards skilled technical middle class and university-educated upper class men as pilots. The prolific cross-class and thoroughly transnational use of work-related rhetoric in French, British, and American pilots' descriptions and memories of combat flying, however, deserves close and specific attention. Given especially that commercial aviation did not exist before or during the First World War, pilots did not have the conventional framework to describe labour and production in relation to flight. Rather, work-specific language served as a tool to translate combat into a material reality. I argue that it is through a close analysis of pilots' relationship to labour that we see a distinctive *combatant* voice

[235] See, for example, Geoffrey Field, *Blood, Sweat, and Toil: Remaking the British Working Class, 1939-1945* (Oxford, 2011) in relation to working class military service during the Second World War and, more recently regarding Australian soldiers in the First World War, Nathan Wise, "The Lost Labour Force: Working-Class Approaches to Military Service during the Great War" in *Labour History*, No. 93 (Nov. 2007): pp. 161-176. These kinds of works may be viewed as natural continuations of the histories of organised wartime labour, e.g. John Horne's seminal *Labour at War: France and Britain 1914-1918* (Oxford, 1991).

emerging from war narratives otherwise disproportionately preoccupied with flight, and may thereby get a full picture of the unique combat culture and morale factors developing out of the weaponisation of aviation.

Whilst air services and aviation manufacturers literally facilitated the introduction of aerial violence on a large scale, the air war's evolution was characterised most by its reliance on pilots' informal combat culture rather than military authorities to bring about meaningful cultural and material change. The open-ended, highly variable nature of surviving in the air meant that pilots determined and formalised their own battle space, as was established in the previous chapter; it also meant that pilots were largely responsible for carving out 'acceptable' uses of violence and the work practices by which it was applied, suffered, survived, and experienced. With no official international agreements on aerial warfare emerging until after the First World War,[236] pilots found that many of the basic structures and laws developed to regulate ground-based and naval warfare were less relevant and applicable to the kind of agency afforded them by a violent airspace. Combatant fighter pilots, when faced with the actual life-threatening reality of armed aerial warfare from late 1915 onwards, found themselves dealing with the destabilising and challenging possibilities represented by an ambiguous space where 'perhaps all that is needed is a weapon or an airplane, some adrenaline, the feeling of having power in areas where one normally has none' to produce 'a social framework in which killing is permissible, even desirable'. [237] Autotelic violence appears disorienting particularly because it seems to occur 'for its own sake without any larger

[236] Waqar H. Zaidi, "'Aviation Will Either Destroy or Save Our Civilization': Proposals for the International Control of Aviation, 1920-45" in *Journal of Contemporary History*, Vol. 46, No. 150 (2011), 154.
[237] Welzer & Neitzel, *Soldaten*, 44.

purpose'; that is, it does not conventionally contribute to production and material gain as recognised by the state. The fact that it was a shared central experience of the first air war, however, requires a closer look at this new type of violence than simply dismissing it as 'without any larger purpose': it is highly significant that pilots considered the violence they did, however pleasurable it might be, as productive work, a framing that in turn structured pilots' social structures and emotional responses. To create communal practices for a profoundly different kind of warfare to the ground, aviators required and received a significant, perhaps unprecedented degree of independence in regulating their own violent experiences. They did so largely by explicitly defining 'work', or intentionally *violent* flight, within the larger lived experience of flying from which they drew their language, practices, and identities.

3.1: The Impetus for Violence

Wartime and post-war accounts of First World War aerial combat consistently leave out certain violent acts that might have seemed everyday to a wartime pilot. Writing about the reception of drone warfare in the early twenty-first century, Derek Gregory observes that a media and military preoccupation with highly individualised warfare – in the case of First World War aviation, detailed stories about dogfights or aces; in today's news media, the framing of drone warfare as individual 'successful' or 'controversial' strikes – is no accident. 'Transform[ing] one of the central registers of the imaginary of war into the *individuation* of killing,' Gregory argues, deliberately sanitises new or controversial violent technologies by contrasting them with the possibility of

mass death.[238] Given that most popular historiography of the First World War in the air still focuses on precisely this individuation of killing via specialised aerial technology, i.e. a lingering disproportionate preoccupation with ace pilots' score counts, it is essential to establish the diversity of aerial violence experienced by its practitioners during the First World War.

Despite their differences, First World War fighter pilots and infantry soldiers shared the reality that actual close engagement with the enemy was rare. Across national lines, majority of combatant individuals would never actually kill another soldier during the course of the war. However, aviators had a degree of control over their violent surroundings that was outside many infantry soldiers' imaginations. Regardless of rank or experience, pilots navigated themselves as individuals through their combat zone, giving them far greater freedom to place themselves in space and choose the terms of a violent encounter. This seemingly open-ended, unregulated agency for violence has profound consequences for both pilots' identities and other soldiers' perceptions of them, as hinted at in Jean Béraud-Villars' musings about emerging interpretations of air service communities. 'There is the opinion that can never be taken away from civilians and from a good many soldiers that airmen are a sort of trapeze artist, a bunch of numbskulls, mechanics,' he wrote in his 1918 memoirs *Notes d'un Pilote Disparu*. 'They will believe me if I say that among all my friends and comrades in aviation at the front, I have never met a soldier.'[239]

Indeed, pilots often contrasted their own day-to-day negotiations with the ever-present dangers of flight with how violence was regulated and quantified

[238] Derek Gregory, "Moving Targets and Violent Geographies" in Heather Merrill and Lisa M. Hoffman (eds.), *Spaces of Danger: Culture and Power in the Everyday* (Atlanta, 2015), 274.
[239] Lieutenant Marc (Jean Béraud-Villars), *Notes d'un Pilote Disparu* (Paris, 1918), 97.

on the ground below. American pilot Edwin Parsons tempered his (correct) post-war assessment of aerial combat having 'no actual far-reaching effect on the outcome of the war' by emphasising its existence as 'the only chance the front-line soldier had to see or know anything of the titanic struggle of which he was part'.[240] Though many wartime aviators may not have agreed with Parsons at the time that their individual combats were making little difference to the eventual Allied victory, this juxtaposition of violent airspace with the 'titanic struggle' on the ground was an important element to military pilots' understanding of their roles as combatants. Pilots largely gauged and understood the specific violence they themselves might encounter via tangible interactions with the ground, focusing on moments like shooting down an enemy airplane, memorialising specific crash sites, or surviving a forced landing to articulate common violent experiences. Aerial practitioners' focus on the ground as a site of confirmed and legitimate violence is just one of the informal communal interpretations of the air war that translated into official practice. Not unlike pilots' practice of recording the deaths of friends and targets by sketching bird's eye views or marking up aerial photographs with the specific places on the ground where they crashed,[241] French and American air services required pilots to get official confirmation of their downed enemy aircraft from witnesses who saw the machines hit the ground.[242]

Pilots did not need the backdrop of a militarised airspace to develop first-hand experience with violence: sooner or later, close proximity to aircraft did just that. The central influence of flight on pilots' wartime identities was

[240] Edwin Parsons, *Flight into Hell* (New York, 1938), 14.
[241] IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh).
[242] Hubscher, *Les Aviateurs Au Combat*, 218.

therefore no less potent when it came to entering an actual combat zone; combat was simply a *type* of flying. Hew Strachan demonstrates comprehensively that training, rather than battle, was the dominant influence on twentieth century armies' morale due to the First World War-inspired shift towards training that replicated the environment confusion, rituals, and sensations of a battlefield.[243] This was, as alluded to in previous chapters, perhaps most readily apparent in aviation, where combatants' immediate sensory environment and susceptibility to mechanical failure or piloting error was virtually identical in training and on active service. Pilots' obvious reference points for the danger and threats to morale they would encounter in battle, especially for those who trained prior to the mass armament of airplanes over the course of 1916, were the range of potentially harmful or lethal factors their human-machine bodies faced when learning to fly: Royal Flying Corps medical records from throughout the war reveal that pilots' most common physical injuries were airplane-related, including sprains, cuts, and dislocated limbs from hard landings and amputations or deaths from spinning propellers.[244] As Michael Paris' conclusion that the majority of British pilot casualties during the First World War occurred during training suggests, many aviators' first encounters with death or rare in-person impressions of a dead body happened before they reached the front lines.[245] So central were airplane-related accidents to new aviators' conceptions of death and likelihood of injury that the language they used to describe aerial violence blurred the perceived combat zone of the front with the accidents they witnessed whilst learning to fly. One French trainee pilot writing to his uncle a

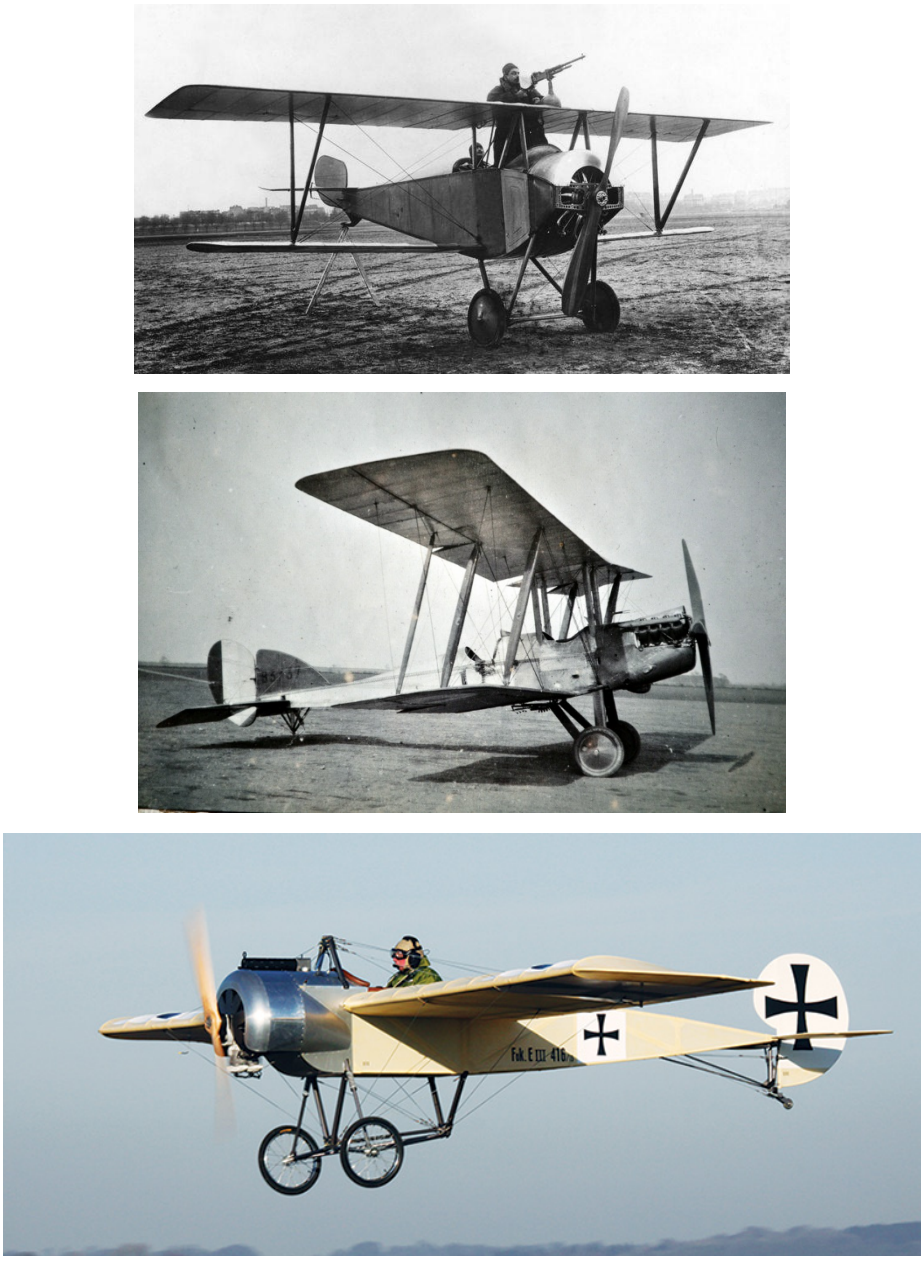
[243] Strachan, "Training, Morale and Modern War", 215.
[244] TNA MH 106/2202 (War Office Medical Case Sheets for Royal Flying Corps).
[245] Paris, *Winged Warfare*, 7.

month before the 1918 armistice revealed a shared assumption that the danger of front-line service would not outstrip the likelihood of a fatal crash: 'Our losses are infrequent,' he explained of his training centre, 'which says to me that our losses of pilots at the front aren't substantial.'[246] Similarly, Royal Flying Corps pilot Alan Campbell Orde recalled sustaining an injury as being 'shot down', using a phrase associated with the specific violent intervention by an enemy as a general classification for a wound sustained in an airplane. 'I got wounded, in fact,' he clarified to his interviewer after stating he had been 'shot down'. 'I wasn't shot down in the sense that I came down…'[247]

It can be argued that the potential and unpredictable violence inherent to flight overwhelmed any comprehensive official military attempts to standardise armed, combatant aerial units and strategy. As with the pre-war split between the perceived usefulness of and subsequent investment in zeppelins versus airplanes,[248] air services did not universally correctly anticipate the development of aerial combat, a reality that became clear during the 'Fokker scourge' of July 1915 onwards. Before the cross-national use of the synchronisation gear, it was assumed that two-seater aircraft manned by a pilot and a separate gunner would be the future of aerial combat.[249] When the German air service began developing Fokker Eindeckers – the slim, agile single-seater fighters fitted with the first mass-produced synchronisation gear that allowed a pilot to fire through the propeller whilst in flight – from the spring of 1915, British and French pilots abruptly found themselves at a profound disadvantage. Allied pilots and

[246] SHD 16 N 1390 (GQC Contôle Postal 1e Armée, mars 1918-decembre 1918, letter from trainee pilot to his uncle, 3 October 1918).
[247] Alan Campbell Orde, oral history interview 4072512.
[248] Morrow, *The Great War in the Air*, 35, 39.
[249] Norman Franks, *Dog Fight: Aerial Tactics of the Aces of the First World War* (Barnsley, 2003), 51.

observers' diaries, correspondence, and press from this period reveal initial articulations of intentional 'violent flight', or the practice of deliberate aerial violence with the intention to damage or kill another aerial body, as witnessed in the deadly discrepancy between single-seater fighters like the German Fokker Eindecker and two-seaters like the British B.E.2 and the French Nieuport 10.



Wartime photographs of the French Nieuport 10 and British B.E.2 with a present-day replica of the Fokker Eindecker in flight for comparison. Both of the Allied two-seaters, which were frequently modified with different gun configurations, represent design compromises to accommodate the problem of firing a machine gun on a machine with a spinning propeller. Building on ideas from Roland Garros' self-

modified crashed airplane, Dutch manufacturer Anthony Fokker successfully bypassed this dilemma in April 1915 with the invention of the synchronisation gear, a device that effectively enabled the realisation of fighter-to-fighter air war. [250]

As suggested by the photographs above, Eindeckers, while less visually imposing than the B.E.2 or the Nieuport 10, were small and light enough to turn and manoeuvre in ways previously unseen in military-built aircraft. The design of these delicate, wing-warping fighters was not unlike that of pre-war monoplanes, e.g. the Type XI in which Louis Blériot made his 1909 Channel crossing; however, this kind of light single-seater airplane had not been in demand in 1914 due to the perceived trajectory of aerial warfare towards reconnaissance, bombing, and limited potential for fighter-to-fighter confrontations. Most striking to many Allied aviators facing off against this new German machine in the summer and autumn of 1915 and the early months of 1916 was the Eindecker's frustrating ability to turn to avoid fire or slip behind an enemy aircraft. This particular tactic, colloquially attributed to the first German ace Max Immelman but typical of the Eindecker's manoeuvring capacity, became known as the 'Immelman Turn'. Norman Franks posits that the Immelman Turn was not really a specific manoeuvre or trained tactic at all, given its similarity to the move known as the *chandelle* already taught in French aviation training centres, but rather 'that the RFC airmen, seeing something rather new – probably little more than a steep bank or a climb and stall – felt that this was the manoeuvre that was defeating them in the air' whilst struggling to

[250] Unknown, "Nieuport 10 (XB)". 1915. (The Dreamy Dodo). <https://elpoderdelasgalaxias.wordpress.com/2016/04/14/nieuport-10-xb-only-the-brave/>; Frank Saunders, "Royal Aircraft Factory BE2 – South Carlton". 1918. (Frank Saunders 23rd Wing, 46th Training Depot Scrapbook, Flickr); Geoff Jones, "Meet the Fokker, UK Style" in *Kitplanes* (March 2013) <http://www.kitplanes.com/issues/30_3/builder_spotlight/Meet_the_Fokker_UK_Style_20690-1.html>.

manoeuvre in bulkier two-seater aircraft.[251] Regardless of whether the Immelman Turn was a deliberate tactical choice on German pilots' part or an inherent part of the Fokker Eindecker's superior design, British and French air service pilots' need to quantify, observe, and blame this specific kind of behaviour highlights emerging recognition of the need for combat-intended flying, and its absence from the existing Allied pathways for learning to fly.

Allied pilots' reactions to Fokker Eindeckers and their subsequent scramble for aircraft armed with synchronisation gears highlighted the development of 'violent flight' emerging out of existing nonviolent flying skills acquired before the war or in flight-focused military training. This was flying with the intention of engaging in combat within dangerous airspace, be that the specific kinds of manoeuvres needed to escape an attack from above or to get one's aircraft close enough to an enemy to use a machine gun. In her comparative study of First World War Royal Flying Corps and Royal Navy personnel, Maryam Philpott hints at the psychological otherness of violent flight, noting that although air-to-air combats did not usually result in a kill or definitive conclusion, aerial confrontations and the kind of flying they required 'relieve[d] the frustrations of inaction' in a way flying for pleasure simply did not.[252] As has been discussed, tactical practices for aerial combat did not exist even in the early years of the war and therefore developed by necessity alongside the technological militarisation of airplanes and re-organisation of air services towards offensive strategies. Ace pilots and pre-war aviators turned combatants were largely the ones to articulate the specific details of these tactics and flight techniques in the first

[251] Franks, *Dog Fight*, 42.
[252] Philpott, *Air and Sea Power in World War I*, 65.

place, as is explored in the following chapter. This chapter is more concerned with how violence came to permeate flight across services, and why the inevitable realisation of aerial combat midway through the war prompted the emergence of the 'workplace rules' that governed 'violent flight'.

Indeed, it was pilots' frustrations with flying against the Fokkers and the obvious discrepancy between different nations' approaches to fighter-based violent flight that prompted profound administrative, organisational, and training changes in the British and especially the French air services. The depth of this problem reached beyond the military into wider questions of manufacturing and wartime governmental logistics. Viscount Peel, who had recently been invalided out of the infantry when he addressed the House of Lords in February 1916, raised the following in debate about the future of the air war and the possible creation of an Air Ministry:

> But the point which I should like to put before the noble and gallant Earl is whether the Government are perfectly satisfied that we have the best type, or the right type, of machine now for dealing with the German Fokker machine? Like the noble Lord opposite I do not pretend to be an expert in these matters, but I am told by those who have a great deal of practical experience that there is at present an unfortunate divorce between practical experience in flying in warfare and the designing and making of machines—that, is to say, the experience that has been gained at the Front has modified so rapidly the views of those who are engaged in aeroplane warfare that there is at present no means of bringing together the work that is done, say, at Farnborough, and combining it with the knowledge of the young men who are doing the flying in France…
>
> …[G]reat losses are incurred owing to the fact that those who give the orders are not closely in touch with the difficulties of the particular work which they order. It is a mere platitude to say that it takes so long to train an airman that we ought to be minutely economical in the expenditure of such very valuable life. I am informed also—and I am sure one is not giving away any military secret, because the Germans themselves have taken the measure exactly of our aeroplanes—that the type we have there now is not best suited for manœuvring purposes and as regards pace to deal

> with the very rapid *Fokker* machines of the Germans. I understand that the difficulty arises from the fact that the construction of aeroplanes at Farnborough is not really in the hands of men who have sufficient practical experience with the needs of warfare in France. I should like definitely to ask the noble and gallant Earl whether he agrees at all with this criticism, whether the Government are satisfied that the machine now in use for fighting the Germans is suitable for the purpose and the best, type they can create….?[253]

This fundamental dilemma – of 'an unfortunate divorce between practical experience in flying in warfare and the designing and making of machines' – summed up most air services' experiences during the First World War, but the Royal Flying Corps felt it particularly acutely during the Fokker threat. The national differences in strategic and technology responses to the evolution of aerial warfare may in part be explained by the early wartime doctrine and administration of these respective air services. Despite the fact that Britain would create the world's first independent air service during the First World War, superior French manufacturing and a more hands-on approach to flight and gunnery training[254] meant that the French largely took a more flexible view towards the airplane's potential in warfare from the outset. As early as September 1914, Joffre emphasised in official GQG communiqués about the *Service Aéronautique* the multi-faceted possible combat uses of airplanes, including bombing enemy positions and artillery, 'destroy[ing] personnel', and attacking resources behind enemy lines.[255] Rivalry between the Army-affiliated Royal Flying Corps and the Royal Naval Air Service, by contrast, hindered

[253] HL Deb 17 February 1916, Vol. 21 (Air Raids).
[254] SHD AI 1A 36/1 (Gestion du personnel, cadre réglementaire – Recrutement, mutations, effectifs, états numériques, permissions, sanctions disciplinaires: instructions, circulaires, notes 17 décembre 1914-6 juin 1919).
[255] Bernard, "Mythes et realités de la stratégie aérienne pendant la première guerre mondiale", 358.

streamlined military administration of British air efforts until the creation of the government-run Joint War Air Committee in 1916.[256]

This impacted not only the high-level structure and supply of British wartime aviation, but also the realities of pilots at the front and the extent to which they were allowed to adapt their machines and flying in response to the rapid realisation of air-to-air combat. In addition to taking full advantage of their manoeuvrability, Fokker Eindecker pilots had begun to organise themselves by establishing the altitude advantage over their enemies – the first significant push towards a strategic notion of 'air superiority' – and coordinating their attacks against other aircraft in groups of two or three. French pilots began copying these coordinated operations by observation, an effort greatly helped by the introduction of the Nieuport 11 'Bébé' fighter, which was initially only used in a British context by Royal Naval Air Service pilots facing different tactical challenges to the Western Front's Fokkers.[257] The 'Bébé', a streamlined, narrower-winged, single-seater version of its predecessor the two-seater Nieuport 10, had been designed in consultation with Escadrille N3 commander Antonin Brocard. Brocard's experiences and those of his high-scoring, close-knit pilots, including Georges Guynemer and Alfred Heurteaux, during the summer and autumn of 1915 translated directly into the adjustments made by manufacturer and trained pilot Gustave Delage, a personal friend of Brocard's.[258] Such close pilot-manufacturer exchanges were typical for France throughout the war, as evidenced by reports from the French *Contrôle Postal* passed along to

[256] Cooper, "Blueprint for Confusion: The Administrative Background to the Formation of the Royal Air Force, 1912-19", 438.
[257] Fonck, *Mes Combats*, 62-63; Jon Guttman, *Nieuport 11/16 Bébé vs Fokker Eindecker – Western Front 1916* (Oxford, 2014), 5-7.
[258] *L'Aérophile*, Vol. 28, No. 19 ("L'Avion Nieuport: L'Appareil Qui Gagne La Coupe", 1 Oct. 1920).

manufacturers whenever a large number of pilots or mechanics' correspondence included similar complaints or praise about a machine.[259] Using cutting-edge technology like the Nieuport 11 in response to German Eindecker tactics, French and later British pilots began to create informal but vital practices for violent flight against aerial bodies of roughly similar capacities. These were largely passed along colloquially and recorded in passing, e.g. the word-of-mouth advice Edward Mannock gave to 74 Squadron as noted down by another pilot: 'Sight your own guns. The armourer doesn't have to do the fighting…. Good flying never killed a Hun yet. And when you shoot, don't aim for the plane – aim for the pilot.'

However, as discussed in the previous chapter, a few pilots did write down their own guides out of necessity. Some were simply for personal use, like the five-page "Notes on Aerial Fighting" scrawled down by Royal Naval Air Service Flight Commander Roy Mackenzie which appears not to have circulated outside of Mackenzie's squadron, whilst others influenced both official training in the last two years of the First World War and also the experiences of Second World War pilots looking for guidance in the face of inadequate training.[260] Air services did begin to make official observations about tactical changes prompted by significant conflicts; during the Battle of Verdun, for example, the Royal Flying Corps designated some pilots to observe the tactical exchange between German and French squadrons. One report from 7 May 1916 noted that Germans had begun to mimic the newly acquired French method of turning their Eindecker-inspired small patrols of two or three into offensive squadrons, and, tellingly,

[259] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918, 19-25 Oct. 1917).
[260] Mannock quoted in Hamilton-Paterson, *Marked for Death*, 90; TNA AIR 1/686/21/13/2253 (Papers of Sub-Lieut. C.R. Mackenzie including Notes on Air Fighting compiled by Fl. Com. C.R. Mackenzie, DSO, No. 4 Wing RNAS, January 1917); Nigel Rose, "Dear Mum and Dad: An RAF Pilot's Letters to His Parents, June – December 1940" in Paul Addison and Jeremy A. Crang (eds.), *The Burning Blue: A New History of the Battle of Britain* (London, 2010), 143.

added that the French appeared to have a distinct advantage over the British in terms of gunnery and fighting tactics due to consensus between pilots and their commanders. 'Their predilection for trick flying also gives them the superiority in manoeuvre,' the RFC observer wrote about the French pilots he watched at Verdun. 'The Commandant encourages trick flying in a safe machine.'[261] Despite these administrative acknowledgements that new tactical practices were emerging at particularly violent moments of the air war, no standardised official service-wide training practices specifically for aerial combat emerged in any air service until after the war. Rather, these practices came largely from combatants themselves as pilots began to shape the aerial battlefield as a viable workspace.

3.2: Combat as Work

The development of combat practices like the ones passed along by veterans and articulated in publications like Albert Deullin's "*La Chasse en Monoplace*" and "*Les Patrouilles de Chasse*"[262] not only gave pilots the means to survive and competently navigate a violent airspace, but also provided clearer-cut goals in the air that translated into familiar, concrete notions of labour. Pilots who transitioned from reconnaissance to offensive military aviation frequently spoke about their patrols, tasks, and combat successes in terms of 'work', using language about their bodies, actions, and mental states that closely aligned proximity to violence and combat-specific activity with productivity and workspace. One French fighter pilot used such terms to voice his frustration about his *lack* of access to violent airspace during the winter months, writing a heartfelt letter to his wife in December of 1917:

[261] TNA AIR 1/1283/204/11/11.
[262] SHD AI 1 A 89/1 (Emploi d'aviation de combat; Albert Deullin, "La Chasse en Monoplace" et "Les Patrouilles de Chasse).

> The state of morale continues to be not so good. I'm bored, I'm bored. I even think of hurting myself. It's truly sad in winter in the middle of the countryside. We have too much time to think. If only our airplanes had a little work, that would be a reason to exist. But nothing, nothing, it's heartbreaking. I'm excited for spring and resumed activity.[263]

Marching, digging in, and firing across No Man's Land can be read straightforwardly as labour, but how far are the hectic, unpredictable patterns of aerial violence truly equatable to work? 'Work' as it appears in fighter pilots' wartime writing and recollections is a complicated concept, encompassing both flying and fighting but quantified largely by perceived contribution to a wider military effort. For some, 'work' clearly meant violence as measured output of damaged or destroyed targets, e.g. one SPA103 pilot's wry assessment of his new squadron after a transfer: 'As for the work, it leaves something to be desired; this lot isn't likely to beat Fonck. A little morning and night patrol. And yet it's a scrappy squadron and I am proud.'[264] With the prominence of celebrity ace pilots in aviation-specific and popular press from 1916 onwards, numbers of 'kills' increasingly seemed like the most logical way to interpret the work that pilots did. James McCudden saved a December 1917 telegram from Royal Flying Corps commander Hugh Trenchard that praised the British ace in precisely these terms: 'Well done you are splendid. Your work lately has been of the finest.'[265] This language even permeated adjacent military communities, as evidenced by the admiring way one infantry soldier spoke about a French airplane attacking the enemy trenches across the way from his own unit:

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[263] SHD 16 N 1420 (GQC Contrôle Postal 6 Armée 1917-1918, letter from 6th army pilot to his wife, 6 December 1917).
[264] SHD 16N 1390 (GQG Contôle Postal 1e Armée, mars 1918-decembre 1918, 15 Oct. 1918, letter from SPA103 pilot to a friend).
[265] RAFM AC 72/5/23 (Communications to James McCudden, Hugh Trenchard to James McCudden, 6 December 1917).

> This morning, upon waking, I saw an airplane of ours machine gunning the trenches despite all the Boche shelling; that did not discourage him from descending on the Boche trenches and sniping the occupants. The *poilu* who drove the airplane really had spunk due to the way such actions were received; it did not prevent him from doing good work….[266]

In relation to the First World War, there is some scholarly precedent for thinking about the influence of labour on military communities: Helen B. McCartney's excellent study of the largely middle class Liverpool Territorials in the First World War, for example, examines in detail how those soldiers' civilian trades, work routines, and specific pre-war class cultures informed their relationship to command and unit identity. Looking outside of the context of wartime at the broader structures of labour is also useful here. Gabrielle Hecht's study of French workers' October 1969 clean-up of the Saint-Laurent 1 nuclear plant, for example, examines the creation of a new work culture in response to unprecedented and/or unusual forms of danger, an environment that has clear resonance with early military aviation. Perhaps most notable for Hecht were the new rituals and language that emerged from this highly risky and unusual situation, ones that provided a framework for the Saint-Laurent 1 workers to form a distinct community of 'heroes' defined more by their role in this particular national emergency than their job descriptions.[267] Crucial to the shaping of the new language and rituals at Saint-Laurent were what Hecht identifies as the very specific material conditions of 'dress, motion, and space', e.g. rituals of dressing in protective gear to enter a workspace and learning to complete tasks to be done in zones usually unfit for human inhabitation (in this

[266] 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral ; 29 novembre 1917: rapport sur l'aviation).
[267] Gabrielle Hecht, "Enacting Cultural Identity: Risk and Ritual in the French Nuclear Workplace" in *Journal of Contemporary History*, Vol. 32, No. 4 (Oct. 1997), 483, 486, 498-99.

case, a nuclear reactor) via a live-scale mock-up. This structuring influence of 'dress, motion, and space' has close parallels with First World War pilots using work-related language to articulate the specific actions of violent flight and the social conditions of their new combat culture.

Most commonly by pilots' own definitions, 'work' emerged as simple shorthand for the state of flying in the combat zone, not necessarily in direct confrontation with an enemy but anticipating the possibility of violence and danger as they flew. Pilots referred to 'the ones working above, with the advantage of altitude, [who] could come down and clear up the show' when their comrades below were attacked,[268] 'today's Work with 34 Squadron RFC and 16 Sq RFC' as recorded in a wing commander's flight log,[269] and 'The Work' heading a squadron leader's daily reports of combat patrols throughout the war.[270] What seems to be consistent in pilots' definitions of their 'labour' was the fact that it took place in the air, and therefore had the materiality and usefulness of work that directly contributed to group morale. The 'aerial body' of human and machine was, unquestionably, the worker who produced aerial labour in the context of a violent workspace, as opposed to the clear 'non-worker' ground-based alternative described by Jean Béraud-Villars in his harrowing memoir of flying at Verdun:

> When I speak about old aviators, you understand me. I'm speaking about those who, after flying a bit during peacetime, haven't done much work in wartime; who dined out on the danger of September '14 and ever since have pontificated in an office.[271]

[268] George Vaughn, oral history interview.
[269] IWM 80/4/1 (Diary and flight log of Wing Commander E.D.J. Routh).
[270] Louis Thébault, *L'Escadrille 210* (Paris, 1925).
[271] Béraud-Villars, *Notes d'un Pilote Disparu*, 74.

Within a largely individual combatant experience, common notions of 'work' were contained and qualified by the markers of an emergency labour culture similar the one described by Gabrielle Hecht. Shared, quantifiable 'motion' (patrols completed and hours flown) through communal 'space' (airspace over the front) facilitated by 'dress' in what pilots called 'work clothes' or 'union suits' (frequently used shorthand for specialist flying gear, as opposed to uniforms)[272] constituted the labour pilots saw as central, meaningful, and self- and group-sustaining.

This common work culture was further cemented by most pilots' necessary conceptualisation of airborne humans and machines as unified and transnational aerial bodies. In the air, these bodies translated into a coherent class whose qualities were significantly more important than human factors that might have influenced combat on the ground, e.g. military affiliation, rank, physical strength, or social class. Manned machines travelling through airspace shared similar capacities to enforce the temporary ownership of the contested three-dimensional space above the front; they were also bound by roughly the same physical limitations that structured potential combat spaces, including speed, altitude, cold, oxygen levels, artillery fire, and weaponry. As a result, the ways in which combat pilots discussed using violence against other machines in the air was strikingly different to how they spoke about targeting people or buildings on the ground. When recalling air-to-air combats during and after the war, they commonly personified airplanes with human pronouns, a linguistic

[272] SHD 19N 1117 (Décisions journalières du commandement de l'aéronautique, février 1917-janvier 1919); Baldridge, *"I Was There" with the Yanks in France*, 38.

peculiarity that comes through clearly in the edited transcript of an interview with American pilot George Vaughn:

> Q: When you got in a dogfight with a single other plane, did you regard it as a plane you were opposing, or was it the rival pilot pitted against you?
>
> A: No, I don't think you were really conscious of a pilot in there at all. It was a sort of a game situation. As I say, this had been rehearsed in school and that sort of thing. Well, the thing you thought of most was the machine **gun** on the front of ~~**this**~~ airplane. As soon as you saw ~~**the**~~ **his** nose in your direction, you did something very quickly before ~~**you**~~ **he** got a chance to shoot. That was the main idea. And then, if you could get around behind him, of course, ~~**or get a chance to shoot, that was**~~ or get a good shot at him, of course he was your objective. But your first objective was to keep out of his way, and as soon as you saw his nose coming down in your direction, you made a quick turn right or left and something of that kind to get out of his line of fire – also watching all the time for the next man who might come down from the other direction as soon as you made the turn.[273] [*Emphasis indicates handwritten pen corrections on typed interview transcript*]

Vaughn's fluid language when asked about the mental distinction between pilot and machine – alternating between 'his airplane' and 'the next man' to refer to an airborne enemy, the apparent need to correct the official typed record to reflect specific uses of human pronouns for an aircraft like 'his nose', etc. – was common in both English- and French-speaking pilots' recollections of aerial combats between similarly-armed airplanes. Such linguistic conventions appear both in wartime combat reports written within an hour of the event and in decades-later oral history interviews like Vaughn's, suggesting a consensus in how pilots conceived of their peers in air-to-air violence. This became especially true once fighter airplanes were universally armed with forward-firing machine guns, eliminating most instances of pilots using revolvers to take aim and fire at a pilot

[273] George Vaughn, oral history interview.

or observer within a machine.[274] Though pilots' actual emotional interpretations of the enemy varied widely, the similar material realities of the human-machine hybrids with which they shared airspace dictated how they developed tactics and 'acceptable' uses of violence in relation to their airborne peers.

Communal interpretations of 'work' also reveal how pilots dealt with the challenges to morale posed by a lack of immediate physical support from other combatants. One Escadrille SPA92 pilot's letter to a friend in early 1917 summed up this issue well:

> After Verdun, a little break for morale cannot come soon enough. We're flying less in these parts; I know that everything isn't set up yet but we are still more supported [than we were at Verdun] and sharing patrols more equally; once the team is formed it's easier to then go out alone; in everything there must be agreement.[275]

Feeling as though other pilots and units were sharing work – and therefore exposure to danger and challenging tasks – 'more equally' was critical for morale. Obvious disparities in other flyers' contributions to the 'work', as opposed to friendly competition between units, caused resentment even when a flyer's own unit was doing well. In a letter to a parent in July 1918, one French fighter pilot complained about the inadequacies he perceived in the Royal Air Force squadrons in his area, citing specific tactical choices as evidence that his British peers were not contributing properly to the 'work' that needed doing in their airspace. 'In all cases, our aviation is superior in this sector, [the enemy] doesn't dare risk the danger of flying over our part of the lines,' he insisted. 'When they do it's the fault of the English, who wait for them above their

[274] Hamilton-Paterson, *Marked for Death*, 79.
[275] SHD 16N 1420 (SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918, letter from SPA92 pilot).

aerodromes. This method is not ideal and greatly elevates their losses and doesn't prevent some Boches from taking photos, which are the ones we then have to try and bring down.'[276] Air service administrators began to respond to this need for an equitably shared aerial battlefield, the French more consistently than their British or later American counterparts. In October 1916, the *Service Aéronautique* once again re-organised by grouping *chasse* squadrons into *Groupes de Combat*, multi-squadron groups whose direction would be 'variable' according to the commanders' perceptions of combat conditions and the needs of their pilots. Over the course of the following year, *Groupes de Combat* formalised many of their own rules that translated into how their squadrons organised and fought. The commanders of *Groupe de Combat* 13, for example, stressed that some pre-combat training was 'too uniform' and created lists of alternative training exercises for its squadron leaders. These included a December 1917 memo on group-wide standards to facilitate a more balanced 'workload' for its pilots, citing more thorough, 'precise' acrobatics practice, updated gunnery training, and minimum flight and fighting hours per week as possible strategies to ensure that pilots shot down enemy airplanes more consistently. [277]

These formal and informal constructions of a coherent working culture, complete with the obligations, communal values, and rules that that implied, were vital for pilots and air services alike. The potential peculiar emotional highs and physical challenges of the 'autotelic' violence inherent to aerial combat as it was realised halfway through the First World War were new and deeply unpredictable, both for militaries and individuals, and needed some translating

[276] SHD 16 N 1389 (GQG Contôle Postal 1e Armée juillet 1917-février 1918, 21 Jul. 1918, SPA15 pilot to a parent).
[277] SHD AI 1 A 22 (Escadres et groups de combat); SHD AI 1 A 89/2 (Emploi de l'aviation de combat).

from subjective individual experiences to communal norms. As pilots expanded their aerial repertoire to include fighting and killing, it became eminently clear that practicing relatively unregulated violence across an aerial front had the potential to create radically insular communities and produce volatile emotional consequences, ones that required moderation via familiar language such as that of the workplace.

3.3: Death, Trauma, and Emotional Consequence

In his 1917 fictionalised account of his time as a volunteer in the French *Service Aéronautique*, American pilot and journalist James Norman Hall lingered over a delicate moment that marred his largely positive memories of front-line flying. He recounted 'one feature of the programme [that] did not appeal to us greatly': explicit orders to follow up the destruction of an enemy observation balloon by shooting escaping observers as they dangled helpless in their parachutes. 'It seemed as near the border line between legitimate warfare and cold-blooded murder as anything could well be,' Hall admitted, recalling his squadronmates' similar discomfort.[278] Hall, a sometimes-correspondent for *The Atlantic* who had passed himself off as a Canadian to leap headlong into the British infantry in 1914, was no stranger to the prospect of shooting at the enemy with the intention to kill. His and many of his comrades' experiences with transitioning into a newly combatant military service halfway through the war, however, clashed with coping mechanisms and combat methods they had established on the ground. Much to the chagrin of his editor, Hall joined the Lafayette Escadrille after covering the squadron for an *Atlantic* piece in the autumn of 1916; six months of flight training saw him arrive on active service as

[278] Hall, *High Adventure*, 72.

a 'breveted' fighter pilot in the spring of 1917, a veteran soldier nevertheless made a novice by the experiences of pilots who had fought on the front line over the previous year.[279]

'Well, it's your job, thank the Lord! not mine,' one of Hall's close friends commented wryly when he expressed his doubts about machine-gunning a helpless parachutist in cold blood. Troubled by the implications of this 'border line' violent act, Hall sought advice from a more experienced squadronmate, asking if he might be able to avoid this aspect of the planned balloon attack. The veteran's response was tellingly blunt:

> "Certainly. I have instructions from the commandant touching on this point. In case any pilot objects to attacking the observers with machine-gun fire, he is to strew their parachutes with autumn leaves and such field-flowers as the season affords. Now, listen! What difference, ethically, is there, between attacking one observation officer in a parachute, and dropping a ton of bombs on a train-load of soldiers? And to kill the observers is really more important than to destroy the balloon. If you are going to be a military pilot, for the love of Pete and Alf be one!"

'He was right, of course,' Hall conceded, 'but that didn't make the prospect any more the pleasant.'[280]

Due to the particular timing of his entry into aviation from infantry and civilian life, Hall's semi-autobiographical novel about his time over the front captured perfectly the dilemma put to many aviators over the course of the war. For Hall, learning to fly had been a welcome, absorbing reprieve from his involvement in the war up to that point. In line with many pilots' relationships to flight through the war, he described his time in flight training as exciting, joyful, full of new friends, and even spiritually enlightening. Introducing the possibility

[279] MHS MS. N/854/1 (Atlantic Monthly General Files – Correspondence with James Norman Hall, James Norman Hall 11 October 1916 and 29 April 1917 letters to Ellery Sedgwick).
[280] Hall, *High Adventure*, 72.

of fighting and killing to a new airborne existence, even in circumstances like Hall's where a trainee pilot had already seen combat in another military service, sparked ethical dilemmas, questioned orders, and logistical confusion. Hall and many others found themselves faced with the double-edged reality that a consensus about 'right' ways to be a fighter pilot already existed despite the profound newness of this combatant role.

In post-war popular media and even wartime writing, pilots are perhaps the First World War combatants most celebrated as individual *actors* in war violence whilst rarely appearing as *recipients* of that violence. Memories of wartime aviation focus disproportionately on ace pilots and the precise number of kills they scored, vividly illustrating a violent air war without the inconvenience of complicating factors like the doubt expressed by Hall or psychological trauma. General First World War military histories do often emphasise the high casualty rates faced by pilots to illustrate the fragility, lack of structure, and high-speed novelty of wartime aviation. However, these numbers have not been adequately examined. As has been mentioned, a large portion of would-be French, British, and American First World War pilots died in training long before they went on active service, profoundly reconfiguring pilots' potential relationships to death. More in-depth studies of national militaries like Jay Winter's examination of British casualty rates, too, complicate pilots' perceptions of death and harm: only one in fifty Royal Flying Corps/Royal Air Force personnel died during the First World War, as opposed to one in eight Army personnel. Whilst this statistic obviously includes non-flying crew, it is significant that even flyers in disproportionate amounts of danger would have

been surrounded by a larger unit who lived in relative safety.[281] Given that pilots were not exposed in nearly the same way as infantry soldiers to the mass death of the front below them, what can be made from the obsessive cross-cultural focus on the seeming uniqueness of how pilots fought, killed, and died?

Much of the psychology of specifically aerial warfare has been written about and studied in conflicts from the Second World War onwards, making it a difficult body of work to draw from conclusively in relation to the First. What is emphasised by those who work on drone operators and jet fighter pilots is the particular consequence of 'long range killing', which Dave Grossman characterises as where a soldier 'may be able to see the enemy, but is unable to kill him without some form of special weaponry'. This differs from 'maximum range killing', i.e. acts of killing like those carried out by artillerymen in the First World War by shooting to kill without seeing a target or human enemy. Long range killing, Grossman argues, as well as the fact that pilots shoot at opponents who look strikingly like themselves – members of the same class of aerial body, in other words – 'disrupts' the average psychological process of encountering, doing, and moving past a moment of killing.[282] This can have consequences on aerial combatants that sharply depart from the realm of 'normal' for ground combatants in terms of how they express themselves, justify their behaviour, and experience trauma, as suggested by the disproportionately high suicide and PTSD diagnosis rates of American drone pilots who are never in any physical

[281] Jay Winter, "Britain's 'Lost Generation' of the First World War" in *Population Studies*, Vol. 31, No. 3 (Nov. 1977), 450; Hubscher, *Les Aviateurs Au Combat*, 215. It should be noted that Winter's figures include *all* British air service personnel, i.e. many non-combatants like mechanics; still, Ronald Hubscher's more specific examination of French pilots' and observers' casualty rates suggests that one in six pilots were wounded or killed during the war, as opposed to the figure of one in four French infantry soldiers that Winter establishes was equivalent in the British Army.
[282] Grossman, *On Killing*, 108.

danger whilst operating their machines.[283] Though it is tempting to draw parallel conclusions from later conflicts, the specific context of the First World War here needs introducing beyond the fact of it being the first air war. Aerial killing, either with a machine gun or a bomb, was far more technically difficult than in conflicts even twenty or thirty years later; though they fought on active service for roughly similar lengths of time, the discrepancy between top First World War ace Manfred von Richthofen's 80 credited kills and top Second World War ace Erich Hartmann's 352 speaks for itself. The limitations of aviation technology in the early twentieth century meant that pilots were also closer to their targets, with bombers flying considerably lower and in greater view of their targets and the speed and open-cockpit design of fighter planes meaning that pilots could often see each other's heads and bodies within a machine. Both factors, as well as the fact that pilots on both sides of the conflict appeared to have a higher degree of cross-cultural conversations with one another than other services, suggest that aerial killing was markedly more emotionally and technically difficult in the First World War than in other airborne conflicts.

This is significant given that in all recorded conflicts with air-to-air combat, a minority of fighter pilots have actually shot down an enemy airplane, or indeed shot to kill whilst in the air at all. As is established in the next chapter, 'ace' First World War pilots who shot down multiple enemy aircraft were rare, and disproportionately shaped both the public and other pilots' ideas of what it took to kill in the air. However, such media-hyped focus on 'scoring' – a practice that implied the killing or wounding of an enemy, be it a human body or a machine –

[283] Sarah McCammon, "The Warfare May Be Remote But the Trauma is Real" in *NPR: All Things Considered* (24 April 2017) <https://www.npr.org/2017/04/24/525413427/for-drone-pilots-warfare-may-be-remote-but-the-trauma-is-real?t=1540921147419>.

created a linguistic and imagined alternative to the potentially diverse and disturbing realities of killing other people from the air, one that influenced every combatant pilot's justification for and use of violence.

Indeed, the profound psychological and linguistic distinctions drawn between air-to-air and air-to-ground violence discussed earlier in this chapter suggest that pilots' definitions of *lethal* violence may have been far narrower than the scope of the violent flight they were actually able or routinely ordered to do. The concept of 'scoring' gave tremendous legitimacy and incentive to specific violent acts, ones that focused largely around sending an airborne enemy plane to the ground regardless of whether or not its pilot died in the process. One French mechanic writing home in December 1917 demonstrated precisely the kind of ambiguous attitude to death and quantifiable 'kills' that this produced, reporting that after one of his squadrons' pilots 'shot down a Boche at our aerodrome' where 'the pilot was dead and observer was taken prisoner', their commanding officer chipped in some of his own money to sponsor a party 'for this honour'.[284] The option to bring down another airplane encompassed the potential for violent killing without actually guaranteeing the destruction of a human body, effectively creating a palatable and even exciting incentive for violence. This in turn translated into recruits' overwhelming preference to specialise in fighter aviation, and appeared as a central motivating factor in the personal lives of pilots who did manage to shoot down other airplanes, e.g. René Dorme's claim that he was 'drooling for my official fifth' in a November 1916 article he wrote for *La Guerre Aérienne Illustrée*.[285]

[284] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918, letter from AR 211 mechanic, 5 Dec. 1917).
[285] *La Guerre aérienne illustrée*, Vol. 1 (René Dorme, "L'Adjutant Dorme", 16 Nov. 1916).

The power of this concept of 'legitimate' kills can be seen in the emotional conflict it created when pilots were faced with the full diversity of aerial violence. Shooting down other aircraft was nearly always uncontroversial, even pleasurable and desirable, in pilots' recollections of combat; this was true not just in private writing, but came through in startling clarity in correspondence and popular journalism. Pilots frequently qualified their enthusiasm by comparing their experiences to other 'new' forms of warfare, e.g. these accounts in correspondence picked out by French censors in the autumn and winter of 1917:

> My work fascinates me; I find nothing more exciting as a [former] artilleryman then to set my sights on a beautiful Boche target. And what joy when we bring one down, we sing, we loot to our hearts' content.[286]

> Pointless to tell you I've flown a lot and my job excites me more than ever. Taking a shot at an airplane is a refined pleasure that an artilleryman on the ground cannot know.[287]

> The weather has been splendid these past three days and I had the pleasure yesterday to see a Boche biplane fall in flames under my fire. I'm delighted, naturally.[288]

The comparison to artillery in the first two of these letters – one from a former artilleryman referring directly back to his previous service, another from a pilot trying to qualify the particular high he got from violent flight – is significant for its acknowledgement of an emotional reaction particular to longer-range killing. So is the specific language they use, which deftly replaces the possibility of killing another human with 'a beautiful Boche target', a 'Boche biplane fall[ing] in

[286] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918, BR 213 officer to a female cousin, 25 Nov. 1917).
[287] SHD 16 N 1389 (GQG Contôle Postal 1e Armée juillet 1917-février 1918, C 17 observer lieutenant to an officer friend in Russia, 1 Sept. 1917).
[288] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918, SP 88 pilot to student pilot, 5 Dec. 1917).

flames', and 'taking a shot at an airplane'. These pilots recognised that the specific type of killing they were doing was 'exciting' and a 'pleasure', justifying this by framing killing as something done to another airborne machine. This narrative aligned well with the narrow definition of lethal violence emerging from the newly offensive air war.

Scoring a successful kill was, of course, not an everyday occurrence. Popular wartime aviation media like *La Guerre Aérienne Illustrée* under-emphasised core components of both fighter and bomber pilots' jobs, like targeting enemy soldiers on the ground, in favour of less 'controversial' types of work between equals like aerial reconnaissance or fighter-to-fighter dogfights. However, the ways in which pilots recalled ground attacks had clear parallels with the disconnected, joyful 'autotelic' violence of *Luftwaffe* pilots' Second World War recollections of the same task. Writing about his pre-aviation career as a First World War ambulance driver in a post-war publication, American pilot Harold B. Willis vividly recalled his first gruesome encounter with a victim of aerial violence. One of his most lasting memories of surgery, he claimed, was the death of a young French girl with '17 machine-gun wounds in her body' who had been repeatedly machine-gunned by a German airplane whilst 'tending cattle in a middle of a large field, alone'. This kind of violence, Willis concluded, was part of 'the philosophy of total war' rather than particular to the Germans: he emphasised that his own experiences in the air service, where pilots frequently spoken about violence as pleasure, solidified this belief.[289] Though less emphasised in post-war recollections, brutal acts of air-to-ground violence targeted specifically at individuals, rather than landmarks or buildings, were

[289] *Readers Digest* (Harold B. Willis, "I Drove an Ambulance", October 1940).

often described as moments of pleasure, humour, and satisfaction. Edward Mannock, for example, made a point of recording his squadron's response to a German unit putting up an English sign reading 'For God's sake/Give your pilots/a rest' along their stretch of trenches. 'We sent 3 BEs along at once and machine gunned the trench where the notice was,' he concluded lightly in his diary. 'Such is war.'[290] British pilot Douglas Sholto expanded upon this when questioned about his choice of words in a 1960 interview:

> Q: You said you had a bit of fun. I wonder if you could tell me what you meant by that?
>
> A: Well, of course, as a battle it was rather unpleasant because, I mean, we were retreating and in fair disorder. But actually from the flying point of view, the point of view of my squadron, we found it tremendously interesting, because before the retreat started we found the Germans, invariably, in trenches, in trench positions which is always a difficult thing to do and also rather dangerous. You get badly shot at, and you don't do much good. Here we found Germans marching down the road, in fours, you know, right in the open, absolutely sort of heaven-sent targets…. I don't say that they were the sole factor or anything like that, but we did a lot of damage, and we were doing sort of 5 or 6 sorties a day, going out and shooting these people up…It was really very exciting.[291]

Sholto's enthusiasm for such 'absolutely sort of heaven-sent targets' was one shared by many pilots afforded the opportunity to shoot people on the ground without the usual dangers of low-altitude trench flying. What to make of this 'exciting' memory of 'shooting these people up' in contrast to still-lauded narratives of ace pilots engaging in complex, fast-paced dogfights? Shooting helpless targets on the ground seems to align well with the theorised appeal of 'autotelic' violence, or violence for the sake of doing violence without formal regulation. It is here that studies of air war can benefit from more closely

[290] Mannock, *Personal Diary*, 61.
[291] Douglas Sholto, oral history interview NXCP87-A927, 1961. CCOHR.

examining the divide between the air and the ground. Sholto, Mannock, and many of their peers here described violent practices and routines that sprang directly from pilots' mental and physical self-location in airspace. On the ground, successes and well-executed actions from airborne combatants were infinitely tangible, even countable, in ways that spectacular in-fight aerobatics or enemy aircraft damaged without formal confirmations were not. Targets on the ground confined to trenches, roads, and train tracks had little to none of the agency afforded to mobile, specialised combatants moving fast through airspace. Violence done to ground-based targets by fighter pilots was an exercise in enjoying agency, of shedding the restrictions imposed by the comparatively even playing field of airborne combat; it was also unquestionably *work* according to the terms of their new combat culture. As Sholto's explanation and combat theorists' studies of fighter pilot psychology from the Second World War onwards suggest, pilots sustained themselves on this kind of killing, which appeared to do 'a lot of damage' and therefore produce tangible results whilst suspending combatants in a state of non-traumatic exhilaration.[292]

Did these attacks, which often yielded tangible, visible results of destruction via sights of damaged buildings and knocked-down troops, somehow differ from 'killing'? Though going out of his way to describe air-to-ground combat in an attempt to de-mystify First World War military aviation in his 1938 memoirs, American pilot and later US Army Air Service senior officer Edwin Parsons spoke about 'our enemies' entirely in reference to enemy aviators, not enemy infantry soldiers. For Parsons, the enemies he encountered in the 'equal'

[292] E.g. Robert C. Stone, "Status and Leadership in a Combat Fighter Squadron" in *American Journal of Sociology*, Vol. 51, No. 5 (Mar. 1946): pp. 388-394 and Roger R. Reinhardt, "The Outstanding Jet Pilot" in *The American Journal of Psychiatry*, Vol. 127, No. 6 (December 1970): pp. 732-736.

playing field of airspace were his primary point of contact with the ideological terms in which he viewed the war: 'We thought of them only in terms of machines, an integral, concrete representation of German militarism which we were combating. Our aerial battles were just like a game, with the personal element entirely lacking.'[293] Though American pilot George Vaughn avoided such explicitly ideological language in his 1960 oral history reminiscences, his description of air-to-air fighting as 'sort of a game situation' where 'you [weren't] really conscious of a pilot in there at all' was also a typical take.[294] Reginald Sinclair clarified this interpretation of seeking kills as a 'game' by describing the emotional detachment it produced in him:

> I never had any personal feelings. It was a game. Of course, you didn't see gruesome things like you do in the trenches. But the Frenchmen in my squadron – and they were a fine bunch of people – they hated [the Germans]. I never felt any hate. I always felt that the German fighter pilots were fellows like me that were doing the same thing I was doing because we were supposed to do it for the cause. I didn't have emotions – of that type. Of course, you got excited when you heard machine guns behind you particularly. You knew you better get turned around somewhere and not make a target out of yourself.[295]

This focus on air-to-air encounters with enemies in post-war recollections suggests that reflections on larger-scale or longer-distance killing were not, unlike celebrations of individual downed enemy airplanes, encouraged or particularly socially acceptable. Sinclair's insistence that 'I didn't have emotions – of that type', i.e. hatred, when engaged in air-to-air combat hints at particular combat conditions that enabled him to do his 'work' without the complications of guilt or personal investment in his enemy. Quick, split-second engagements

[293] Parsons, *Flight Into Hell*, 151.
[294] George Vaughn, oral history interview.
[295] Reginald Sinclaire, oral history interview.

where ‘you heard machines guns behind you’ and were plunged into a kill-or-be-killed scenario with another airplane, it was implied, were ideal situations for aerial killing. Here, certain brief, strong emotional and physical reactions like excitement and adrenaline were acceptable: they facilitated fast action without lingering once the victor returned to the ground.

Instances where pilots deviated from this narrative, then, reveal the extent to which communal sensibilities about violent flight permeated their social spheres and the ways in which they structured combat. Confessions of fear, guilt, or doubt in relation to air-to-air killing are rare but striking, especially when coming from high-scoring, ‘successful’ pilots whose reputation was closely tied to their ability to kill. When asked about how he viewed enemy pilots, American ace Douglas Campbell recalled that he saw it ‘more like fighting some dangerous bird’ rather than being ‘out for him as an individual’, with one marked exception out of his six official kills: ‘That was either the fourth or fifth one – the fifth one.’

> I saw a German observation ship, way up high, and I went up and attacked him. The rear gunner was apparently somewhat of a novice, because he kept shooting at me when I was really too far away. After a short time of this – sometimes you think you’ve been fighting for ten minutes, but your clock will only show half a minute – his ammunition belts were streaming out in the wind, so he was out of ammunition. I tried to head him off and make him turn back, see if I could make him land, but he would have none of that. He kept flying straight towards his own side of the lines, and he’d been taking photographs of our artillery positions for an hour, so I decided to shoot him. And that was really sort of cold-blooded. I didn’t like that very much. He was out of ammunition, he couldn’t defend himself. But I couldn’t let him take the pictures home, so I shot him. It was sickening.[296]

Campbell’s story is markedly similar to French ace Alfred Heurtaux’s recollection of a ‘dramatic kill’ near Péronne:

[296] Douglas Campbell, oral history interview.

> At first I killed the pilot. The observer was in the rear, shooting at me with a machine gun. When the pilot was killed, the observer held up his two hands and I remember his expression. His fear in his eyes. I will remember it always. He was killed in the crash – he had no chance to escape.[297]

Heurtaux's account is notable because he was actually able to see the expression on another person's face, a rare experience that fellow ace René Fonck described as 'disturbing' and giving him an 'odd feeling'.[298] Encounters where humans were visible from within the cockpit and using body language independent of signals made with an airplane in flight were usually framed as unusual and noteworthy in pilots' wartime combat reports and post-war recollections. This suggests that 'successful' killing was done at what pilots perceived to be 'long range', i.e. at enough of a distance not to have to see another person's face. Campbell's story of his fifth official kill describes a significantly unbalanced fight in which his opponent had neither the gunnery skill nor ammunition to fight him on roughly equal terms, yet repeatedly refused to surrender. The length of the encounter, as well as Campbell's multiple re-assessments of the situation and his own willingness to use violence, removed the possibility of pleasure or even clear-cut quantifiable output of labour from his kill.

Writing about pilots' tendency to use the language of 'games', competition, and sport when speaking about killing, Mike Spick emphasises that publics in both World Wars often misread this language as a kind of chivalry inherent to aerial combat. Rather, Spick correctly points out that in the First World War in particular, no military-enforced rules existed to govern the violent area of 'gameplay'. Rather, he suggests, the language of 'games' and play was a

[297] Alfred Heurtaux, oral history interview.
[298] Fonck, *Mes Combats*, 77, 120.

convenient, accessible way to articulate pilots' improvised, self-imposed ideas of right and wrong in a highly non-traditional battle space, and revealed an on-going negotiation of the 'rules' of aerial violence far more than it did any cross-national consensus or universal chivalry.[299] Enemy behaviour that conflicted with pilots' own engrained notions of best practices, then, often stood out in their recollections of killing and death. Complicated acts of killing could be seen as tarnishing the legitimacy of a job well done, as hinted at by American volunteer pilot Bill Thaw's blunt assessment on landing minutes after shooting down one of his first airplanes: 'No credit to me. I just murdered him. He never saw me.'[300] The ways in which pilots spoke about these less conventionally successful acts of killing are also revealing about their own fears and coping mechanisms related to death. Themes in accounts of these more controversial acts of killing or 'murder' reflect pilots' own oft-voiced insecurities about their bodies in the air: loss of (emotional or mechanical) control, coming across an enemy with a significant material disadvantage, not having the skill or expertise to fly, fight, or escape successfully. Campbell's assessment of his fifth kill as 'sickening' spoke not just to the lasting trauma this 'cold-blooded' kill had left him with, but also the fears of many aviators struggling to adjust to the new rules and restrictions of a rapidly changing combat space.

Pilots' ability both to do and face violence in the air relied upon a collective re-definition of death, one that reflected a new cultural consensus about the machine-human hybrid as a coherent class. In examining the impetuses behind the anthropomorphising of machines from the Renaissance onwards, Daniel

[299] Spick, *The Ace Factor*, 5.
[300] Thenault, *L'Escadrille Lafayette*, 43.

Black emphasises the cultural and historical specificity of this process over the assumption that such an association is 'an inevitable result of the objective natures of either bodies or machines'. 'Just as the kinds of machines considered to be like bodies have changed over time,' Black writes, 'so the qualities considered definitional to bodies have also changed (and have in fact often arisen in response to changes in the nature of machines).' Like many scholars of technology, Black gives little individual attention to airplanes, focusing on automobiles as early twentieth century actors of industrialisation that secured a close association between human and machine self-movement/embodiment and, therefore, mortality.[301] The particular context of the First World War's cross-national inception of a mass-produced aviation industry and the introduction of airborne death into warfare, however, deserves more careful consideration. Rather than regarding the aerial human-machine body simply as a *symptom* of industrialisation and total war, as per the broader ideological uses of aviation in the early twentieth century, it is perhaps more useful to examine pilots' practical, everyday relationship with death through the lens established earlier in this chapter; that is, as the body of a worker enhanced and equipped to navigate a dangerous, unregulated workspace. Death was therefore an ever-present occupational hazard inherently tied to the quality, output, and material conditions of aviators' work.

[301] Daniel Black, *Embodiment and Mechanisation: Reciprocal Understandings of Body and Machine from the Renaissance to the Present* (Farnham, Surrey, 2014), 11, 73.



"La Passagère", a 1911 painting by Georges Scott depicting Death as an aviator's ever-present passenger. It appeared in a November 1916 issue of La Guerre Aérienne Illustrée *accompanying an article called "Dans Les Airs, Avec La Mort!" with the caption: 'The symbol depicted in this work of art has since become a more gloomy reality.'*

The 1911 painting *La Passagère*, which illustrated the inherently dangerous, high-mortality reality of early twentieth century flight, featured in a *La Guerre Aérienne Illustrée* article from the winter of 1916 that explicitly traced the occupational risks of aviation into militarised air war. The anonymous author, who described several dramatic aerial deaths from the battle of Verdun onwards, examined how sharing airspace with other armed aerial bodies had exacerbated some of the risks of flight. 'What an agonising situation, the atrocity that befalls the observer who, witnessing the sudden death of his pilot and ignorant of the necessary manoeuvres, awaits the fatal second that will make him too a cadaver!' lamented the writer. 'How many are dead because they did not know how to react or did not have the necessary presence of spirit!'[302] Ordinary peacetime flying risks like mechanical difficulties, slow reflexes, or

[302] *La Guerre aérienne illustrée,* Vol. 2 ("Dans Les Airs, Avec La Mort!" 23 Nov. 1916).

insufficient experience became heightened in violent flight, where bullets and fast manoeuvres could damage vital components to the airplane or impair a pilot's physical or mental ability to manage the controls. The unpredictability of these factors meant that loss of a reliable working skillset and familiar embodiment was, ultimately, one of military pilots' most commonly cited fears.

In pilots' writing and recollections, the possibility of dying was closely related to the limitations of agency within an acutely individual combatant experience. Given that aviators on active service rarely encountered dead bodies or came physically close to wounded and dying people, death was an abstract concept more closely related to the failure of aerial bodies than the presence of human loss. Exceptional casualty rates in flight training, as opposed to infantry or naval soldiers' first encounters with military life, shaped pilots' awareness of their vulnerability to and agency for violence. Drawing from the personal writing of American trainee pilots in the First World War, Samuel Hynes focuses on crashes as sites of learning and self-positioning to the violent realities of aviation. He stresses pilots' tendency to document specifically, almost obsessively, the faults and mistakes they perceived when a fellow aviator crashed.[303] Other pilots' deaths, in other words, were easier to understand – and avoid – when dissected to expose conscious choices and avoidable errors, a communal practice that often led to pilots describing accident-related deaths in remarkably blasé language. One French trainee writing to his parents in October 1918 described one of several deadly crashes he witnessed by deliberately blaming it on the victim:

[303] Hynes, *The Unsubstantial Air*, 85.

> Yesterday evening, we had a pilot killed by his own fault. He was doing exercises above the field and went to do some acrobatics, the unfortunate man made a false move, the machine side-slipped and crashed to the ground.[304]

Tellingly, the physical acts behind the accident – making a false move, the airplane's side-slip – guided the young trainee's interpretation of the other pilot's death, putting responsibility for the crash and the implied ability to change its outcome on the pilot rather than a mechanical fault or poor training. Similarly, pilots often remarked upon circumstances that *should* have been fatal or disabling to their own airborne bodies based on the collective experiences and advice of their comrades, but from which they emerged unscathed thanks to specific actions or pure luck. Edward Mannock bragged in his diary about landing safely after a rough flight where the lower right-hand wing literally snapped off his airplane: 'Such a thing has never happened before where the pilot has not been killed or injured by the fall,' he marvelled.[305]

Inability to control such factors, i.e. to conform to the informal survival mechanisms and acceptable practices that governed aerial killing and fighting, was closely linked to fears about death. Writing to another pilot friend in November of 1917, a French pilot mourned the loss of a comrade. 'We had the misfortune to lose a Letord crew, piloted by our own poor Bertin: they went down in flames before my eyes without being able to do anything about it.'[306] In this account, Bertin's aircraft was tellingly inextricable from his own body and embodied agency: after all, he had had no way to escape. Royal Air Force pilots were not mass-issued parachutes, i.e. the ability to separate their own mortality

[304] SHD 16N 1390 (GQC Contôle Postal 1e Armée, mars 1918-decembre 1918, letter from trainee pilot to his parents, 2 October 1918).
[305] Mannock, *Personal Diary*, 47.
[306] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918, 19-25 Oct. 1917, letter from AR 8 pilot to aviator friend, 23 Nov. 1917).

from their machines', until the last few weeks of the war, with the Germans only beginning to use them regularly in April 1918 and French and American air services not introducing parachutes for pilots and observers until after the war. Actually witnessing identifiable deaths like Bertin's was unusual, but such instances hammered home a fundamental fear of not 'being able to do anything about it'; a fear that suggested, tellingly, that pilots assumed a degree of responsibility for their own lives that was deeply rooted in individual action and work rather than group effort and obligation.

Some aviators actually cited this individual, self-reliant quality to aerial death as a motivating reason for becoming a pilot in wartime. French ace Alfred Heurtaux began his aviation career as an observer, but remembered feeling a deep sense of unease whilst in the air without agency over his own body. 'I was only baggage, not the pilot,' he stated bluntly in a post-war interview. 'I went to the commander and said that I didn't mind getting killed, but I would prefer to do it myself.' James P. Murray, an American who joined the Royal Flying Corps in 1915 via Canada, made a direct comparison to his perception of the quality of death in the trenches:

> Well, I was teaching at Newman School, a boys' preparatory school in Hackensack, New Jersey. And I was a little afraid that I was not cut out to be an instructor or teacher. And I was a little afraid the war would be over before I could get into it and I was also afraid of life in the trenches and being disabled and wounded. Whereas in aviation you got it all at once. In other words, if you had any problem it was all over as a rule. So it was from the fear or cowardice standpoint, I would say, that I got into aviation.[307]

Much has been written about the framing of death as 'sacrifice' in First World War combatant narratives, most recently and relevantly Alexander

[307] James P. Murray, oral history interview 4076470, November 1960. CCOHR.

Watson and Patrick Porter's compelling argument that soldiers regarded individual deaths and sacrificial acts of bravery within their units as significant combat motivators.[308] This theme was certainly keenly pointed within wartime propaganda and press in relation to the air war, e.g. the lavish coverage of Georges Guynemer's martyr-like death alongside triumphant headlines about his and other top French aces' scores.[309] Language like Heurtaux and Murray's, however, complicates whether this kind of rhetoric was truly applicable to how pilots on active service conceived of their own deaths and the deaths they caused. Given that a 'kill' that was quantified by downing an aerial body rather than necessarily killing another pilot, pilots often survived situations identical to situations they themselves claimed as 'victories'. Similarly, the emphasis on being in control of one's death – of 'prefer[ring] to do it myself' – and of avoiding 'being disabled and wounded' by '[getting] it all at once' presumed that aerial bodies had an unusually high degree of consciousness, mobility, and individual responsibility, making it more likely that aerial death would be the result of a conscious choice or individual mistake than a contribution to a group effort or random act of violence. Unlike the quantifiable, highly visual 'sacrifices' of infantry soldiers' bodies, aerial death was, in pilots' minds and day-to-day realities, more of an abstract consequence that shaped work practices. At an administrative level, air services largely encouraged this notion of abstract aerial death without standardising many pilots' practical attempts at preventing casualties. Hugh Trenchard forbade empty chairs in British squadrons' messes

[308] Alexander Watson and Patrick Porter, "Bereaved and aggrieved: Combat motivation and the ideology of sacrifice in the First World War" in *Historical Research*, Vol. 83, No. 219 (Feb. 2010), 159-60.
[309] Bernard Wilkin, "Aviation in Propaganda in France During the First World War" in *French History*, Vol. 28, No. 1 (2014), 48.

before standardising seat belts or parachutes, for example, whilst the *Service Aéronautique* saw a volunteer spike after its sanctioned funeral tour for Georges Guynemer where his flower-strewn famous airplane, 'Vieux Charles', stood in for a coffined body.[310]

Pilots' perceived and real high degree of individual responsibility and agency for aerial violence did have a sacrificial consequence, though not in the way Watson and Porter discuss in relation to soldiers on the ground. With the standardisation of offensive, fighter-focused military aviation, civilians, air services, and pilots themselves became increasingly focused on the *output* of aerial violence without attending to the increasingly demanding flying conditions that facilitated it. The extensive work on psychological trauma and medical culture in the First World War has only recently begun to investigate the particular consequences of aviation on combatants' psyches, diagnoses, and treatment; or, more specifically, why pilots were often absent or actively excluded from interpretations of trauma applied to and treated in infantry soldiers.[311] This scholarly trend has, perhaps unsurprisingly given the prominence of shellshock in popular memory and academic history, focused almost exclusively on British pilots. The most up-to-date social history of French First World War aviation, Ronald Hubscher's *Les Aviateurs Au Combat* (2016), discusses symptoms of pilots' trauma without going so far as to examine them as

[310] Philpott, *Air and Sea Power in World War I*, 70; SHD 19 N 490 (Comptes rendu statistiques des opérations aéronautiques, renseignements août 1917-janvier 1919).
[311] See for example Michael D. Collins, "A fear of flying: Diagnosing traumatic neuroses among British aviators of the Great War" in *First World War Studies*, Vol. 6, No. 2 (Nov. 2015): pp. 187-202 and Lynsey Shaw Cobden, "The Nervous Flyer: Nerves, Flying and the First World War" in *The British Journal for Military History* Vol. 4, No. 2 (2018): pp. 121-142. I owe a particular debt to Lynsey Shaw Cobden, my former co-supervisee and academic sibling, for her generosity in talking through her own research and brainstorming this topic in relation to my own work.

a distinct phenomenon, following the example of the wartime French military.[312] Drawing from the largely unexplored wealth of Royal Flying Corps and Royal Air Force medical notes related to aviation psychiatry, Lynsey Shaw Cobden concludes that British medical professionals working with wartime aviators did interpret the symptoms, circumstances, and long-term effects of their psychological trauma as distinct from those of infantry soldiers'. The resulting diagnoses – 'flying sickness' or 'neurasthenia' rather than 'shellshock', with many flyers complaining colloquially of 'nerves' – made up 13 per cent of the Royal Flying Corps' casualties, and was largely explained as a reaction to the physical realities of flight, most commonly altitude.[313]

Shaw Cobden's work on British aviation psychiatry during the First World War, as well as similar enquiries by Michael D. Collins, focuses on evolving medical responses to trauma prompted by the conflict's diversity of new, distinctly twentieth century violent experiences. Though this research takes the crucial first step of differentiating aviators' combat trauma as unique and establishing historical precedence for that conclusion, there is not yet a definitive work related to any conflict that adequately aligns the formal medicalization of military aviation-specific psychology with pilots' emotional lives and expressions. Wartime pilots across national lines were keenly aware of the psychological impact of their work, as well as the mostly informal processes by which they, their peers, and their immediate superiors and medical providers attempted to manage or express trauma. They also frequently pinpointed and articulated possible reasons for their emotional distress beyond the physical

[312] Hubscher, *Les Aviateurs Au Combat,* 201, 210-214.
[313] "Annotations: The Influence of Altitude on the Nervous System" in *The Lancet* (1 January 1916).

factors postulated by contemporary medical research, though the environmental conditions of airspace were indeed contributing factors. What is perhaps most striking about pilots' articulations of trauma and reflections on the mentally wearing aspects of their work is their conflation of *aviation-related* violence and *combat* violence. The state of flying on full-time active service, i.e. participating in violent flight even when not immediately receiving or deploying particular violent acts, appeared to take the heaviest toll on many flyers.

Pilots' wartime personal writing and official medical reports give an often-excruciating look into the symptoms of aviators' trauma, as well as the extent to which pilots, their commanders, and medical professionals saw them or their experiences as psychologically different to other soldiers'. Regardless of nationality, the concept of 'nerves' was central to pilots' symptoms and understandings of their own trauma. Though French pilots did not use this term, which appeared in British and American military diagnoses, their frequent references to their own 'courage' and 'spirit' functioned similarly as synonyms for mental/emotional capacity and personal morale. 'Nerves', which Shaw Cobden notes was a 'medical term and linguistic trope simultaneously' applying to physical bundles of nerves in the body and shorthand for general psychological state, and their French equivalents usually came up in pilots' language in direct relation to an individual's ability or desire to fly and work.[314] One French cadet at Chartres aviation school, for example, wrote to a friend in October 1918 how he had 'lost and still cannot find what remained of my courage to go into aviation' after he saw 'so many nasty things' on a training

[314] Shaw Cobden, "The Nervous Flyer", 123.

flight over the front.[315] Symptoms of shaken nerves could vary widely, but some were consistent enough for pilots to recognise in one another: American pilot Charles Dolan remembered specifically that out of the 38 men who flew in his unit during the war, 'two or three…got to that point where they either had what you might call battle fatigue or what have you', a figure that roughly corresponds with the estimated 13 per cent of Royal Flying Corps casualties who were diagnosed with 'nervous' conditions.[316] It is intriguing to note that pilots were not often recorded, either in formal diagnosis or wartime recollection, as having symptoms associated with trauma from infantry service under artillery fire or in the trenches, e.g. stiff or 'frozen' limbs, loss of mobile control or speech, or sensitivity to sound.[317] Far more common were headaches, irritability, 'general malaise', 'weakness', 'nervous depression', exhaustion and fatigue, and sleep conditions like nightmares or insomnia. These very general, difficult-to-qualify symptoms, as well as early twentieth century medical inclinations to examine the body before the mind, in part led to British medical officers attempting to quantify aviators' trauma as 'flying sickness', a physical condition brought on by cold temperatures, lack of oxygen, and air pressure changes at high altitudes.[318] Outside of a formal medical context, though, most pilots seemed to make sense of these less-than dramatic, non-physicalized symptoms as what they were: reactions to the strain of active service in the air.

[315] SHD 16N 1390 (GQG Contôle Postal 1e Armée, mars 1918-decembre 1918, letter from student pilot to a friend, October 1918).
[316] Charles H. Dolan, oral history interview NXCP87-A970, October 1968. CCOHR.
[317] Annette Becker, "Guerre totale et troubles mentaux" in *Annales. Histoires, Sciences Sociales,* 55e Année, No. 1 (Jan.–Fev. 2000), 138.
[318] TNA MH 106/2202 (War Office Medical Case Sheets for Royal Flying Corps); Shaw Cobden, "The Nervous Flyer", 133.

Crucially, formal and informal recognition of aviators' trauma was almost always tied to the long-term wear of specifically *violent* flight. Medical notes attached to the case of RFC Second Lieutenant Alfred Victor Blenkion clearly carry his doctors' assumption that altitude was the central cause of the bad insomnia, permanently dilated pupils, and slight tremor that saw him hospitalised twice in the summer and autumn of 1916. However, the narration of his case also acknowledges the extent to which long stretches of flying on active service – regardless of altitude – wore on his mental health, and may in part have contributed to his persistent complaint of a 'bad tooth' that took him off the front line in the first place.

> 5 months flying – last 2 months 3 hours patrol – too much at 10,000 ft. [Blenkion] began to feel faint, suffered from sleeplessness due to worries about patrol duty – only fainted once when in air – giddy on reaching ground.[319]

Blenkion's specific anxiety over and clear avoidance of 'patrol duty' speaks to the violence inherent in combatant airspace, and the ways in that space structured pilots' trauma and relief. Unlike some of his fellow patients, Blenkion did not appear to have had a particular traumatic incident during his flying career; his file contains no references to crashes, accidents, or physical injuries. Instead, the work and workspace of a patrol – getting into an aircraft, going up, and joining other aerial bodies travelling over the front – contained danger for him. For Blenkion and many of his peers, as well as the doctors who examined and diagnosed them, it was often the repetition of this highly structured task rather than a specific traumatic event that brought them to a place where they could no longer complete it. This notion of violent flight as a long-term wearing down of

[319] TNA MH 106/2202 (War Office Medical Case Sheets for Royal Flying Corps, 2nd Lt. Alfred Victor Blenkion).

pilot's ability to work, and indeed many pilots' conscious identification of that as the cause of their own declining mental wellness, is intriguing because it describes a traumatic experience that did not inherently contain violent acts perpetrated by or to the combatant.[320] Rather, the keen mental and physical awareness demanded by everyday flight, heightened by the added potential for dangerous interaction with other actors in the air and on the ground, created conditions from which most pilots recognised they would eventually need relief. Veteran pilots who continued to perform First World War-type flying in the immediate aftermath of the war, intriguingly, would develop and narrativise similar symptoms, as is explored in the final chapter.

Patrols, i.e. active service flying, were at the centre of pilots' descriptions of their own and friends' nerves-related trauma symptoms. Many were triggered by the sight, smell, and feeling of their airplane itself. French pilot Pierre Bloch sought help from his squadron's doctor after he repeatedly threw up whilst trying to climb into his airplane for his second patrol of the day in July 1916. After a week's worth of ineffective medication, he recalled in his post-war memoirs, he made the connection between his body's reaction and his mental state:

> A week of serious self-reflection ends with one conclusion, the only one possible: I'm scared. Fear, provoked in the long run by fatigue, manifests itself in me, not by an identifiable feeling, but by a physiological process that results in vomiting the moment that I'm going to take a risk.[321]

Taking off on and landing after patrols clearly delineated the space in which pilots '[took] a risk', but it was the repetition that pilots saw as having long-term

[320] M.J. Larrabee, S. Weine, and P. Woollcott, "'The Wordless Nothing': Narratives of Trauma and Extremity" in *Human Studies*, Vol. 26, No. 3 (2003), 354, 369.
[321] Pierre Abraham [Bloch], *Les Trois Frères* (Paris, 1971), 234.

mental and physical effects. American pilot Harold B. Willis, who was shot down and captured shortly before the end of the war, claimed that the abrupt change in routine wrecked his sleep patterns: 'It was weeks before my nerves, tense after three years of the energetic, exciting life of the Front and the flying game, would permit me quiet sleep,' he marvelled. 'In the esquadrille [sic] we enjoyed the unbroken rest of infants!'[322] Edwin Parsons, by contrast, had his own sleep regularly disturbed whilst on active service, describing dreams in which he would relive particular flight routes and engagements from the previous days' patrols in vivid detail down to the instruments he used and markings he spotted on other aircraft. 'Consequently,' he remembered, 'I got up for patrols with the wambling twitters, and I was quite likely to burst into tears if anyone spoke harshly to me or do a backflip if anyone dropped a shoe.'[323] The unusual dichotomy of aviators' daily activity, with pilots spending short, intense periods of time in a distinctly violent airspace and then returning to the relative safety of an airfield miles behind the front lines, seemed to exacerbate the close association between flying work and mental strain. With closer physical proximity to the civilian world often guaranteeing access to food and drink outside of rations, many filled the waits between patrols with coping strategies like alcohol.[324] Parsons went so far as to suggest that those who did not drink were worse pilots: 'They had too much time to think, to let their imaginations run riot…. They had no way to keep themselves from unravelling,' he explained.

[322] Harold B. Willis, oral history interview.
[323] Parsons, *Flight Into Hell*, 170.
[324] Hamilton-Paterson, *Marked for Death*, 163-65; H.G. Anderson, *The Medical and Surgical Aspects of Aviation* (London, 1919), 23-24.

'During the last year and a half of the war, I rarely went up without a couple under my belt.'[325]

How to cope with the reality that the work of wartime flying itself, regardless of whether or not pilots actually engaged in violence or came under attack, took a significant toll on pilots' ability to keep flying? Commanding officers' attempts at dealing with their pilots' trauma can be seen on several occasions where their squadron logs corresponded with pilots' dated personal reflections about moments where flying made them feel overwhelmed or unwell. Edward Mannock, for example, recorded in his wartime diary that he had uncharacteristically turned from a fight after being surprised by a German aircraft, an incident that left him 'with my knees shaking and my nerves torn all to bits'. 'I feel a bit better now,' he confided to his diary, 'but all my courage seems to have gone after that experience this morning.' In his next entry, he commented briefly that his commanding officer had given him ferrying flight duties away from the front lines, a decision confirmed in 40 Squadron's log without embellishment.[326]

Squadron logs indicating who flew each day and in what order rarely corresponded from week to week and sometimes gave some pilots more leave than others, suggesting that commanding officers, squadron medical personnel, and flight leaders drew up these rotas based on factors other than simply taking turns.[327] Physical and mental fitness, as well as an individual's ability to do

[325] Parsons, *Flight Into Hell*, 166, 169.
[326] Mannock, *Personal Diary*, 75-76; TNA AIR 1/1222/204/5/2634/7 (Air combat reports: 40 Squadron Royal Flying Corps, May 1917-June 1917).
[327] TNA AIR 1/1219/204/5/2634/70 (Air combat reports: 15 Squadron Royal Flying Corps, June 1916); TNA AIR 1/1223/204/5/2634/79 (Air combat reports: 52 Squadron Royal Flying Corps, April 1917); TNA AIR 1/1223/204/5/2634/79 (Air combat reports: 48 Squadron Royal Flying Corps, November 1917); SHD AI 1 A 49 & 50 (Situations en Personnel des Escadrilles).

certain types of tasks and withstand particular environmental conditions, could all factor into eligibility for combat flying. Visible willingness to *do* flying work and attempt to share that work with a unit, however, was crucial to a pilot's ability to stay on active service. Several Royal Flying Corps pilots diagnosed with 'flying sickness' and 'neurasthenia' were not actually taken off active service and treated as mentally unfit until they explicitly requested not to fly or refused to go up on patrol.[328] Aviators' fear of or experiences with violence, though recognised and often informally managed within squadrons' day-to-day business, were less excusable if this translated into behaviour that could be interpreted as shirking. In at least one famous instance that Second World War Royal Air Force pilots would later use as justification for doing similarly, an American squadron dealt with one such case by drastically taking matters into their own hands, as recalled by pilot Charles Dolan:[329]

> There was one incident where this fellow would be in a patrol, and he'd fly out till they crossed the line, and then he'd drop out with engine trouble or something and come home. The next day he'd drop out because the sun had blinded him or something. At any rate, he'd fly along the lines, and then when the squadron had come back over the lines, he'd drop in place. This got so bad that at the end of about a month the fellows shot him down – his own men shot him down. They didn't want any Frenchman to think that they had those kind of Americans. So he's among the missing, and his record is unmarred in the history of the Escadrille. But we had a couple of fellow like that. Other fellows went on leave and never came back – for various and sundry reasons. A couple of them asked to be sent to the rear. But the majority of the boys were there doing a job. They were resigned to die.[330]

Dolan's extraordinary admission – that his squadron killed one of its own pilots for the sake of preserving the 'acceptable' combatant status of its unit –

[328] TNA MH 106/2202 (War Office Medical Case Sheets for Royal Flying Corps).
[329] Brian Kingcome, *A Willingness to Die* (London, 1999), 94-95.
[330] Charles Dolan, oral history interview.

speaks volumes about the extent to which aviators were developing relationships to violence on their own terms. Aviators' close association with quantifiable 'kills' or 'victories' translated to wartime publics as a kind of reprieve from the war on the ground, a chivalrous, necessary alternative to anonymous mass death. It is perhaps more accurate when articulating the specific combat culture of fighter pilots, though, to consider the implications of Charles Dolan's anecdote. Airspace rapidly transitioning from an observation space overlooking a battlefield to a militarised battlefield in its own right needed rules of engagement far more than it did military oversight, a reality acknowledged both by air services and pilots themselves. This in turn produced conditions where pilots created and shared their own tactical practices and rules of 'acceptable' violence, and, by extension, a combat culture that relied more upon an emotional consensus about acceptable forms of killing and death than the traditional combat motivators of military discipline and hierarchical obligation.

In the absence of a unit's support when in close proximity to violence, pilots on patrol relied upon close physical and mental engagement with their machines. This powerful unity of 'dress, motion, and space' – in other words, the conditions of flight – helped catalyse a coherent work culture even when combatants themselves were removed from conventional workspaces and physical relationships with one another. When the successful armament of airplanes prompted pilots to establish offensive tactical practices, re-configure their existing flight skillsets, and begin to work in tandem with their units to develop a sense of 'air superiority', the realised possibility of autotelic violence – 'the feeling of having power in areas where one normally has none' –

incentivised aerial killing and shaped a distinctive aerial combatant culture. The ace pilots that became its most famous practitioners, then, were less significant to the air war for the 'victories' they scored than their primary contribution to air services: they were most often the ones to articulate the distinctiveness of aerial violence and translate it into a 'morally survivable' experience.[331]

[331] Lee, "'Knights of the air': Joyful slaughter and the pleasures of moral survival", 1-2.

CHAPTER FOUR
Flying Aces



Raoul Lufbery with Whiskey, one of the lion cub mascots of the Lafayette Escadrille, in 1917.

> *I was in daily contact with a figure of flesh and blood, but know him? Not a chance. In contrast to him, the Sphinx was a child's primer...He was a man seemingly devoid of fear or, in fact, emotion of any kind. But what a man he was in the air!.... Broad forehead, deep-set eyes, squat, chunky figure just a trifle over 5 feet six inches, and muscles of steel. He rarely ever talked, but when he did, it was with a strange accent that had traces of every nationality with which he had been in contact.... I only know one certain thing about him, Raoul Lufbery flew, fought and died for revenge.*
>
> – Edwin Parsons, *I Flew with the Lafayette Escadrille* [332]

To this day, 'aces' – pilots who shot down a significant number of airplanes – remain the dominant legacy of First World War aerial combat. These pilots, most famously Manfred von Richthofen, the Red Baron, remain representative of the violence of early aerial warfare in fiction, scholarship, and cultural memory. Their writings and representation in the media also guided contemporary public imagination about the first air war. This preoccupation

[332] Paul Rockwell Papers 301a/1 (Miscellaneous photographs of the Lafayette Escadrille, 1916-17). Washington & Lee University Library; Parsons, *I Flew With the Lafayette Escadrille*, 55.

with aces is arguably part of why the First World War in the air has remained so under-examined by academic historians, particularly historians of combat; ace pilots' experiences seem brutally straightforward. In personal writing and public representations alike, aces like René Fonck and Albert Ball appear to be uncomplicated personalities whose public glamour and frequent glorifications of violence speak for themselves. Some military sociologists have gone so far as to suggest that many soldiers who kill to a disproportionate degree, e.g. snipers and ace pilots, are essentially sociopaths, uniquely suited to killing due to a profound lack of empathy and the structure of military duty.[333] Whilst combat, the nature of militarised killing, and studies thereof have changed profoundly from the First World War to twenty-first century conflicts, it is indeed tempting to consider flying aces as potential psychological aberrations. The similarly blunt, dispassionate matter-of-factness of memoirs like Manfred von Richthofen's *Der Rote Kampfflieger* or René Fonck's *Mes Combats* stand in sharp contrast to many other First World War memoirs. Amongst cultural historians, these pilots' apparent lack of trauma and association with high kill counts, or 'victories', do not generally align with scholarly interests in multi-faceted First World War soldier experiences. Aces' experiences were decidedly not representative of most pilots': I began writing this thesis in part to push understandings of First World War aviator culture beyond the simplistic narratives associated with the estimated five per cent of pilots who accounted for the majority of aircraft downed in air-to-air battles during the conflict.[334] Are flying aces simply relics of

[333] Grossman, *On Killing*, 121.
[334] James Dunnigan, *How to Make War: A Comprehensive Guide to Modern Warfare in the Twenty-First Century* (New York, 2003), 149.

older, more nostalgic interpretations of the First World War, or do they have more to reveal about the way aerial violence was realised?

The fact that flying aces were so profoundly mythologised in the eyes of many of their peers is in itself worth some complication. Edwin Parsons' recollection of French-American ace Raoul Lufbery, who died six months before the end of the First World War, is revealing of the qualities many aviators sought to assign to the aces they encountered and imagined: enigmatic, quiet, driven by powers and motivations beyond the conventional. Though Parsons was a comrade of Lufbery's, fighting and living alongside him for over a year as a fellow American volunteer pilot in the Lafayette Escadrille, it is telling that he claimed not to have known him at all. In wartime and post-war recollections by those who knew them, aces, especially those who died during the war, often seemed to function outside of the conventional living and combat spaces occupied by other pilots. Parsons' memory of Lufbery is indicative not just of the mythical aura cultivated around aces; it speaks to a profoundly influential social status being crafted within the rapidly changing cultures of wartime air services.

In scholarship and the public eye, aces have been celebrated and scrutinised predominantly for their role as cultural icons.[335] Their relationships as individuals to the core theme of this thesis, i.e. aerial violence, remain distinctly under-critiqued. How did they speak about fighting and killing and why? How did they develop their combat practices? What made them 'succeed' to the point of recognition in the eyes of both their peers and national and international publics, and how did they negotiate their celebrity statuses? How

[335] See, for example, the proliferation of published editions of ace memoirs, as well as recent scholarship like Linda R. Robertson, *The Dream of Civilized Warfare: World War I Flying Aces and the American Imagination* (Minneapolis, 2005).

did they cope with failure and trauma? These questions are crucial because flying aces provided a clear-cut answer to the ambiguity and acute anxiety felt by all aviators in the First World War. They were, in effect, the first role models for how pilots should behave in combat. Given the relative anonymity of most First World War soldiers, contemporary public veneration of these unusually individual figures was perhaps to be expected; what is more striking is the extent to which their names and experiences provided a common working language for pilots on active service and became central to surviving the air war.

The assumption that all aces were automatic celebrities or necessary national heroes in the face of industrialised warfare has obscured the complex, hotly contested position they occupied in civilian societies, which often had little to do with the number of airplanes and people they collectively destroyed. French and German militaries deliberately quantified and celebrated their ace pilots, creating virtual hero cults out of dead aces like Georges Guynemer and Oswald Boelcke; Bernard Wilkin emphasises the significance of uplifting aces for morale at critical junctures in the war, e.g. the Verdun campaign.[336] Successful British pilots, however, were never officially recognised as aces and their names were largely withheld from the press to the loud consternation of some wartime members of Parliament.[337] Artistic, religious, and literary representations of aces, as well as the official military definition of what an 'ace' actually was, varied widely during the war, only clarifying into a recognisably uncomplicated masculine image of a hotshot pilot with interwar media like W.E. Johns' Biggles series and films like *Hell's Angels* (1930) or *The Dawn Patrol* (1930 and 1938). To

[336] Wilkin, "Aviation in Propaganda in France During the First World War", 48.
[337] HC Deb 11 July 1916, vol. 84, cc. 188-9.

wartime pilots, the flying ace was not a clear-cut tragic hero in the model of these interwar fictional characters, and often had nothing to do with parallel civilian conversations. How, then, to re-evaluate aces in this context?

Judith Butler's concept of performativity, which establishes repetitive embodied performance as constructing gender, underlies the gendering of aerial combatants in culturally focused histories of the First World War in the air.[338] Janet Lee's work on 'joyful slaughter' in Royal Flying Corps' pilots' correspondence, for example, emphasises 'killing as a technology of happiness that shapes martial masculinities' as seen in the repetition of pleasure expressions and joyful language associated with the central experience of aerial killing. For Lee, RFC pilots' shared vocabulary, physical experiences in flight, and emotional community created a 'soldier hero' inherited from earlier narratives about British soldierhood and made specific to aviation.[339] While this broadly corresponds to this thesis' argument that pleasure was central to pilots' emotional survival, this persistent singling out of a 'soldier hero' masculinity continues to obscure the potential for a more critical assessment of ace pilots' diverse experiences as individuals. Though 'soldier hero' appears to describe the cultural positioning of aces exactly, the identities and behaviours they emulated and which other pilots looked to for structure often contradicted conventional soldier masculinities and notions of acceptable violence. Lise Nelson's excellent critique of Butler offers an alternative way of looking at aces simultaneously from public and private perspectives. She suggests that Butler's original interpretation of gender performativity leaves little to no room for a subject's

[338] See Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York, 1990).
[339] Lee, "'Knights of the air': Joyful slaughter and the pleasures of moral survival", 1-2.

own agency, 'foreclos[ing] inquiry into why and how particular identities emerge, their effects in time and space, and the role of subjects in accommodating or resisting dominant, fixed subject positions'. As a geographer, Nelson emphasises the importance of grounding the subject in their concrete reality, e.g. considering how an individual is 'spatially embedded' alongside an analysis of the higher, more abstract discourses that produce distinctive [gender] identities; she encourages scholars to consider individual agency as complicated by situational factors. Her conceptualisation of identity as conveyed both by repetitious, communal performativity and an individual's participation in and awareness of their own specific situation speaks well to the peculiar position of flying aces, who both disproportionately represented a community and shaped it via individual actions and practices.[340]

This chapter, then, focuses on the multi-faceted phenomenon of flying aces as self-conscious cultural touchstones within their own communities. It first examines aces as individuals, testing the extent of their agency and determining the qualities that made them distinguish themselves as combatants and personalities. It then re-evaluates the 'myth of the flying ace', considering how aces' self-fashioning and public representations influenced other military aviators' behaviours, identities, and practices of violence. To complicate the existing 'soldier hero' assessment of aces, this chapter focuses critically on nine aces, some of the top 'scoring' French, American, and British pilots, who both gained particularly widespread media attention during the First World War and were frequently cited by other pilots as examples of 'good' or 'successful' combatants. At the point in the war that aviation became fully militarised, these

[340] Nelson, "Bodies (and Spaces) Do Matter: The Limits of Performativity", 339-340, 332, 348.

men aged from twenty-one to thirty-one years old and had been brought up in a wide range of social and economic circumstances. Some had been flyers before the war, whilst some had transferred from other branches of the military and only spent months in their respective air services. Though four died between 1916 and 1918, some of each of these pilots' private writing, correspondence, or press writing from the war years has survived; with the addition of other wartime and post-war sources, these pilots provide substantial, worthy case studies for the reassessment of the flying ace. This ideal fighter pilot, mutually designed by individual aces, air services, and wider publics, was crucial to the professionalization of the first air war and the ones that followed; it set the standard across national lines for how an aerial combatant should fight, build a community, and survive.

4.1: The Aerial Professional

The notion of an 'ace' fighter pilot marked a distinct departure from the pre-war conception of the flyer. As airplanes became successfully weaponised from 1915 onwards, fighter pilots' duties became complicated – though by no means solely defined, as has been discussed in the previous chapter – by the idea of 'scoring', i.e. counting the number of airplanes shot down by an individual. The practice of scoring and score verification varied significantly across national air services and even within individual squadrons, making 'ace' a complicated wartime signifier. Edward Fraser and John Gibbons' definition of the term in their 1925 *Soldier and Sailor Words and Phrases*, a dictionary of military slang updated for the First World War, indicates its diverse uses across the scope of the war:

> *An Ace:* (French "As"): Originally applied as a slang term in the French Air Service to a smart cavalry man (an Ace being, of course, the best card in the suit); it was extended in the war as a familiar term for an airman whose name was cited in an "Ordre du Jour" as having brought down at least five enemy aeroplanes. Passing into English Air Force vernacular, it acquired the rather derogatory meaning of a showy airman, one with a tendency to "play to the gallery".[341]

The earliest use of the term '*as*' for a pilot seems to have arisen from the wartime French aviation press, as influenced by many of its writers' pre-war careers as sports journalists who used the term for athletes.[342] Adolphe Pégoud, who like Garros had cemented his celebrity flyer status before 1914, was the first military pilot to have five 'victories' recorded. While aviation publications like *L'Aérophile* began using 'roi de la ciel' in his September 1915 obituary followed by *as* a few months later, perhaps in part due to Pégoud's existing association with sport flying, more general French newspapers did not start injecting the term into wider vernacular until early the next year, noting in obituaries only the number of airplanes Pégoud had downed.[343]

Though scoring ostensibly formed the basis of ace status, 'victories' had distinctly different definitions across air services, which significantly expanded the potential for who and what exactly counted as an ace. Officially speaking, the *Service Aéronautique* published names of pilots in individual armies' daily reports after they had destroyed five airplanes with definitive confirmation from the ground, whilst the *Luftstreitkräfte* called for ten victories. The Royal Flying Corps and Royal Air Force never formally created processes for keeping scores

[341] Fraser & Gibbons, *Soldier and Sailor Words and Phrases,* 2.
[342] E.g. in reference to rugby players in *L'Aéro*, No. 313 (9 Dec. 1911).
[343] *L'Aérophile* No. 25059 ("Pégoud est mort au champ d'honneur", 1 Sept. 1915) *Le Petit Parisien*, No. 14186 ("L'aviateur Pégoud est mort au champ d'honneur", 1 Sept. 1915); *La Presse*, No. 8423 ("Pégoud est mort en combattant", 2 Sept. 1915).

or recognising high-scoring pilots with the term *ace*, leading to a much looser definition and accountability process for British pilots becoming aces. The specific acts of violence required for a formal 'score' also varied, with some squadrons giving a pass to reports of enemies appearing visibly damaged and others explicitly requiring confirmation that an enemy aircraft had reached the ground. Though often referred to as a 'kill', forcing an aircraft to land or crash with the pilot surviving could feasibly count as much as an enemy going down in flames; with the advent of more group-focused combat, the Allies had begun by 1918 to credit half or quarter victories to separate pilots who contributed to downing just one aircraft.[344] Aces, then, could come about from a wide variety of potential routes that went beyond the straightforwardness of destroying an enemy aircraft. Indeed, the term's frequent use in the press immediately gave it a malleable, multi-purpose quality alluded to in Fraser and Gibbons' definition; Bernard Wilkins notes the frequent, playful use of the term 'ace' to refer to pilots – including very bad ones – in cartoons in wartime French propaganda and informal military publications.[345] An ace could therefore also feasibly be a good or showy pilot, or, in post-war aviation, anyone who had flown in the First World War at all.

Amongst wartime pilots, however, there was a general consensus that being an ace meant having an exceptional capacity for *violent* flight. An ace's quality was usually indicated by scores, though these ranged significantly depending on a pilot's time on the front and service requirements for counting kills: of the top three aces of each Allied country, 'official' kills ranged from

[344] Jamie Belich, "Ace, air combat" in Richard Holmes, Charles Singleton & Spencer Jones (eds.), *The Oxford Companion to Military History* (Oxford, 2001); William Bishop and T.B.A. Graves, *I Saw a Rare Chance: The Combat Diary of Billy Bishop* (London, 1989), 60.
[345] Wilkin, "Aviation and Propaganda in France during the First World War", 50.

seventy-five to twenty. This wide range of capacity and recognition for aerial violence suggests that aces as a group may have possessed other qualities that distinguished them from other pilots. This chapter therefore critically examines nine top-scoring pilots in French, British, and American air services: William 'Billy' Bishop, Edward 'Mick' Mannock, James McCudden, René Fonck, Georges Guynemer, Charles Nungesser, Eddie Rickenbacker, Frank Luke, and Raoul Lufbery. Not all of these pilots' nationalities corresponded with the services and cultural legacies with which they were associated: Bishop was Canadian, Mannock Irish, and Lufbery French-born with American citizenship via a bureaucratic technicality, while Lufbery served with the *Service Aéronautique* in addition to the US Army Air Service. Their military backgrounds and relationships to flight varied, with some like Mannock and Nungesser transferring into aviation from other military services over the course of the war and others like Lufbery having existing connections to the pre-war international aviation scene.

Considered broadly, the greatest commonality between these men was not the similarity of their 'scores', but rather their social backgrounds. With the notable exception of Guynemer, virtually all of these top-scoring pilots came from a working class or lower middle class upbringing, directly contradicting the popular post-war construction of aces as aristocratic and well educated. Of the aces examined here, Mannock, Fonck, Lufbery, Luke, and Rickenbacker all received less than or the equivalent of a primary school education, working in pre-war jobs ranging from telegraph mechanic to copper miner to dockworker. Most of these nine had some pre-war involvement in engineering or other technical careers, e.g. Bishop's vocational training at a technical college, and

many reportedly grew up with strong interests in individual sports like boxing, gymnastics, and shooting. These social backgrounds and hobbies are consistent with the profiles of aces in future conflicts, suggesting some psychological, social, or physical predispositions to this kind of combat. It has been proposed by military sociologists like Mike Spick, for example, that successful pilots are more likely to have exceptional hand-eye coordination conditioned by particular upbringings and sport experience, 'situational awareness', or 'the ability to keep track of events and foresee occurrences in the fast-moving, dynamic scenario of air warfare', and a personal investment in and understanding of the machines upon which they depend in combat.[346] Pilots like Lufbery and Rickenbacker, who had experience as automobile and airplane mechanics and in the latter's case had been a race car driver, appear to have had a distinct advantage coming into military aviation in that they had practiced and developed these skills even before airplanes were used for combat. Having a hands-on approach to airplanes, good hand-eye coordination, and a competitive streak seemed to join ace pilots both to their wartime comrades' minds and in post-war representations.

The notion that aces had a distinct skillset associated with their social backgrounds and upbringing appears to complicate previous chapters of this thesis, which contend that flight and the aerial environment, rather than the ability to do violence, were most important to shaping pilots' combat experiences and survival. Aces' experiences prior to learning how to fly clearly contributed to their successes as combat pilots. However, their pre-war lives, skill sets, and social classes were hardly unusual: aces' backgrounds were not markedly distinct from many of their less 'successful' peers'. What was unique

[346] Spick, *The Ace Factor*, iv.

about their wartime lives, rather, was the heightened degree of agency aces had in using these skills and backgrounds to craft their own individual experiences of combat flying. Besides their backgrounds, ace pilots' other great commonality was their likelihood to be in units where they were given an extraordinary degree of freedom to fly and fight as individuals, by virtue of a sympathetic commanding officer, a squadron with a high degree of exposure to the public eye, or a combination of the two. As they became recognised as aces, the nine pilots who feature in this chapter distinguished themselves by consciously using their agency to create an 'ace' combat experience. Their specific methods of self-expression, uses of violence, and relationships to flight developed in dialogue with one another, and were actively enabled by superiors who allowed them access to power and status not given to other First World War combatants.

This bestowal of such rare individual agency began even before the concept of an 'ace' pilot had been solidified in popular presses. Squadron records of Guynemer's Escadrille N3 indicate that certain pilots were singled out for 'special missions' as early as May 1915, with commanding officer Antonin Brocard receiving orders six months later that himself, Guynemer, and Jules Védrines would no longer be participating in reconnaissance missions as they 'will specialise in hunting enemy airplanes within our lines, which they will not cross for any reason'.[347] The formal designation of pilots as 'specialists', which followed the increasingly specific organisation of military aviation from mid-1915 onwards, gave commanding officers permission to treat pilots as individuals with different skillsets or even to assemble their own specialist group, as Brocard did by requesting transfers of pilots like René Dorme to his

[347] SHD AI Z 10974 (Papiers de Félix Antonin Brocard).

squadron.[348] In units with unusual reputations and high levels of publicity outside the air service, such high levels of individual recognition often guaranteed the creation of an ace. This process can be seen in exchanges between ace pilots and their commanding officers, which reveal a clear mutual participation in creating this elite combatant status. Georges Guynemer, Raoul Lufbery, and Billy Bishop all had documented close personal relationships with their commanding officers that offer a glimpse into the specific circumstances that enabled them to 'perform' the role of the ace.

On paper, units like Lufbery's Lafayette Escadrille, Guynemer's Escadrille N3/SPA3 and wider *Groupe de Combat* 12, and Bishop's 60 Squadron all appeared to have a 'special' quality. The Lafayette Escadrille, a squadron of American volunteers in the *Service Aéronautique*, saw sensational press coverage from its inception in April 1916 as the home of the first American ace; over the course of the war, Escadrille N3/SPA3 and 60 Squadron each produced a disproportionate number of ace pilots. Crucially, these units' commanding officers worked in tandem with their star pilots to garner celebrity, military influence, or both. Guynemer's commander, Antonin Brocard, had a close paternal relationship with many of his young *Cigognes* pilots; almost a decade older than Guynemer, he wrote letters to his top-scoring ace even when Guynemer was away on very brief leaves as well as to Guynemer's parents.[349] Though part of an American volunteer squadron, Raoul Lufbery spoke better French than English, which made him part of the small French-speaking

[348] Jacques Mortane & Jean Daçay, *Mémoires de René Dorme* (Paris, 1919), 56.
[349] SHD AI Z 10974 (Papiers de Félix Antonin Brocard).

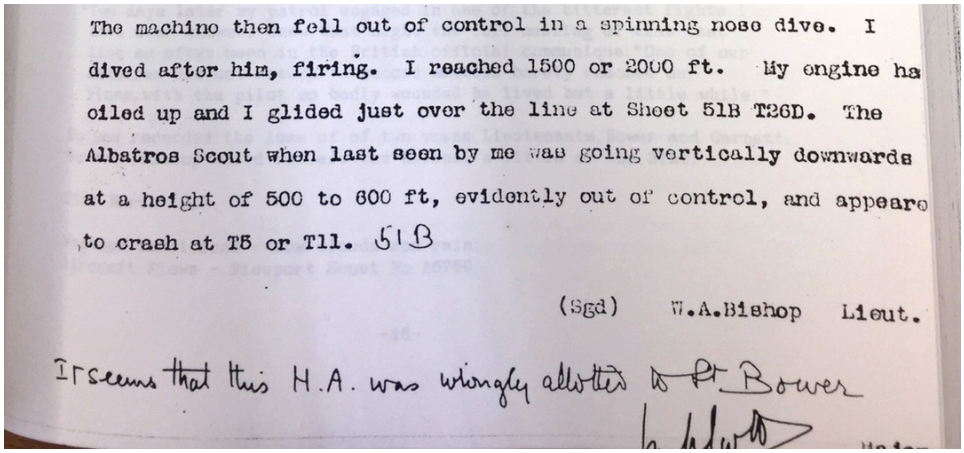
contingent in his squadron that included commander Georges Thenault.[350] Bishop's commanding officer during much of his time in 60 Squadron, Jack Scott, appeared to place so much trust in Bishop's abilities that historians and squadron mates alike have raised questions about whether the Canadian ace's claims were legitimate.[351] All three of these units also had high levels of engagement with the press, with Guynemer's squadronmates Albert Deullin and René Dorme frequently writing into *La Guerre Aérienne Illustrée* and Lafayette Escadrille pilot Kiffin Rockwell's brother Paul acting as a semi-official publicity officer for the American squadron and especially the first American 'ace of aces'.

Commanding officers and aviation journalists who survived the war naturally emphasised their relationships with their aces in hindsight: in his 1919 memoirs, Georges Thenault practically apologised for not initially recognising 'a pilot whom I was too busy to take much notice of the first day, but who rapidly attracted everyone's attention…. Simple, modest, silent and hardworking, always getting his plane ready himself – it was Lufbery'.[352] However, other pilots frequently commented on relationships between commanding officers and their star pilots during the war itself. 27 Aero Squadron pilots snidely called Frank Luke 'Hartney's boyfriend' behind his back due to his close mentee relationship with his commanding officer, whilst 60 Squadron RFC pilot Lieutenant Fry remembered of a controversial accomplishment of Billy Bishop's that 'As regards the exploit for which he was awarded the VC[,] our CO knew Bishop so well as to

[350] Jacques Mortane, *Deux Grands Chevaliers de l'Aventure: Marc Pourpe et Raoul Lufbery* (Paris, 1937), 43.
[351] Bishop & Graves, *I Saw a Rare Chance*, 16.
[352] Thenault, *L'escadrille Lafayette*, 56.

believe in him implicitly….'[353] These alliances between commanding officers and their star pilots made sense: units with well-known pilots benefited from the attention of their respective national publics and air services alike, as seen by the fact that Thenault and Brocard became some of the most frequently consulted commanders in the *Service Aéronautique*'s attempts to formalise the 'rules' of aerial combat.[354] In turn, pilots singled out as aces with the blessing of their superiors often had more leeway to fly, fight, and gain recognition according to their own individual preferences. Thenault recalled that Lufbery 'seemed to hardly care about having [victories] confirmed' and therefore most likely shot down far more airplanes than he was officially awarded, whereas 'To give definitive proof of his victories…Guynemer had ended by fixing on his Spad a photographic apparatus and in some cases had brought back photographs of his victims in pieces or in flames.' [355] Within the Royal Flying Corps, where confirmations of kills were less rigorous than in the French case, the support of a commanding officer and wider publicity could go a long way to shaping an individual's reputation. As commanding officer of 60 Squadron, Jack Scott was required to sign off on the combat reports of his pilots to confirm their kills. In contrast to reports for other pilots, his notes for Bishop's flights often went out of their way, true to Lieutenant Fry's recollections, to confirm Bishop's claims on very little evidence.

[353] Keith Warren Lloyd, *Above and Beyond: The Incredible Story of Frank Luke Jr.* (New York 2015), 43; Lieutenant Fry in Bishop & Graves, *I Saw a Rare Chance*, 51.
[354] SHD AI 1 A 89/1 (Emploi de l'aviation de combat).
[355] Thenault, *L'escadrille Lafayette*, 152, 128; NASM MSS 1654B (Journal des marches et opérations pendant la champagne du 9/9/17–14/8/18).


The machine then fell out of control in a spinning nose dive. I dived after him, firing. I reached 1500 or 2000 ft. My engine ha oiled up and I glided just over the line at Sheet 51B T26D. The Albatros Scout when last seen by me was going vertically downwards at a height of 500 to 600 ft, evidently out of control, and appeare to crash at T5 or T11. 51B

(Sgd) W.A.Bishop Lieut.

It seems that this H.A. was wrongly allotted to Lt. Bower

Excerpt from combat report by Billy Bishop, 25 March 1917. Major Jack Scott's handwritten addition reads: 'It seems that this H.A. [Hostile Aircraft] was wrongly allotted to Lt. Bower.'[356]

These clear military exceptions and distinct social privileges carved out for ace pilots may be read as contributing factors to what Lise Nelson describes as the 'situated agency' vital to shaping a distinct new identity. Rather than considering an individual's agency as 'a discrete, internalised quality' or personal moral attribute, Nelson argues, scholars should look to 'disturbance[s] of self-certitude' to identify the conscious behaviours and practices that shape new gendered identities and the production of new gender norms.[357] When a mix of social and military factors elevated them to heightened positions of agency within their combat zones, ace pilots had the space to question and push back at emerging conventions of flight and aerial combat. Following Nelson's interpretation of performativity, aces' relational networks and similar backgrounds shaped distinct practices of self-expression and violence. Moments of 'disturbance of self-certitude', particularly in close encounters with violence, reveal a clear consensus amongst aces themselves about who an elite fighter pilot should be; namely, a self-made man separate from conventional military and social forms of accountability for doing violence.

[356] Fig. 10: RAF 024036 (Lieut. W.A. Bishop combat report for 60 Squadron, 25 March 1917, combat diary and reports of Billy Bishop).
[357] Nelson, "Bodies (and Spaces) Do Matter: The Limits of Performativity", 348.

Most aces chose to take an active role in defining their relationships to combat in the public and military eye. Charles Nungesser, Eddie Rickenbacker, Raoul Lufbery, Billy Bishop, and René Fonck all wrote into wartime aviation-specific, local, and national presses during the war, describing in detail the kind of fighting they did and how they saw themselves within the context of the war.[358] Despite the Royal Flying Corps and Air Force's general policy to avoid publicity for individual British and Commonwealth pilots, James McCudden also attempted to use his heightened agency to craft his own public image, as seen in frequent correspondence with his family about how they handled his publicity and his unofficial, largely under-the-table role as an aviation advisor to manufacturers in the United States.[359] 'Regarding the now famous rumour it would be rather fun to let it spread a little,' McCudden suggested in a September 1917 letter to his sister Kitty, 'as it will not hurt me as I know nothing about it.' He had changed his tune by the start of 1918, when he hurriedly added in a PS to Kitty: 'On no account whatever [sic] are any particulars or photos of me to be sent to the papers, as that sort of thing makes one very unpopular with one's comrades.'[360] Indeed, McCudden was investigated by the Air Ministry after stories about him featuring comments from his family appeared in the *Daily Mail* in January 1918.[361] Unlike their British equivalents, French pilots had a little more room to boast about their exploits when cultivating their public images. When René Dorme shot down his fifth airplane and confirmed his ace status in

[358] See *La Guerre Aérienne Illustrée*; Paul Rockwell Papers 301/2-5 (Lafayette Escadrille Correspondence). Washington & Lee University Library; Raoul Lufbery Collection (Raoul Lufbery scrapbook 1916-1961). Wallingford Historical Society.
[359] RAF AC72/5/25 (Letter from the British Aviation Museum, Washington DC to James McCudden, 25 May 1918).
[360] RAF AC72/4/11 (Letter from James McCudden to Kitty McCudden, 14 September 1917); RAF AC72/4/14 (Letter from James McCudden to Kitty McCudden, 5 January 1918).
[361] RAF AC72/5/23 (Letter from Hugh Trenchard to James McCudden, 11 January 1918); RAF AC72/5/36-38 (Collected press clippings about James McCudden).

August 1916, he actually wrote to a pilot friend on leave in Paris with specific instructions about how to speak about him to other pilots who might ask, both passing on advice and specifying that what had made him an ace was his behaviour in combat rather than his flying abilities:

> When you talk about my exploits, old man, make my actions all seem natural. I'm no more skilful a pilot than the next; my manner of attacking Boches came to me without being taught, but nevertheless I always knew how to avoid the bullets…when the enemy has fired well and is half asphixated with the jitters, send him *ad patres* by giving him a good squirt at close range…[362]

Outside of the more general audience of the press, aces were also conscious of tailoring their behaviour to match their existing reputations as men set apart from 'ordinary' pilots, a distance maintained both by official scores and other pilots' constructions of them as physically and emotionally other. Even peers of similar age and experience could be quick to ascribe special powers to aces and to pick out specific behaviours that marked them as elite; Samuel Hynes attributes this to pilots' obsessiveness about developing consensus about 'good' or 'bad' practices in the still-new arena of flight.[363] Pilots' observations about aces ranged from admiration and awe at their own proximity to local celebrities, or to disorientation and discomfort. Lafayette Escadrille pilot Edwin Parsons' almost mythical construction of Raoul Lufbery, in contrast to whom 'the Sphinx was a child's primer', was echoed repeatedly in anecdotes about the notoriously private ace. 'Was not that the proof of a great personal power that even the wild beasts should appreciate his influence?' Georges Thenault asked in his post-war memoirs, recalling that when Lufbery played with Whiskey and Soda, the squadron's lion cub mascots, 'Lufbery was the only one for whom Soda was good

[362] Mortane & Daçay, *Mémoires de René Dorme*, 73.
[363] Hynes, *The Unsubstantial Air*, 85.

and gentle', despite the fact that the ace did not seem to have any close human friends.[364] 60 Squadron pilot Lieutenant Fry recalled that 'Although I had lived and flown with Bishop as my flight commander during the previous two months I had never really got to know him or make friends with him…. He was very popular in the squadron, yet I do not remember him having any particular friends.'[365] Frank Luke and Edward Mannock's working class backgrounds notably set them apart from many other pilots in their respective squadrons, as did their reputations for being caustic and cocky. Luke's commanding officer Harold Hartney's description of his top pilot is not dissimilar to mixed recollections of Mannock, who despite his reputation as a high-scoring pilot openly criticised squadronmates for being more interested in women than air work:

> He was bashful, self-conscious and decidedly not a mixer. It unquestionably caused him many heartburns when his reticence was interpreted as conceit. In fact, this preyed on his mind to such an extent that he became almost a recluse, with an air of sullenness, which was not that at all…. Luke's self-confidence caused most of the pilots in the group to regard him as a boastful four-flusher and many of them never liked him, even to the end, in spite of his extraordinary accomplishments. You could not altogether blame them…. One day George Jordan, a veteran sergeant of the 147th, told me he had been chatting with Luke as a German plane flew over. Looking up, Luke said, 'Gee, that plane would be a cinch for me.' This and many similar remarks would certainly indicate a high degree of boastfulness but I really believe they were nothing of the sort….[366]

The power of an ace's developing wartime reputation, then, was not as a team player, but an individual who appeared to have an especially successful relationship to violence. An ace pilot possessed both a quantifiable ability to kill

[364] Thenault, *L'escadrille Lafayette*, 154
[365] Bishop & Graves, *I Saw a Rare Chance*, 52.
[366] James Dudgeon, *Mick: The Story of Major Edward Mannock* (London, 1981), 81; Harold E. Hartney, *Up and At 'Em* (London, 1940), 250-51.

and a notable capacity for survival, and did so on the merit of his own practices rather than the support of a unit. Moments when aces themselves clashed with this narrative demonstrate the extent to which it was taking up permanent residence in air service cultures. Writing in his diary about a squadronmate who had 'cracked up', Edward Mannock expressed anxiety about the extent to which he was keeping his own precarious mental health to himself: 'I wonder if I shall ever get like that? And what my friends will think if I do? Old Paddy the "devil may care" with nerves?'[367] The developing narrative of the aerial professional as the deeply individual figure of the ace put ace pilots themselves in a precarious position: the disproportionate attention paid to them by their fellow pilots and wider publics alike distanced them from the potential of emotional support from their peers in the combat zone. This is, perhaps, where pilots felt the national differences between air service cultures most. Whilst the *Service Aéronautique* singled out and celebrated its aces, encouraging close personal relationships, correspondence, and fighting proximity between aces like Guynemer, Nungesser, Alfred Heurtaux, and Albert Deullin and even some of their better-known American volunteer comrades,[368] British and Commonwealth ace pilots had less opportunity to see people like themselves named in newspapers and air service reports. This clear disparity in different countries' attitude towards aces showed up in the fact that *Service Aéronautique* pilots appeared much more aware of both enemy and Allied aerial 'successes' than Royal Flying Corps and Royal Air Force pilots. McCudden, for example, proudly announced in a Christmas letter to his sister that his shooting down four enemy machines on 22 December 1917

[367] Mannock, *Personal Diary*, 83.
[368] SHD AI Z 10974 (Correspondance avec Albert Deullin, Papiers de Félix Antonin Brocard).

'constitutes a world record', though several French aces spoke about Guynemer doing so in one day during the summer of 1916 as though this were common knowledge.[369] As aces began to develop a specific tactical role across different air services, many French aces were doing so in relation to a distinct peer group with whom they could exchange advice and news. It is significant that ace pilots without such close support systems took sometimes-drastic steps to establish more control over their bodies and machines. Both Billy Bishop and Eddie Rickenbacker, for example, initially struggled with flying and practiced excessively to make up for it: Bishop recalled how 'I just couldn't get the proper feel of the machine' and went out on individual patrols to make up for it, whilst Eddie Rickenbacker practiced stunt flying until his fellow pilots were baffled by his persistence and he himself was physically sick.[370]

Most consistent across national lines – and perhaps most significantly for other pilots and the evolution of combat aviation – was how aces aligned themselves with violence. The nine aces examined in this chapter stood out as pilots who by and large developed their own combat role focused on individual flying, targeting other airplanes rather than the multitude of other potential combat tasks for aviators, and maintaining a degree of agency that allowed them to act independent of conventional military hierarchies or orders. It is this specific combat role that deserves further attention in scholarship about aces and elite combatant masculinities. Though an exclusive role performed by a 'specialist' minority, this specific kind of violence was a fundamental part of aces' status as a cultural and practical touchstone for other pilots. The ways aces flew

[369] RAF AC72/5/16 (Letter from James McCudden to Kitty McCudden, 24 December 1917); *La Guerre aérienne illustrée*, Vol. 49 (18 Oct. 1917).
[370] Bishop and Graves, *I Saw a Rare Chance*, 10; Eddie Rickenbacker, *Rickenbacker* (New York, 1962), 90.

and fought, as well as how they spoke about the violence they did, became templates for 'good' combat flying despite the fact that only a few managed to embody these practices.

What made the kind of fighting these aces did distinctive? As with many of their social lives on the ground, the most 'successful' pilots deliberately distanced themselves from other aerial bodies, occupying places in the sky less accessible to others. With the exception of Frank Luke and Eddie Rickenbacker, both relatively late entries into the war as US Army Air Service pilots, the nine aces examined in this chapter were firmly of a generation of pilots transitioning from reconnaissance to combat flying, with Edward Mannock transferring into aviation at the tail end of this period in August 1916. They therefore built up their experience and scores at a time when air services took a more open-ended approach to structuring patrols, making them exempt from formalised group flying that emerged later. Aces largely staked out their claims to high altitude spaces, as this made them less visible and more able to conduct deliberately thought out, individual attacks. As has been discussed in previous chapters, high altitude flying came with the risk of being extremely physically and mentally taxing; it was cited as the leading cause of mental trauma by the few early attempts to do aviation-specific medical research.[371] This assumption that high altitudes were an especially trying environment gave aces who went out of their way to place themselves there an allure of specifically *mental* toughness: Charles Nungesser made a point of emphasising that Guynemer specifically 'compensated for his lack of [physical] strength with his energy' for high flying. Other pilots often commented on aces' resilience or even fondness for high flying

[371] Shaw Cobden, "The Nervous Flyer", 128.

specifically as indicative of some inherent, special quality, as seen in Georges Thenault's description of Lufbery, who he claimed he 'always placed above the patrol to dominate the situation':

> When it was fine Lufbery at once busied himself with his machine and took it out for a voluntary patrol. He had to be given positive orders to keep him from being always in the air. To fly high is very fatiguing as the sudden changes of altitude quickly tire the heart. But never have I met a pilot with more endurance than Lufbery. When the sky was clear he would go up three or four times a day to eighteen thousand feet just for his own pleasure, in a dilettante fashion. Never was he at all ill from it. He was a superman….[372]

Aces' success may have partly been due to this unusual physical tolerance for the cold and low oxygen of high altitudes, which gave a natural tactical advantage. It was their approach to what they did with this advantage, however, that arguably set them apart from other pilots.

This preference for high altitude flying is indicative of one of several factors that Mike Spick, one of the few military sociologists to study aerial combat in depth, points to as historically defining ace pilots. In addition to pointing to the importance of marksmanship, good relationships with squadron leaders, luck, especially good vision or long-sightedness, quick reflexes, and situational awareness, he notes that aces are often just average pilots, and that 'aerobatics artists' rarely become high scoring aces.[373] This suggests that aces rarely put themselves in positions that required complex dogfighting skills, and therefore avoided conventional combat scenarios where they 'fought' other planes. Their status as elite combatants, therefore, relied not upon the ability to withstand violence, outwit an opponent, or inspire others into combat, but

[372] *La Guerre aérienne illustrée*, Vol. 49 (Charles Nungesser, "Nous les vengons", 18 Oct. 1917); Thenault, *L'escadrille Lafayette*, 154-55, 158.
[373] Spick, *The Ace Factor*, v-vi.

rather to kill via the element of surprise. Average pilots, after all, predominantly experienced the air war as *flying*, not fighting to kill: killing via surprise was an aspirational work role, and therefore central to pilots' ideal masculinity as represented by aces.[374] As was discussed in the previous chapter, this approach to killing is significantly at odds with killing motivation on the ground, which is primarily shaped by the influence of a leader and the cohesion of a small unit.[375] The reality that aces killed like 'assassins', often by singling out a human body within an aerial one, was a deeply unsettling notion that clashed with most experiences of military death in the First World War.

Spick's work deliberately deconstructs many of the tropes about aerial combat invented in the First World War, especially some of the language that this thesis has established as common vernacular. His non-historical perspective, then, is useful in establishing the nature of aces' combat: he points out that, despite the terms in which pilots often spoke about the fighting and killing they did, it is misleading to interpret aerial combat as a 'game'. Though dogfighting, keeping score, and flying produced similar emotional responses to pilots' favourite sports and adrenaline highs,[376] aerial combat, particularly before the advent of standardised training, was not a game in a very literal sense. It had no finite, clearly defined rules or fixed playing space enforced by referees. Rather, the 'gameplay' zone was defined by the range and ability of an individual's own aerial body, and the 'rules', including 'right' or 'wrong' actions, could be defined quite differently by different pilots. Spick suggests that it is possible to see these 'rules' most clearly in individual pilots' reactions to enemies breaking them. This

[374] Ava Baron, "Masculinity, the Embodied Male Worker, and the Historian's Gaze" in *International Labor and Working-Class History*, No. 69 (Spring 2006), 145-6.
[375] Grossman, *On Killing*, 144, 149.
[376] Lee, "'Knights of the air': Joyful slaughter and the pleasures of moral survival", 8.

aligns with Nelson's location of performativity in 'disturbance of self-certitude', suggesting that aces' consensus about the role they embodied and performed was less about their public personas and more embedded in these individual practices of killing.

Indeed, aces' own personal rules of engagement clearly emerge in how they spoke about shooting down and specifically killing enemies. Their recollections of these moments stand out from pilots' discussed in the previous chapter in part because they often named moments of aiming at another human body in relation to success, rather than as an unsettling or traumatising moment. Recollections of aces' specific combats, as seen in writing by Eddie Rickenbacker, René Fonck, and Harold Hartney about Frank Luke, reveal close associations between 'winning' against an opponent who made a mistake, and the visual spectacle of damage done to an enemy pilot's body.

> Closer, closer. My eyes were glued on the leather-jacketed shoulders of the German flying the rearmost Albatros. That is where my bullets were about to go…. At fifty yards I gave him a 10-second burst of machine gunfire. I saw the bullets hit the back of his seat. I felt no sympathy. He had made a stupid mistake in diving rather than trying to outmanoeuvre me.
>
> My position was certainly very favourable…. I had the impression that my life was hanging on a thread, and to avoid an imminent bullet, I risked an abrupt turn that would bring my adversary into my line of fire. His next attempt was unfortunate and his bank too slow. I was able to empty my band of cartridges into him broadside. His disabled plane rapidly nose-dived – the pilot himself killed by a bullet in the throat.
>
> From what [Frank Luke] told me, the way he described it and from the fact that I was there, I believed then, and always will believe, that he did shoot a German plane off my tail. However, although I used every resource I could muster, both before and after the Armistice, in trying to get him a confirmation, that victory is unconfirmed to this day.

> "I never pulled until I had my gun right in that baby's cockpit," he said. "And I didn't leave him until he hit the ground and rolled over on his back, with me not more than two hundred feet in the air."
> He was not lying and I know it.[377]

Details like these suggest some clear-cut ideas held by aces about reasonable uses of violence. Rickenbacker's curt assessment that he 'felt no sympathy' for the Albatros pilot who had 'made a stupid mistake in diving rather than trying to outmanoeuvre me' aligns with Hartney's memory of Luke declaring that some crashed airplanes they saw near the front had 'all [been] diving away when they were hit'.[378] This implied that 'good' pilots kept the altitude advantage, and engaged closely only when they were disadvantaged. 'Good' or complicated flying was only immediately relevant when it involved manoeuvring for position. 'Victories' were justified especially when an enemy had clearly transgressed an ace pilot's own personal rules or made an obvious mid-air mistake. It is telling that although aces sometimes did comment on the strangeness of seeing human bodies in airspace, it was only on the ground that they associated this with remorse, guilt, or trauma. Edward Mannock famously recorded in his diary his response to seeing the body of a small dog in the wreckage of a machine he had brought down: 'I felt <u>exactly</u> like a murderer.'[379] Though trauma was clearly present in some aces' lives, with Mannock and McCudden in particular writing to family and recording in their diaries worries about their mental health and near-misses in combat that they put down to anxiety, exhaustion, and stress, none directly linked this to the specific act of killing in the air or described common trauma responses to such killing.[380] In the

[377] Rickenbacker, *Rickenbacker*, 131; Fonck, *Mes Combats*, 48; Hartney, *Up and At 'Em*, 256.
[378] Hartney, *Up and At 'Em*, 253.
[379] Mannock, *Personal Diary*, 119.
[380] Grossman, *On Combat*, 102-3.

air, acting like a 'murderer' or an 'assassin' were desirable, celebrated traits associated with aces. For aces, the need to emulate such behaviours even overrode practices that some pilots found controversial, e.g. the use of incendiary bullets; 'I had the great show of watching the Boche burn,' René Dorme happily described in a July 1916 letter to his parents about his first kill with such ammunition.[381]

Perhaps most crucially, aces felt strongly that they were accountable only for their own actions and uses of violence, and held others to their own standard rather than counting themselves as part of a combat unit. Eddie Rickenbacker recalled that Raoul Lufbery, who briefly mentored him as a flight leader in 94 Aero Squadron, explained to the newcomer Rickenbacker that he preferred flying alone specifically because 'a group of pilots…may or may not be as good as you are. It's a great responsibility to shepherd these pilots out and get back home safe. I prefer to fight alone, on my own'.[382] Working as part of a group disrupted aces' idea of themselves as combatants; it detracted from their agency and control over the aerial violence in their space. Lufbery's specific use of language, too, is telling: aces were predominantly concerned with *fighting* rather than the multitude of other tasks that fell under military aviators' remit, including nonviolent ones.

As aerial combat developed over the course of the First World War, it became clear that being an 'aerial professional' in the context of military aviation was a largely solo venture. Aces developed their practices as combatants around specific types of flying and killing, focusing their energies on increasing their

[381] Mortane & Daçay (eds.), *Mémoires de René Dorme*, 63-4.
[382] Rickenbacker, *Rickenbacker*, 117.

scores whether or not they received official confirmation. Though this individually focused combat led to contemporary public celebrations and current historical critiques of these men as 'knights of the air', it is more useful in considering aces' disproportionate impact on air services to see them, in Mike Spick's terms, as 'assassins'. Communally, top-scoring pilots of multiple nationalities created an ideal working masculinity that would translate into post-war civilian understandings of aerial warfare; their small, elite wartime networks and similar social backgrounds contributed significantly to this abstract construction of the flying ace. Their specific combat practices, however, were more immediately relevant to the 'myth of the ace' that shaped other wartime pilots' lives.

4.2: The Ace Myth

As larger-than-life personas, First World War flying aces have mostly been understood as icons whose blend of individualism and seemingly chivalrous kind of combat filled in for the absence of conventional national war heroes. However, these aces and the new cultural narratives they crafted did not emerge from a void. Their public representation and the specific ways in which they identified themselves were consistent with emerging modern celebrity culture, which had begun to take on recognisably national flavours from the early nineteenth century onwards and clarified into something distinctly transnational immediately after the war via the binding powers of Hollywood.[383] It is therefore no surprise that the image of the romantic flyer with which we are most familiar today is not the iconic pre-war athlete-technocrat à la Roland Garros, as would have been in the mind's eye of pilots entering flight training

[383] Fred Inglis, *A Short History of Celebrity* (Princeton, 2010), 12-13.

during the First World War, but rather the 1920s and '30s construction of the ace-influenced celebrity flyer e.g. Charles Lindbergh, which is explored in more detail in the final chapter of this thesis. Perhaps, then, the media and historiographical preoccupation with aces speaks less to the dearth of war heroes in wartime and more to their absence as felt in a world struggling to make sense of the First World War in the slogging economic hardship and political upheaval of the late 1920s and early 1930s. Ace pilots, as quantifiable killers who received disproportionate amounts of press attention and public recognition, were the obvious candidates for post-war reconfigurations of the individual war hero. During the war itself, however, their icon status had far more immediate impact on the military, especially in relation to how their fellow pilots developed and practiced combat aviation.

Given that a small handful of pilots accounted for nearly half of all aircraft shot down in the First World War, it is truly striking that few analyses of flying aces[384] have considered in detail their profound impact upon their fellow pilots. This notion of aces as specifically *wartime* celebrities within their own military services – or celebrity professionals – is therefore a crucial reassessment of these figures in the context of the air war. What were the potential consequences of a celebrity soldier on active service, both for military organisations and the identities and behaviour of such celebrities' peers? Here again, ground-based assessments of combat fall short: historiographical discussions of individual influence within ground units have been largely considered within the confines

[384] With the recent exception of an excellent University of Tennessee PhD project on German wartime aviation by Robert Rennie, to whom I am very grateful for his brainstorming and on-going collaboration.

of 'leadership', especially in the case of the British Army.[385] Ace pilots did not align neatly with ground-based understandings of military hierarchy and leadership that, as Alexander Watson demonstrates, were often read through the lens of culturally specific civilian class identities and behaviours.[386] This suggests that aces' status amongst their peers, defined by scores and an emerging consensus about elite aviators' relationship to violence, had the potential to disrupt profoundly pilots' preconceived notions of authority, responsibility, and agency. Their particular kind of celebrity stood out as having cultural currency and relevance to both home fronts and active military units, suggesting the evolution of a singularly permeating mythology that complimented new air services' need for a distinctive military identity.

The deeply influential nature of aces' wartime celebrity can be seen in a general military enthusiasm for these individual elite pilots that went beyond other pilots' preoccupation with them. Contrary to notions of inter-service rivalries, infantry soldiers often expressed fascination with and admiration for aces: young, good-looking elite soldiers, especially those who died under mysterious circumstances like Guynemer, appeared to stand in refreshing contrast to the absence of individual heroes in trench narratives. This was especially clear in France, where images of *Les Cigognes* circulated widely on military souvenir items from plates to postcards to cigars and some infantry soldiers went so far as to have the airplanes of men like Georges Guynemer and René Dorme tattooed on their bodies.[387] French *Contrôle Postal* records indicate that military censors were keenly attuned to the potential significance of aces,

[385] See, for example, David French, *Military Identities: The Regimental System, the British Army, and the British People c. 1870-2000* (Oxford, 2008).
[386] Watson, "Culture and Combat in the Western World, 1900-1945", 539.
[387] *La Guerre aérienne illustrée*, Vol. 60 (18 Jan. 1918).

often including references to famous pilots like Guynemer in reports about morale; likewise, aces themselves were aware of their influence on infantry morale, with René Dorme recalling a 'sporty' combat in a letter to a friend having been a 'pretty spectacle' for the 'brave poilus in the trenches'.[388] Even American pilots arriving comparatively late to the conflict were struck by the particular culture around French aces that permeated military and civilian spheres, with American trainee Theodore E. Boyd noting in his diary that when he received news of Guynemer's death midway through a haircut, his French barber burst into tears.[389] Official French war artist Marcel Santi's impressions of a unit in the trenches at Verdun demonstrate the potential value of ace mythology to French soldiers fighting on a battlefield that Jay Winter has described as a 'meta-battle', a definitive point of departure from previous forms of violence during the conflict.[390] The most hopeful of Santi's sketches is of a group of soldiers craning their necks to the sky from where they huddle in the mud, grinning up at the aftermath of an aerial dogfight in which a dark trail of smoke follows a plummeting airplane. One soldier reaches up and calls out: 'Guynemer!'[391] Pilots' victories were tangible and black-and-white in contrast with the war in the trenches; from the ground, their apparently clear-cut agency translated into power and myth.

[388] SHD 16 N 1389 (GQC 1e Armée juillet 1917-février 1918); Mortane & Daçay (eds.), *Mémoires de René Dorme*, 73.
[389] NASM 2013-0016 (Theodore E. Boyd Collection).
[390] Jay Winter, "Anatomie des Batailles de la Grande Guerre". Lecture, Historial de la Grande Guerre, Péronne, 30 June 2016.
[391] Fig. 11: Marcel Santi, *La liaison… Les barbelés… Guynemer!!* (Mémorial de Verdun).



Perspectives from the ground: 'Cette photographie…prouve quelle admiration est ressentie partout pour notre glorieux as des as'; [392] *Marcel Santi sketch from Verdun.*

Though French aces' high degree of publicity and civilian recognition set them up for special recognition in other branches of the military, it is clear that other air services were making a conscious effort to define a wartime role for their elite pilots. Even in the British case, where the Royal Flying Corps and Royal Air Force appeared resistant to singling out individual pilots to the extent that MPs complained about the censorship of aces' names in the press, Royal Flying Corps administrators did encourage journalists to spend time at Military Wing HQ and organised for prominent pilots on leave to give talks at public schools and aeronautical institutions.[393] Successful pilots were also in high demand to pass on their knowledge, as was seen in many American pilots' objections to

[392] Fig. 12: *La Guerre aérienne illustrée*, Vol. 101 (17 Oct. 1918).
[393] Paris, "The Rise of the Airmen: The Origins of Air Force Elitism", 134.

being assigned training roles or recruitment tours when they transitioned from volunteer roles in the Royal Flying Corps or *Service Aéronautique* to the US Army Air Service after the American entry into the war.[394] With the status of air services as separate branches of national militaries uncertain throughout most of the war and practical experience in military aviation sorely lacking, air services deliberately used successful pilots to promote a distinctive image of their type of soldier. Their tactics for doing so, e.g. promoting lectures about tactics to both schoolboys and trainees and encouraging positive relationships between pilots and the press, did not hugely distinguish between military and civilian audiences, further singling out ace pilots as potential reference points for their aviator peers.

Though pilots' reactions to the mythology of the ace were often similar to soldiers', the close proximity of these icons had palpable, lived consequences in military aviators' day-to-day lives. Like soldiers, pilots often centred personal encounters with aces like Guynemer and Nungesser in their writing and other wartime memories. Willis B. Haviland, an American volunteer in the Lafayette Escadrille, devoted two uninterrupted pages to snapshots of Guynemer in a photo album where pictures of people, airplanes, crashes, and outings otherwise flowed in chronological order. "The Ace", his captions twice repeat. Unlike the rest of his album, which mostly contains personal shots and is carefully formatted with the same pencil and photo sizes, these prints stand out: Haviland carefully wrote Guynemer's name in ink on each slightly enlarged shot of the slight, twenty-one-year-old pilot, suggesting these had been displayed or passed around before being given pride of place in the scrapbook. This obvious

[394] "Our Fliers Want French Training", *The New York Times* (3 June 1917).

reverence for *l'as des as* was typical of many pilots' wartime scrapbooks, memoirs, and correspondence; even hastily snapped, badly developed photos of Guynemer often received their own pages, and suggested a brief encounter with a rockstar.[395]

The ways in which non-ace pilots spoke about aces, however, reveal more than simply hero worship: they demonstrate a clear marking out of aces as professionals in an emerging, uncertain field, and the frequent prioritisation of aces' experiences and knowledge over seeming fundamentals of military experience like training or leadership. This disruptive influence of the ace has parallels with what Martin Petter has identified as the phenomenon of 'temporary gentlemen' in the wake of the First World War, where a boom of British officers from non-traditional backgrounds created an uneasy social sub-class that appeared to be representative of the 'wartime dilution' of 'the traditional association between officer and gentleman'.[396] Though aces' existences were largely not a cause for concern for air services, their elevated status did indicate a sharp departure from reliance upon traditional military hierarchies and signifiers of authority. Amongst fellow pilots, aces' exceptional status was subverting notions of how a soldier trained, gained experience, and deferred to authority, thereby challenging the extent to which these applied to air services in the first place. Specifically, aces appeared to challenge the notion of who was responsible for passing on what stills and who, therefore, had the power to ensure survival in the aerial battlefield.

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[395] Pierre Lavignon, *Album de Pierre Lavignon, 1900 à 1924* <http://www.1418effroyableboucherie.fr/galerie_un_album.php?id_album=2&page_choix=1>; MHS MS. N-1545 (Curtis Frazier scrapbook, 1914-1917).

[396] Martin Petter, "'Temporary Gentlemen' in the Aftermath of the Great War: Rank, Status, and the Ex-Officer Problem" in *The Historical Journal*, Vol. 37, No. 1 (Mar. 1994), 133.

This specific in-community use of aces' experiences came across most vividly when pilots had personal encounters with ace pilots, either via their published writings or an in-person conversation. One squadron leader recorded the 'exceedingly clear and simple' advice about fighter tactics passed to him in a conversation in a shared mess with Albert Deullin, the first ace to attempt to formalise a series of rules for aerial combat: 'Our losses were light…it gave magnificent results,' he boasted – a slightly disconcerting memory of the Somme, but one nevertheless reflective of the overwhelming relief and sense of turning point to their own survival that many pilots felt at being given concrete directions.[397] Rickenbacker went so far as to suggest that the advice of an ace determined his own success, as demonstrated by his frequent recollection in wartime and post-war writing and anecdotes of his first trip across the lines under the guidance of then-top American ace Raoul Lufbery. Significantly, Rickenbacker and his fellow newcomer Douglas Campbell did not have weapons on their airplanes on this eye-opening first combat flight; Rickenbacker's takeaway lesson was not how to fight the enemies he had been so keenly anticipating, but rather how to read the sky and position himself in relationship to other airplanes via 'vision of the air', thereby minimising his chances of being ambushed and shot down.[398] Though Edward Mannock did not gel well socially with many other pilots in his immediate unit, he was often cited as someone who went out of his way to teach other pilots to the point of seeming like a know-it-all; this particular legacy to his First World War service lingered in the Royal Air Force culture of the Second, as evidenced by a letter sent to Mannock's brother

[397] Georges Thenault, *L'escadrille Lafayette* (Paris, 1919), 49, 90.
[398] Rickenbacker, *Rickenbacker*, 131.

Patrick by a serving RAF officer in early 1943. 'All modern fighter pilots hold his name in reverence because we regard him as the first of the fighter leaders,' explained the commanding officer of 74 Squadron, who was writing to ask Patrick Mannock for a picture of his brother to hang in his unit's mess. 'There had been, as I remember, the others like Ball, Bishop etc. but Micky was the first one who really led a squadron into air battle and taught them the tactics in formation. I have long felt that every fighter station should have his portrait….' [399] Bishop, by contrast, was specifically singled out by some fellow pilots for his aloofness in sharing combat knowledge despite his popularity on the ground.[400]

The association of aces with *teaching*, especially teaching new pilots how to fight and navigate their battle space, is significant as these skills in other services would ordinarily have fallen more under the parameters of training or the leadership of a commanding officer. Their described role as a visible, instructive presence in the sky aligns with Albert Deullin's emphasis on the leader as a physical aerial landmark for other pilots.[401] Indeed, pilots often referenced this more conventional kind of leadership as demonstrated by their own commanding officers, i.e. citing their organisation, willingness to look out for the physical and mental well-being of pilots, and participation in combat flights. As has been discussed, however, combat training varied tremendously over the course of the war, and being a high-ranking officer in an air squadron did not necessarily imply the skills, flying time, or ambition to become a high-scoring pilot. These were the components to success and survival that

[399] Dudgeon, *Mick: The Story of Major Edward Mannock*, 69-75; RAF AC 72/10/15 (Squadron Leader Ronald Adams letter to Patrick L. Mannock, 1943).
[400] Bishop & Graves, *I Saw a Rare Chance*, 38, 51.
[401] SHD AI 1 A 89/1 (Emploi de l'aviation de combat; Albert Deullin, "Les Patrouilles de Chasse").

preoccupied other pilots, and therefore fell to experienced, 'successful' pilots to pass along and embody.

Pilots' attention to experiences of aces was not confined to those who had met these prominent pilots in person. References to aces in non-ace pilots' wartime correspondence and writing demonstrate more than just an awareness of these pilots' social status within air services, often deliberately focusing on the ways in which they practiced and experienced violence. Significantly, these strict expectations for aces also structured pilots' memories of war many decades after they had been in combat. When asked to describe his experiences of aerial combat in the 1970s, former RFC pilot Reginald Fulljames' only memory of an individual battle was an encounter with the German squadron Jasta 11, led by the 'Red Baron' Manfred von Richthofen:

> They caught me somewhere over the lines and gave me a pretty bad time. But as they approached my aircraft, which was making towards our own lines, I turned round suddenly and charged into the middle of them, not because I was brave, but because I knew it was the safest thing to do. They scattered in all directions, and the leader got onto my tail and stuck there pretty closely…. To this day I believe that if my observer had thrown off an empty ammunition drum, it would have caught him in the middle of his airscrew. That would be a pathetically – pathetic way of Richthofen being brought to the ground, wouldn't it?

Fulljames' suggestion that Richthofen's death – much desired by the Allies at the time, both in military and propaganda terms – could be 'pathetic' speaks volumes about his perceptions of the kind of violence and death associated with successful pilots. His insistence, too, that he had not been brave or particularly skilled in his encounter deferred to the power of the ace myth: though his and his observer's survival did take extraordinary flying and quick thinking given they were heavily outnumbered and outgunned, Fulljames, then flying as a

reconnaissance pilot, could not be counted as an *ace* as he was not a fighter pilot. His perceptions of his own ability or even luck were oriented around an ability to shoot, destroy, and kill, rather than flying well; i.e. valuing the labour of violent flight with quantifiable output over other types of flying.[402] Some pilots who did similar kinds of combat flying to aces emphasised aces' practices as specifically filling in for an absent military tradition, with Jean Béraud-Villars vividly describing aces' paintings on their planes to demonstrate that 'men of the air are no less superstitious than men of the sea'.[403] Others, however, especially those writing about their more famous peers in publications like *La Guerre Aérienne Illustrée*, recorded aces' specific techniques emphasised the newness of them, making a point to include information like altitude, whether or not an ace pilot was alone, and how well machine guns and other equipment worked during a combat.

Intriguingly, many pilots who did not have a personal relationship with famous peers spoke about aces not just to describe positive or successful experiences, but as reference points for airing problems or anxieties. With the experiences of both enemy and friendly ace pilots dominating print and in-person conversations about evolving combat practices, pilots were aware that this small handful of pilots had disproportionate influence over official tactical recommendations, resources, and public perception of all aviators. One view frequently expressed was that the attention paid to individual aces by the public and military administrators alike dramatically misconstrued the nature of aerial warfare as they *themselves* understood it, sometimes at the expense of other

[402] Fulljames, oral history interview.
[403] Béraud-Villars, *Notes d'un Pilote Disparu*, 141.

pilots' survival. American pilot Arthur Raymond Brooks, for example, followed aviation press like Irving Cobb's columns in the *Saturday Evening Post* and wartime memoirs closely, even obsessively combing through James Norman Hall's 1916 *High Adventure* to figure out which fictionalised character was based on Raoul Lufbery so he could read the book from a more critical tactical perspective. However, he resented the focus on individual aces and 'successful' pilots' exploits, confessing to his diary: 'Personally I dislike the hero stuff that the magazines are full of nowadays. It seems to me a commonplace thing to go up, and combat, and be archied, and come down, and it's only when I read about the "wonderful" experiences of some daredevil magazine writer that I ask myself, "Am I doing just that!"' The thought seemed to have preoccupied him for a while; he picked up his diary the next day musing about the disconnect between the real danger he and others faced, and the disproportionate focus on individual successes like those of 'Major Bishop'.[404]

Some pilots correctly picked up on the fact that individual, high-scoring combat flying was not feasible for the vast majority of pilots, and indeed posed unnecessary risks when there were viable tactical alternatives to the kind of fighting associated with ace pilots. Shortly after Guynemer's death in September 1917, a French military censor included the following excerpt from a letter by a sous-lieutenant squadronmate of René Fonck's in a report about the morale of 6th Army:

> You have heard of the glorious ending, the supreme halo of our Guynemer, an irreplaceable comrade. Indeed, it is damning for our French method, which is too individual. Even our aces get wounded or shot down, we cannot fight with impunity against unequal forces, whatever their strength. And the Boches operate now with 8-10-12

[404] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary).

> machines. We need to operate in the same fashion, opposing force with force! It's less desirable: it leads to major problems or the individual role becoming less important, but it's becoming a necessity for us. We have in our group a worthy emulator of Guynemer, Adjutant Fonck, who in just a few months has shot down 15 machines without getting a single bullet in his machine. His precision is fantastic, and he has the method: he will go far…his last one, he shot down at 6,200m.[405]

For this pilot, the fact that the 'glorious' Guynemer had been killed despite his reputation and the letter writer's own first-hand observation of a successful ace in Fonck was down to an inability to switch to German squadron-based tactics, which he saw as more effective. Though the French had largely adopted group combat flying by the end of 1917, the letter writer was in a squadron with a disproportionate number of high-scoring pilots, suggesting that his group had yet to depart from the kind of combat associated with ace pilots. Though Fonck clearly had the 'method' to 'go far', his squadronmate's letter indicates clear anxiety and lack of direction: if 'even our aces get wounded or shot down' by flying and fighting in ways largely lauded as desirable, what was a less successful pilot to do to ensure his own survival?

Aces were a metaphor not only for success in the air war, but also for places where the people who fought it were left wanting. As the myth of the ace took hold in military and civilian spheres during the First World War, pilots focused within this image of the aerial hero in part to conceptualise the ideal combat pilot and standardise his specific practices. They also used it to illustrate where air services departed from combatants' expectations of how warfare was organised and sanctioned, both voicing admiration for aces' unusual degree of agency and using the idealised standard of the ace to pinpoint where training

[405] SHD 16 N 1420 (GQC Contrôle Postal 6 Armée 1917-1918).

and people did not provide sufficient structure and support. It is significant that wartime pilots of all nationalities' understandings of the 'successful' fighter pilot, though diluted by immediately post-war media representations of First World War aviators, were primarily defined by tangible, quantifiable violence. Though different cultures' representations of their aces varied slightly and were influenced by pre-war traditions, e.g. the fact that most British pilots were officers and therefore strongly class-coded or that the French had an existing circle of celebrity aviators, wartime pilots' interest in and encounters with ace pilots were entirely centred around the practices that enabled them to survive and shoot down enemy planes. The language that aces used to describe their own experiences, which circulated with a disproportionately high level of saturation in the press and within informal aviation circles alike, thereby set the tone for how non-ace pilots negotiated their own relationships with violence and their soldier identities. Ace pilots' own particular aptitude for high-scoring, killing-focused combat was indeed a rare case. However, their unapologetic self-declarations and public celebration as killers profoundly impacted the narratives running through the air war that shaped pilots' imaginations and ideas of themselves. Writing in his diary one warm May evening in 1917 after coming back from a patrol where he saw no action and seemed to have been in no danger, Keith Jopp imagined himself into a more exciting situation that fit his status as a combat pilot. 'I like the evening patrols,' he mused to himself. 'The fat sun is then behind you and you feel a proper Hired Assassin and ready to engage in any dog-fight going.'[406] His idle description spoke to some uncomfortable realities that existed simultaneously alongside each other during the First World

[406] RAF B4179 (Photographic negatives of Lt S.W.L. Keith Jopp's No. 1 (F) Squadron diary).

War: the air war's national heroes and 'knights of the air' were also assassins, and creating a common narrative of aerial combat that was inaccessible – yet aspirational – for most pilots.

CHAPTER FIVE
Aerial Communities at War



Photographs of N124 ground crew and pilots from the 1916-18 scrapbook of Willis B. Haviland.[407]

In the cold, damp early days of 1918, a film crew visited the American 94th Aero Squadron presumably with the purpose of making a propaganda newsreel.[408] They worked exhaustively and creatively, attempting to capture multiple aspects of life in a working fighter squadron with clear early instincts towards the kind of aerial photography that would dominate the silver screen in the interwar period. In the surviving silent footage, the camera ducks into dark hangars to follow ground crew pushing SPADs out into the dull winter light; it pushes through clouds in the rear cockpit of an observation airplane, capturing still-striking moments of other machines winding around each other in battle; it zooms in on dramatic take-offs and focuses closely on the mostly American pilots' youthful faces.

[407] Fig. 13: Willis B. Haviland, *An Early Bird's Scrapbook*. <http://wbhaviland.net/>.
[408] As this footage was donated to the San Diego Air and Space Museum by a private party and appears to be unedited, it is difficult to pinpoint who exactly commissioned the film, on which specific date, and for what purpose. However, given that top-scoring American aces Raoul Lufbery and Eddie Rickenbacker were both attached to 94th Aero Squadron at the time and the editor of official US military propaganda magazine *Stars and Stripes* appears in conversation with some of the pilots, it seems reasonable to assume that the footage was intended for propaganda.

This half-hour window into 94th Aero Squadron's life is refreshingly unvarnished compared to many other official visual and literary wartime representations of fighter squadrons. Pilots and ground crew alike trudge through icy mud, shoving their shoulders against airplane wings and wiping occasionally at the battered, dirty fuselages. Glimpses of airborne pilots in cockpits show them bundled up and visibly freezing, noses reddened and frost forming on their eyebrows. In contrast to the more sophisticated, cinematic slice-of-life reels produced of Second World War pilots, especially during the Battle of Britain, the footage is decidedly not a candid, human-focused look into pilots' lives so much as it is a record of routine: most of the pilots appear not to know what to do with themselves whilst on film.[409] One man smokes self-consciously, posing with his cigarette and then grimacing wryly towards the camera. As the camera pans over a line of pilots, who are wearing their full uniforms instead of flying suits, many shove each other playfully, joking and stealing awkward glances towards the lens. They range in age from their late teens to mid-thirties and are physically affectionate. Ground crew mill in the background of shots of the pilots, peering occasionally towards the action of the film shoot. It is only when the squadron goes into action – preparing the airplanes, taking off, climbing from their cockpits and holding quick, urgent discussions with comrades – that their collective attention appears firmly focused elsewhere and the men seem natural and unobserved.[410]

Despite the occasionally awkward tone of 94th Aero Squadron's brief time on film, the footage is one of the most comprehensive of a First World War air

[409] Garry Campion, *The Good Fight: Battle of Britain Propaganda and the Few* (Basingstoke, 2010), 213.
[410] SDASM F-0033 ("94th Aero Squadron", 1918). San Diego Air and Space Museum Archives.

squadron and offers a glimpse into the peculiar and specific culture of a coherent, working aerial community. With the context of squadron records and some of these men's wartime writing and memories, it is possible to see beyond the one-off embarrassed grins and stiff postures into the squadron's informal hierarchies, social groups, and everyday gendered behaviour. Accommodation varied widely for Allied pilots during the war, but was usually of a higher standard and offered more privacy than many infantry soldiers' regardless of their proximity to the front line; 94th Aero Squadron pilots, somewhat unusually, were bunking in groups at the time, and in the propaganda footage some of the pilots have linked their arms with the men with whom they shared living space.[411] Several of the older pilots, some of whom are veterans of the *Service Aéronautique* and have transferred into the US Army Air Service, have also arranged themselves together and stand a little apart from buoyant-looking ace Eddie Rickenbacker and a number of his peers who look as though they are hanging onto his every word. Friendship groups, ranges of experience, and in-flux social dynamics appear just as surely as the camera segregates the pilots from the dozens of men who maintain their aircraft and dominate the little aerodrome's space. Despite the bad weather and the fact that squadrons flew comparatively little during the winter, this is clearly a group grown together within a violent airborne reality.

This chapter explores how the practices and experiences of aerial violence discussed in previous chapters structured the communities that fought the first air war. This thesis is broadly intended as a study of what I call *combat*

[411] Raoul Lufbery Collection (Raoul Lufbery scrapbook 1916-1961). Wallingford Historical Society.

culture, or the sociological conditions – including group dynamics, mental states, moral or ethical codes, and labour roles – produced by the disruptive presence of an imminent combat event. Previous chapters have established some of the main factors that shape the material conditions of combat, including the physical and mental experiences of flying and air fighting and emerging tactical and social consensuses about aerial violence by its practitioners. Now, we turn to how these played out in the groups that sustained the possibility and new practice of air war. What kind of community, in other words, was required to support a very logistically and emotionally new kind of violence?

To answer this question, I have deliberately chosen to focus on squadrons, rather than air services as a whole, as locations where distinct combat cultures emerged and took root. Squadrons seem the obvious choice, as relatively small groups of combatants where informal hierarchies and experiences closely overlapped with formal military organisation. Within squadrons, as opposed to entire air services' bureaucracies and structures largely inherited from parent military services, I believe we see most clearly combatants' reactions to a distinctly new, twentieth-century form of violence and the subsequent ways in which they shaped their communities to perform and survive the air war. A thorough exploration of First World War squadron life reveals not only how flying communities transitioned from peacetime technology to the realisation of aerial violence, but the shape of future aerial doctrine and air force organisation up to the present day.

In examining squadrons specifically as the cultural nexus of aerial warfare, it seems most obvious to turn to discourse about 'unit cohesion', a phrase originating in military sociology that refers to a specific military unit's

ability to socialise and work together successfully. In elucidating this, however, we run into a long-standing disciplinary impasse: violence, as Jeremy Black implies in his assessment of historiographical approaches to military change, is perhaps the factor treated most differently by cultural historians of war and traditional military historians.[412] Work on unit cohesion within groups imminently facing combat has largely framed cultural components like class, race, and hierarchy as factors affecting 'military effectiveness' or changes in military policy rather than the building blocks of a community.[413] This on-going conflict in the study of the history of war, I think, actually mirrors the tension between military bureaucracy and the profoundly unusual, sometimes volatile social context underpinning the formation of First World War military aviation communities, making them an ideal focus point for a thorough investigation of violence as culture.

The case studies in this chapter follow pilots' transition from learning to fly to fitting into offensive fighter squadrons, exploring both the internal lives of these units and how these groups negotiated and expressed their new communal identities within wider military and national contexts. They reveal communities uneasily straddling military and civilian worlds, with members often rejecting conventional military frameworks in favour of hierarchies influenced but not wholly determined by civilian constructions of class and social status. At the same time, their parent militaries struggled to assess and respond to the realities

[412] Jeremy Black, "Military Organisations and Military Change in Historical Perspective" in *The Journal of Military History*, Vol. 62, No. 4 (Oct. 1998), 871.

[413] Over the past two decades, recent work on the phenomenon of unit cohesion has almost entirely been driven by policy debates within the American military, especially the eventual repeal of the "Don't Ask, Don't Tell" policy, on-going sexual assault crises within all branches of the military, and the current debate over allowing transgender soldiers to serve openly. The regulation of this topic – which is arguably a useful theoretical tool across disciplines for thinking about groups who do and experience violence – largely to official military studies and think tanks may explain why it is not often used in scholarly spheres.

of aerial warfare, making individuals within small units like squadrons disproportionately responsible for their communities and so further disruptive to traditional military signifiers of power and authority. Within such an ambiguous social sphere, especially for pilots and non-combatants who appeared not to conform to existing nationally-specific ideas of soldierhood, proximity to and use of combat violence became a clarifying, definitive factor in shaping squadrons' social structures, power dynamics, and formal organisation.

5.1: From Aviators to Squadrons

How did squadrons – especially ones explicitly intended for combat – come about as the organising components of air services? Some attempts were made early on in the war to formalise the specialised militarisation of aviation, with the *Service Aéronautique* creating its first bombing group of Voisin escadrilles V14, V17, and V21 within the first few weeks of the war.[414] However, comprehensive service-wide changes did not occur in any Allied air service until over a year into the war. These changes were prompted by necessity in the context of radically new campaign conditions, and tellingly were prompted by the needs and informal organisation of combatants themselves.

The beginning of the Verdun campaign, for example, marked a drastic reorganisation of the *Service Aéronautique* as carried out by a surprisingly small number of people, most of them active service pilots using their front-line experience to shape the use of *chasse* airplanes and flyers. In February 1916, the French had over 1,000 front-line machines of which only 135 were fighter aircraft, with just fifteen *chasse* squadrons made up of Nieuport fighters; the

[414] Jackson, *French Military Aviation*, 12.

beginning of the battle of Verdun at the end of that month necessitated a sharp strategic and manufacturing shift to adequately respond to the aerial component of the German offensive. February 1916 saw the *Service Aéronautique* rush six Nieuport squadrons to Verdun to create the first *groupement de chasse* under the command of Commandant Charles de Tricornot de Rose, effectively jumpstarting French efforts to create a specialised fighter role that shaped the resources and work assigned to squadrons.[415] This soon translated into training, with existing military flight schools like Pau specialising from 1916 to give *Service Aéronautique* pilots further instruction in the type of aviation they would join at the front. British equivalents to these specialised fighter schools did not come about until the end of 1916. The French schools emphasised aerobatic flying, which had previously been discouraged in informal British training consensuses like 32 Squadron commander Major L.W.B. Lees' pamphlet "Fighting in the Air": this resulted in Royal Flying Corps and Royal Air Force pilots receiving comparatively less comprehensive and more contradictory training to their French and German counterparts.[416]

Whilst the British had also split their aircraft by general specialisation from before the war onwards, Malcolm Cooper points out that the Royal Flying Corps had less immediate impetus in early 1916 – other than the significant casualties they faced throughout the war – to refocus their fighter efforts for a specific purpose. A recent PhD thesis by James Pugh attributes the Royal Flying Corps' transition into more aggressive, fighter-based British aerial warfare to the growing influence of Hugh Trenchard, who is largely credited as the 'Father of

[415] Greg Baughen, *The Rise and Fall of the French Air Force* (Croydon, 2018), 23.
[416] Hamilton-Paterson, *Marked for Death*, 132-33; Paris, *Winged Warfare*, 183-84.

the Royal Air Force' for his strategic overhauling of aerial doctrine as commander of the Royal Flying Corps from late 1915 onwards.[417] However, it is important not to confuse new *conceptualisations* of aerial warfare with its actual practice on the unit level, which the British case clearly demonstrates was closely tied to the needs of the immediate campaign at hand. While French pilots at Verdun were scrambling to drastically reconfigure their tactics and organisation in February 1916, the British government was beginning a six-week consultation about the formation of a unified air force in the form of the Joint War Air Committee, which Cooper describes as 'little more than a gladiatorial arena for its irreconcilable military and naval members'.[418] It was only during the Battle of the Somme later that summer that British military aviation would feel the need for a hard intentional look at fighter warfare, mostly originating with informal efforts by pilots and squadrons at the Somme.[419] Royal Flying Corps daily communiqués from between 1915 and 1916, originally used for internal administrative use and then distributed more widely to active service units, reveal a sharp change in the summer of 1916 in how the British air service was conceptualising offensive aerial warfare. The beginning of the Battle of the Somme in July 1916 coincided with a shift in focus from reconnaissance observations to frantic speculation about German tactics and the counting of aerial combats, including the successes of some named British pilots.[420]

[417] James Pugh, "The Conceptual Origins of the Control of the Air: British Military and Naval Aviation, 1911-1918", unpublished PhD thesis (University of Birmingham, 2012), 178.
[418] Cooper, "Blueprint for Confusion: The Administrative Background to the Formation of the Royal Air Force, 1912-19", 439.
[419] Hamilton-Paterson, *Marked for Death*, 181-83.
[420] Christopher Cole (ed.), *Royal Flying Corps Communiqués 1915-1916* (London, 1969; 1990), 17, 20, 175.

The case of the US Army Air Service suggests more broadly the processes that drove the organisational culture of wartime air services. Entering the war in April 1917 with just one Nieuport accounting for its total front-line strength by the summer of that year, the American air service largely developed its structure – which later included Pursuit, Bombing, and Observation groups – based on individuals' observations of established active service units. Major William 'Billy' Mitchell became the commander of the American Expeditionary Force's Air Service on the basis of an extensive survey he conducted for the first few months of the United States' involvement in the war, speaking to front-line French and British pilots and meeting with strategy-shapers like Trenchard.[421] Mitchell, like several other aggressive, extroverted aviation leaders in wartime air services whose time in military aviation coincided with a particularly urgent need for structure, became perhaps disproportionately influential in shaping his national military's organisation and use of aerial violence.

Turning points like Verdun, the Somme, and the US entry into the First World War reveal the extent to which individual active-service aviators shaped the aerial communities that fought the first fighter-to-fighter air war. Reports of the first French squadron leaders who fought at Verdun are particularly telling. Here were pilots who fought themselves and were dealing with the practical realities of reorganising their squadrons for combat, filing frequent observations, tactical briefings, and outright aerial manifestos to GQG administrators. One anonymous squadron leader part of the first *groupement de chasse* submitted the following guidance as part of one such report in June 1916:

The leader of a fighter squadron must be the soul of his squadron.

[421] Hynes, *The Unsubstantial Air*, 189-91.

> It is not necessary that he be an 'ace' or that he take part in all patrols, but he must be present on the day of battle, and in difficult periods when he must lead his pilots, it is imperative his personality inspire confidence and that he reflects this quality to all.
>
> To know his pilots, he must fly with each to appreciate their professional and morale valour.
>
> He can then employ each according to their capacities for each mission.
>
> Within the squadron, he must maintain the union that needs to exist between the soldiers who fight together; he should keep a good hand on resources and discipline.
>
> He should educate the young pilot and give him one of the best and most conscientious pilots as a mentor. This man should bring him up to speed with the functions of the service, help him get to know the front, teach him to avoid ambush in the air, and give him the principals of combat.
>
> The leader of the escadrille must be a LEADER.[422]

The language and concepts used by this commander – 'ace', the notion of specialised offensive missions, the interpretation of pilots as 'soldiers who fight together', the clear awareness of a need for clarity about the squadron leader role – speak to the sheer speed at which the conditions of aerial warfare at Verdun were solidifying squadrons as combat units. Similarly, American squadron leader Walter J. Seaborn's edits to a proposed US Army Air Service "Instructions for Flying ~~For Combat~~ With a View to Fighting" [his edits] reveal the conscious acknowledgement of in-flight hierarchies. 'Always accustom the same pilots to fly under command of the same Chief of Patrol,' Seaborn's notes read. 'In patrol work, the Chief of [P]atrol becomes an instructor.'[423]

[422] SHD AI 1 A 89/1 (Emploi de l'aviation de combat).
[423] NASM 2003-0053 (Captain Walter J. Seaborn World War I Collection).

This kind of close exchange between combat leaders and air service administrators, too, reveals the surprising amount of trust and leeway offered to the active-service commanders at the forefront of such change. Antonin Brocard, the commander of case study Escadrille N3 at the time the squadron was assigned to the original Verdun *Service Aéronautique* force, also wrote regular tracts on the use of fighter aviation in his reports. The ways in which he repeatedly articulated his own role during his first few months at Verdun are clearly reflected how the *Service Aéronautique* introduced *Groupes de Combat*, the organisational umbrella that succeeded the less formal *groupements de chasse* and grouped together multiple fighter squadrons for simultaneous deployment. Brocard, in a June 1916 report, saw the role of fighter squadrons as follows:

- To ensure the freedom of movement for a diverse number of aerial functions including reconnaissance, photography, bombing, etc.
- Forbid the incursion of enemy airplanes, isolated or in groups, over the lines and important points a few kilometres behind them
- Destroy enemy airplanes and balloons[424]

In the October 1916 GQG memo outlining the creation of *Groupes de Combat*, a process in which Brocard was intimately involved as the new commander of *Groupe de Combat 12* or 'Les Cigognes', the *Service Aéronautique* tellingly echoed the reports of Verdun commanders and explicitly gave commanders like Brocard free rein in shaping their fighter groups further:

> The use of *Groupes de Combat* is essentially at the discretion of commanders. The *Groupe* commander must each day modify his orders (formation, altitude, itinerary) to maintain the element of surprise in disrupting enemy aviation…. [These missions might

[424] SHD AI 1 A 89/1 (Emploi de l'aviation de combat).

> include] offensive combat against airplanes, destruction of balloons, attacking troops via bomb and machine gun, reconnaissance, and immediate protection for observer squadrons or artillery.[425]

This 'discretion of commanders', as would become clear as fighter-based aviation developed, did not simply determine the fundamental logistics of how air services organised themselves. Commanders and other individual pilots also had tremendous influence over the social makeup and hierarchies of their squadrons, furthering the cohesiveness of aerial communities that developed alongside the increasingly violent air war. In the case of Brocard's Escadrille N3, which quickly gained a reputation for ace pilots in the first few months of the Verdun campaign, multiple pilots were invited or accepted via transfer request to join the squadron after expressing interest in the new kind of air war being fought. It is significant that most of the pilots transferring into N3 in the summer of 1916 were not yet high-scoring ace pilots. Rather, their inclusion in the squadron was based on Brocard's perception of them as individual personalities and their personal desires to be included in the social sphere, public reputation, and combatant tasks specific to a newly successful fighter squadron. René Dorme, for example, recalled that a special request from Brocard was the reason for his June 1916 transfer into N3; given that they had not served together previously, it is quite possible that Brocard knew Dorme from his frequent contributions to popular French aviation press and his writing about his first 'kill'.[426] In a 1960 interview, Alfred Heurtaux, who joined N3 a few weeks before Dorme, recalled that he had pressed especially hard to join N3 after months of requesting a transfer to a fighter squadron not because the squadron itself was

[425] SHD AI 1 A 22 (Escadres et groupes de combat).
[426] Mortane & Daçay (eds.), *Mémoires de René Dorme*, 52.

yet well known, but because Georges Guynemer was attached to it.[427] Though more would-be pilots were denied transfers into fighter squadrons than those who received them, the changing needs of rapidly restructuring air services allowed for an unusual degree of flexibility in constructing new aerial combat cultures.

This peculiar insularity of early aviation culture, both in military and civilian spheres, is crucial to consider when examining the formation of aerial combatant groups like those explored in this chapter. As was discussed in the first chapter of this thesis, much of this close-knit, unmilitary approach to community building came from early aviation circles, which mass mobilised public interest around a relatively small, competitive group of technically minded middle class entrepreneurs and sportspeople like Claude Grahame-White, the Wright brothers, Roland Garros, and Louis Blériot. Private organisations representing these entertainers and manufacturers, like the Aéro-Club de France, the Royal Aero Club, and the Aero Club of America, significantly influenced air service recruitment practices, pilot qualification, and eventual specialisation during the First World War despite not being formally affiliated with their equivalent militaries. Though the majority of First World War pilots would learn to fly within a military context, this notion of an exclusive, new-age aviator class was clearly present in how pilots behaved and presented themselves when brought together as a group. This chapter aims to complicate, however, the idea that such 'air force elitism' translated neatly into aristocratic, upper class combatant communities and practices originating in existing social

[427] Alfred Heurtaux, oral history interview.

elites like English public school boys.[428] While flying squadrons maintained characteristics of their home cultures and incorporated nationally specific ideas of class, gender, ethnicity, and power into their internal hierarchies, this chapter argues that aerial combat provided a space for pilots in which civilian social identities could be suspended or altered to a significant degree. As individual pilots transitioned from training to combat units on front-line service, this phenomenon saw combatants from a variety of backgrounds joining a new, coherent combat culture increasingly distinct from other military and civilian communities.

5.2: Characterising Combat Culture

In 1946, sociologist Robert C. Stone published the results of a study that closely mirrors some enquiries of this thesis about an American fighter squadron in the Second World War. Examining the sociological make-up of the squadron as it saw combat, Stone concluded that civilian class identity was ultimately unimportant to the military effectiveness of the unit. He observed that an Ivy League-educated pilot did not receive special treatment by virtue of his civilian class; rather, interests, hobbies, and social background from outside the combat zone came second to a sense of shared combat experience, and that pilots deferred to one another based on 'dependability, stamina, quick judgement, a "cool head", aggressiveness in the air, and usually superior flying ability'.[429] Stone had effectively identified an important distinction that would emerge in military sociology in the 1990s, i.e. the difference between 'social cohesion' and 'task cohesion': 'whether members like each other' or 'whether they share the

[428] See Paris, "The Rise of the Airmen: The Origins of Air Force Elitism".
[429] Stone, "Status and Leadership in a Combat Fighter Squadron" in *American Journal of Sociology*, Vol. 51, No. 5 (March 1946), 391.

same goals' in how and why they fight their war. There have been many debates about the extent to which each type of unit cohesion motivates soldiers in combat and creates a functional military organisation, with a significant majority arguing that task cohesion, i.e. shared ideas about how their group works, organises itself, and fights, is ultimately more important to guaranteeing an 'effective' fighting unit.[430] While Stone's work appears to align with this thesis, it also suggests the extent to which pilots relied upon *combat* specifically to create these shared ideas about community in the first place.

In this case, the environment of aerial combat appeared to be in itself a subversion of traditional civilian class- or regionally-based identities and military hierarchies. Stone's study was of course specific, focusing on an American squadron stationed in the Pacific three decades ahead of the early aerial combatants of the First World War. However, his work raises the potential for a community deliberately constructed around aerial combat, one that dictated social practices and identities on the ground despite many key communal experiences taking place in the air. In the case of First World War squadrons, experience in a violent airspace was closely tied to social status within the informal hierarchies of a squadron, with non-commissioned pilots' access to violent flight disrupting conventional power-signifiers like military rank.

Glimpses of the potential for such a profoundly disruptive hierarchy on individuals' conceptions of the narrative of their wars and the factors needed for a fighting squadron to function appear in nearly every pilot's wartime writing. Writing to his comrade Theodore E. Boyd, who was recovering from an injury in

[430] MacCoun, Kier, & Belkin, "Does Social Cohesion Determine Motivation in Combat?", 647-8.

hospital, 88th Aero Squadron pilot Kenneth Littauer reassured his friend that he had shared Boyd's previous letter with what he called 'the Old Guard' of experienced pilots despite their squadron only having seen about six months of active service. This social circle was based on a limited period of exposure to violence and did not constitute the majority of the squadron, but this 'Old Guard' would nevertheless appear to be synonymous with 88th Aero Squadron's core community in Boyd's attempt at writing his memoirs immediately post-war.[431] As suggested in the previous chapter, the power of ace pilots or a competent leader easily overturned rank and had lasting impact in the air and on the ground. American pilot Raymond Brooks, for example, crowed to his diary when American then-'ace of aces' David Putnam joined his squadron in the summer of 1918. 'How is that for luck!' he exclaimed. 'No wonder I feel elated over the fact that we've such a man, a man whose latest stunt was jumping eight German planes, to lead us on our patrols.'[432] Though only a lieutenant, like Brooks himself, and not a squadron commander, Putnam represented the peak of a hierarchy that had become central to Brooks' experience in his short months over the front. It is this hierarchy that deserves specific consideration, to demonstrate the extent to which air squadrons as communities departed even from conventional signifiers of military unit cohesion. Though fighter squadrons relied upon some structures from civilian and military life to organise their lives and communities, aerial violence was the predominant shaping factor of these units, and indeed radically – if temporarily – reconfigured many individual pilots' relationships to fundamental identity components like class and nationality.

[431] NASM 2013-0016 (Theodore E. Boyd Collection).
[432] NASM Acc. No. 1988-051, 1989-0104 & 1991-0046 Box 16 (Arthur Raymond Brooks diary).

Before approaching the three case studies in this chapter, it is essential to establish the experiences that emerged as signifying power and status to aviators. The censored letter of a French observer writing to a friend in July 1917 captured some of the culture shock that came with newly entering a combatant squadron. He and his pilot had shot down their first enemy aircraft, an event that the observer clearly understood, a year after the emergence of French aces at Verdun, to mean success:

> I'm happy to have such good friends celebrate this unexpected joy with me, but you wouldn't believe how quickly vanity turns into jealousy! We tried to discuss our victory!...but it quickly became clear we'd get no celebration from this lot. My pilot and I were hoping to get the military medal, but we were told that at the front one needs to down three or five Boches to get the medal and it would be *a scandal* to all the pilots at the front if they gave it to us. If in two or three months we have a citation, we won't complain.[433]

Military aviators' interpretations of their own squadrons and social groups at the front demonstrated communities in flux. In wartime writing and correspondence, pilots frequently commented on the disruption or even disappearance of conventional power signifiers elements like rank, class, race, nationality, perceived masculinity, and experience.

French ace Alfred Heurtaux, recalling his own entrance into active service in the spring of 1916 at age twenty-three, remembered of his squadron that 'All of us were very young, so it was very gay…. [E]very one was in good spirit, and there was a feel of camaradie [sic]. It was like a sport. But in 1917 when several were killed and wounded, the mood changed. None of the old pilots were left.' He specifically identified the shared moment of transitioning from non-combatant to combatant aviation as important to the ground of friends he made, and of

[433] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918).

considering himself and his group 'old' for having qualified as a pilot in 1915.[434] Personal experience and proximity to the militarisation of aviation, therefore, was a central organising factor in the friend groups and combatant roles pilots formed during their time in active service. Sometimes this was evident in pilots' personal relationships; it was also commented upon in the air, as very different 'generations' of flyers began to emerge within relatively short time spans. The Royal Flying Corps, for example, distinguished between 'regulars' and 'special reserve' pilots: the latter had not been in a previous branch of service and had learned to fly before the war, meaning they flew with a visible penchant for stunting in the air and often behaved in an 'unmilitary' way on the ground.[435]

Many pilots commented on the visible disruption of pre-war identities, e.g. Charles Dolan's observations about the very different class backgrounds of the pilots who joined him in the Lafayette Escadrille. Speaking in a post-war interview, he spoke about the potential 'levelling' effect of a group organised around aerial combat on men from opposing socio-economic and educational spheres:

> But the Escadrille composed of volunteer Americans in a foreign army, you've got to realize that they got all kinds, shapes and styles of Americans. They were fellows, as I said, like Bridgeman, who was a Phi Beta Kappa from Yale, and he really went over to repay Lafayette for having saved his country. And we had a couple of fellows in the outfit who wondered who the hell this fellow Lafayette was anyhow – he got us in an awful jam. And everything in between.[436]

Class and class-influenced military hierarchies significantly impacted the ways in which air services organised themselves, which often caused tensions between

[434] Alfred Heurtaux, oral history interview.
[435] Ralph Barker, *The Royal Flying Corps in World War I* (London, 1995), 28.
[436] Charles Dolan, oral history interview.

pilots who were assigned to do effectively identical jobs in the air. This was especially evident when the Royal Flying Corps transitioned into the Royal Air Force in 1918, with lieutenant pilots' wages fixing at 12 shillings per day plus eight shillings for days when they flew and NCO pilots earning two to four shillings as a base rate.[437] Within the British Parliament, debates about pay specifically related to pilots from late 1915 onwards repeatedly focused on perceived discrepancies related to *ability*. MPs asked, for example, about 'special consideration…given to cases of injury due to flying'[438], differences in pay for pilots who took part in particularly significant actions like shooting down zeppelins,[439] and questions of 'extra pay for great experience in flying' for officers versus non-commissioned officers.[440] Race, too, was a complicated and sometimes contradictory consideration for the few pilots of colour who flew with Allied air services during the war. Hardit Singh Malik, an Indian student at Balliol College, Oxford when the war broke out, was strongly discouraged from service in the British military. Though not explicitly refused entry, as Black pilot Eugene Bullard was when he tried to transfer from the *Service Aéronautique* to the US Army Air Service after American entry into the war, Malik recalled hostile reactions towards his enthusiasm to fight until his Balliol tutor was able to convince Royal Flying Corps officials to let the would-be pilot join the RFC rather than volunteer for the French:

> At Oxford I found it very difficult to carry on as usual. I felt strongly that every young, able-bodied man should play his part in the war effort. In a way we young Indians, studying in England, were in an

[437] Trevor Henshaw, *The Sky Their Battlefield: Air Fighting and Air Casualties in the Great War* (High Barnet, 1995; 2014), 349-350.
[438] HC Deb 24 October 1916, Vol. 86 cc936-7 (Officers' Flying Pay).
[439] HC Deb 26 February 1917, Vol. 90 cc1713-76 (Navy Estimates, 1917-18).
[440] HC Deb 4 January 1916, Vol. 77 cc794-5 (Royal Naval Air Service).

> anomalous position. We were told that this was a war for freedom and it was natural for the English to join whole heartedly [sic] in the struggle. But as Indians we ourselves were under foreign rule, so how were we supposed to join in this war for 'freedom'? We knew that whatever the condition, it would make little difference to our Indian condition. In spite of this I had a strong urge to join up…. The official British attitude towards Indian students was not helpful. It was as if most of us were looked on as potential revolutionaries and terrorists not to be trusted in the fighting services.[441]

Pilots' personal experiences of class, race, and work often contradicted the living situations in which they found themselves as part of a flying squadron, a reality that both jarred and pleased while profoundly reconfiguring notions of community. This was particularly significant for pilots as soldiers often stationed far beyond the front lines, meaning that they were embedded in civilian communities and associated class/racial hierarchies whilst simultaneously seeing action. One French working class Escadrille V150 pilot described such a juxtaposition in a letter home where he marvelled about the sheer discrepancy between his work and surroundings: 'I lead a very comfortable life here, *vie de château*,' he bragged, 'considerably sized room with three windows, trout fishing, canoeing, catching crayfish, walks in very charming countryside, often going to neighbouring B…ville where there's cakes and other little things that are attractive enough. In the last 15 days I've flown twenty minutes. Very civilised, you see!' [442] Even non-combatant members of ground crew frequently commented on the privileges and unusual work conditions associated with air services. 'I must tell you a bit about our routine,' wrote a French mechanic assigned to a fighter squadron in a winter 1917 letter to his parents. 'Know that

[441] Hardit Singh Malik, *A Little Work, A Little Play* (New Delhi, 1972), 56; Paul Rockwell Papers 301a/3 (Paul Rockwell Correspondence With American Volunteers of the French Foreign Legion Including Eugene Bullard and Charles Sweeney).
[442] SHD 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral).

our misery isn't so substantial as you might imagine – quite unlike the army. We have warm, new accommodation: we want for nothing. We get three big wool blankets; each of us has a bed with a good mattress. We sleep under tents and have stoves for heat: so we never catch cold. We're well-fed each lunchtime and night.'[443]

On paper, squadrons across air services appeared to be organised slightly more like naval units than infantry units, with a significant proportion of active service squadrons' rosters including non-combatant labourers and technical specialists. The late 1918 and 1918 personal files of 25th Aero Squadron commander Walter J. Seaborn reveal a man grappling with the logistics of this reality whilst negotiating the conflicting factors of an infantry training background, personal technical and engineering experience, and no front-line combat experience. Seaborn's notes and duty rosters reveal the unusual social and geographical configuration of the average fighter squadron: in addition to about twelve pilots at any given time, Seaborn also oversaw 136 enlisted personnel, including cooks, electricians, and blacksmiths, and significant amounts of equipment and resources unrelated to flying including food, lorries, office supplies, and buildings with temporary plumbing. Though an active combatant pilot himself, Walter Seaborn was the administrator of the significant bureaucratic and material machine needed to facilitate combat flying, an activity in which only a small minority of 25th Aero Squadron took part.[444] This led to a significant split unusual to active service, front-line units between the *non-combatant majority* (ground crew and administrative staff) and *combatant*

[443] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918).
[444] NASM 2003-0053 (Captain Walter J. Seaborn World War I Collection).

minority (pilots). Recent work on active service units emphasises that one of the key factors to ensuring soldiers' morale, i.e. ability to withstand heightened emotional and physical circumstances together, is a sense of shared danger and diffused responsibility.[445] This has significant implications for a First World War air squadron, where about four-fifths of any given unit was rarely in significant danger or required to participate in violent acts.

The majority of an average squadron were effectively labourers, many of them technically non-combatants charged with maintaining weaponry, equipment, and supplies. Roles were formally delineated by specialisation, with armourers, bombardiers, observers, gunners, etc. all gaining separate qualifications as the war progressed and entering active service under the supervision of non-commissioned officers.[446] Organisation of work in the ground, however, was not so clear-cut. From 1916 onwards, for example, pilots usually flew patrols in flights, i.e. groups of two to five. However, national and even squadron-level practices varied in terms of how these flights occupied airspace, deployed violence, and communicated. In the *Service Aéronautique*, experienced pilots often led patrols on a rotating basis regardless of rank; in the Royal Flying Corps and Royal Air Force, the role of 'flight commander' was reserved for pilots with the rank of captain.[447] For pilots in particular, even obvious markers of military status like rank could be complicated and contradictory. Records related to air service organisation and regulation reflect this uneasy state, e.g. a March 1918 series of clashing *Service Aéronautique*

[445] Grossman, *On Combat*, 205; Castillo, *Endurance and War: The National Sources of Military Cohesion,* 2-3.
[446] BNF 8-V PIECE-193888 (Fontionnement de l'armement et du tir dans les unités d'aviation, janvier 1918).
[447] Paris, *Winged Warfare*, 180-81; Barker, *The Royal Flying Corps in World War I*, 23.

memos about the proper protocol for pilots travelling on trains. An initial memo suggested that pilots should divide themselves by rank, travelling in separate officers' and non-commissioned cars like infantry soldiers. Days later, however, a new memo clarified that squadronmates should only bother travelling separately by rank on long journeys. The contradicting orders suggested a desire to appear similar to other military services while acknowledging the absurdity of asking soldiers who did functionally identical jobs to sit apart.[448] It is clear that examining squadrons as military units or social groups is not sufficient, hence the focus on three case studies to determine how squadrons functioned as combat cultures dealing with everyday operations and the realities of navigating a violent environment.

[448] SHD 19N 1117 (Décisions journalières du commandement de l'aéronautique (février 1917-janvier 1919).

This chapter focuses in particular, but not exclusively, on three case studies to establish the practical organisation and subsequent culture of aerial communities as they developed in fighter squadrons during the second half of the First World War. Two of the three squadrons, N124/SPA124 and N3/SPA3, developed as specialised *chasse* squadrons within the *Service Aéronautique*; while N3/SPA3 was made up of nearly all French pilots throughout the war, N124/SPA124, also known as the Lafayette Escadrille, was predominantly made up of Americans who volunteered for the French military and fought under French officers.[449] British 40 Squadron existed in both the Royal Flying Corps and Royal Air Force and included pilots from Britain, Ireland, the United States, and the Commonwealth.

These cases are in part self-selecting. Each squadron was in some way high-profile, with the Lafayette Escadrille driving significant American press buzz before the United States' April 1917 entry into the war, N3/SPA3 being part of the elite *Cigognes* combat group, and 40 Squadron boasting a number of high-profile British aces. All three squadrons received a great deal of attention from their respective wartime presses, meaning that many of their pilots had an unusually high degree of overlap with civilian cultures and very specific incentive to record or even exaggerate their experiences. Though this means these squadrons and the people who made them up are less representative of their national air service cultures and the average pilot's wartime experiences, I believe these three examples have particular value as windows into the complex, highly detailed process of creating and maintaining new aerial communities in

[449] French escadrille designations signified what type of aircraft was assigned to the squadron in question: e.g. the squadron flew Nieuports as 'N3' and became 'SPA3' after the 1917 transition to SPADs.

wartime. Many ace pilots who passed through these squadrons, including René Dorme, Edwin Parsons, and Edward Mannock, did produce insightful wartime writing and post-war memoirs, prompting squadron and amateur historians to collate useful detailed logs and resources about these particular groups of aviators. On *The Aerodrome*, the leading online forum for First World War military aviation enthusiasts and perhaps the only frequently updated digital collection of First World War aviation primary sources, all three of these squadrons feature in discussions to a disproportionate degree.[450]

Perhaps more importantly for the purposes of this chapter, however, detailed and largely unpublished wartime correspondence exists for all three squadrons. In the cases of the Lafayette Escadrille and N/SPA3, people in relatively central positions within the squadrons' internal social and outward-facing public lives – Lafayette Escadrille publicist Paul Rockwell and *Cigognes* group leader Antonin Brocard, respectively – worked hard to archive their pilots' wartime experiences, with Brocard saving inter-squadron correspondence when one or more of the writers was deceased and Rockwell reaching out to pilots and ground crew's families for memories and wartime papers long after the end of the war.[451] Through these men's efforts and some of their contemporaries' amateur historicisation of these squadrons, it has been possible to recreate these men's group dynamics and self-made social hierarchies to an unusual degree – to see who spent time with and spoke to who and what about, to examine critically the impact of pilots' and other staff's pre-war social demographics and wartime lives on their actions and cliques, to locate the official and informal markers of

[450] "The Reading Room" & "Archives", The Aerodrome Forum. Accessed February 15, 2019. <http://www.theaerodrome.com/forum>.
[451] SHD AI Z 10974 (Papiers de Félix Antonin Brocard); see Paul Rockwell Papers, Washington & Lee University Library.

hierarchy and experience that structured these groups and allowed them to function. 40 Squadron did not have an exact equivalent to the Lafayette Escadrille and the *Cigognes*' self-appointed chroniclers, but many of its members were prolific writers and some contributed to post-war oral history projects, making it possible to accumulate a roughly equivalent body of sources alongside several secondary works about the squadron.

The three squadrons examined in this chapter each became front-line fighter squadrons in late 1915 and early 1916. As N/SPA3 was formed pre-war, some of its pilots transitioned into fighter aviation as their squadron changed role in September 1915; 40 Squadron was formed in February 1916 explicitly as a fighter squadron, dictating the combat role of its pilots from the outset. The Lafayette Escadrille was unusual in that it came about as the result of complex diplomatic, legal, and financial negotiations in order to produce an ostensibly all-American squadron before the US entry into the war a year later.[452] Despite the unusual organisational and social origins of their unit, the Lafayette Escadrille pilots came into military aviation via the routes of many of their French and British peers, e.g. transferring from ground-based services in which they had previously volunteered like the French Foreign Legion or American Ambulance Field Service. While each squadron had dozens of personnel throughout the war, the number of on-duty pilots from late 1915 onwards ranged from six to just under twenty, with the average squadron across air services having about twelve active pilots at one time.[453] In 1916, these active service pilots and their soon-to-

[452] David Gunby, *Sweeping the Skies: A History of 40 Squadron Royal Flying Corps and Royal Air Force, 1916-56* (Durham, 1995), 21; Norman Franks and Frank Bailey, *The Storks: The Story of Les Cigognes, France's Elite Fighter Group of World War I* (London, 1998) 10; Philip M. Flammer, *The Vivid Air: The Lafayette Escadrille* (Atlanta, 2008), 4-6.
[453] Franks & Bailey, *The Storks*, 8, 104, 124; Henshaw, *The Sky Their Battlefield*.

be comrades ranged in age from eighteen to thirty-one, and came from a surprising range of class and national backgrounds. This chapter examines thirty pilots in each squadron who served between 1916 and 1918, expanding the focus from particular friend groups and moments in the war to take a broader look at how each community grew and evolved.

These units have some significant factors in common that make them particularly useful as case studies. First of all, they were all notably 'successful' as combat squadrons, with all of them producing high-scoring aces and most pilots scoring at least one 'kill'. This is at least in part because they were active in major sectors of the Western Front, i.e. Verdun and the Somme, a reality that led to both high casualty rates and a significant degree of interest from the press and civilian world. Accounts from all three squadrons suggest that they were also close-knit communities with pilots' messes frequently described as warm, involved social spaces and many members corresponding with each other or travelling together when on leave. Perhaps most crucially for the enquiries of this chapter, all three found themselves in positions where, as entire combatant units, they were faced with specific moments of technological or tactical change and had extensive, documented conversations about improving themselves and surviving as a fighting force, and of the subsequent impact that had on pilots' individual identities and practices.

5.3: In the Air

How did these communities take shape beyond how fighting squadrons would eventually be organised on paper? Commanding officers were driving forces behind each of the three squadrons' lives on the ground and in the air, not

entirely by merit of their military ranks but largely due to their aerial experiences. N/SPA3's first commanding officer Antonin Brocard, the Lafayette Escadrille's Georges Thenault, and 40 Squadron's Robert Loraine were all middle class and had learned to fly in France before the outbreak of war. Thenault and Brocard were both some of the most experienced officers in the *Service Aéronautique*, while Loraine was a popular West End actor who had taken up flying as a hobby in 1909 – he became the first person to fly from England to Ireland in September 1910 despite having to swim the last two hundred feet – and joined the Royal Flying Corps in 1914. These men's political, military, and financial influence external to the daily goings-on of their squadrons proved to be essential in creating the material foundations of their squadron. It has already been established that Brocard had a disproportionately loud voice within the *Service Aéronautique*, as a commander frequently consulted about everything from tactics by the military and manufacturing new airplanes by private companies. Loraine's theatrical connections and personal wealth made for easy propaganda and better access to resources, as seen by his ability to invite playwright and friend George Bernard Shaw to the front to see 40 Squadron rehearse one of his plays and his ability to pay to open a private canteen for his pilots.[454] In the case of the Lafayette Escadrille, Thenault was perhaps less immediately influential than American pilot Norman Prince, who Thenault himself gave 'the credit of originating the squadron' along with Elliot Cowdin and William 'Bill' Thaw as three young, wealthy Ivy League men who coordinated resources and tackled the logistics of creating an all-American unit within the French air service before the US entry into the war. Prince and Cowdin, both sons

[454] Gunby, *Sweeping the Skies,* 79.

of prominent New England and New York business families, and Thaw, whose father was a Pennsylvania steel magnate, spent years hashing out the logistics of a diplomatic agreement and fundraising significant amounts of money from investors including J.P. Morgan and William and Anne Vanderbilt before the Lafayette Escadrille went into active service in the summer of 1916. For their work, as well as their considerable social status outside of a military context, Thenault recalled, 'they were [the squadron's] founders and were always recognised as such, which gave them a certain prestige willingly accorded by the others in their mutual relations'.[455]

Brocard, Thenault, and Loraine demonstrate the extent to which squadron leaders could use the deliberate flexibility of their role, which especially in the case of the French commanders was clearly being defined by these men as they went along, to balance the need for visible military authority with aviation-specific signifiers of power and combat effectiveness. All three men were highly competent pilots and took part in regular patrols; Brocard himself scored N3's first recorded 'kill' at Verdun.[456] In an environment where uses of violence and proximity to danger were still very much in flux with the rapid evolution of aerial combat, it is telling that these commanders took steps outside of what seemed to be 'ordinary' military procedure to establish the sense of shared risk and diffused responsibility that is vital to fighting units' morale.[457] They frequently put themselves in danger outside of their job descriptions, with Loraine leaping in to lead ground crew in a desperate fire-fighting effort after a

[455] Thenault, *L'Escadrille Lafayette*, *xiii-xiv;* "Elliot Cowdin, War Flyer, Is Dead", *The New York Times* (7 January 1933), 15; Rebecca Lamb, "Swifter Than Eagles, Stronger Than Lions: Mythology, Propaganda, and the Lafayette Escadrille", unpublished masters thesis (University of North Carolina at Asheville, 2010), 24.
[456] Franks & Bailey, *The Storks*, 20.
[457] Grossman, *On Combat*, 205.

mechanic working on an airplane accidentally set its petrol tank alight. They created informal forms of regulation on autotelic violence specific to their own squadrons and pilots, explicitly setting out standards for uses of violence and competency. Loraine insisted on fitness runs for pilots during bad weather days, for example, which was not a Royal Flying Corps requirement after initial training; as commander of the increasingly famous *Groupe de Combat 12*, Brocard required that all of his squadron leaders adopt a tougher version of the French 'scoring' system to ensure that his pilots could not be accused of inflating their reputation, demanding that pilots have an additional witness and be able to provide specifics about the time, circumstances, and type of downed enemy machine to confirm a 'kill'.[458]

Perhaps most importantly for morale, they also made an effort to keep pilots safe where their militaries had failed to provide a coherent safety model specific to aviation. This was commonly seen in commanders' repeated insistence on functionality over 'correct' uniform wear, especially in the *Service Aéronautique* where pilots wore different uniforms depending on their services of origin. Incoming N3 pilot Louis Risacher was surprised, for example, when he arrived for duty in regulation summer-uniform trousers and was berated by Brocard, who pointed to pilots wearing improvised non-uniform leather leg-wraps that provided an extra layer of protection against high-altitude cold. 'Look here, Caporal, see that man with the leather puttees on?' he recalled Brocard saying. 'It is Captaine Guynemer, and that one is Captaine Auger, and they are properly dressed!' Risacher responded wryly: 'All right, Major…though I came

[458] Gunby, *Sweeping the Skies*, 9-11; Franks & Bailey, *The Storks*, 20.

from the infantry where things are less strict.'[459] Thenault took similar action when the *Service Aéronautique* attempted to insist that Lafayette Escadrille pilots, who were often photographed and featured in press around the world, swap out their (warm) pyjamas for regulation uniforms. He joined his pilots in protesting by wearing a uniform to demonstrate the extent to which it chafed necks of pilots who had to be constantly turning their heads to look for danger, and ensured that they would not be disciplined for their refusal to wear proper uniforms.[460] In pilots' memories of the war, squadron leaders were most frequently remembered in relation to actions like this: deliberately challenging military authority and putting themselves in harm's way to translate a problem that only made sense to those who participated in aerial combat. The squadron leader of Escadrille N112, for example, responded to the problem of not having an effective retrieval system for pilots who were shot down or crashed in no-man's-land by mobilising members of his own squadron when the nearest French infantry unit refused to go. He led his pilots into the trenches to attempt to crawl out and rescue his injured man from the wreckage of his machine, effectively executing an ad-hoc infantry operation without official military authorisation.[461]

Ronald Hubscher points out the potential problem with this 'reformer' style of aviator leadership, which relied on a certain degree of rebellion against military convention and existing rules – and indeed, might encourage pilots themselves to challenge authority within a squadron. Here, he hints at the kind of

[459] Jon Guttman, "'Monsieur Moniteur': Interview with Louis Risacher of Escadrilles SPA 3 & 159" in *Cross & Cockade International Journal* Vol. 20, No. 2 (1989), 76.
[460] Charles Dolan, oral history interview.
[461] SHD 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral).

balance between formal and informal hierarchies inherent to fighter squadrons: experienced pilots and proven aces had a kind of authority that did not necessarily translate to rank or power on the ground, but helped stabilise the unit as a whole.[462] The kind of authority wielded by experienced pilots, i.e. their proven ability to use and control aerial violence, translated directly into how commanding officers deployed them and allowed them access to non-combatant social status. As N3 transitioned into part of *Groupe de Combat 12* in October 1916, Brocard was responsible for assigning new squadron leaders and configuring the group for efficient fighter-based combat. *Service Aéronautique* records show that he recommended – and was largely granted – promotions to squadron leader not just for ace pilots, but for many N3 pilots who he had known personally from the start of the Verdun campaign.[463] One French pilot demonstrated the extent to which this kind of authority of experience depended on a relationship with a commanding officer, writing angrily to a squadronmate about how he was effectively displaced within his squadron after a change of command while he was on leave:

> Our captain having been reassigned a few days ago, the new one wants to make certain changes, most of the pilots want to drop him. I'll give you an example. I had a probable Boche I shot full of holes and downed on Reims, for which I was recommended for decoration by my old Captain. The same day the escadrille CO changed, the new one let everything fall by the wayside and in doing so dropped me. I'm going to spend a month at the rear, if you've got any sway in the squadron try to recommend I come back, I'm going to try and do my best.[464]

In units with established commanders, this informal authority of violent experience could and often did work to pilots' advantage. In the Lafayette

[462] Hubscher, *Les Aviateurs Au Combat*, 185, 187.
[463] Franks & Bailey, *The Storks*, 9; SHD AI 1 A 22 (Escadres et groupes de combat).
[464] SHD 16 N 1389 (GQG Contrôle Postal 1e Armée juillet 1917-février 1918).

Escadrille, Thenault mostly allowed pilots to choose their own flying partners and shift through patrol duty according to their skills and experience. He also gave particularly prolific aces like Raoul Lufbery a significant degree of autonomy to choose their roles and duties. Lufbery preferred to fly alone and on high patrols, avoiding group patrol work as, in his words, 'you don't know whether the boys behind you can get out of trouble if you get into it'. Though many commanders preferred to assign experienced pilots to fly with incoming pilots, Thenault admitted he was content to 'let junior pilots [learn] skill from [Lufbery's] example' essentially on their own time and observation, without interfering in the ace's preferred style of work.[465]

The significance of this informal combat-based 'authority' given to certain pilots cannot be overstated: it shows the extent to which squadron communities were built around participants' proximity to violence. Within their squadrons, ace pilots were unquestionably socially and militarily 'superior' even when they neglected to participate in 'social cohesion', i.e. making friends and participating in leisure activities with everyone else.[466] Aces' status within a squadron's informal hierarchy – which came, clearly, from their professionalised relationship to violence, as was explored thoroughly in the previous chapter – is striking because it operated separately to the kinds of power and authority associated with good 'leadership' in a flying squadron, e.g. some of the qualities demonstrated by Loraine's dedication to his pilots' busy social lives or Brocard's strict high standards about pilots' claims to victories. It also had the potential to override some of the deep-seated markers of civilian social status that shaped

[465] Harold B. Willis, oral history interview; Eddie Rickenbacker, oral history interview; Thenault, *L'Escadrille Lafayette*, 152, 106.
[466] MacCoun, Kier, & Belkin, "Does Social Cohesion Determine Motivation in Combat?", 647-8.

squadrons' small groups of pilots, as seen most obviously with the treatment of aces within the strongly class-coded Royal Flying Corps' 40 Squadron and the Ivy League-heavy Lafayette Escadrille. Aces Lufbery and Mannock were both working class, frequently described as having moments of social reclusiveness or difficulty, and had grown up and worked in unusual, highly international circumstances, setting them apart even from peers with whom they had lived experiences in common. Recollections of them both – bearing in mind that both Lufbery and Mannock died during the war, making memories of them acutely focused on their wartime service and post-war mythology even from contemporaries – demonstrate the power of weaponised aerial violence on an individual's place in an aerial community, given that social boundaries like class, race, and education still very much existed on the ground even within small circles of combatants. Hugh Gwilym Lewis' assessment of Mannock is particularly telling:

> He started badly, wasn't a very good aerodrome pilot, took time to get going, and when he'd solved his problems – his thingy, and his mental problems, he really started to shoot down two-seaters and other successes….
>
> …Oh yes, he was a lot of fun. We remained friends right through after he left the squadron. My parents kept an open house in the Hampstead, and he would visit there quite often, and he knew the rest of the family. He was very musical – he liked to play the violin, and ah, liked to sing – and my family was very musical, and I think he found a lot of common ground when he was working up to go out with 74 Squadron, which was his next important job overseas.
>
> But oh no [chuckles], he had very good humour, quite a lot of fun. Absolutely popular in the squadron, but um…. He was a few years older, he'd been out in the world, working out in Turkey…I think he developed his dislike of the Huns out there, because he was put prison out there and eventually got home and got his commission in the engineers. But his family was a military family, ah, not um, NCO types – very fine chaps. Well, his father wasn't so admirable but, um, in anyhow. They were a very good crowd.
>
> Mick Mannock was a combination of [Albert Ball's aggressive style and James McCudden's tactical thinking] and the finest patrol

> leader that perhaps we ever had. He was always working with his unit – well, he was regularly working with his unit – and they were always taking part in his attacks and he was pushing them in the right direction for an attack and so on. [467]

The components to Lewis' response when asked to recall Mannock, with whom he served in 40 Squadron for about a year during the course of the First World War, demonstrate specific value and practice judgements particular to aerial violence that shaped Mannock's place in his and Lewis' unit. Lewis begins by remembering that Mannock, much like Raoul Lufbery, was not an inherently gifted pilot and was only noticed and distinguished when he began to score 'two-seaters', a type of airplane that Lewis remembered he himself considered a particularly worthy score because of its reconnaissance role. He explicitly links Mannock's newly honed ability to do consistent violence to having 'solved his problems', both presumably as a pilot and 'his mental problems'. (It should be noted that Mannock, who discussed his own mental health with unusual candidness and frequency in his diary, did not share Lewis' optimistic assessment of it having improved during the war: 'Official score is now 47. Office (Squadron) records 51. Not so bad for an old chattering wreck like me what!' he wrote in a letter shortly before his death). [468] In addition to his score, Lewis praises Mannock specifically for his leadership in directing successful attacks, and for his close consultation with other members of a patrol in coming up with tactical solutions. In Lewis' narrative about him, these qualities are clearly used to justify Mannock's inclusion in Lewis' own upper class spaces and social spheres across civilian and military life. Lewis mentions Mannock needing to find 'common ground' with his wealthy family while staying in 'an open house in the

[467] Hugh Gwilym Lewis, oral history interview.
[468] RAF B3167 (Edward Mannock, 7 June 1918 letter).

Hampstead', an environment to which Mannock's own upbringing was obviously at odds. He also goes out of his way to explain Mannock's trajectory into a commission to his interviewer, who in his questions had demonstrated a good independent knowledge of Mannock's biography, by insisting that Mannock's was a 'military family…not NCO types – very fine chaps'. Mannock's combatant ability and ace status, Lewis's recollection suggests, was fundamental to changing his civilian social status, or at least reverting to the more 'respectable' class history of his paternal side. Lafayette Escadrille pilots frequently deployed similar narratives about Raoul Lufbery, contrasting sharply with how they treated other working class – but notably less militarily successful or appropriately 'modest' about claims – members of the squadron like Bert Hall.[469]

What implications did this kind of potentially transformative authority of violence have for non-ace combatants and the group as a whole? Pilots' individual relationships with violence – i.e. their willingness and ability to put themselves in dangerous or violent situations, and to use 'accepted' forms of aerial violence when called to – were not always explicitly held up as the reason for their status or popularity, but they were constantly scrutinised and policed by other members of their squadrons. This reality reinforces the idea that combatants must feel they are sharing danger and a combatant role roughly equally in order to keep up a unit's morale, but also calls into question the extent to which pilots were consciously *crafting* individual behaviours towards and narratives about aerial violence in order to fit in with their communities.[470] The idea of shared danger as a morale boost was perhaps especially vividly

[469] Blaine L. Pardoe, *The Bad Boy Bert Hall: Aviator and Mercenary of the Skies* (New York, 2015), 69.
[470] Grossman, *On Combat*, 205.

expressed in flying squadrons, given aviators' emphasis on play and games to speak about the kind of combat they did. A SPA67 pilot writing to an aviator friend stationed in Italy emphasised the shared *space* of the front as vital to feeling connected with and energised by his comrades:

> I, like you, can see the affect of the return to the front on a fighter squadron. Very good squadron and very good comrades. It's a relief to find chaps who still have the sacred fire in them. And there's nothing like the front to revive morale. I am at the moment living through the tests we all must pass. I daresay that here, all worries will soon vanish and, like last year, they'll be followed by a swift advance.'[471]

A late 1916 critical GQG report on morale in aviation explicitly noted this latter *crafting* of a violent hierarchy occurring at a squadron level. The report included a section focusing on censored correspondence of aviators who were particularly under pressure by German forces, commenting that these pilots were often aware of other squadrons watching them to see how they would react and frequently spoke about wanting to keep up their own unit's good image.[472] During his time in N3, Alfred Heurtaux remembered that he and his squadronmates were so aware of the *Cigognes'* celebrated reputation with both other French squadrons and the enemy that they consciously changed tactics in order to keep their edge, further cementing a sense of their unit's own personal character and abilities. 'We had big storks on our planes and the Germans knew exactly who the pilots were, and they were always flying away from us,' Heurtaux explained. 'They did not want to attack when Guynemer and I were

[471] SHD 16 N 1389 (GQG Contôle Postal 1e Armée juillet 1917-février 1918, 17 November 1917, SPA67 pilot to a friend in Italy).
[472] SHD 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral).

both there. So we said we must go it alone.'[473] N3 subsequently began sending out their ace pilots on solo patrols or stationed high above their squadronmates, furthering an aerial hierarchy that other pilots were aware of on the ground.

In close-knit, publicised communities like the Lafayette Escadrille, acknowledgement of such hierarchies built on proximity to aerial violence can be seen at a detailed individual level in correspondence archived by Paul Rockwell, the squadron's wartime unofficial publicist and post-war director of much of the unit's formal memorialisation. During the war itself, Rockwell, a journalist whose brother Kiffin was one of the squadron's first fatalities, was often based in the United States or Paris and therefore served as a convenient sounding board for many of the Lafayette Escadrille's 'old guard' to talk over the situation at the front with someone removed from the situation. Rockwell received multiple letters from pilots both celebrating the successes of their friends and complaining about perceived over-stepping on the part of other squadron members. 'Is there no way of putting a stop to this sort of thing (?),' wrote Willis B. Haviland in August of 1917. 'I've been informed in a recent letter that Prince and [Laurence Dana] Rumsey have been appearing in N.Y. the former wearing four medals and R– two, in justice to those who have paid the price with their lives and [to] the serious minded ones left in the Escadrille it would seem that something aught [sic] to be done.' He emphasised that Frederick Prince, squadron co-founder Norman's brother, had 'never flown over a battle line in France' and that 'Rumsey, the older members tell me, flew about five hours over

[473] Alfred Heurtaux, oral history interview.

the line at Verdun and never had a combat, I personally know that R– never took a machine off the ground at Cachy or the Somme.'[474]

Though Rockwell's responses to each pilot have not been archived alongside his collection, their letters to him give a glimpse into how they were constructing their community around shared, 'legitimate' violent experience. Haviland's references to 'the older members' and 'the serious minded ones left in the Escadrille' imply a specific clique within the unit, one with particular interest in preserving the integrity and visibility of their authority based on lengthy flying hours, service in significant battles, and citations for specific combats or accumulated kills. Pilots wrote multiple letters to Rockwell praising specific characteristics of their fellow pilots, including suggested anecdotes and descriptions of specific combats for their comrades' obituaries, and venting about those who were not up to their standards. One common target was Bert Hall, one of the squadron's few working class members who had been working as a taxi cab driver in Paris when war broke out. Though Hall actually had one of the best combat records in the squadron, with multiple verified kills, he was also deeply opportunistic and known for embellishing his violent encounters with language and invented tales that many pilots strongly attacked as incompatible with their community's reputation, social sphere, and media-honed relationship to aerial violence. 'I'm damn glad he's gone to Russia,' James McConnell snapped in a February 1917 letter to Rockwell, referencing Hall's rumoured move from the Lafayette Escadrille to the Eastern Front. 'Hope he stays there.' [475]

[474] Paul Rockwell Papers 301a/1 (Willis B. Haviland, 24 August 1917 letter to Paul Rockwell). Washington & Lee University Library.
[475] Paul Rockwell Papers 301a/1 (Correspondence with Lafayette Escadrille pilots, 1916-18; letter from Walter Lovell to Paul Rockwell, 18 August 1917; letter from Kenneth Marr to Paul

Proximity to violence also factored disproportionately into the formal and informal organisation of the squadrons' majority, i.e. their non-combatant ground staff. Recalling a rare combat over his own aerodrome, American pilot Douglas Campbell remarked on the unusual divide between the lives of pilots and their squadronmates with whom they shared space on the ground:

> The mechanics were out, of course, very elated, particularly. One guy got shot through the ear by one of our machine gun bullets. He immediately went somewhere and got himself a wound stripe! But it was quite a lift for the ground personnel and all those people. They were probably the only ground personnel of a squadron that ever saw an airplane shot down.[476]

While plenty of ground personnel did in fact see airplanes shot down, and indeed were sometimes inspired to apply to become pilots themselves,[477] Campbell's anecdote demonstrates two very different kinds of 'participation' occurring within one unit. Unlike First World War infantry units, where non-combatant roles like batmen and cooks frequently shared the danger of a combat zone threatened by artillery or snipers, aerodromes' placement behind the front lines did mean that ground personnel rarely occupied violent space in the same way as pilots. The fact that both pilots and ground crew were working together to facilitate aerial combat made for an unusual collective relationship with violence. The mechanic who rushed out to claim a 'wound stripe' for his friendly fire injury clearly wanted some recognition for his part in a successful aerial combat, even if his injury and the work he did on the squadrons' airplanes were not directly linked. Campbell's account, too, seems to suggest that he believed his own status

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Rockwell, 31 October 1917; letter from James McConnell to Paul Rockwell, 17 February 1917). Washington & Lee University Library.

[476] Douglas Campbell, oral history interview.

[477] Petit, *La vie quotidienne dans l'aviation en France*, 129.

and behaviour as a combatant guaranteed a morale boost for people not directly involved in his air work.

Writing about unit cohesion in small groups, Darryl Henderson emphasises that meeting soldiers' logistical and resource needs is essential to maintain morale and group unity in a combat zone. Like many other military theorists, however, Henderson does not explore units with a majority non-combatant membership, or go into detail about soldiers who share a unit and yet perform highly specialised, very different tasks.[478] First World War flying squadrons pose a curious case, then, given that combatants were relying so heavily on support systems constructed around the specific environment and experience of aerial combat. When considering squadrons as entire *aerial communities*, it is almost tempting to treat non-combatant ground personnel as a separate group. Though sharing an aerodrome, pilots and ground personnel usually lived and messed separately; Ronald Hubscher correctly identifies a distinctly 'paternalistic' tone characterising many pilots' descriptions of their good, friendly relationships with mechanics, emphasising the extent to which the combined power of rank, combatant status, and complicating factors like class and race always kept pilots and their mechanics physically and socially at arms' length. This was particularly true in aerodromes where squadrons shared space with non-white ground crew and maintenance workers, like the French 'Annamite' Vietnamese labourers and members of the British Chinese Labour Corps who refurbished aerodromes and did carpentry and welding work.[479] Aerial communities clearly prioritised participation in a culturally specific,

[478] Darryl Henderson, *Cohesion: The Human Element in Combat* (Washington DC, 1985), 13-14.
[479] Hugh Gwilym Lewis, oral history interview; Hubscher, *Les Aviateurs au Combat*, 249; Anthony B. Chan, *Arming the Chinese: The Western Armaments Trade in Warlord China, 1920-28* (Vancouver, 2010).

carefully crafted aerial violence kind of aerial violence, at the expense of the majority of a unit's members.

N3 pilot René Dorme was one significant exception to the strong social division between ground crew and pilots: he corresponded frequently with his first mechanic, Chrétien, even when he transferred squadrons and moved around the front. Dorme's close relationship with Chrétien was an unusual one, but the other young man clearly served as an important confidant as Dorme became a well-known ace and also an experienced pilot with few surviving early wartime peers; their closeness speaks to the potential inclusion of veteran aviation-related workers in experiences of aerial violence. Dorme did not want to worry his parents after surviving a bad mid-air collision in July 1916, so left the incident out of the weekly letter he sent to them after the incident; he did, however, describe it in detail to Chrétien as if to justify his performance in the air and settle his own nerves, insisting repeatedly that 'it wasn't my fault' and asking his old mechanic to let their old squadronmates know he was all right if they asked.[480] Dorme clearly saw Chrétien as related to the 'old guard' he associated with his own entry into the air war: though Chrétien was a non-combatant, their mutual losses and ability to share detailed accounts of war violence approximated mutual combat experience.

Despite the clear combatant/non-combatant divide within squadrons, it is significant that many ground crew saw their primary role as facilitating aerial combat, and indeed organised their lives and duties on the ground accordingly. French squadron leader Louis Thébault observed three distinct social categories emerge amongst non-combatant ground personnel throughout the duration of

[480] Mortane et Daçay (eds.), *Mémoires de René Dorme*, 64-65.

the war in the *Service Aéronautique*: 1) technical specialists, who tended to be younger and combat-age, with occasional social splits between 'first mechanics' who worked on the airplanes and 'second mechanics' who did electrical, telephone, or radio work, 2) older men who were 'all territorials from the old days or fathers with many children' and did work directly related to the daily upkeep of combatants' bodies like armouring and cooking, and 3) staff with 'un-military' roles like secretaries and medical staff.[481] This informal social hierarchy within squadrons was justified and reinforced by tiered pay and ranks that clearly prioritised men who worked directly with airplanes and, therefore, were as close as it was possible to be to aerial combat without being a combatant.[482]

Mechanics and other ground personnel often echoed pilots' penchant for measuring their personal impact on the war with specific, tangible figures and actions. A letter written by a SPA62 mechanic emphasised the distance of his pilot's next patrol deep into enemy lines as fundamental to his sense of responsibility and the importance of his work:

> I am fighting with my motor, which has decided not to run and yet must before my break: I will stay as long as it runs: it's my pride on the line. I have a lovely boss who has to go 30 kilo. *chez les Boches* and I wouldn't want it to be my fault if he stayed there.[483]

It was the fact of mechanics' relationships with their pilots that made them specifically part of an *air war*. Many non-mechanic ground crew attached to squadrons but without access to pilots' level of day-to-day reports and aerial-specific intelligence spoke about the war as a whole conflict rather than as a distinct aerial conflict. In comparison to pilots', their wartime correspondence

[481] Thébault, *L'Escadrille 210*, 109.
[482] Henshaw, *The Sky Their Battlefield*, 350; Hubscher, *Les Aviateurs au Combat*, 251-52.
[483] SHD 16 N 1420 (GQG Contrôle Postal 6 Armée 1917-1918).

shows markedly less focus on individual actors, like aces, and the tactical and technological evolution of the air war.[484] A whole squadron's collective war experience, then, was largely shared on the ground in a non-combatant space.

5.4: On the Ground

Much has been made of the transformative, volatile power of violent airspace, but how did the ground where combatants spent most of their time factor into the communities they created? Based on conversations with veterans of the Lafayette Escadrille, aviation historian H. Hugh Wynne summarised how most pilots spent their days on active service during the Battle of Verdun:

> Preparations for the morning patrols began before dawn. The pilots scheduled to fly were awakened while it was still dark outside. After a few gulps of coffee an automobile would take them to the field. As the Nieuports were being rolled out of the hangars, the first traces of light were usually beginning to appear in the east. All pilots who machines were in flying condition, flew on these patrols, except for those who were schedule to remain behind on 'alerte'. Normally there were 4 to 6 machines on a patrol.
>
> After landing from a patrol, the pilots usually went to a rest tent where they discussed the morning's activities. Some would then lie down for a nap while others read or played cards. After lunch they returned to the field where the man on alerte would be relieved for his lunch. Another patrol would be flown at 1:00 o'clock, after which a few pilots usually made another trip over the lines on their own.[485]

Aerodromes were usually temporary, purpose-built spaces in rural areas that facilitated living, rest, and some forms of leisure alongside the daily logistics of patrols. Though the Lafayette Escadrille and N3 in particular were based at multiple aerodromes over the course of the war, each of the three case study squadrons spent significant chunks of time in one place, e.g. N3 at the Cachy duty

[484] SHD 16 N 1389 (GQG Contrôle Postal 1e Armée juillet 1917-février 1918).
[485] H. Hugh Wynne, "Escadrille Lafayette" in *Cross & Cockade Journal* Vol. 2, No. 1 (Spring 1961), 14.

station between April 1916 and January 1917, 40 Squadron at Bruay-en-Artois, and the Lafayette Escadrille at Luxeuil from April to May and September to October of 1916. They often overlapped with other squadrons, sometimes even ones from other air services or countries; the Lafayette Escadrille shared Cachy aerodrome with N3 for the autumn and winter of 1916-1917, an event memorialised in several of the American pilots' photo albums with their own hastily-snapped, paparazzi-esque candid photographs of celebrity ace Georges Guynemer.[486] Sometimes, though, squadrons manned stations alone: 40 Squadron pilot Tom Mapplebeck recalled that they were briefly the only British fighter squadron in their sector, and that 40 Squadron pilots and reconnaissance pilots from 6 Squadron would occasionally visit one another to socialise with other English speakers.[487]

40 Squadron's set-up at Bruay illustrates the infrastructure typical of a front-line aerodrome, albeit with resources like extra automobiles supplemented by Loraine that prompted Hugh Trenchard to write after an October 1916 inspection about being 'much struck by the extraordinary fine organization in the Squadron, also by the excellent method and cleanliness in regard to machines, workshops, transports and sheds'. 40 Squadron occupied three of the six hangars, four of which were portable wood and canvas 'Bessonneau' hangars, with pilots living in individual huts functioning as officers' quarters and ground personnel living in about twenty small British-built Nissen and French-built

[486] Franks & Bailey, *The Storks*, 147-48; Gunby, *Sweeping the Skies*, 14; "Cachy – Bois L'Abbé", Anciens Aerodromes. Accessed 15 February, 2019. <http://www.anciens-aerodromes.com/?p=6963>; "Bruay-en-Artois", Anciens Aerodromes. Accessed 15 February, 2019. <http://www.anciens-aerodromes.com/?p=23047>; NASM XXXX-0230 (Robert Soubrian Collection, photo album); Willis B. Haviland, *An Early Bird's Scrapbook*. <http://wbhaviland.net/>.

[487] Tom Mapplebeck, oral history interview 23157, 1971, by Barrington Grey. IWM.

Adrian barracks. Facilities also included a radio hut, office block, telephonist hut, two kitchens, two messes, storage huts, a magazine, and a forge.[488] Since Royal Flying Corps pilots were mostly officers, 40 Squadron pilots had their own private accommodation whilst on active service, which was not always the case for *Service Aéronautique* pilots. Regardless of national context, pilots generally had better accommodation than ground personnel, though this depended in many cases on pilots' ability to spend their own money and the squadron's proximity to the front lines. Antonin Brocard was considered unusual in that he insisted on sparse, basic living conditions for his pilots even when *Les Cigognes* became well-known, whilst the well-funded Lafayette Escadrille put themselves up 'in a villa adjoining the famous hot baths of Luxeuil, where Caesar's cohorts were wont to besport themselves' with 'an automobile [that] was always on hand to carry us to the field'.[489]



[488] "Bruay-en-Artois", Anciens Aerodromes. Accessed 15 February, 2019. <http://www.anciens-aerodromes.com/?p=23047>; Winifred Strangman Loraine, *Robert Loraine: Soldier, Actor, Airman* (London, 1938), 228.
[489] Franks & Bailey, *The Storks*, 46; McConnell, *Flying for France*, 24-25.

'We messed with our officers, Captain Thénault and Lieutenant de Laage de Mux [sic], at the best hotel in town': Lafayette Escadrille pilots James McConnell, Victor Chapman, and Kiffin Rockwell at the Pomme d'Or in Luxeuil.[490]

Aerodromes were objectively odd places for combatants to become cohesive combat cultures. They were usually located far enough away from ground-based battle for pilots to take advantage of their surroundings in relative safety, visiting local towns, playing sports, or taking quiet time in nature without the necessity of an explicitly granted leave. As communal spaces, they represented safety and rest, but also the wealth of strong emotions associated with taking off for or returning from combat – anxiety, grief, giddiness, joy, relief. They also sharply contrasted with the fast-paced temporality and otherworldliness of airspace. Lafayette Escadrille pilot James McConnell's wondering 'whether I was a summer resorter instead of a soldier', and Jean Béraud-Villars' illustration of the unnaturally drawn-out, taskless time spent between patrols, captures the sometimes pleasant, sometimes jarring reality of the aerodrome:

> The freedom of nothing to do, a cigarette, a hot coffee, the novel set aside for three weeks, the lazy fire interrupted only by the sound of the rain on the tarpaulin of the roof. *Temps de pilote!*[491]

Perhaps crucially, then, pilots were at the forefront of creating communal leisure spaces for themselves separate from the places they associated with *waiting* to fight. Predictably, for many squadrons this was the bar, with many pilots going out of their way to decorate, design, and order alcohol in for ad-hoc bars in their designated messes. Though many pilots drank throughout the day and even during flight, bars/messes functioned as daytime social spaces for non-drinking

[490] Fig. 14: Ibid., 26.
[491] Ibid., 25; Béraud-Villars, *Notes d'un Pilote Disparu*, 40.

activities like reading, cards, darts, and music. These were places for rituals, like 40 Squadron's regular card game between the unit's six 'Colonials', or white Commonwealth pilots, the Lafayette Escadrille's ever-present gramophone stocked with 'a whole series of excellent records, [so] that the strains of fox-trot or rag-time alternated with airs from French or Italian operas according to the taste of the individual', and N3's regular bridge games.[492] 40 Squadron, under the enthusiastic leadership of its star actor commanding officer, used its bar and billet to rehearse amateur theatrical productions, some of them written by pilots like Frederick Powell's *Five Minutes at the Adelphi*. One 40 Squadron pilot, writing to his mother about their production of a George Bernard Shaw play, reassured her not to worry about the danger of fraternisation with non-commissioned officers: presumably also at Loraine's encouragement, they were putting on their own play at the same time.[493]

These spaces were the foundations of social groups that did often appear to cohere on the ground as well as in the air. Units frequently took their leaves together, so much so that air services often issued stern (and presumably largely unheeded) guidance about proper decorum when on permission. One *Service Aéronautique* report from June 1917 bemoaned the behaviour of French pilots who travelled around Paris in packs by squadron: 'I noticed that regulations of dress were not observed, especially in regards to the wearing of open tunics… It would be advisable to prevent pilots fresh from school from dressing themselves up as these ridiculous '*Vie Parsienne*' aviators, wearing extraordinary coats or

[492] Gunby, *Sweeping the Skies,* 79; Thenault, *L'Escadrille Lafayette*, 97-98; F. Rouff, *Guynemer: L'As des As* (Paris, 1917), 12.
[493] Lanayre D. Liggera, *The Life of Robert Loraine: The Stage, the Sky, and George Bernard Shaw* (Newark, DE, 2013), 145.

strolling around in long trousers when they should be in work clothes.'[494] Warnings like these certainly did not deter the Lafayette Escadrille, whose joint leave escapades in Paris included purchasing a lion cub advertised in a newspaper and, several months later, finding the male cub who they christened 'Whiskey' a girlfriend, 'Soda'.[495] Aerodromes also provided spaces for pilots to meet members of other squadrons. Theodore Boyd recalled he would visit the YMCA station near his aerodrome to play piano with a friend in another squadron, while a personal photo collection of a soldier who visited N3's aerodrome at Cachy shows photographs of N3 and N26 *Cigognes* pilots roughhousing with members of other squadrons.

[494] SHD 19N 1117 (Décisions journalières du commandement de l'aéronautique, février 1917-janvier 1919).
[495] Charles Dolan, oral history interview.



From the scrapbook of Pierre Lavignon, est. October 1916: "Nungesser sur les dos de Pelletier d'Oisy [sic]" [496]

Frederick Powell recalled that 40 Squadron's bar had a quality particular to the culture of its specific combatants, however: it was a critical space for processing loss within the privacy of a unit in a way that a period of leave might not be.

> When you think of these boys and the tensions they lived through through the day, and they came in the evening, and their best friend – 'Oh, where's him, I miss old George' – 'Oh, he bought it this afternoon' – 'Oh heavens'. The gloom would immediately come in and the morale would die, and the reaction immediately was, 'Well,

[496] NASM 2013-0016 (Theodore E. Boyd Collection); Fig. 15: Pierre Lavignon, *Album de Pierre Lavignon, 1900 à 1924* <http://www.1418effroyableboucherie.fr/galerie_un_album.php?id_album=2&page_choix=1>.

> come on chaps, what you going to have?' And that was the sort of spirit that kept people going.[497]

Inevitably, the shared experience of violence and aerial combat shaped the social life and superstitions emerging within places like a squadron bar. Edwin Parsons recalled with some unease the fact that the Lafayette Escadrille pilots mess was covered in sketches of airplanes, a decorating choice he thought was 'too constant a reminder of our daily stunts'.[498] The physical presence of death, too, wormed its way into bars and messes and embedded into the woodwork as deep-held superstitions. 40 Squadron stopped enjoying their mess piano after one particularly musical pilot, Rook, died in combat: the unit collectively decided that the next person to play the piano would also die.[499]

Aerial death created and inflated distinctive squadron identities, especially in well-known squadrons. When Lafayette Escadrille pilot Kiffin Rockwell died and was buried in Luxeuil, his funeral was truly enormous, especially given that Rockwell was only a sergeant: squadrons and infantry units from around the area attended, including an estimated five hundred British personnel, a full battalion of French troops, and most of the town of Luxeuil.[500] This was not out of the ordinary for Lafayette Escadrille funerals, as evidenced by the massive crowds photographed by Robert Soubrian at several of his squadronmates' funerals. Soubrian's photograph collection also included stark photographs of death, like the makeshift cross sticking out of the wreckage of squadronmate Ronald Huskier's crashed airplane and the burned body of a

[497] Thébault, *L'Escadrille 210*, 107-8; Frederick J. Powell, oral history interview 87, 25 January 1973, by David G. Lance. IWM; NASM 2013-0016 (Theodore E. Boyd Collection).
[498] Parsons, *Flight Into Hell*, 163.
[499] Gunby, *Sweeping the Skies*, 70.
[500] Harold B. Willis, oral history interview.

German pilot 'shot down in our lines while on a photographic mission'.[501] Pilots who joined elite groups like the *Cigognes* after the deaths of aces like Georges Guynemer often explicitly connected their participation with those men's successes. In some ways, squadrons built their reputations on their own 'old guard', celebrating pilots perceived to have been at the forefront of creating and specialising aerial combat while building communal cultures around the reality of these men's deaths.

What was the ultimate significance of the emergence of combat cultures uniquely built on the shared, specific experience of aerial violence? It has been well established that aviation in the early twentieth century was an insular subculture with its own well-known personalities, communication networks, and developing practices. Military aviation, historian Edmond Petit hints, evolved out of this into a vividly new but equally insular culture with its own language and hierarchies that dictated the formation of air services throughout the twentieth century.[502] The case studies in this chapter demonstrate the vital structure that this combat culture provided, from emotional support to a clear chain of command, when units were on active service. But in the context of a truly global war, how far did the insularity and peculiarity of aerial communities permanently impact combatants' lives and their perceived place within the conflict?

Pilots' personal reflections and air services' reactions alike speak to a conscious acknowledgement and on-going negotiation of the consequences of aerial experience throughout the war. The specific characteristics of aerial

[501] NASM XXXX-0230 (Robert Soubrian Collection, photo album).
[502] Petit, *La vie quotidienne dans l'aviation en France*, 221-223.

violence were repeatedly singled out as *the* defining factor of aviation. A poignant, difficult March 1917 letter from French pilot Lieutenant Rullier to a friend in Jersey, for example, to the frequent characterisation of pilots as having exceptional qualities due to their particular experience of death:

> We are in a black funk in my group: in fifteen days we have buried five of our comrades and another is suffering in the hospital with terrible burns…. Believe me, it takes a damaged heart to fly over ground where an airplane is burning. That's the good thing about aviators: they have often seen what awaits them, and still we soldier on![503]

Such musings about a universal pilot experience or personality are intriguing: they speak not just to the development of air services as independent military cultures, but also how pilots saw themselves changing as people over the course of the war.

For many, aerial violence appeared to be a powerful, permanent shaping force, one that was directly relevant to pilots' transitions back into civilian life and post-war existences. Long before the war actually ended, individual pilots and air services alike were discussing the potential lasting consequences of their specific experiences for their identities and war narratives. The Royal Flying Corps' daily communiqués demonstrate a shift in attention to pilots' specific physical and mental symptoms and needs between 1915 and 1916, including suggestions for how pilots might reduce their chances of 'permanent' emotional harm.[504] Some individuals even took steps to try to create spaces where pilots might demobilise and reflect on their experiences together. *Service Aéronautique* reports from the summer of 1917 indicate that individual telephone calls from

[503] SHD 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral).
[504] Cole (ed.), *Royal Flying Corps Communiqués 1915-1916*, 201.

squadron commanding officers helped determine the active service 'pilots susceptible to fatigue' who were sent to the United States to train incoming American pilots.[505] In May 1918, one French squadron commander sent *Service Aéronautique* administrators an official proposal for a cross-national convalescence home for military aviators on the Channel island of Jersey, to be used during the war and when it eventually ended. His request emphasised the need for a recovery environment specific to the kinds of injuries and psychological conditions brought about by aerial warfare.[506]

This suggestion that military aviation experiences might be long-term disruptive forces in pilots' lives begs clarifying in relation to their other collective experiences and identities. It has been established that the shared experience of aerial violence bound together military aviators as a coherent combat culture, and indeed that many perceived prolonged exposure to aerial violence as shaping pilots' individual characteristics and selves. Specific acts and qualities of aerial violence were frequently used to describe air services' emerging distinct military cultures. But as these military cultures developed, pilots had to contend with the fact that participation in new aerial communities did not remove them from existing social, national, and military contexts. As aerial violence became increasingly identified as *defining* a new military culture and war experience, it was also seen as *dividing* communities and *disrupting* social norms in wartime and the immediate post-war. The air war's striking distance from the majority of soldiers and civilians' material situations in wartime was deeply contentious,

[505] SHD 19 N 1117 (Décisions journalières du commandement de l'aéronautique, février 1917-janvier 1919).
[506] SHD AI 1A 36/1 (Gestion du personnel, cadre réglementaire – Recrutement, mutations, effectifs, états numériques, permissions, sanctions disciplinaires: instructions, circulaires, notes 17 décembre 1914-6 juin 1919).

and had lingering consequences for participants' relationships to other communities.

Specific aspects of military aviation that pilots saw as largely positive, be it the promise of tangible social change or the excitement of learning to fly, did negatively affect their relationships to the civilian world. Pilots' image in wartime popular press was not all celebratory; coverage of death-defying flying and aces' aerial victories was tempered by news of high casualty and accident rates. As Edmond Petit puts it, even positive news coverage 'tended to treat aviators as overgrown children, with little reason or seriousness' in the face of what seemed to be disproportionate danger – a double-edged image that disturbed many civilian readers.[507] Pilots' perceived 'unmilitary' or casual behaviour mixed with their unusually close proximity to civilian communities sometimes caused tension. A May 1918 letter from a fighter pilot reveals the strong attitudes of some civilians who directly linked pilots' perceived lack of responsibility with unnecessary violence. Though based in Paris, he complained that he did not feel he could be seen relaxing at cafés or enjoying the city after multiple German bombing raids:

> In Paris at the moment, an aviator is about as good as a leper. How can they imagine it's actually possible for us to defend the dear old city at night; it's beyond me, because we're not able to fly and have to land straightaway once night has fallen.[508]

Pilots' perceived privilege was frequently at the centre of both civilian and military criticisms of air services, bringing the question of a divide between the 'air war' and a national war effort further into focus. As has been established, aviators on the Western Front did have a very different material experience of

[507] Petit, *La vie quotidienne dans l'aviation en France*, 69-70.
[508] SHD 16 N 1402 (GQG Contrôle Postal 3 Armée, janvier-septembre 1918).

the First World War almost across the board: their billets and food were often better and more varied than infantry soldiers' due to their proximity to civilian communities and unregulated access to alcohol. 40 Squadron pilot Frederick Powell's claim that 'the centre of every squadron seemed to be at the bar' spoke to the extent which leisure featured in pilots' off-duty time; with flying squadrons across national air services frequently having access to local artillery, infantry, and balloon units, some soldiers often had perspective enough – and good reason – to be envious of and sometimes alienated by aviators. The apparently widespread rumour in the French infantry at Verdun that aviators were billeted in castles was not strictly untrue: many Allied flying squadrons did stay in requisitioned civilian homes, hotels, and other high-end establishments removed from the immediate threat of artillery fire, and pilots took advantage of their social status with civilians enough to create the common term '*panne-château'*, where an aviator might just happen to get engine trouble near a country home.[509] 40 Squadron at one point did stay in 'a beautiful château with beautiful inlaid doors and beautiful chandeliers', a billet that Powell recalled tension with the civilian owner:

> It really was a magnificent place...it belonged to a gentleman who was supposed to be French but was called Schatzmann. And Schatzmann tried to discipline us by putting notices all around the halls saying 'Officers will put their hats in the cloakroom and not leave them in the hall', things like that. Loraine, of course, spoke the most marvellous French….and he and Schatzmann did not see eye to eye. And I'm not surprised, because Schatzmann was so interested in his château he had no thought of us fighting his confounded war for him… I'm afraid we damaged his château frightfully. Disgracefully. [510]

[509] Powell, oral history interview; NASM 2013-0016 (Theodore E. Boyd Collection); Jules Roy, *Guynemer: L'ange de la mort* (Paris, 1986), 176; François Dechelette, *L'argot des poilus* (Paris, 1918), 61.
[510] Frederick J. Powell, oral history interview.

Though living conditions did vary significantly, aviators themselves were certainly aware of the cultural divide between themselves and other soldiers. Edwin Parsons insisted that 'war fliers occupied a strata completely disassociated from the rest of the army, not only figuratively, but literally'.[511] Bert Hall, a working class American pilot in the Lafayette Escadrille, actually gloated in his wartime memoirs about how glad he was to have gone into aviation over any other service: 'I know I will never be much good at work again,' he declared, '[after] three years of genuine sport'.[512] Their frequently glowing representations in popular civilian presses did not help dissuade the notion amongst other soldiers that pilots gained more recognition and resources. Indeed, Rebecca Lamb suggests that distorted coverage of famous units like the Lafayette Escadrille's living conditions may have dramatically contributed to wartime attitudes towards pilots; she notes that early accounts of Lafayette Escadrille pilots' luxurious first posting in Luxeuil were favoured over coverage of the squadron's billets at Cachy, where pilots slept on dirt floors.[513]

Questions of privilege aside, the notion that pilots might have more in common with one another and other members of their wider aerial community – even, perhaps, including the enemy – than their national militaries was a real concern. This phenomenon was perhaps most acutely seen in the case of American pilots who had volunteered in other national militaries before the United States' April 1917 entry into the war. Many such pilots, especially already high-profile American flyers like those of the Lafayette Escadrille, loudly resisted the move. One American pilot who had joined the *Service Aéronautique*

[511] Parsons, *Flight Into Hell*, 164.
[512] Bert Hall, *En L'Air!: Three Years On and Above Three Fronts* (New York, 1918), 19.
[513]Lamb, Rebecca, "Swifter Than Eagles, Stronger Than Lions", 55.

complained in a letter home that he felt that American Expeditionary Force leader John Pershing did not value aviation. 'For his sake,' the pilot grumbled, 'it would be good if some Boche dropped a bomb on his dinner table.' Despite being offered a jump from non-commissioned status in the French military to the rank of captain in the US Army Air Service, he was deeply reluctant to leave what he felt was a well-established and –organised aviation community.[514] American volunteer pilots voiced their dissent with their home military in national papers like the *New York Times*, with the well-known voices of Lafayette Escadrille flyers in particular putting the US Army in an awkward position. In an anonymous comment to the *New York Tribune* shortly after the US entry into the war, one Lafayette Escadrille pilot forcefully declared his allegiance to the French air service in which he had learned to fly. "France can turn the escadrille over to the use of the American army, but we will remain French soldiers, flying under the French flag, loaned to America,' he wrote. 'We will not be forced into the American uniform.'[515]



LAFAYETTE FLYERS ANGRY AT U. S. FOR TREATMENT DURING THE WAR

Veterans Resent Demand That They Serve Under American Officers Who Have Never Been Under Fire—Prefer To Remain Under the French Flag.

[514] SHD AI 1A 36/1 (Gestion du personnel, cadre réglementaire – Recrutement, mutations, effectifs, états numériques, permissions, sanctions disciplinaires: instructions, circulaires, notes 17 décembre 1914-6 juin 1919).
[515] "To Transfer Aviation Corps; Lafayette Escadrille Will Be Attached to Pershing's Army", *New York Times*, 5 July 1917; "The American Aviation Corps on the French Front", *New York Tribune* (14 April 1917).

Article appearing in the El Paso Herald *in July 1917, shortly after US entry into the war.*[516]

This profound resistance to being 'forced into the American uniform' – to do effectively the same job, but in a different military – is striking, and was echoed by many American pilots who started their flying careers in the Royal Flying Corps and *Service Aéronautique*. It speaks to the complications of identity specific to the American volunteer pilot experience, where their own personal, communal, and even legal narratives as combatants were frequently at odds with the fact that their own country was not at war. Some pilots had a very straightforward approach to the change. Eugene Bullard, the first Black American fighter pilot, understandably declared he felt more loyal to France given that he felt welcomed in the *Service Aéronautique* and was flat-out denied a transfer to the US Army Air Service due to his race. Indeed, Bullard's own post-war writing and recollections explicitly emphasised his 'Francophilia', which motivated him to remain in France for decades after the First World War, as developing in response to his experiences of violent racism specific to white Americans.[517] But veteran pilots' reactions to the transition from French to American air services also suggest that these American pilots identified strongly with and indeed relied upon the coherent *combat* culture that had emerged within French military aviation. Accounts of these volunteer aviators during this difficult transition period reveal a strong desire not to lose structures and resources on which pilots heavily relied. One anonymous young American pilot wrote a detailed letter to the *New York Times* in June 1917 about how 'none of us

[516] Fig. 16: "Lafayette Flyers Angry at U.S. for Treatment During the War", *El Paso Herald* (July 28, 1917).
[517] William I. Chivalette, "Corporal Eugene Jacques Bullard" in *Air & Space Power Journal* (2005), 7; CSU MC 181 (Eugene Bullard Collection, Craig Lloyd, "The Challenge of a Memoir in Biographical Research: Eugene Bullard's 'All Blood Runs Red'"). Columbus State University Archives.

want to be turned over to the United States Army', where he explicitly praised the latest SPAD fighter, updated specialised French fighter-specific training 'for super-pilots, those who have brought down one or more enemy planes…and have shown unusual skill in flying', and French wartime technological and safety developments.[518] American pilots' (correct) assumption that the US Army Air Service would not be able to provide the level of training and technology developed by the French over the full course of the war speaks to the extent to which aerial combatants relied on the little structure they had, and the loyalty many pilots subsequently developed towards their adopted services in other countries.

Observations about aviation from soldiers in other services sheds some light on the extent to which aviators participated in wider national military cultures. While many pointed to the insularity and elitism of aviation communities as a symptom of the air war's otherness, infantry soldiers in particular frequently referred to pilots and airplanes in relation to their own sense of how the war was progressing. Accounts like those of a French corporal writing to his family in November 1917 were typical of many soldiers' personal encounters with aviation:

> Today went well, more than 20 airplanes flew over and went to machine gun the Boches in their trenches; we can certainly say that we have 'aces'. Two French fighters attacked six Boches of the same type, succeeded and downed two and sent the others in flight, all without being touched themselves…[519]

For soldiers on the ground, the act of witnessing combat aviation could be a tangible morale boost without necessarily interacting with the pilots involved.

[518] "Our Fliers Want French Training", *The New York Times* (3 June 1917).
[519] SHD 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral).

Watching a friendly airplane shoot down an enemy machine or balloon was a dramatic, concrete victory that contrasted to the work of many soldiers in the trenches. An elaborate walking stick carved by French infantry soldier Claude Burloux over the course of the First World War suggests the potential significance of aviation for an ordinary *poilu*. This piece of trench art was effectively a visual representation of Burloux's own war narrative, and features inscriptions of personal motivations for fighting alongside carvings of wartime heads of state and military leaders. Significantly, it also shows an aerial combat that Burloux either witnessed or supported from the ground. This incident was memorable enough for Burloux, who was an active service combatant for the duration of the war, to be one of two personal moments reflected on a piece which took years to produce.[520]

The significance of this kind of witnessing was not entirely random. Pilots across air services were frequently assigned to shoot down enemy observation balloons essentially for the benefit of soldiers in the trenches, with official air service guidance even acknowledging that this task was largely for the visual morale impact rather than a significant tactical strike.[521] French censor reports featured significant, detailed enquiries into the morale value of aviation, giving seemingly equal weight to soldiers' perceptions of aviation from the ground alongside practical observations of mechanics and pilots about their machines and operations.[522] This heavy emphasis on infantry soldiers' relationships to visible, quantifiable aerial violence and aerial 'successes' meant that pilots

[520] Stéphane Audoin-Rouzeau, "La canne sculptée du soldat Claude Burloux en 1917", presentation at L'Historial de la Grande Guerre, 2 July 2016.
[521] Parsons, *Flight Into Hell*, 109.
[522] SHD 16 N 1486 (Rapports généraux de quinzaine puis mensuels sur l'état moral de l'armée, établis par le service du moral).

themselves embodied distinctly other kinds of power and masculinity to the soldier prototype of the Tommy or *poilu*. The ways in which soldiers on the ground were encouraged to view pilots reflected aviators' own conceptualisation of their bodies: aerial combatant bodies, i.e. joined human-machines, were fellow participants in violence, whereas pilots as human individuals were less 'legitimate' and useful in the combat zone.

Embedded in soldiers' perspectives of First World War aviation was a fundamental curiosity about this new technology that had not gone away in wartime: people were curious and excited about what had been a pre-war mass spectacle and adapted for the wartime environment around the realisation of aerial violence. As the war tangibly accelerated the innovation of aerial technologies, pre-war visions of air war clarified and sparked questions for the post-war future. The cementing of flying communities into aerial combat cultures – including close social spheres and communal practices – transformed aviation from a small, elite pre-war circle of entertainers and record-breakers into a subculture associated with distinct gender roles, behaviour, language, and uses of violence. From practical military output to the cultures it produced, the first war in the air and the experiences of its participants were not neatly analogous to the struggle below. Small aerial combatant communities during the First World War did, however, decisively shape the future of aviation and its use in real and imagined warfare.

CHAPTER SIX
Air War Between Practice and Imagination

The 1938 film *The Dawn Patrol*, the more popular remake of a 1930 film of the same name directed by First World War aviation veteran Howard Hawks, remains one of the most recognisable and iconic representations of the first air war. Starring Basil Rathbone as a grim, weary squadron leader and Errol Flynn and David Niven as two traumatised but devil-may-care pilots, it tells the story of a Royal Flying Corps squadron being slowly torn apart by the grind of front-line service. The film captures many of the realities of First World War aviation whilst hammering home clichés that remain inextricably tied to fictional stories about fighter pilots. Rathbone's character is exhausted and hunted, listening tensely for the sound of returning engines and their inevitably reduced numbers; pilots' lives revolve around the solace of the bar, but they manage to share a drink and moment of humanity with a downed German pilot who they believe has killed their comrade.

Though *The Dawn Patrol*'s action scenes are obviously cinematic and most of the airplanes used were modified or imitation versions of actual period aircraft, many of the stunt pilots involved in the making of both versions of the film were themselves First World War pilots and knew how to fly and fight accordingly. Iconic flying scenes in both versions of *The Dawn Patrol* and Howard Hawks' 1927 epic *Wings* became such visual staples of aerial combat that they were frequently re-used in other Hollywood aviation films.[523] In these sequences, attacking aircraft fly out of the sun; experienced pilots fire in short

[523] Hugh H. Wynne, *The Motion Picture Stunt Pilots and Hollywood's Classic Aviation Movies* (New York, 1993), 8; Michael Paris, *From the Wright Brothers to* Top Gun, 39-40.

bursts at close range; some in-community practices that developed in response to aerial violence, like an enemy pilot dropping a dead man's helmet and goggles at his airfield, are amplified for poignancy. *The Dawn Patrol* was not the first major motion picture to portray First World War fighter pilots as a distinct group, but its star cast and wry, claustrophobic script helped further popular perceptions of the First World War in the air as a uniquely traumatic and mythical experience characterised by tragic, perhaps quintessentially English contradictions. 'It's a funny war,' muses Niven's character in the mess between patrols. 'Not awfully,' replies the adjutant.[524]

Perhaps less considered in assessments of *The Dawn Patrol* is the fact that the aviation film industry it helped define was the closest thing First World War pilots got to a distinct genre of post-war memoir. As with the wartime conflation of popular media about military aviation with pilots' own voices, the celebration of 'heroic' aviation in the late 1920s and 1930s – characterised by record-breaking flights like Charles Lindbergh's transatlantic crossing and Hollywood's aviation film boom – was the direct result of close collaboration between people who had personal experience of aerial warfare and those who did not. This resulted in popular representations of the First World War in the air closely informed by reality, but complicated by differing degrees of proximity to aerial experience and embodiment. As the flight-centric written accounts of wartime aerial combatants blurred into post-war flight writing, media like *The Dawn Patrol* blurred the question of whose voices actually represented pilots who had fought in the war. For example, though widely received as an essentially anti-war

[524] Errol Flynn & Basil Rathbone, *The Dawn Patrol*. Directed by Edmund Goulding. Los Angeles: Warner Bros, 1938.

film in line with other popular inter-war representations of the First World War like the 1930 adaptation of *All Quiet on the Western Front*, director Howard Hawks insisted that his own 1930 film of *The Dawn Patrol* was not 'anti anything or pro anything'. 'I flew,' Hawks told biographer Joseph McBride. 'I knew what the air force was up against…the theme is very simple.'[525] This statement was deliberately ambiguous: though a US Army Air Service lieutenant and flight instructor in the latter half of the First World War, Howard Hawks never saw active service, though throughout his career he relied closely on the labour, expertise, and performances of many pilots who had. This was a relatively common feature of interwar entertainment, media, and business projects related to aviation. Many 1920s and 1930s Hollywood films about First World War aviation were written by John Monk Saunders, an American novelist and screenwriter who had, like Hawks, narrowly missed active service during his brief time in the US Army Air Service and subsequently devoted much of his post-war creative life to stories about military aviation. Whilst Saunders' characters and stories were informed by real experiences and in many cases shaped by veterans of aerial combat, like his collaborations with William A. Wellman on *Wings,* a deep, palpable yearning underlines his depictions of aerial violence above the Western Front. In many ways, Saunders' imagined air war is powerful and lingering because it is nostalgic and from the outside looking in; Moira Finnie rightly aligns Saunders with the post-war American writing tradition of Ernest Hemingway and F. Scott Fitzgerald as men who were peripherally involved with but deeply preoccupied by First World War violence,

[525] Joseph McBride, *Hawks on Hawks* (Lexington, KY, 1982), 112.

a perspective that resonated with their contemporary civilian audiences.[526] The close association of First World War aerial violence with stories like Saunders' and Hawks' speaks to the on-going life of its particular combat culture into the inter-war years, with significant consequences for the cultural, economic, and military development of flight. This curious collaboration – of prominent aviation enthusiasts and artists, many of them qualified pilots and aviation enthusiasts, with veterans of First World War aerial combat – arguably defined the complex legacy of First World War aerial violence, and deserves closer examination in assessing the impact and trajectory of these aerial experiences from the Western Front into multiple public spheres. The final chapter of this thesis therefore considers how First World War aerial violence was imagined, commodified, and deployed after the Armistice.

Much has been made of the impact of *aviation* as developed during the First World War, for good reason: the rapid technological advancement and industrial mobilisation sparked by the First World War effectively guaranteed aviation's transformation into a booming international civil industry and mandatory military force, in many cases led by combat veterans like Eddie Rickenbacker, Billy Mitchell, and René Fonck. The First World War has largely been accepted and often celebrated by historians as the definitive shaper of twentieth and twenty-first century aviation technology and practices, more so than the small entertainment- or hobbyist-focused celebrity culture of pre-war flight. This positivist spin on the legacy of First World War aviation as the genesis of a hugely significant globalising technology is, perhaps, one of the central reasons that aviation has largely been excluded from broad historiographical

[526] Moira Finnie, "John Monk Saunders: Something in the Air" in *Skeins of Thought* (April 2008).

reflections coinciding with the war's centenary about global politics, [post-]colonialism, and post-war culture shifts.[527] In the past two decades, more critical histories have begun to do the necessary work of identifying and exploring the specific impact of aviation technologies on fundamental aspects of post-war culture like empire, capitalism, national identity, and military development.[528] However, this thesis' specific focus on the character and culture of aerial *violence* as developed and experienced by First World War fighter pilots requires a less straightforward assessment of aviation's trajectory than the general development of flight *technology* post-war. It demands a closer assessment of the ways in which pilots' lived wartime experiences were conceptualised and used, both by themselves and a 'next generation' of aviators. Rather than provide a general overview of pilots' trajectories into peacetime life, then, this chapter focuses specifically on negotiations of the first air war's legacy in the post-war public sphere between combatant and non-combatant pilots.

As has been established, enormous public interest in aviation before and during the First World War itself meant that wartime pilots from all combatant nations were constantly balancing the logistics of flying with strong and distinctive media messages about their roles and lives. The fact that combatants and non-combatants across national lines curated the air war's legacy – often in sharp departure from soldiers' emerging veteran cultures – within highly visible, influential spaces like cinema, civil aviation, and politics is therefore unsurprising, as it followed the only direct precedent available for characterising and qualifying people who flew. One powerful consequence of continuing these

[527] Guillaume de Syon, "What the Wrights Wrought: The Centennial of Flight in Recent Literature" in *Technology and Culture*, Vol. 45, No. 2 (Apr. 2004), 355-56.
[528] See David Edgerton, *England and the Aeroplane: Militarism, Modernity, and Machines* (London, 2013) and Dominick Pisano, *The Airplane in American Culture* (Ann Arbor, MI, 2003).

wartime media and celebrity practices was a curious post-war phenomenon where proximity to the *idea* of First World War aerial violence often supplanted actual individual participation in First World War air services. Aviation scholar Rebecca Lamb estimates that more than 4,000 pilots – many of them non-combatants – had publicly claimed membership to the famous American volunteer squadron the Lafayette Escadrille by 1931, whilst celebrity interwar aviators like Charles Lindbergh rubbed shoulders and shared titles like 'ace' with wartime combatants such as René Fonck.[529] This chapter explores how these combatant and non-combatant categories intermingled, arguing for a profound and under-examined transition from the largely transnational combat culture of wartime flying to post-war mobilisations of First World War aerial experiences for decidedly national economic, military, and social purposes. It uses the specificity of aerial combat experience as explored throughout this thesis to illustrate the commodification of the type of aerial violence developed during the First World War.

The chapter begins by examining the *performance* of First World War aerial violence by its surviving practitioners. It focuses specifically on Allied pilots who became high-profile representatives of the first air war's legacy by deploying their wartime skills and experiences in public mediums like air shows, cinema, and record-breaking. I examine such pilots' immediate post-war trajectories as part labour, part performance, and argue for the use of public flight as physically embodied memoir. The chapter then identifies and considers pilots closely associated with First World War aviation and aerial violence who nevertheless did not fight in the war. This 'next generation' of celebrity aviators,

[529] Lamb, "Swifter Than Eagles, Stronger Than Lions", 74.

whose voices combined with and in many cases supplanted the voices of a distinctive First World War pilots' veteran culture, are perhaps the most compelling and curious evidence for a transnational aerial combat culture during the First World War. I investigate these pilots' specific uses of the communal language, practices, and aesthetics developed cross-nationally about aviation during the war itself, emphasising this 'next generation' as crucial for the commodification of First World War aerial combat. This mobilisation of a transnational *wartime* aerial combat culture went far beyond the need to memorialise or technically improve upon First World War aviation. Rather, First World War-coded aviators and the types of violence and status they represented had the potential to be powerful shapers of political, cultural, and economic projects or transgressions. As the world struggled to come to grips with speaking about the First World War in the past tense, combatant and non-combatant flyers alike were actively using their constructions of the first air war to shape uneasy national futures.

6.1: Survivors

Though flight technology's uses had been hotly debated since before its invention, the November 1918 Western Front Armistice brought into sharp focus that the future of aviation was no longer an abstract question but a pressing matter with real, material consequences. The uncertainty and drawn-out process of demobilisation, whilst creating vast international logistical problems and widespread human backlash, presented particularly existential questions to Allied air services and pilots alike. Pilots, the vast majority of them young volunteers, had learned a complex and specific set of new skills in the First World War that had few obvious equivalents in the civilian world. Many of

them had also thoroughly enjoyed the contradictory pleasure and pain of learning to fly, enough so that remaining a pilot seemed like an obvious and appealing choice in the absence of a clear-cut civilian career path. Royal Flying Corps pilot John William Davies was one such young aviator for whom going home seemed daunting. Whilst waiting in Italy for 34 Squadron's official order to demobilise, he struggled to parse through his options as a man in his early twenties who was an experienced combat flyer, but had no civilian qualifications or significant social connections back home in Britain.

> …We just meandered about there. Disciplined a little bit, because I think most of us were getting a bit agitated, you know, demob wasn't coming along. But I volunteered to go out to Denikin's Army. You know, the Russian White Army? Uh, and I was designed to fly – I was asked to fly seaplanes, and I didn't know how to land on the sea. So I volunteered – it was some months after the war, this Russian rebellion was going on – because I hadn't settled what I wanted to do in civvie life.
>
> Some of them wanted me to stay on in the air force – the CO wanted to me stay on. And I came to the conclusion that they were going in for a lot of formation flying, and I didn't like formation flying. I don't like to see a man [starts to laugh] – very close to me. And uh, I remember losing quite a lot of machines that way. I said no, but volunteered for Denikin's Army and got as far as Malta…. They said they'd duplicated the pilots and observers from Egypt, and the Egypt men…they'd gone [to Russia already]. So I was no longer wanted. So I flew DH9s in Malta.[530]

Upon reaching Malta in early 1919, Davies was told that Royal Air Force pilots stationed in Egypt had already volunteered en masse for further flying with the White Russian forces under the command of Anton Denikin. He contented himself with flying DH.9s as part of the establishment of the Royal Air Force's long-standing presence in Malta. When asked nearly seventy years later if political convictions had influenced his decision to try to join the opposition to the Bolsheviks, Davies laughed off the suggestion. 'Not really. No, I don't think so,'

[530] John William Davies, oral history interview 10078, 1987, by Conrad Wood. IWM.

he told his interviewer breezily. 'No, it was flying and I was going to the Baltic, you know – I was going to fly seaplanes in the Baltic!'[531]

One of Davies' lasting takeaways from his Royal Air Force career was his love of flying: his strong opinions about certain types of flying and trying new machines had clearly been shaped by his wartime experiences. His oral history recollections hint at some of the possible avenues opening up to air service pilots in the immediate post-war: trying for careers in their respective militaries, taking on ferry or postal jobs, or seeking out familiar types of work in conflicts further afield. Davies' apparent aimlessness in the immediate aftermath of the war, however, speaks volumes about the reality of the situation for air service pilots demobilising into peacetime life. Despite the rapid development and mass production of aviation technology during the war, making a career as a civil or military pilot was not yet a viable, established option for most. As had also been true in wartime, most veteran pilots were more concerned with the day-to-day practices of flight and the immediate realities of their machines than developing the 'big picture' of post-war aviation. For pilots to whom flying meant wartime tasks like formation flying or combat patrols, this did not leave many options readily available.

Nowhere was this profound unease about the futures of aviation and pilots as individuals more clearly apparent than the popular aviation press that had largely emerged as communal spaces for wartime pilots. In the months following the Western Front Armistice, publications like the French *La Guerre Aérienne Illustrée* and the British *Flight* struggled to regroup as coherent, marketable magazines. The former, which became *La Vie Aérienne* in early 1919, spent the

[531] Ibid.

first six months after the Armistice revisiting the war years' greatest heroes – as with a lavish spread on *Les Cigognes* in February 1919, complete with a pull-out poster – and investigating 'under-represented' air war voices, like those of dirigible crews.[532] Nevertheless, the publication soon began easing into addressing the practicalities of peacetime, featuring mostly wartime pilots' editorials about the future of aviation including calls for the French state to put money towards civil flying schools, legal clarification about free aerial movement within French borders, and the possibility of setting up a national or multi-national aerial police force.[533] Though never a military pilot himself, editor Jacques Mortane used his ample street credentials with his wartime readership to discuss some of the everyday problems facing pilots and manufacturers in the immediate post-war period. 'Plenty of people have deluded themselves…and decided that our warplanes may become airplanes of peace that they themselves can immediately employ for tourism. They may be excused: they have never seen the machines!' he wrote wryly in a late February 1919 La Vie Aérienne article. 'I can't see them taking a trip sat amongst the bombs, or on the wings, or under the fuselage.'

Mortane's unusual long-standing authority in the pre-war sporting and later wartime military aviation communities had given him some real (if sometimes scathing) insight into the shape of things to come. In the same February 1919 article, he correctly identified some concrete places where veteran pilots might ply versions of their wartime trade, citing the August 1918

[532] *La Vie Aérienne*, Vol. 117 ("Les Cigognes", 20 février 1919), Vol. 118 (Albert Jacquot, "Les Dirigeables à la Guerre", 27 février 1919).
[533] *La Vie Aérienne*, Vol. 121 (Claude Doret, "Ouvrons des Écoles Civiles", 6 mars 1919), Vol. 122 (Claude Doret, "La Navigation Aérienne doit être libre en France", 13 mars 1919), Vol. 124 (Claude Doret, "La Gendarmerie Aérienne", 27 mars 1919).

formation of the US Airmail Service as a possible model for European countries and emphasising long-distance flights like *Service Aéronautique* veterans François Coli and Henri Roget's January 1919 crossing of the Mediterranean as indicative of potential trade, travel, and communication routes.[534] Anxieties and uncertainties aired within veteran pilots' spaces like *La Vie Aérienne*, too, did not reflect former combatant nations' clear priorities for the development of aviation after 1918. Thomas Kessner stresses the sheer importance of aviation to post-war European powers despite their exhausted economies, as seen in France's staggering then-$12-million-equivalent investment in airline subsidies, aerodromes, meteorological services, and aviation research in 1922 and even Germany's fourfold expansion of their commercial aviation businesses between 1921 and 1924.[535] Though the Armistice did not automatically determine the exact trajectory of its future, aviation clearly had a substantial, well-funded place in the new twentieth century.

The assured continuance of flight did not, however, resolve – or even particularly address – the last four years' development of aerial violence and the communities, types of flying, and people it had produced. As early 1920s air services began preparing for a future conflict where mass bombardment became a fully realised weapon, the ideas of influential strategic thinkers like Hugh Trenchard, Billy Mitchell, and Giulio Douhet largely displaced the voices of First World War fighter pilots about their own experiences and practices. Rather, conversations about wartime combat, trauma, and tactics largely played out where they had during the war itself: via in-community conversations amplified

[534] *La Vie Aérienne* No. 118 (Jacques Mortane, "De l'Aviation de guerre à l'Aviation de paix", 27 février 1919).
[535] Thomas Kessner, *The Flight of the Century: Charles Lindbergh and the Rise of American Aviation* (New York, 2010), 45.

by civilian public spheres. Though this was especially apparent in the United States, where First World War pilots of multiple nationalities took advantage of a significant surplus of cheap Curtiss Jenny aircraft and the relative lack of aviation regulation to turn their wartime aerobatic flying into lucrative 'barnstorming' shows, public air shows and races in Britain and continental Europe were similarly attractive next steps for wartime pilots struggling to adjust to peacetime work.

These wartime pilots who continued their informal discussions and interpretations of aerial violence in the public eye deserve particular consideration, not least because they continued to publicise, curate, and perform types of aerial violence specific to the First World War even as military aerial doctrine and civil industry turned their attentions to other types of conflict and uses of aviation. Unlike the speculative thrills and occasional horrors of pre-war *grandes semaines* air shows and popular science fiction, aviation and flyers as they appeared in post-war popular entertainment and media were shaped entirely around the First World War's fighter-based dogfighting, celebrity ace cultures, and peculiar social groups. This was not an accident, but rather the direct result of First World War pilots seeking familiar spaces to process and curate their war experiences. It speaks to the transnationality of wartime aerial combat culture that pilots across national lines actively contributed to these post-war spaces, with German and French First World War aces like Ernst Udet and Charles Nungesser advising and flying for Hollywood productions.[536]

[536] Eric Rentschler & Arthur Kingsley Porter, *The Ministry of Illusion: Nazi Cinema and Its Afterlife* (London, 1996), 233; Paris, *From the Wright Brothers to* Top Gun, 54.

Public performances of First World War aviation have largely been considered within the contexts of inter-war cinema, nationalism, and economic development.[537] In assessing the legacy of First World War aerial violence, it is vital to reconsider these performances instead as forms of *memoir*, articulated in a way that corresponded with pilots' wartime reconfigurations of their own embodiment and language to include airplanes. The first chapter of this thesis established the centrality of physically embodied, sensory flight to pilots' war narratives and the unique difficulties presented by highly skilled physical work to articulating and naming behaviour in conventional ways.[538] Language within the production of flight-performances like classic First World War aviation films suggests that this reality translated into a post-war conflation of pilots' *voices* with flight *practice*, especially as captured in visual mediums like photography and film. Former US Naval Air Service pilot Dick Grace, for example, recalled a telling conversation when director William Wellman originally briefed him for his role as lead stunt coordinator and pilot for Wings:

> "I hope it will be more or less of a history of the war from the air, therefore it must be realistic. In order for it to be all that I want, it will be absolutely necessary for me to have several intentional crashes. That is the reason I called you. I know that when you say you will do a stunt you will do it.... What I want from you are those crashes. They are not easy. I believe that they are the hardest crack-ups that will ever come to you. I don't believe that as long as you continue you will be up against any that are more difficult.
>
> I'm not trying to scare you, but you know as well as I the danger of crashing the old S.P.A.D. That's to be the first one. And it's not just a regular crack-up, for it will have to be a dead stick landing in No Man's Land. And I mean No Man's Land. It will be just as to life as it was over there – barbed-wire entanglements, machine-gun nests, shell holes and all the rest of it. More than that, this is a motion

[537] See, for example, Michael Paris, *From the Wright Brothers to* Top Gun*: Aviation, Nationalism, and Popular Cinema* (New York, 1995) and Joseph J. Corn, *Into the Blue: American Writing on Aviation and Spaceflight* (New York, 2011).
[538] Mellström, "Patriarchal Machines and Masculine Embodiment", 465-466.

> picture. It becomes more difficult than actually crashing in war-time, because you have to land with respect for the cameras. I want the ship to end up on its back, not over fifty feet from the nearest camera."[539]

In the context of making the first major film about the First World War in the air – i.e. the first comprehensive visual narrativisation and physical retelling of wartime flying – this conversation was a revealing one that went beyond the practicalities of telling a 'realistic' war story. *Wings* was, unquestionably, autobiographical on multiple levels, making its production an ideal space to explore the complicated logistics of translating wartime aerial violence into a three-dimensional, off-the-page memoir. The film was directed by seasoned combat veteran Wellman, taken from a script by a US Army Air Service flight instructor, supported materially and financially by the American military, and performed by many pilots who had personal experiences with wartime air services if not combat flying itself. In addition to a stunt team led by Dick Grace, the leading male actors Charles 'Buddy' Rogers and Richard Arlen – whose characters were influenced by William Wellman's relationship with his own best friend and squadronmate Tommy Hitchcock – flew in several scenes, Arlens having volunteered in the Royal Flying Corps during the war and Rogers getting flight instruction from veterans during the filming.[540]

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[539] Dick Grace, *Squadron of Death* (London, 1930), 198; Paris, *From the Wright Brothers to* Top Gun, 34-35.
[540] Stephen Pendo, *Aviation in the Cinema* (London, 1985), 41, 76; Frank T. Thompson, *William A. Wellman* (Metuchen, NJ, 1983), 21, 61.



Stunt pilots for Wings *(1927) with director William Wellman (third from left).*[541]

Wellman's missive to Grace acknowledged the real-life air war's close emotional and physical proximity: he nodded to their shared experiences by acknowledging their mutual familiarity with the physical feeling and in-flight limitations of the SPAD, and seemingly shared commitment to telling a 'history of the war from the air' through that medium. Wellman's in-community wartime phrases as recalled by Grace – 'No Man's Land', 'crack-up', 'the ship' – and vivid invocation of familiar Western Front sights and sensations could have appeared in any wartime pilot's published memoirs or correspondence. This exchange was not simply a mutual recollection between two veterans, however: as Wellman acknowledged and Grace himself would soon experience, the *doing* and *recording* of these scenes involved much of the danger and violence – if not more so – of actual wartime flying. In many ways, stunt flying was indeed 'more difficult…than wartime'.

[541] Fig. 17: Wohl, *The Spectacle of Flight*, 118.

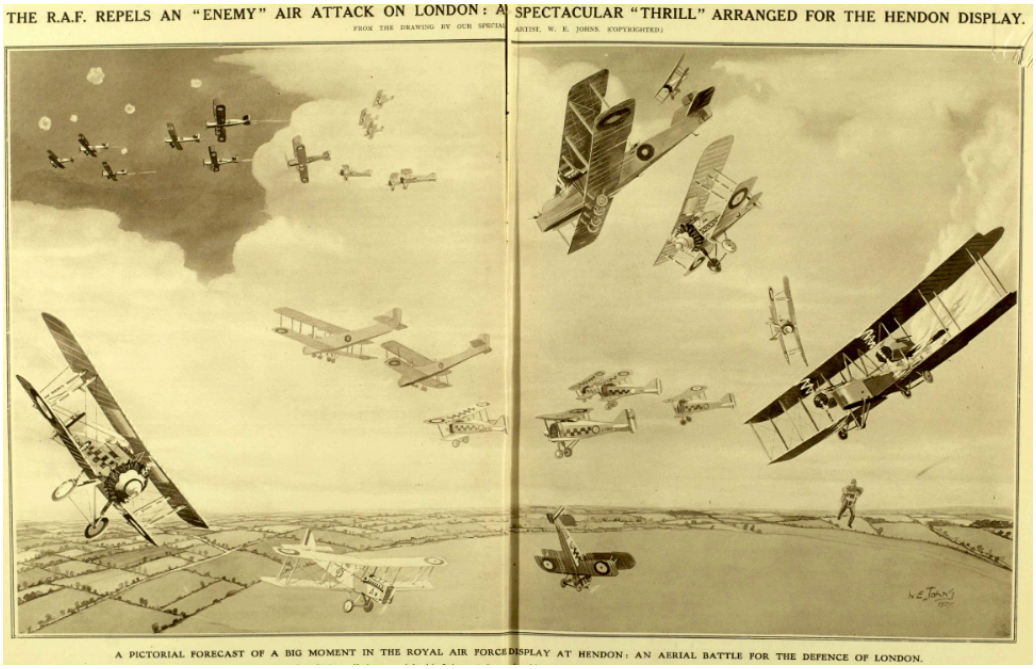
It is this presence of actual violent flight within the making of post-war aviation films like *Wings* and more temporary productions like air displays that makes these performances depart decisively from any conventional forms of war memoir or popular media. As William Wellman acknowledged in his warning to stunt pilot Dick Grace, translating First World War aerial experiences into legible, mass-marketed narratives required expert experience and input. American film producers tried hard to enlist the participation of ace pilots like Charles Nungesser, who during an early 1920s barnstorming and flight instruction tour of the United States was recruited by Arcadia Productions to star in a now-lost 1925 film called *The Sky Raider*, and Eddie Rickenbacker, who eventually threatened to sue Universal Studios boss Carl Laemmle for sending studio representatives to pester the American ace-of-aces in train compartments and hotel rooms during his 1919 Liberty Bond drive appearances.[542]

Famous faces of First World War aviation, though, were ultimately optional when it came to representing wartime flight; most essential was the ability to present certain types of flying for an audience, which, crucially, meant re-creating the dangerous physical actions, sensory environments, and even social cultures of wartime pilots. Whether done in the context of a high-budget Hollywood film or a rural barnstorming show, this kind of visually appealing stunt flying required pilots to re-conceptualise and re-enact their overloaded, fast-paced wartime sensory and physical experiences, effectively ensuring that their audiences would be witnessing work practices, spaces, and types of violent flight specific to the First World War. What was fundamentally different, of

[542] James H. Farmer, *Celluloid Wings: The Impact of Movies on Aviation* (Blue Ridge Summit, PA, 1984), 327; Rickenbacker, *Rickenbacker*, 161-62.

course, was the *intention* behind individual pilots' work and uses of violence. Recreations of aerial violence were heavily choreographed – director Howard Hughes built complex three-dimensional models to design dogfight filming for his 1930 epic *Hell's Angels* – and disproportionately focused on 'exciting' sequences like dogfighting and low-altitude engagement with soldiers in trenches, which Michael Paris notes had the consequence of creating 'the impression that…without the air fighters the war on the land would have somehow ground to a halt'.[543] When barnstormer pilots performed exactly the same manoeuvres they might have deployed in a real skirmish with another airplane, they now did so for an audience rather than avoiding an enemy line of fire. Whilst often engaging in exactly the same types of flight as performed during the war, e.g. mid-1920s Royal Air Force squadrons regularly simulating air defence strategies for crowds of hundreds of thousands at Hendon or 1930s *Ligue aéronautique de France* formation displays, aviators were also intentionally recreating violent wartime experiences that they would have learned to avoid at all costs during active service, like the deliberate crashes staged for *Wings*.

[543] Paris, *From the Wright Brothers to* Top Gun, 38, 50.



A July 1927 depiction of the Royal Air Force Display at Hendon in the Illustrated London News, *featuring both familiar wartime tactical practices and aircraft and post-war innovations like the use of a parachute. Coincidentally, the artist of this sketch was Royal Air Force ex-bomber pilot W.E. Johns, who in five years' time would publish the first of his popular "Biggles" stories about a First World War fighter pilot's aerial adventures.*[544]

What did these deliberately curated performances of First World War aerial violence do for the people acting them out? In practical terms, they provided work and a space to replicate familiar social settings. Pilots who chose to have close public associations with First World War aviation after 1918, however, found themselves in the often-contradictory position of embodying and choreographing violent flight whilst removed from the physical, emotional, and communal context of wartime mass mobilisation. Some groups of entertainment flyers, like barnstormers who colloquially referred to themselves as 'flying circuses', film stunt flyer collectives e.g. Dick Grace's 'Squadron of Death', and partnered record-breakers like François Coli and Henri Roget, deliberately leaned on wartime social structures and language to transition from wartime to peacetime life. Despite the fact that he never actually saw combat during his brief

[544] Fig. 18: "The Drawing of Our Special Artist, W. E. Johns: The R. A. F. Repels an 'Enemy' Air Attack on London: A Spectacular 'Thrill' Arranged for the Hendon Display" in *Illustrated London News* (2 July 1927); *Revue aéronautique de France* Vol. 26, No. 4 (avril 1936), 6.

time as an officer in the US Naval Air Service, Dick Grace's 1930 memoirs are full of language and behaviour strongly reminiscent of First World War flyers who had been too long at the front.

> [*About shooting a crash for* Wings *that left him with a broken neck:*] …I was at the point of nervous exhaustion. In the evenings I would sit around the room waiting for the time when I thought I could go to sleep. But when I hit the hay I would live that crash over and over…. [I] would dream that the thing was on fire and I was trapped in it, or that I lay with limbs broken, unable to move in any direction, while gas poured into my face from the broken tank…. This was worse than prisoner waiting in his death cell for the fatal day and the fatal order that would send him up those last thirteen steps. At least he knew absolutely when his time was up – but me? I'd get the order only to get a stay of sentence.
>
> *[About four of the eight pilots in his 'squadron' killed within a six-month period:]* At nights again I could hear their voices, see them in a group razzing and bantering each other. I could feel their presence everywhere about me. Suddenly a favourite expression of one of them would pop up in my mind, and I'd probably use it for a whole day.... This was one battle we had lost. Never had one of us been killed in formation or when we had worked as a unit. But that scythe had cut us down when we were separated.
>
> [*About considering leaving the stunt flying industry*:] It might be a "game", it could never be called a profession, but it was my game, even if it offered no future.[545]

The ways in which Grace and other ex-wartime stunt flyers spoke about their machines and stunts was clearly informed by war experience. This language went much deeper than habit; it reflected the consequences of and incentives for continuing to perform First World War flying after 1918.

Writing about fictional representations of stunt performers strongly influenced by early Hollywood stuntmen, e.g. the title character 1920s barnstormer pilot in *The Great Waldo Pepper* (1975) as inspired by ex-US Army

[545] Grace, *Squadron of Death*, 221, 260-61, 263.

Air Service flight instructor Ormer Locklear,[546] Jacob Smith identifies stunt work as a proxy for unresolved and/or unprecedented war violence in the returning war veteran's life. Smith's work shows that the imposition of male movie stars' masculinities on stunt performance effectively anonymised and silenced stunt performers as individuals, a tension he suggests was present in the real-life historical conditions of the transition from First World War flying to entertainment flying.[547] Autobiographical performance without recognition as individuals did not simply reconfigure conventional forms of memoir; I argue that veteran pilots' use of their aerial bodies to replicate flight practices/labour of the First World War was often actively traumatising, As with pilots who had spent too long participating in violent flight at the front without engaging in other types of flying, stunt pilots were opening themselves up to psychological harm; the absence of a familiar, navigable aerial battlefield and the vital leisure spaces of fellow combatants described in previous chapters compounded this dramatically. This missing *communal* aspect of combat culture demonstrates its absolute necessity for maintaining participants' emotional survival during the war itself. Indeed, many pilots who worked on *Wings* reacted strongly to flying over the elaborately designed 'No Man's Land' that featured in the film's recreation of the Battle of Saint-Mihiel, with several stressing to William Wellman that they felt 'nervous' doing otherwise day-to-day flying work. More than once, *Wings* pilots displayed symptoms of trauma that took Wellman, who was closely focused on the technicalities of production, by surprise. On one

[546] Pendo, *Aviation in the Cinema*, 5.
[547] Jacob Smith, "Seeing Double: Stunt Performance and Masculinity" in *Journal of Film and Video*, Vol. 56, No. 3 (Fall 2004), 38.

occasion, Wellman was alarmed by a stunt pilot suddenly wildly diving on the extras below:

> [He was] knocking the helmets off the advancing waves of doughboys. The bastard was going nuts, he was slowing us down, screwing up the whole carefully planned advance, and then I saw him crash, and his plane rolled over and over, and I was almost glad.... When I got there, the plane was demolished, but the pilot was leaning against an ambulance with a bandage around his head. He was dazed, but not from the crash, and I suddenly realised that in all my planning, I had forgotten one terribly important factor, the human element. The pilot had flown at the front. He had been decorated. He had flown missions just like this one. For five minutes it was not 1926 to him; it was 1918. He just stuck out his hand and said, 'I'm sorry.' C'est la guerre.[548]

Similar moments appeared frequently in other fields of post-war entertainment flying, enough so that French popular aviation journalists coined the euphemism '*candidate au suicide par parachute*' to refer to veteran pilots struggling with trauma and depression whilst continuing to fly.[549] Some high-profile veteran pilots themselves expressed strong feelings about the emotional impact and social denigration associated with this phenomenon, with French ace René Fonck speaking cuttingly to journalists a few months after the Armistice about his 'horror of those who sought to tame flying aces into stunt pilots'.[550] After 1918, the difference was that pilots no longer had the same incentives, practices, and structural support to perform violent First World War flight. Although many veteran pilots undoubtedly struggled with culturally informed symptoms of trauma after the war, it is deeply unsurprising that many flyers felt both compelled to replicate and embody First World War-specific aerial violence and also particularly susceptible to depression. 'I get no sensation out of flying,'

[548] Thompson, *William A. Wellman*, 61, 66-67.
[549] *Les Ailes: journal hebdomadaire de la locomotion aérienne*, Vol. 1, No. 1 ("Coup d'Ailes", 23 juin 1921).
[550] *Les Potins de Paris* ("L'as des as!...", 5 decembre 1918).

Dick Grace complained whilst filming *Wings*, adding wistfully about the US Army Air Service squadrons who aided in the filming, 'but just to watch a good formation of ships will give me a kick every time.' Being injured on the set of *Wings* made Grace consider re-joining the military or dropping flying altogether: 'I began to wonder if there was such a thing in life for me as a thrill,' he admitted in his memoirs published a few years after the film's release.[551] More often than not, 'success' in this post-war version of aerial violence meant damage done to the pilot's own human-machine body via a crash or a visually risky stunt. Powerful incentives shown in previous chapters to sustain pilots' ability to do violent flight, like pleasure, surviving the risks of an aerial battlefield, and squadron hierarchies, had been removed from the equation.

The nature of professional film stunt and amateur barnstorming stunt pilots' work drew a sharp, unnatural line between their performance-work and the familiar contexts of wartime communities, responsibilities, and identities. Lise Nelson's critique of Judith Butler's performativity is again essential here: Nelson stresses the centrality of specific places, practices, and physical conditions to shaping gendered identity and self-embodiment.[552] Lacking the familiar context of their wartime combat cultures, post-war entertainment pilots' individual identities and wartime narratives were often subsumed – and skewed – by the demand for flying scenes that evoked the realism and danger of the first air war. The dissonance between audiences' interpretations and pilots' own performances of wartime flying is well captured in responses to *A Romance in the Air*, a film starring Lafayette Escadrille veteran Bert Hall that (coincidentally)

[551] Grace, *Squadron of Death*, 204, 247.
[552] Nelson, "Bodies (and Spaces) Do Matter: The Limits of Performativity", 339-340.

premiered on 11 November 1918. Reviewing the film, a *New York Tribune* journalist wrote approvingly of the flying scenes, which Hall performed himself. 'The several dare-devil airplane stunts will also interest picture goers, as they are re-enactments of the kind the hero used as a Lieutenant in the Lafayette Escadrille while fighting in France,' the review claimed confidently. 'This picture is interesting mainly because one knows that much of what happens on the screen is true. It is a story of spies and miraculous escapes, and even if Dulcinea did say it, "Truth is stranger than fiction".'[553]

Whilst the flying scenes indeed did come from Hall's own experiences and skills, the plot of the film was in fact outlandishly fabricated: Hall biographer Blaine Pardoe argues that audiences came less for the far-fetched, over-wrought story of Bert Hall escaping from an evil German aristocrat's castle than they did for the sight of Hall himself, who gave talks at every screening of *A Romance of the Air*'s limited release. 'For film audiences, it blurred the lines between fiction and reality, almost as if Hall were endorsing the film as a docudrama of what really happened in the war,' Pardoe explains. 'With Bert standing on stage in full uniform, wearing his medals and regalia, the film was well received.'[554] Hall's body, not just in person but in the aspect of the film that garnered the most critical praise – as part of a stunting airplane on-screen – assured audiences of the *reality* of this (fabricated) air war memoir. *A Romance of the Air*, as with many First World War aviation films, largely discarded documented wartime experiences and military aviation communities for a story invented in collaboration with veterans whose aerial performances legitimised the narrative.

[553] "On the Screen, Lieutenant Bert Hall Tells of His Experiences at the Rivoli", *New York Tribune* (11 November 1918).
[554] Pardoe, *The Bad Boy*, 129.

The removal of the context of wartime aerial combat culture, however, meant that the complexity of First World War aerial violence and its practitioners became lost in favour of *performed*, closely curated versions of the First World War in the air. It is telling that virtually none of the interwar French, British, German, or American films about the First World War in the air dealt with bombing, for example.[555] Even as early as *A Romance of the Air*, which was made during the war itself, fighter-based aerial violence was being transformed into a marketable commodity – hence in part this thesis' focus on fighter pilots and the particular kind of violence they did.

The success of this process – despite the clear complexity and often detrimental effects it had on the veteran pilots who continued performing First World War violent flight after the war – can most clearly be seen in what became of the ideal version of the First World War aviator. The labour of violent entertainment flying was in many ways strikingly similar to wartime flight; as such, individuals like ace pilots and pilots from famous units were disproportionately influential when it came to shaping First World War aerial violence as a post-war commodity. The trajectory of celebrity pilots in the immediate post-war is therefore important and revealing, but examining these individuals requires asking *why* their violent aerial experiences were becoming marketable commodities that seemed much more relevant to the shape and culture of the post-war future than commemorations of the past. The answer lies in one of the consequences of the removal of the immediate dangers of aerial combat, namely the fact that ace pilots no longer functioned as cross-national role models for the practice and survival of aerial violence. Rather, they were

[555] Michael Paris, *From the Wright Brothers to* Top Gun, 52.

commodifying their First World War aerial experiences to pursue new endeavours, ones that shaped a new generation of pilots with firmly future-focused national agendas.

6.2: The Next Generation

Aerial violence does not, of course, fit the traditional Marxist definition of a commodity.[556] It is indisputable and significant, though, that the legacy of First World War aerial violence – its practice, economy, and participants – was shaped and utilised within a rapidly corporatizing twentieth century capitalist project. As discussed in the first chapter of this thesis, aviation was a military-dominated industry even before the First World War: airplane manufacturers largely conceptualised their designs for military use and depended upon wartime economic mobilisation for the realisation of aviation mass production. Commercial aviation was by and large a post-war phenomenon, with early airlines like French *Lignes Aériennes Farman*, British Air Transport and Travel, and the still-operating Dutch KLM all founded in 1919.[557] First World War-era flying experiences and post-war civil aviation, in some ways more so than post-war military aviation, nevertheless interacted in significant, under-explored

[556] Though I believe it may be useful to reconsider culturally specific forms of violence within such a framework; see, for example, Sofiri Joab-Peterside & Anna Zalik, "The Commodification of Violence in the Niger Delta" in *Socialist Register*, Vol. 45 (2009): pp. 199-215. Whilst Joab-Peterside and Zalik largely take the more conventional approach of discussing commodification as the *result* of violence in their focus region (kidnappings, oil, regional product trade, etc.), they also introduce the notion of national-scale violence *as* commodity, e.g. political violence employed as having economic value. William Edward Heuva, "Commodification of Celebrities' Crimes: The 'Live' Broadcasting of Oscar Pistorius' Murder Trial" in *French Journal for Media Research*, No. 5 (2016) takes this a step further by explicitly interrogating specific acts of violence (in the context of a celebrity trial) as media products, deliberately challenging the cultural studies/economist dichotomy by 'address[ing] the commodity and surplus value dimension of the media products and not necessarily their ideological meaning' (pg. 5).

[557] Susan Colvin, "A History of International Commercial Aviation, 1903-1939", unpublished PhD thesis (University of Arkansas, 1993), 35-36; Marc L.J. Dierikx, "Struggle for Prominence: Clashing Dutch and British Interests on the Colonial Air Routes, 1918-42" in *Journal of Contemporary History*, Vol. 26, No. 2 (Apr. 1991), 335.

ways. Naturally, the post-war development of national military air services relied heavily on experiences of the First World War; the informal communal practices and experiences that made up First World War aviators' combat cultures, though, did not primarily guide the development of these post-war air services. Instead, as peacetime allowed tactical and strategic thinkers more room to imagine the next war in the air, staples of many First World War fighter pilots' experiences – dogfighting, stunting, altitude-based patrols above a static front – were discarded in favour of developing more thorough strategic and manufacturing investment in mass bombardment.[558] Simultaneously, however, ideas of the First World War aviator remained celebrated and even amplified within civilian public consciousness.

As discussed earlier in this chapter, much of this divide between First World War and post-war aviation cultures had to do with the movement of veteran pilots into highly visible, commodified entertainment flying. It was also commercially very desirable for the developing industry of civil aviation to link with familiar, trustworthy, nationally recognised faces from wartime. High-profile First World War aces and manufacturers like the Farman brothers, Eddie Rickenbacker, and Douglas Campbell held leading roles in monopoly airlines; the late 1920s and early 1930s Hollywood aviation film boom led to oil companies sponsoring major Californian air races and veteran pilots teaching film directors like Cecil B. Demille and Syd Chaplin how to fly.[559] The practices, aesthetics, and culture of First World War aerial violence were clearly urgently relevant and desirable in this fast-paced economic power struggle, and the powerful

[558] Brett Holman, "The Air Panic of 1935: British Press Opinion Between Rearmament and Disarmament" in *Journal of Contemporary History*, Vol. 46, No. 2 (April 2011), 292.
[559] Douglas Campbell and Eddie Rickenbacker oral history interviews; Peter J. Westwick (ed.), *Blue Sky Metropolis: The Aerospace Century in Southern California* (Berkeley, CA, 2012), 5, 24.

transnational wartime celebrity of flying aces illustrated in the fourth chapter of this thesis was in many ways a ready-made selling tool. The notion of marketing and using a commodified version of First World War aerial violence, then, is perhaps best explored through the framework of celebrity commodification and mass media as the 'immediate site of commodity production'.[560] Aerial combat culture specific to the First World War was mobilised and embodied by what I identify as a 'next generation' of celebrity aviators, most of whom were not in fact First World War pilots. What about First World War aerial violence made it a compelling marketing tool out of the context of wartime or even military service and development, and how and why were commodified versions of it deployed?

In the immediate post-war period, aviation communities in former combatant countries continued their pre-war and wartime focuses on individual achievement. The specific record-breaking figures of time, distance, speed, and altitude replaced aces' 'kill' counts in popular presses; the removal of intentional violence from these achievements did not strictly change the way reporters spoke about individual aviators' 'heroism' and 'daring'. The challenge of the Orteig Prize was a particularly strong structuring force in aviation immediately after the First World War, one that provided a natural next opportunity for many high-profile wartime pilots within their existing transnational social networks and flying practices. As the geographically closest competitors with four full years of wartime flying experience, French and British aviators kept a close eye on one another's record-breaking efforts, with reports of new records frequently published in outlets like *Flight* and *La Vie Aérienne* as soon as the winter of 1918-1919 lifted. The $25,000 Orteig Prize, offered by French-born American hotelier

[560] Vincent Mosco, *The Political Economy of Communication* (2nd ed.) (London, 2009), 459-460.

Raymond Orteig from 22 May 1919 for the first aviator 'of any Allied nationality' to complete a successful non-stop transatlantic crossing between Paris and New York, was the first major attempt to globalise this post-war record-breaking.[561] Orteig's interest in flight, if cynical, had clear foundations in the First World War: he cited the French-American cooperation and celebrity of the Lafayette Escadrille as an 'inspiration' for the challenge, though he founded several New York establishments named after the Marquis de Lafayette over a decade before the First World War and undoubtedly stood to profit from an association with the wartime squadron.[562] As there were no immediate takers, Orteig renewed the offer of the prize when it expired in 1924 and finally drew the attention of First World War aviators like French ace of aces René Fonck, who was officially first to respond as part of an international aviation club called the Argonauts. Fonck's first formal competitor was another First World War veteran, US Naval Air Service pilot Noel Davis, whose entry and pay was funded by the American Legion to try and mark the 10-year anniversary of American entry into the First World War with the first transatlantic flight.[563] For several years, the transatlantic crossing and other significant records, like the first aerial crossings of the North and South Poles, were dominated by First World War veterans compelled, similarly to many pilots who turned to entertainment or postal flying in the immediate post-war, to pursue similar types of dangerous, exhilarating flight to their specific wartime skillsets.

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[561] "The Royal Aero Club of the United Kingdom Official Notices to Members" in *Flight* (27 November 1919).
[562] *Revue des troupes coloniales* ("Bagages en transit", 1 janvier 1902); *Revue illustrée* ("À New-York: Raymond Orteig", 12 janvier 1912).
[563] Kessner, *Flight of the Century*, 54; *Le Journal* ("Fonck a un concurrent pour la traverse New-York-Paris en avion", 19 mai 1926); Wohl, *Spectacle of Flight*, 15.



Cover of the 15 May 1927 issue of popular French aviation magazine L'Air commemorating the previous week's disappearance of Charles Nungesser and François Coli, who were leading contenders for the Orteig Prize after French ace of aces René Fonck's 1926 failure on take-off. Nungesser and Coli's financial backing and press campaign for their flight revolved around both of their wartime service. Ace Nungesser's famous heart-and-crossbones insignia, which was widely recognisable amongst the French public from wartime propaganda and mass-produced commemorative souvenirs, featured on the side of their airplane, L'Oiseau Blanc, and Coli's eyepatch from a 1918 crash received frequent admiring comments from the French press.[564]

The race for the first non-stop transatlantic flight is an essential moment to consider in the post-war life of First World War aerial violence. The lead-up and success of Charles Lindbergh's transatlantic crossing on 20-21 May 1927 arguably represents the decisive departure of First World War wartime pilots from their own combatant and veterans' cultures, and the realisation of First World War violent aerial experience as a politically charged, marketable post-

[564] Fig. 19: *L'Air*, No. 181 ("Nungesser et Coli", 15 mai 1927).

war tool. Much has been written about Charles Lindbergh himself; biographers frequently uphold him as the definitive shaper of twentieth-century white American masculinity or even a turning point for American culture as a whole.[565] Cultural scholars often explicitly identify him as the ideal case study of a commodified celebrity, with Ruth Penfold arguing that Lindbergh's transatlantic flight was a moment of 'unprecedented acclaim…in which the new mobilities of persons and images were highly condensed' and Charles L. Ponce De Leon exploring Lindbergh's relationship to his own 'unprecedented' commodification as media product. They demonstrate how a handsome, border-crossing, high-speed aviator Lindbergh was well-placed to embody a positive, high-tech, capitalist twentieth century American future.

Less remarked upon has been Lindbergh and many of his contemporary aviator celebrities' deliberate and specific choices to use First World War aviation culture to shape their public images and achievements. Lindbergh himself was too young to have flown in the war, a fact that Ponce De Leon suggests was often skated over in early press coverage due to the limited availability of information about 'dark horse' Lindbergh before his successful flight.[566] This in itself, though, is intriguing, and suggestive of something uniquely appealing about First World War aerial experience to an otherwise war-weary public. Consider, for example, Lindbergh's close proximity to and competition with First World War veteran pilots, including several well-known aces: these relationships clearly helped boost Lindbergh's own public profile and cement his

[565] See, for example, Kessner, *Flight of the Century*, Richard Bak, *The Big Jump: Lindbergh and the Great Atlantic Air Race* (Hoboken, NJ, 2011), and Bill Bryson, *One Summer: America 1927* (London, 2014).
[566] Ruth Penfold, "The Star's Image, Victimization, and Celebrity Culture" in *Punishment & Society*, Vol. 6, No. 3 (July 2004), 289; Charles L. Ponce de Leon, "The Man Nobody Knows: Charles A. Lindbergh and the Culture of Celebrity" in *Prospects*, Vol. 21 (Oct. 1996), 352.

place in aviation history. Robert Wohl correctly observes that 'as far as the French aeronautical community was concerned, Lindbergh had risen to the challenge of understanding the historical meaning of his flight' by publicly paying tribute to celebrated First World War pilots Charles Nungesser and François Coli, who had been lost in a transatlantic attempt just weeks before Lindbergh's own flight, as well as French aviation pioneer Roland Garros, whose mother Lindbergh reached out to with public assurances that he believed Garros himself could have achieved the transatlantic flight.[567] Was this simply a new aviation celebrity nodding to his predecessors, or was something more complex at play?

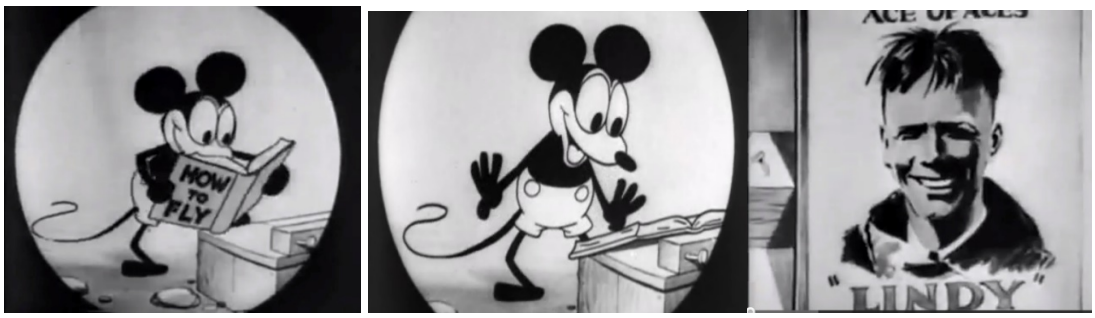
In a cursory examination of Lindbergh's engagement with First World War aces, biographer Thomas Kessner goes as far as to argue that the warm welcome the young American pilot found in Paris upon landing on 21 May 1927 was precisely because he was not a wartime pilot, either in his gender self-presentation, his access to and use of violence, his social status, or perceptions of his physical and mental fitness. Kessner writes:

> One of Lindbergh's essential distinctions was that he was not an American exceptionalist dancing on the graves of old Europe. Nor was he typical of the air heroes familiar to Europeans. The tall flier with the tousled blond hair and chiseled good looks did not strut his medals, boasted no ace's scarf, no monocle, trophy injury, or swagger stick. The aces were wonderful characters, courageous iron men who had endured terrible torment, but they were also killers who had vaporized ten, twenty, even fifty planes in combat. In contrast, Lindbergh was fresh, clean of the war and its wounding memories. After all those celebrations of crippled heroes it was bracing to see a man in full, whole-bodied, smiling, the face of a future where heroes were not forged on battlefields.[568]

While Kessner is right to examine Lindbergh's self-presentation and –reception in relation to First World War aerial masculinity and culture, as the natural

[567] Wohl, *Spectacle of Flight*, 22.
[568] Kessner, *Flight of the Century,* 120.

precedent, I believe his assessment of aces' perceived violence and association with wartime was inextricably tied up in the appeal they had not only for the public, but also for Lindbergh and many of his interwar aviation contemporaries. I argue that these flyers' investment in their First World War celebrity aviator predecessors and the kind of flying they did went beyond diplomacy or personal interest, and was not so much about differentiating themselves from First World War aviators as it was mobilising the implication of those pilots' power, control, and uses of violence. Indeed, Lindbergh was a founding member of a distinctive 'next generation' of interwar celebrity flyers who used the curated aesthetics and flight practices of transnational First World War aerial violence specifically to legitimise political, racial, class, and gender evolutions and transgressions within a national sphere. It is this exchange between the practice and imagination of First World War aerial violence, of the attraction and deliberate use of First World War aviators' language and combat-shaped culture, that deserves closer consideration in exploring the full legacy of the air war.



Mickey goes "Plane Crazy". The first animated cartoon to feature Mickey Mouse was Walt Disney's "Plane Crazy", released briefly as a silent short to coincide with first anniversary of Charles Lindbergh's May 1928 and then withdrawn. It features an early version of the iconic mouse-hero taking aviation tips from Charles Lindbergh, lauded in Mickey's "How To Fly" manual with the (cropped in original) wartime title 'ace of aces'.[569]

[569] Fig. 20: Brian Horrigan, "'Plane Crazy' – Mickey Mouse Meets Charles Lindbergh" in *Lindbergh and American Culture* <https://lindberghandamerica.com/2012/02/10/plane-crazy-mickey-mouse-meets-charles-lindbergh/>

Let us consider, then, some of the 'next generation' of celebrity aviators whose careers in the interwar years were strongly influenced by First World War aerial violence. Some of these people are obvious choices as well-known interwar figures whose aesthetics, sensibilities, writing, and politics were directly informed by their personal relationships with wartime pilots. Charles Lindbergh's initial interest in aviation, for example, came from growing up during the First World War years with serial wartime magazine stories about fictional ace 'Tam o' the Scoots' and, in his own words, wanting to 'join the Army and fly a Scout, like Eddie Rickenbacker and the Lafayette Escadrille'; beloved French aviation writer and pilot Antoine de Saint-Exupéry was profoundly influenced by and famously immortalised his Verdun veteran mentor Didier Daurat in his novel *Vol de nuit*; even Benito Mussolini's fascism and interest in aviation had direct links to Italian First World War fighter pilot Gabriele d'Annunzio.[570] The connection between First World War aerial violence and post-war fascism, in particular, has been explored in some depth by cultural historians like Robert Wohl, Michael Paris, and Fernando Esposito; current Université Paris Nanterre doctoral student Damien Accoulon's upcoming thesis promises insightful, specific inquiry into the relationship between French, British, and German ace pilots' unusual combat experiences and trajectories into (often) far-right politics.[571] Explorations of the link between wartime aviation and post-war fascism have offered up several lesser-known members of the 'next generation', like record-breaking French aviator and nationalist Jean Mermoz, who William Irvine demonstrates was 'endlessly' invoked as a martyr even by

[570] Kessner, *Flight of the Century*, 29; Charles Lindbergh, *The Spirit of St. Louis* (New York, 1953), 380-81; Stacy Schiff, *Saint-Exupéry: A Biography* (New York, 2011), 89-90; Paris, "The Rise of the Airmen", 136-37.
[571] See Wohl, *Spectacle of Flight*, and Esposito, *Fascism, Aviation, and Mythical Modernity.*

rival nationalist French political parties after his disappearance in the South Atlantic in 1936, and Geoffrey Doran, post-war editor of *The Aeroplane* as well as British Union of Fascists' publications *Action* and *Blackshirt*. Fascists' construction, deployment, and celebration of what Colin Cook calls the 'myth of the airman' has clear roots in the types of violence used by First World War aviators, even if the post-war pilots onto which these ideas were projected had never flown in an airplane with a machine gun mounted on the front. Accoulon's work on French ace René Fonck, in particular, draws explicit and useful parallels between the ways in which ruthless and uncharismatic ace Fonck described his own conscious dehumanisation of enemies, reconfigured aerial senses, and literal 'over-human' individualism with fascist ideals of martial masculinity.[572]

It is an enormous oversimplification, however, to align pilots' draw to flying aces' perceived transformation of their bodies and 'assassin'-like violent successes simply with fascist ideology. As has been discussed throughout this thesis, cultural historians of aviation have often stopped at abstract representations of early aviation and air war to draw conclusions about aviation's political and economic implications, at the expense of examining the established communal practices and individual human experiences of aerial combatants. Other aspects of First World War pilots' experiences, especially their uses of and encounters with violence, were deeply influential for people entering flying in the immediate wake of the war. In his study of René Fonck's post-war trajectory, Damien Accoulon discusses Fonck's – and, by extension, his

[572] William D. Irvine, "Fascism in France and the Strange Case of the Croix de Feu" in *The Journal of Modern History*, Vol. 63, No. 2 (Jun. 1991), 290; Colin Cook, "A fascist memory: Oswald Mosley and the myth of the airman" in *Revue européenne d'histoire*, Vol. 4, No. 2 (1997), 156; Damien Accoulon, "The Construction of an Image in Aviation: The Case of René Fonck and the French Press (1917-1926)" in *NACELLES*, No. 5 (février 2019): pp. 2-25.

wartime flyers' generation – failure to deploy his wartime experiences and status fully enough to transition into the post-war 'adventurer of the sky' aviation celebrity.[573] I argue that this generational divide was a direct result of post-war aviators' appropriation of First World War aerial violent experiences, especially their deliberate visual and linguistic equivocations of their own non-combatant achievements with the powerful, destructive 'successes' of the First World War flying ace and the physical endurance of the primitive wartime flyer. This imagined and commodified idea of the First World War aviator, in other words, was being embodied and made relevant to the post-war future by a new generation of risk-taking, record-oriented pilots whilst wartime veterans were more concerned with memoir and historical record. As a tool, this commodified fighter pilot persona had characteristics and uses that went far beyond right-wing martyrs and agitators, extending this 'next generation' of pilots invoking the power, control, and boundlessness of First World War aerial violence into unconventional places. Indeed, special and specific attention must be paid to prominent interwar aviators who appeared directly to contradict the hegemonic masculinity of the First World War aviator, e.g. white female aviation record-setters like Amelia Earhart, Pancho Barnes, and Amy Johnson, and Black international aviation pioneers like John Robinson, the 'Father of the Tuskegee Airmen', and Bessie Coleman.

What did these pilots all have in common, and why were they so closely associated with commodified versions of First World War aerial violence? It is important to define this 'next generation' of celebrity pilots, from media shapers like John Monk Saunders and Howard Hughes to politicalised record-breakers

[573] Accoulon, "The Construction of an Image in Aviation", 10.

like Lindbergh and Earhart, as essentially non-combatants. Though some of them, like Jean Mermoz, Saint-Exupéry, and John Robinson, would join military services and later participate in aerial violence, it is significant that none of them actually saw combat during the First World War. Instead, this 'next generation' of celebrity aviators mostly learned to fly within the first five years after the First World War or, like John Monk Saunders, in non-combatant military roles during the latter war years. Many of them cited stories about or personal experiences with wartime pilots as their catalysts for wanting to fly themselves. Practically speaking – and perhaps crucially, when considering the centrality of First World War aerial experience to these people's celebrity selves and careers – many also learned how to fly on surplus wartime machines at the instruction of veterans. Though training by and large for peacetime flight, this 'next generation' would have shaped by flying practices and knowledge heavily influenced by violent airspace.

These specific conditions of time, space, and embodiment are crucial to considering the transformation of First World War aerial violence from a functioning wartime culture and shared set of experiences into a commodity and post-war narrative utilised primarily by non-combatants. Andrew Donson's investigation of a parallel 'next generation' is useful here for seeing the significance of a specific generation's relationship to certain types of war violence and narratives. Donson examines the disproportionate number of young middle class German men born between 1900 and 1908 who turned to fascism in the interwar period, arguing that these men's war-influenced childhood education and the availability of post-war nationalist paramilitary groups like the *Freikorps* and SA 'offered young men the chance to act out their

puerile masculine fantasies and play out their dreams of becoming nationalist soldiers'.[574] This notion of a very specific generation's trajectory into a militarised masculinity – including but not exclusive to far-right politics – is a useful consideration when examining post-war aerial celebrities who drew heavily on the knowledge base and aesthetics of First World War veterans. High-profile white male aviation celebrities like Charles Lindbergh (b. 1902), Antoine Saint-Exupéry (1900), Jean Mermoz (1901), and Howard Hughes (1905) were all exposed to aviation-related popular media as pre-teens to teenagers during the First World War; all were slightly too young to have fought in the war, but close enough in age to highly visible wartime aces like René Fonck (b. 1894), Frank Luke (1897), Georges Guynemer (1894), and Albert Ball (1896) to slide into the cultural space that they occupied as those wartime figures' legacies aged into memorialisation or non-flying trajectories.

The types of flying and work these men did were objectively very different from wartime fighter pilots' flying; indeed, barnstormers, stunt pilots, and many post-war military flyers' machines, skills, and job descriptions were far closer to front-line First World War aviators' work than record-breaking long-distance flights. The ways in which these celebrity aviators spoke about their flying and had their experiences conveyed, however, were far more reminiscent of wartime aces' masculinities and aerial practices, as were their social circles and communities. Language that these pilots used for flight, for example, had clear groundings in wartime language, e.g. Lindbergh's first press conference in Paris after his May 1927 flight where he constantly used *we* and *us*

[574] Andrew Donson, "Why Did German Youth Become Fascists? Nationalist Males Born 1900 to 1908 in War and Revolution" in *Social History*, Vol. 31, No. 3 (Aug. 2006), 338-39.

in narrating his flight; American ambassador Myron Herrick had to interrupt the young aviator to clarify that he meant himself and the *Spirit of St Louis*, his airplane.[575] Press takes on Lindbergh and his contemporaries were even more strikingly reminiscent of the wartime language used to convey social status and in-community authority on ace pilots:

> The "French Lindbergh"…[Mermoz] is neither the head pilot of the Aéropostale nor an airline pilot: he is a Frenchman in a foreign land. He has an intense national feeling: he wants to prove that our race is rich in resources. He does so much that his own pilots do not understand him: they think that he exaggerates, that his confidence is excessive, that he risks too much.[576]

> Perhaps no aviator except Colonel Charles A. Lindbergh is more scientifically minded than Mr. Hughes…. Slightly deaf, extremely nervous and an indifferent dresser, Mr. Hughes is one of America's most unprepossessing millionaires. Speed, and the machines that make it possible, have always been his major interest…. He has had a few crack-ups. None were serious and he escaped with minor injuries…. He calls himself a "sportsman-aviator," but fellow pilots praise his deep knowledge of the technology of flying.[577]

> The press that in recent days, with the faith of false news, has celebrated in a chauvinistic hysteria crisis the "good French" exploit of the unhappy aces Nungesser and Coli, has not forgotten this time to set aside patriotism to elevate the greatness of Lindbergh's victory…. For us, our position has not changed. In Lindbergh we salute A MAN, of the very best character. Exceptional guts, miraculous success, favourable conditions…. A new stage of the history of speed is guaranteed.[578]

These three descriptions of white male celebrity aviators, despite coming from very different publications (a French sports daily, the *New York Times*, and the daily newspaper of the French communist party) reflect both the pervasiveness and the post-war continuity of common tropes, language, and characterisation

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[575] Kessner, *Flight of the Century*, 108.
[576] *Le Miroir des Sports*, No. 535 (R. Peyronnet de Torres, "Le Valeureux Pilote de Ligne Jean Mermoz, Ancien Athèlete Complet et Nouveau Recordman, Est Plus Connu En Amérique Du Sud Qu'En France", 23 avril 1930).
[577] "Hughes, 33, Holds Assorted Honors", *New York Times* (11 July 1938).
[578] *L'Humanité*, No. 10388 ("Lindbergh A Réussi!", 22 mai 1927).

used for First World War flying aces. Tellingly, Lindbergh was a clear model for the reporting on Jean Mermoz and Howard Hughes' record-breaking, as an undeniably forward-thinking man who encapsulated both moral 'character' and a 'scientific' mind. Implicit in all of these men's implied embodiment and character is the presence of violence: *Le Miroir des Sports* notes how even other airline pilot peers of Mermoz believe his flying creates 'risky' conditions, while even communist critics of the ultra-capitalist Orteig Prize applaud Lindbergh's 'guts' and 'victory' as though he has shot down an enemy. *L'Humanité*'s declaration of 'a new stage of the history of speed' appears to be contradicted by Lindbergh setting a long-distance flight record: the publication's characterisation of Lindbergh makes sense, however, in the context of acknowledging him as the natural continuation of someone participating in an 'unprecedented' kind of violent struggle.

These reports also speak clearly to the consequences of commodification of the largely transnational, temporary combat culture of First World War aerial combatants: without the immediate danger and context of wartime, aviator icons were being used to craft distinctly national hegemonic masculinities and political agendas in the inter-war years. Though publications like *L'Humanité* understandably praised the perceived internationalism of Lindbergh's flight, even going so far as to suggest it had 'revolutionary' potential for joining two continents, the individualist endurance ascribed to Lindbergh and other 'next generation' flyers' achievements made them prime candidates for mobilisation on a national level. Indeed, it is unsurprising that many white male members of the 'next generation' of aviators, as well as some surviving wartime icons like René Fonck, found a home in nationalist politics after they quit flying.

Re-purposed versions of the First World War aviator, though, also proved to have the power to disrupt gender, class, and racial norms within national contexts. Proximity to 'unprecedented', unregulated aerial wartime experience offered significant social and political capital to aviation celebrities: the social 'levelling' quality ascribed to the agency of First World War pilots brought appropriated versions of their experiences to the centre of sometimes-significant public moments of gender nonconformity and racial resistance. Though women had already begun carving out their own distinct spaces in entertainment, record-breaking, and even military aviation before and during the First World War, the language and aesthetics of wartime aviation gave non-male, non-white pilots access to certain forms of legitimacy both in their self-perceptions and public presentation. Amelia Earhart's description of her first flying coat reveals a clear self-consciousness of wartime aviation culture as she learned to fly in the immediate post-war years:

> I remember so well my first leather coat. It was 1922. Somehow I'd contrived to save twenty dollars. With it I bought – at a very special sale – an elegant leather coat. *Patent* leather! Shiny and lovely. / But suddenly I saw that it looked *too* new. How were people to think I was a flier if I was wearing a flying-coat that was brand new? Wrinkles! That was it. There just had to be some wrinkles. So – I slept in it for three days to give my coat a properly veteran appearance.[579]

Earhart's self-fashioning as a 'veteran' aviator in the iconic leather flyers' coat associated with First World War pilots, whilst scrutinised by an often-anxious American press which frequently assured readers that the young woman was 'decidedly feminine', served her in good stead for much of her cut-short career. Press coverage of her first record-breaking flight, as Wilmer Stultz's co-

[579] Amelia Earhart in George Palmer Putnam, *Soaring Wings: A Biography of Amelia Earhart* (London, 1940), 45.

pilot in a 1928 transatlantic journey that made her the first woman to fly across the Atlantic, reveals the extent to which Earhart's initial celebrity relied on her close proximity to First World War aviation. The New York Times' first multi-page spread on Earhart emphasised her flying credentials and her qualifications for aerial celebrity, citing praise from René Fonck and amplifying US Army Air Service veteran Wilmer Stultz's wartime experience to legitimise Earhart as a pilot. Around the time of Earhart's rise to international celebrity, British record-breaker Amy Johnson's public persona contained similar, careful close associations with First World War veterans: in August 1930 celebrations of her solo flight from London to Darwin, Australia, Johnson received well-publicised accolades for her 'bravery' from high-profile First World War veterans including French naval aviator Jean-Louis Conneau and Canadian ace Billy Bishop.[580] Earhart's physical resemblance to Charles Lindbergh, too, was frequently remarked upon, with Norwegian artist Brynjuir Standenaes, who had done a series of live portraits of Charles Lindbergh, quoted as saying 'She looks more like Lindbergh than Lindbergh himself'. [581] Lindbergh and Earhart's ace-influenced masculinities were indeed often frequently aligned, with press photographs of Earhart's slim, androgynous body ironically sometimes looking more like publicity shots of willowy European aces like Georges Guynemer than Lindbergh's broad-shouldered American football frame. Perhaps one of the most intriguing aspects of their overlapping celebrity status was the fact that Earhart and Lindbergh would both be made the only two non-combatant honorary members of the Lafayette Escadrille. Lindbergh himself was in fact struck off the

[580] "Miss Amy Johnson Honoured" in *Flight* (15 August 1930).
[581] "Boston Girl starts for Atlantic Hop; Reaches Halifax, May Go On Today", *New York Times* (4 June 1928); "Student, Worker as Well as a Flier: Miss Earhart is Striking in Physique and Personality and Decidedly Feminine", ibid.

roster when he made an anti-war speech during the Second World War, with surviving combatant members of the Lafayette Escadrille publicly denouncing him.[582]



Amelia Earhart being made an honorary member of the Lafayette Escadrille at the squadron's Paris memorial in 1932; Earhart in a photo used to promote Amelia Earhart Fashions, one of the first-ever celebrity fashion lines. Made in collaboration with designer Elsa Schiaparelli after Earhart herself tweaked traditional wartime flight suits for women pilots, the brand featured affordable clothing for 'active women' heavily inspired by traditional flying gear.[583]

Earhart was most famously scrutinised and celebrated as a woman whose use of war-defined flying clothes made her appear 'unfeminine', but less-known pilots borrowed heavily from the 'veteran appearance' of First World War fighter pilots as well. American stunt pilot Pancho Barnes and British interwar flyer Constance Leathart, both butch women who participated in post-war record-breaking flying and manufacturing respectively, each learned to fly whilst

[582] Lamb, "Swifter Than Eagles, Stronger Than Lions", 78-9.
[583] Figs. 20 and 21: "Amelia becomes honorary member of Lafayette Escadrille (Paris, 1932)", George Putnam Palmer Collection of Amelia Earhart Papers. Purdue University Libraries, Archives and Special Collections; Thad Morgan, "Amelia Earhart's Other Runway: The Aviator's Forgotten Fashion Line" in *History Stories* (29 August 2018) <https://www.history.com/news/amelia-earharts-other-runway-the-aviators-forgotten-fashion-line>.

disguised as men; their licences were not disqualified due to their instruction from First World War combat veterans.[584] In response to would-be pilot Bessie Coleman being turned away from American flight schools for being a Black woman, prominent Midwestern Black businessmen Robert S. Abbott, the publisher of the Chicago Defender, and banker Jesse Binga bankrolled Coleman to train in Europe with French and German wartime pilots. In 1921, she became the first African-American woman pilot with a pilot's licence, according to biographer Doris L. Rich not least because she learned quickly how to present herself in the press for a 'public [that] could not manage aviation as anything other than wartime weaponry or high-risk amusement'. Rich notes how when giving interviews for white American news outlets in particular, Coleman deliberately leaned into her association with wartime flight, taking photos in her 'tailored leather flying uniform' and making (unverifiable, but significant) claims to newspapers like the New York Tribune that she had ordered a 'Nieuport scout plane' to be built for her in France and that she spent a summer taking lessons from 'an unnamed French ace who had shot down thirty-one planes in the war'.[585]

Glimpses into Bessie Coleman's conscious hand in her own self-mythologisation and -publicity are deeply revealing, as a woman who had to work harder than most of her peers to justify her place in the air. The language she used when addressing other Black people, in particular, emphasises explicitly *violent* First World War-type flight as a potential tool. In a 1921

[584] Karen Bush Gibson, *Women Aviators: 26 Stories of Pioneer Flights* (Chicago, 2013), 138; "Newcastle Race Meeting" in *The Aeroplane* (November 1927).
[585] Kim Creasman, "Black Birds in the Sky: The Legacies of Bessie Coleman and Dr. Mae Jemison" in *The Journal of Negro History*, Vol. 82, No. 1 (Winter 1997), 159; Doris L. Rich, *Queen Bess* (Washington, DC, 1993), 34-37.

interview with the African-American-run and -read *Chicago Defender*, Coleman relayed her impressions of the wartime flyers who had been her teachers, insisting that Black American men could learn from these European aerial veterans and offering to use her personal experience of learning from them to advise other would-be Black flyers. 'We must have aviators if we are to keep up with the times,' Coleman told her interviewer. 'I shall never be satisfied until we have men of the Race who can fly. Do you know you have never lived until you have flown? Of course, it takes one with courage, nerve, and ambition. But I am thrilled to know we have men who are physically fit; now what is needed is men who are not afraid of death.'[586] Marginalised flyers' deliberate self-alignment with wartime flight, in Coleman's case of literally putting herself in the cockpit of a wartime airplane and publicising her instruction by a flying ace, went beyond simply gesturing to respectability politics; it spoke to the present-tense power and potential social capital contained in the legacy of First World War aerial violence.

The First World War aviator's post-war life is a profoundly complicated story, one that has few close parallels in other First World War combat cultures' post-war trajectories. The commodification of the practices, aesthetics, and practitioners of the types of aerial violence specific to the First World War contributed to an imagined aerial future that did not accurately reflect what was to come in the next air war, or indeed how many military practitioners and air forces were already preparing for the next global conflict. Mass media portrayals of First World War aerial violence, both in entertainment and celebrity culture, were also disconnected from combat veterans' own experiences: they reduced

[586] Bessie Coleman in Rich, *Queen Bess*, 36.

many veterans' own post-war memoirs to their embodied, anonymous stunt performances and diluted the complex transnationality of wartime aerial combat culture. Nevertheless, this post-war trajectory of First World War aerial violence speaks to the life of a temporary combatant community navigating specific, unprecedented violent practices, identities, and environments largely under their own steam whilst balancing a distinctly cross-cultural popular appeal. Though ultimately having little material impact on the outcome of the First World War, First World War pilots' real and imagined stories would have unexpected, far-reaching influence on the shape of the post-war century.

CONCLUSION

> *Thus the rational solution, as yet unsupported by the emotional drive which would make it a common faith, a cardinal necessity not to be denied, drifts in the doldrums, while the hysterical crew wring their hands and pray for a fair wind, instead of manning the boats and rowing the ship out to the Trades.*
>
> – Cecil Lewis, *Sagittarius Rising* [587]

Being a self-conscious part of the twentieth century turn into warfare was by parts an exciting and frightening thing. Pilots who took the time to consider the vast stretch of the front below grappled with the sense of disconnect and loneliness it produced. They also rejoiced at the freedom of exploring the sky, and of being part of a small, insular community taking advantage of its agency and privileges at a moment of global crisis. It is perhaps unsurprising that moments of reflection revealed many pilots' deep-seated uncertainty about their position within the war, one directly related to their physical dislocation from the conflict below. Despite commenting wryly on infantry soldiers' disparagement of pilots – 'they would believe me if I say…[that] in aviation at the front, I have never met a soldier' – French pilot Jean Béraud-Villars found himself struggling to shape a soldier's narrative out of his own war as he moved from Verdun to his next posting. Being at a loss for words is not an uncommon theme in any combatant's wartime recollections, but Béraud-Villars found himself feeling dissatisfied and inept even in relation to other pilots. He struggled to quantify his aerial experiences, articulating in so many words aviation's lack of what Gunda Barth-Scalmani dubs a 'memory-landscape', or a physical space for combatants and future generations alike to recall and position formative

[587] Cecil Lewis, *Sagittarius Rising* (London, 1936), 65.

moments of violence.[588] Béraud-Villars' wartime writing, too, revealed a sense of disconnect from the rapid evolution and variation of pilots' language, practices, and social norms despite his own objectively impressive length of time as an active service pilot. 'The aviators at the rear have made their listeners accustomed to much prettier stories, spiced with slang that I do not know,' Béraud-Villars remarked, part resentful and part anxious. 'They know how to talk fierce battles, swirls and storms, loopings, tendrils, and slips. What will I have to tell like this?'[589]

Though Béraud-Villars survived the war, what he did tell in his 1918 memoirs deliberately leaves this as an open-ended question. His anonymised narrative under the pseudonym 'Lieutenant Marc' ends abruptly, with its protagonist's fate implied in the title *Notes d'un Pilote Disparu*. It is perhaps no surprise that Béraud-Villars deliberately 'disappeared' himself not only from his own war experiences, but even from the wider community of pilots and ground personnel with whom he made meaningful, affectionate friendships. Disappeared aerial bodies – of lost or unidentifiable planes and humans – were frequently synonymous with death in the first air war; this kind of individual, wordless death was more common to the average military pilot's experience than the alternative, i.e. capitalising on the violent agency inherent to aerial combat to become a 'successful' flying ace. The temporality and space of combat flying, this thesis has argued, created communities made up of individuals who experienced uniquely isolated and isolating moments of trauma, exhilaration, and displacement. It produced a distinctive and transnational aerial combat

[588] Gunda Barth-Scalmani, "Memory-Landscapes of the First World War: The Southwestern Front in Present-Day Italy, Austria, and Slovenia" in Günter Bischof, Fritz Plasser, and Peter Berger (eds.), *From Empire to Republic: Post-World War I Austria* (New Orleans, 2010): pp. 222-253.
[589] Béraud-Villars, *Notes d'un Pilote Disparu*, 97.

culture, one whose perceived or real absence was sorely felt even in wartime reflections like Béraud-Villars'. Lieutenant Marc's inability to put eloquent, vivid words to the aerial violence he had seen and done was less a commentary on his own trauma as a profound need for common understandings of that violence. To disappear was less terrifying than losing that sustaining force for aerial combatants in the First World War.

The thesis has sought to recover 'violence' from its often-relegated place within First World War studies as an abstract phenomenon, re-translating it into a material factor that shaped combatant communities. First World War aerial violence, especially within the specific geographical conditions and cross-national spaces above the Western Front, is particularly suited to illustrating the complexity and composition of distinctive behaviours, hierarchies, ethics, practices, and emotions produced by the conditions of modern warfare. The practices of the aerial violence specific to fighter pilots crucially extended far beyond the 'fierce battles, swirls and storms' described by Béraud-Villars' boasting peers, wartime presses, and post-war representations of the first air war alike. Their aerial violence included targeting or being targeted by other airplanes, surveying and attacking the ground, evading or directing artillery fire, the psychological strain of anticipating violent flight, and the toll of existing in airspace and flying fragile machines in immediate proximity to danger. Such diverse physical and emotional experiences had profound consequences on pilots' temporary wartime communities, ones that are perhaps particularly visible from the weaponisation of aviation midway through the war onwards.

Because soldiers' communities are by nature temporary as defined by the length of a conflict or combatants' war service, the role of violence on distinct

combat cultures has gone imperfectly explored by military theorists and cultural historians alike. The former have largely focused on issues of combat motivation and resilience, often with the intention of direct application for future conflicts; I have been asked disproportionately during my research about the possible implications of my subjects' experiences for present-day drone operators. Cultural historians, by contrast, have often engaged with violence as a factor qualitatively other to fundamental, life-long 'cultural' aspects of soldiers' lives like family, class, nationality, gender, or race. First World War aerial violence did continue to shape some but not all of combatant pilots' post-war lives. This had, as explored in the final chapter, implications far beyond those who flew in combat when First World War aerial experiences were mobilised as a commodified tool for larger political projects, a reality that demonstrates an on-going need for a cultural history lens on violence. The first fighter pilots' tactical innovations and survival strategies do, also raise larger questions about why historical and present-day people fight: this thesis has illustrated how these combatants challenge long-held ground-based conclusions about combat motivation, military ideology, battlefield geographies, and unit cohesion. Ultimately, however, this portrait of the transnational community of aerial combatants that developed over the First World War Western Front has sought to establish violence as an active participant in cultures at war. Violence is specific and operates in evolving dialogue with its practitioners, witnesses, and victims. It creates communities so complex and surprisingly adverse to national or military qualification that Béraud-Villars' infantry soldiers might be forgiven for supposing that of their own country's wartime aviators, they might 'never [meet] a soldier'.

This thesis is perhaps the first deliberately transnational attempt to examine the wartime culture, emotional lives, and relationships to violence created by French, British, and American fighter pilots during the First World War. Building on critical reconsiderations of First World War-specific violence growing out of the 1970s work of scholars like Paul Fussell, this project has attempted to challenge established spatial, emotional, communal, temporal, and tactical and strategic frameworks associated with the conflict's ground-based warfare by critically assessing the three-dimensional aerial Western Front. It demonstrates the centrality of specific combat conditions and collaboratively curated relationships to violence to shaping combatants' wartime communities, especially in the context of a new, rapidly evolving type of military service and warfare. To illustrate this exchange between violence and the formation of combat cultures, the project has deliberately focused on fighter pilots who saw active service during or after the armament of fighter aircraft in late 1915 and early 1916, i.e. men whose roles would have involved the possibility of engaging an enemy.

Capturing the logistical and personal ramifications of this significant shift in aerial technology has involved bringing military-oriented sociology and psychology into vigorous dialogue with existing trends in cultural histories of war. This deliberately multi-disciplinary approach identifies the on-going under-representation of specifically aerial combatants within common understandings of war violence, re-positioning concepts like unit cohesion and combat motivation for historians' use and emphasising the worth of frameworks like labour and gender. The thesis' exploration of the transition from learning to fly into the dramatic, largely undefined landscape of *violent* flight characterises First

World War aerial violence as unusually unregulated, and argues that the ability to employ and control this type of violence defined combatant hierarchies. Unlike in more established forms of warfare, individual aerial combatants in the First World War played a central role in shaping tactical practices, air service organisation, their own weapons, and social hierarchies. This emphasis on individuality challenged conventional military indicators of status like rank or class, but had the side effect of leaving many pilots without formal support systems as they dealt with under-recognised forms of trauma produced by violent flight. Throughout the conflict, pilots' most immediate form of support was one another: the urgent need for exchanges of cultural reference points and practical survival skills crossed national lines and created insular, sometimes nepotistic community spaces.

To get to grips with the parameters and implications of a transnational combat culture emerging from the 'new' military services of the First World War, this thesis has deliberately centred fundamental aspects of violent experience rather than the war's chronological progression. The first chapter demonstrates that the experience of *flying* was vital to new pilots' future emotional and psychological resilience in combat. Learning to fly involved creating a symbiotic working relationship with the airplane, one that profoundly reconfigured pilots' self-embodiment, language, and sensory palettes to include the machine and compensate for new background sounds, types of physical action, and altered depth perception. This crucial process was particularly evident when pilots were learning how to fly for the first time, but also at moments where they relied on their machines for survival, as demonstrated by a Royal Air Force 93 Squadron pilot's account of his January 1918 first flight in an SE.5:

> The little machine really became part of me and I, in turn, became part of it. I flew with my right hand on the stick and my left hand on the throttle. The two of us were as one; what that machine did I did, what I did the machine did....
>
> Everything went off perfectly until I was half way into my final roll before spinning down. At the moment I heard a sharp crack like a shot from a Vickers gun, the aeroplane lurched a little and I felt a quiver through the fuselage and into the seat of my pants.[590]

To consider the consequences of this enjoined embodiment on individuals and communities, I shift considerations of First World War pilots and other early aviators from contemporary interpretations as technical specialists or modernist icons to workers creating similar sensory processes and physical practices to labourers like mechanics. Theories of gendered labour and disabled embodiment help illustrate the airplane's function as similar to a prosthetic, one that enabled a complete lived experience in a challenging new physical environment.[591] I identify this often-pleasurable, full-bodied process of learning to fly as central to pilots' wartime experiences, in notable contrast to infantry-based training's focus on learning to fight and kill; even after the late 1915 introduction of the synchronisation gear that allowed for pilots to fire machine guns from their airplanes, pilots' training remained focused on flying rather than fighting. Specialist aviation newspapers like *Flight* and *L'Aéro*, which had begun transnational conversations and helped formed communities focused on flight in the eleven years between the invention of the airplane and the First World War's outbreak, provided a network to continue discussions about wartime flying work

[590] IWM 11772/01/35 (Papers of Douglas Grahame Joy, student pilot's account of learning to fly under Joy's command in 93 Squadron).

[591] See Ulf Mellström, "Patriarchal Machines and Masculine Embodiment" in *Science, Technology, & Human Values* Vol. 24, No. 4 (Autumn 2002): pp. 460-478 and Vivian Sobchack, "A Leg to Stand On: Prosthetics, Metaphor, and Materiality" in Marquard Smith & Joanne Morra (eds.), *The Prosthetic Impulse: From a Posthuman Present to a Biocultural Future* (Cambridge, 2006): pp. 17-41.

and community. These insular spaces, as well as the aesthetic and practical precedents set by international pre-war celebrities like Roland Garros, contributed to the transnational sociality and perceived elitism of wartime aviation.

The second chapter moves consideration of the potential for aerial violence from pilots' bodies to the airspace in which they flew. Pilots' unique human-machine embodiment and sensory reconfiguration is illustrated in "The Aerial Battlefield" as defined by the environmental characteristics of airspace, especially altitude, distance, cold, and oxygen levels. These factors, which often had profound impacts on the bodies and minds of pilots flying in open-cockpit airplanes without supplementary oxygen, translated seemingly boundless airspace into a navigable, survivable battlefield. I emphasise the under-explored, radical reality of a nationally- and militarily-borderless space above the 'troglodyte world' of the Western Front trenches, establishing pilots' self-orientation via their airplanes' turning axes and material factors like altitude rather than ground-based landmarks.[592] The conditions of flying in an explicitly *wartime* airspace further crafted shared skills and understandings of aerial combat, e.g. learning 'vision of the air', locating proximity to danger via sound, and altitude-specific work. The development of these informal practices contributed to the tense, often contradictory relationship between aerial combatants and their respective air services illustrated throughout the thesis. Air services' translation of aerial reconnaissance into maps intended for use on the ground, for example, did not necessarily reflect pilots' own rapidly changing conditions above; air service administrators' increasing awareness of

[592] Fussell, *The Great War and Modern Memory*, 60.

environmental factors, however, helped them begin to regulate and exercise more control over aerial violence's practice and form. Structuring aspects of military aviation imposed by air services, like standardised daily reports about flying conditions and altitude-specific patrols, nevertheless came directly from the material characteristics of the aerial battlefield as it impacted flyers.[593] Continuing the emphasis on pilots as workers, I suggest that aerial bodies shared the sky as a roughly unified class, a reality that complicated the introduction of deliberate aerial violence into the airspace above the front.

The third and central chapter of the thesis, then, establishes the practices, experiences, and consequences of aerial violence that shaped First World War fighter pilots' combat culture. Having discussed the possibility of physical harm and danger inherent to flying fragile period aircraft, I introduce the notion of *violent flight*, which refers to flying work done with the intention of engaging in combat. Though this theoretically was a possibility from the 1915 'Fokker Scourge', Allied pilots began to shape communal practices and tactics of violent flight in earnest during and after the 1916 Verdun aerial campaign. Unlike the kind of flying to which they had been introduced as trainees, pilots treated the majority of their own violent flight as 'work'. I subsequently examine and structure their roles, tasks, and communal activities as labour, considering how work was defined and the explicitly material ways in which it was qualified in the absence of formal military definitions. Violent flight, which included a diverse range of tasks from artillery spotting to strafing trenches to bombing targets, could also be pleasurable or leisurely; it often provided emotional relief from the

[593] SHD 19 N 490 (Comptes rendu statistiques des opérations aéronautiques, renseignements août 1917-janvier 1919).

anxiety of waiting for combat and featured moments of intense, quantifiable joy. First World War pilots' seeming tendency towards 'joyful slaughter', or unusual disconnect from the emotional impact of killing, has been explored in some detail; military sociologists use pilots to demonstrate the 'delayed' trauma of long-range combat, whilst Janet Lee has explored the impact of this particularly charged language of aerial violence on Royal Flying Corps pilots' masculinities.[594] This thesis takes flyers' preoccupation with violence as a 'game' or 'play' further to argue for evidence of a fundamental lack of regulation to pilots' uses of violence. I argue that this language was a convenient, accessible way to articulate improvised rules about 'right' and 'wrong' types of violence in a non-traditional battle space. The language of aerial death, too, indicated structures beyond pilots' emotional expressions. Pilots who died in combat, even comrades, provided practical warnings and helped pilots' cultivate communal rituals and practices.

The chapter takes its cue from recent cultural histories of war violence by dedicating its final section to fighter pilots' foundational experiences of fighting, killing, and dying. Shooting down an airplane, which became synonymous with aerial killing despite not always resulting in an enemy's death, was objectively more difficult during the First World War than any subsequent aerial conflict; 'aerial combat' involved a range of experiences, often ones that took on significantly different meanings and potential for lasting trauma depending on how they unfolded. Quantifiable shot-down enemy aircraft – which was confirmed in different ways across national air services – became the currency of

[594] Grossman, *On Killing*, 236-37; Lee, "'Knights of the air': Joyful slaughter and the pleasures of moral survival", 1-2.

aerial success, prioritising material impact on the ground over pilots' individual flying skills or difficult skirmishes in the air. As such, pilots with more confirmed 'kills' emerged as leaders, ones who began to shape wider practices and understandings of aerial combatants' communities via informal guides to aerial combat, popular press accounts, and word-of-mouth. Tellingly, this leader status did not necessarily translate to ranks and military recognition, as explored further in the next chapter. Instead, I argue that these figures have been over-looked as what they were to other pilots, i.e. essential – if sometimes intimidating and romanticised – role models for a type of fighting with very little precedent. This chapter argues that the high degree of agency in fighter pilots' uses of space and violence, whilst often regarded as a privilege by other soldiers, also created specific forms of trauma. It explores the implications represented by what Lynsey Shaw Cobden calls the 'nervous flyer', arguing that the informally organised, experience-led, down-time-heavy nature of fighter squadrons meant that many commanding officers recognised their pilots' trauma symptoms as different from infantry soldiers' and often managed them informally.[595] It also establishes a direct link between pilots' violent acts and their conceptions of what was feasibly possible or moral in aerial combat, e.g. American pilot Bill Thaw's remark that he deserved 'no credit' for 'just murder[ing]' an enemy who had not seen him approach.[596]

The fourth chapter narrows its critical focus on the practice and experience of aerial violence by examining its best-known and deadliest practitioners: flying aces. These men are perhaps most closely associated with

[595] See Lynsey Shaw Cobden, "The Nervous Flyer: Nerves, Flying and the First World War" in *The British Journal for Military History* Vol. 4, No. 2 (2018): pp. 121-142
[596] Thenault, *L'Escadrille Lafayette*, 43.

the legacy of First World War aerial violence for their aesthetics and wartime-onwards celebration in popular culture,[597] but have been notably under-examined as actors within the evolution of aerial combat culture and warfare. Using a case study of nine top-scoring pilots from French, British, and American air services, the chapter demonstrates that flying aces were indeed the first role models for how pilots should behave in combat. These men modelled masculinities that ran counter to nationally-specific soldier ideals, and often deliberately removed themselves from conventional military and social forms of regulation and accountability. The chapter first examines these aces' social backgrounds for commonalities, observing that – contrary to popular images of the aristocratic flying ace – most of these pilots came from lower middle class and working class backgrounds, often with technical or sporting experience. Their authority came not from military indicators of status like rank, but from experience, proximity to specialised aerial combat, and leeway given by commanding officers to operate outside of a standard military hierarchy and social role. Unlike the majority of pilots, aces' combat role focused almost exclusively on *air-to-air* combat driven by 'scoring' – the most tangible product of military aviators' labour – rather than highly technical, skilled flying. The chapter goes on to explore the influence that this distinctive 'ace' category had other pilots, establishing the under-explored social and press networks by which pilots observed, interpreted, and communicated flying aces' uses of violence and profound reconfigurations of agency and authority. It inverts considerations of flying aces as national wartime celebrities to establish these elite pilots as 'celebrity professionals' within their own combatant communities, ones who

[597] See Robertson, *The Dream of Civilized Warfare.*

provided both an ideal standard and a measure for average pilots' own anxieties and struggles.

Following these new hierarchies of aerial violence from individuals to groups, the fifth chapter establishes fighter squadrons as the primary site where conceptualisations of aerial warfare emerged and evolved. It uses a case study of three thoroughly well-documented units – American volunteer squadron the Lafayette Escadrille, N3/SPA3, and 40 Squadron – to reconstruct the informal hierarchies by which squadrons organised themselves, often at the expense of formal military hierarchies imposed by air services. The case study emphasises the significance of squadron leaders' access to extra-military resources and power, e.g. 40 Squadron commanding officer Robert Loraine's existing popularity as an actor and N3/SPA3's Antonin Brocard's role as a veteran innovator rather than recipient of *Service Aéronautique* aviation technology and tactical practices; these factors helped squadrons construct accountability and safety systems not provided by their respective militaries. Given that ranks did not necessarily denote social status, as pilots effectively performed similar roles in the air regardless of rank or experience, squadrons' structures and power distribution corresponded with proximity to aerial violence. Flying squadrons' unit cohesion relied tremendously upon the perception that combatants roughly shared their exposure to risk and danger; pilots constantly scrutinised or celebrated their peers' individual relationships to aerial violence, an ever-present process that directly informed a unit's collective morale. I explore pilots' profound dependency on both straightforwardly quantifiable and more abstract aspects of aerial violence to structure their most immediate communities and support systems, emphasising that pilots' frequently articulated anxiety and self-

consciousness about the rapid evolution of aerial combat was directly related to their need for geographical and cultural reference points. This temporary, volatile factor of the material conditions of violence, I argue, has been over-looked in studies of combatant units like in favour of more quantifiable phenomena like morale, firing rates, trauma symptoms, or social backgrounds. As such, I use both this chapter's case studies and other First World War fighter squadrons to demonstrate the translation of power, identity, and acceptable behaviour from the air to the ground. I suggest that this process and the subsequent combat communities it produced had the potential to disrupt civilian notions of community, broadening pilots' sense of shared culture beyond national – or even belligerent – lines and re-configuring peacetime identities.

Though this argument has intriguing implications for pilots' post-war selves that could be explored further, the final chapter continues the thesis' focus on *aerial violence* rather than the straightforward trajectories of pilots' lives. It demonstrates that in the immediate post-war years, aerial violence specific to the First World War was commodified and disseminated beyond and even contrary to wartime pilots' experiences. This commodification of violence – a process I locate in the demand for aerial display and cinema replications of First World War aerial combat, which many veteran pilots subsequently performed as their own embodied form of memoir – displaced First World War fighter pilots' own individual voices and was deployed in distinctly national spheres. First World War aerial violence, I argue, was made palatable by virtue of its individuality in a way that appealed to war-weary publics; aviators who had not fought in the First World War subsequently identified its commodified versions as useful political and social tools. This chapter contextualises this

commodification process within the rapidly industrialising capitalist project of post-war aviation. It identifies Charles Lindbergh's May 1927 transatlantic flight, in particular, as the gateway for the emergence of a distinct 'next generation' of First World War-coded aviators appearing in politics and entertainment. For pilots who had flown in the war, replicating First World War-specific types of violent flight outside of the context of aerial combat – e.g. in the production process of the first Best Picture Academy Award winner, William A. Wellman's 1927 epic *Wings* – came with profound and unexpected consequences. Pilots moving into stunt or entertainment flying continued to replicate wartime social hierarchies whilst facing very different violent conditions to the airspace over the Western Front, a disconcerting reality that often traumatised veteran pilots. This failure of wartime communities to function when asked to re-configure their relationships to violence, I argue, demonstrates the extent to which specific violent conditions determine combat units' hierarchies, morale, and identities. Meanwhile, the 'next generation' of aviators influenced by commodified versions of First World War aerial violence used language, power signifiers, and implied relationships to violence to shape their post-war presents. The practices and aesthetics of First World War aerial combat, particularly as embodied by the uniquely modern 'celebrity professional' of the flying ace, had the power to evolve or transgress gender, racial, class, and political norms within a national sphere. The chapter examines multiple members of this 'next generation' to illustrate the post-war evolution of First World War-type aerial combat culture, establishing its commodified version as a powerful tool for social and political gain both for white men and for those who challenged the synonymy of that demographic with aviation.

This thesis has sought to challenge the fundamental place of violence within war narratives and communities, using the complex, unpredictable, and three-dimensional world of First World War military aviation to illustrate the exchange between war violence and culture. The framing of combat culture as an inherently temporary, violence-based combatant community demonstrates the significance of place, labour, and agency to wartime experience. Combat culture as a lens on combatant communities invites further development: though I strongly believe in its value as a deliberately interdisciplinary approach to war studies, its temporality as an explicitly wartime, combat-adjacent phenomenon leaves open questions about the significance of combat culture in combatants' pre- and post-war lives. This project has deliberately focused on pilots' time in combat, but a wider study of specifically pilots' lives after the First World War is sorely needed, especially when my work on Second World War pilots suggests that participation in air war permanently influenced pilots' political lives and class identities.[598] Many First World War pilots, of course, continued their military aviation careers beyond the Second World War. Given the exceptional, fast-paced, and highly malleable nature of aerial warfare, and this under-examined overlap of lived experiences between World War and interwar military pilots, a broader cultural – and deliberately transnational, especially non-Western – history of aerial violence is sorely needed.

As regards the place of this thesis within First World War studies, I have made an effort to live up to the challenge posited by the name of Oxford's Globalising and Localising the Great War network and made large by the

[598] Jack Doyle, "Class and Combat Culture in RAF Fighter Command, 1939-41", unpublished MPhil thesis (University of Oxford, 2015), 95-96.

international community of scholars reconsidering the First World War during the centenary years. Though focused on the Western Front, this portrait of an insular combat culture that challenged many seemingly universal aspects of military life is evidence of the destabilisation of national militaries and the culture-shaking implications of global air power. It highlights informal networks of knowledge-sharing and solidarity across national lines, ones that grew out of combatants' own self-awareness about their roles in shaping a globally relevant technology and type of warfare. This thesis has also brought the complexities and realities of combat in the first air war into a new kind of dialogue with the twentieth century's 'use [of] aeronautics to project personal and patriotic fantasies', drawing a direct link between combatant-led forms of violence and new articulations of nationalism and capitalism.[599] Drawing directly from the ground-breaking explorations of violence unique to historical, literary, and military scholarship of the First World War, this critical exploration of the first French, British, and American fighter pilots' experiences pushes at the roots of what makes violence happen and how it alters human lives. It relocates the narrative of going to war into an unexplored dimension, translating a new kind of soldier's 'every thrill, every keen joy, and every sickening fear' into a shared experience that transformed borders, people, and war time.[600]

[599] de Syon, "What the Wrights Wrought", 356.
[600] Hall, *High Adventure*, 80.

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ABSTRACTS

The Pathless Sky: Violence and Culture in First World War Air Services

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Submitted for the degree of Doctor of Philosophy in History
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Short Abstract

The First World War has almost always been the impetus behind new developments in critical studies of violence, in fields as diverse as psychology, strategic studies, and cultural history. Western Front infantry soldiers remain central to cross-disciplinary interpretations of combatant experience, identity, and community. This thesis reframes these fundamental relationships between war violence and community by considering an under-explored First World War battlefield: the air. It explores French, British, and American fighter pilots as a transnational combat culture emerging in dialogue with a distinctive, new type of warfare.

Though still largely relegated to popular history and one-dimensional stereotypes, First World War flyers vividly expose the wartime processes of navigating 'unprecedented' violence. Air services began the war affiliated with older military services and without a clear picture of what an aerial conflict entailed. As such, pilots themselves were disproportionately important to shaping the practices, rules, language, and uses of military aviation. The thesis follows fighter pilots through the process of learning to fly into informally organised combat, establishing their under-explored reliance on peacetime

transnational aviation networks and elite flying 'aces' to share information and create communal practices. Pilots who flew in the three-dimensional battle space above the Western Front relied upon complex embodied relationships with their rapidly militarising aircraft to survive, a process that directly informed the ways in which they did, suffered, and survived aerial violence. The thesis explores the impact of these shared experiences, demonstrating First World War aerial violence's profound disruption of military and class hierarchies and its post-war commodification as a cultural tool.

Allied aviators' transnational combat culture was shaped by what this thesis terms 'violent flight', or the embodied experience of flying in a dangerous combat zone. As pilots considered this to be work, the thesis establishes a materially informed, geographically specific interpretation of pilots as gendered labourers to elucidate the development of their wartime communities into a unified combat culture. This deliberately transnational, multi-disciplinary approach urges new, post-centenary conversations about the place of violence in First World War historiography and establishes a specific, complex symbiosis between violence and war cultures.

The Pathless Sky: Violence and Culture in First World War Air Services

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Long Abstract

Aerial violence has largely been examined from the ground looking up; that is, considering the real and imagined horrors of bombing from pre-First World War experiments to present-day drone strikes. This thesis seeks to expand investigations of early twentieth century violence to include the lived experience of the first aerial combatants. It centres the bodies and machines of French, British, and American fighter pilots on the Western Front as the origins and recipients of violent acts and illustrates the distinctive and under-explored community of combatants developing out of this new kind of warfare.

Whilst a significant body of cultural and military scholarship exists on First World War soldiers' combat experiences, the air war remains strikingly overlooked. Historians continue to marginalise the First World War in the air for a number of reasons, not least for its proportionately less significant military impact on the war's outcome or the lingering, distracting popular icon of the aristocratic flying ace. During the centenary years, the few cultural histories beginning to address the diverse, often-contradictory experiences of pilots focused strictly on national cases, obscuring the reality that the first aerial combatants responded to their conflict's lack of precedent by developing an insular transnational community. It is this community – one directly informed by

the uniquely unregulated, fast-changing, and highly technical violence experienced and practiced by the first military aviators – that drives the structure and enquiries of this thesis. Focusing in particular on Allied pilots who shared a similar combat context over the Western Front, it tests the influence of combat violence on culture and vice versa, arguing for a symbiotic relationship between the two that is explored in this work as 'combat culture'.

At the outbreak of the First World War, national air services had profoundly conflicting ideas about the role of nascent aerial technology in warfare. The German military prioritised dirigibles over airplanes; the British relied considerably on French manufacturing; though French flyers and air service administrators had begun to translate some imagined ideas of air war into practical policy, aviation technology was too primitive in 1914 to establish an effective 'aerial front'. This stark national divide is present in the scant cultural historiography of First World War aviation: recent works focusing on national air services, which were administered and deployed very differently, focus more on pilots' relationships to their parent cultures than the short-lived but fascinating cross-national combat culture developing in response to the air war. Whilst many French *Service Aéronautique*, British Royal Flying Corps, and American volunteer pilots began the war as reconnaissance or bomber pilots, they began collaboratively establishing the reality of offensive fighter-based aerial combat on the Western Front during 'Fokker scourge' of the summer of 1915, when synchronisation gear technology enabled forward-firing machine guns to be mounted on German fighter aircraft. What followed was a conflict evolving far more rapidly than both the mostly static trench warfare below and military administrators' ability to standardise combatants' practices. Active

service fighter pilots therefore played a disproportionate, under-examined role in shaping the uses of aerial violence, one that had profound, disruptive implications for fundamental aspects of combat like morale, unit cohesion, and communal identity.

The thesis approaches this highly collaborative, informally communicated, and strikingly unregulated phenomenon as a 'combat culture', or a temporary community of combatants whose hierarchies, language, identities, and behaviour emerge in dialogue with specific violent conditions. Combat culture is related to but ultimately separate from 'military culture' in that it describes the conditions produced by the imminent presence of a combat event; it also, as this thesis' focus on French, British, and American fighter pilots shows, has the potential to disrupt national, military, lingual, and class affiliations. Following on the work of cultural historians of war like Alexander Watson, Joanna Bourke, and Maryam Philpott, this approach explicitly recognises combat violence and violent experiences as nuanced and culturally informed.

Rather than primarily examining combatants' ideologies, e.g. as many historians of genocide perpetrators and especially Nazi soldiers have done, this analysis broadly incorporates pilots' bodies, communities, environment, and representation to explore the development of pilots' combat culture and subsequent new kind of warfare. It relies upon a broad range of personal, military, and civilian sources, prioritising the wartime voices and post-war memories of combatant pilots with a strong contextual basis in military records and the popular aviation press upon which many pilots relied for information and structure. Though national differences are acknowledged and explored, pilots' own cross-national exchange – even, sometimes, with enemies – was

critical to their formation of cultural meaning, structure, and standards, especially around significant aerial campaigns like Verdun and the Somme.

The thesis begins with pilots' own definitive entry into their wartime experience: the embodiment and practice of flight. The airplane was just over a decade old as a technology at the outbreak of the First World War, making learning to fly an exciting but dangerous prospect that, in the British case, killed more trainees than combatant pilots during the war. This also meant that pilots moving into military aviation relied more immediately upon the precedent of pre-war aviation than they did other military services' cultures and traditions, drawing from the flight practices, gender presentations, and established communication networks of pre-war flying celebrities like Roland Garros. Throughout the process of learning to fly and later to fight in the air, pilots' most important relationship was with their machines rather than a conventional 'primary group' of human comrades. The thesis establishes the ways by which people learning to fly incorporated airplanes into their own ideas of self-embodiment in order to survive in the air, and the subsequent communal language and forms of cultural expression that emerged from this profoundly altering psychological and social process. It argues that the joy and pleasure of flight, not combat violence, was a motivating force that both sustained and unsettled pilots as they gained perspective on the vast scope of the war's destruction. The thesis hereby challenges cultural histories of aviation, which largely focus on the *aesthetics* of flight rather than its embodied practice, to view airplanes more from the inside out in the manner of its first practitioners; e.g. to join explicitly contemporary readings of early twentieth century technology with histories and theories of the body and senses.

Pilots' sensory and physical reconfigurations during flight training enabled them to access the previously unexplored, unoccupied world of airspace. Even before the militarisation of aviation and the subsequent development of fighter-based aerial combat, pilots found themselves struggling to understand and qualify an aerial battlefield profoundly unlike the one below. The thesis uses medical and geographic scholarship, especially recent work on aerial geography like that of Peter Adey, to connect the physical impacts of altitude and weather with how pilots began translating the sky into a liveable, navigable space. Bodies in open-air cockpits without bottled oxygen or radio faced new, environmentally determined limits, especially as aviation technology's rapid development during the war patrols over 15,000 feet; pilots' ability to breathe and stay alert directly affected how they moved, communicated, and felt emotion. Altitude and other factors that shaped human-machines' movement through airspace subsequently determined how pilots conceptualised different jobs and duties, which in turn guided how air services began to regulate the practice of military aviation over the Western Front. Whilst geography and temporality have been prominent thematic approaches in centenary-era First World War cultural historiography, the influence of the air on combatants' narratives, perspectives, and practices has gone strikingly overlooked: this thesis emphasises the radical bodily and cultural implications of a three-dimensional battlefield on strategic and cultural readings of the war.

The thesis dedicates its central chapter to the actual practices and experiences of fighter-based violence in the air. It follows fighter pilots' primary sustaining relationships with flight into the militarised airspace that emerged during and after the 1915 'Fokker scourge', clarifying the emergence of a kind of

'violent flight' that pilots mentally and communally differentiated from nonviolent flying. If flying was pilots' default, day-to-day *existence* in airspace, violent flight – or flying with the intention of engaging in and/or experiencing combat violence – was emphatically *work*. The thesis explores the diversity of roles evolving out of militarised aviation, examining pilots' both emotional and tactical responses to attacking and defending themselves from other aircraft and troops on the ground. Following the example of pilots' own contemporary descriptions of what they did in the air over the Western Front, it demonstrates the methodological usefulness of approaching combat as work, using queer studies, gender theory, especially of masculinity, and labour history to illustrate and identify a coherent aerial class of fighter pilot 'workers'. This working culture and the rules, ethical systems, and practices it subsequently produced relied disproportionately on 'scoring', which qualified legitimate aerial 'kills' and was crucially regulated primarily by in-community participants. This in turn significantly impacted how pilots justified their own uses of violence, interpreted death, and experienced trauma. These informally led, individually focused responses to and engagement with combat significantly disrupt leading military sociological explanations for combat motivation, unit cohesion, and morale.

'Scoring' created flying aces: pilots who emerged as cultural icons across national lines for shooting down a significant number of enemy aircraft. First World War aviators are today still popularly associated with flying aces, who were often represented in post-war media as upper class, tragic national heroes whose individuality uplifted them from an otherwise anonymous mass conflict. The thesis turns existing historiographical focus from ace pilots' representation amongst wartime and post-war publics to aces as practical role models for a

combat culture with very little combat precedent. It critically considers a case study of nine leading aces from British, French, and American air services, establishing first aces' own active participation in their wartime popularity and then non-ace pilots' prioritisation of aces' specific uses of violence over their celebrity or flying abilities. Pilots used aces' visibility and prominence within informal communication networks like the civilian-run popular aviation press as a critical guide, both for their own masculinities and the wider 'rules' by which they navigated the aerial battlefield. Aces also revealed the places where combatants saw disconnects between their experiences and their parent militaries' use of aviation, adding specific but unusual insight to the past decade's scholarly considerations of morale.

Given that most fighter pilots were not aces, this focus on the individual within military aviation presented significant practical challenges to how air services and pilots organised themselves and identified during the First World War. Deliberately retaining focus on combat cultures rather than nationally specific military cultures, the thesis' other case study hones in on squadrons as the groups that revealed in most vivid detail the negotiation between violent experience and communal identity. It examines three squadrons predominantly made up of French, British and white Commonwealth, and American pilots respectively to establish how aerial communities evolved during the First World War. Fighter squadrons were objectively unusual military units both on the ground and in the air, stationed well behind the ground front lines with the majority of affiliated soldiers effectively acting as non-combatants to enable the combat of a specialised minority. An analysis of these units concludes that proximity to and agency for aerial violence determined squadron hierarchies,

effectively disrupting and even temporarily suspending conventional indicators of status and power like military rank, class, race, gender presentation, and experience. Indeed, squadron leaders were not necessarily *aerial* leaders, but rather primarily led by establishing and improving pilots' material conditions on the ground. The thesis argues that the processes by which squadrons cultivated communal identities and secured their own survival reveal the extent to which developing air service cultures sharply departed from military- and national-oriented organising structures, instead relying on a highly communicative transnational pilots' culture. It suggests that nationally focused themes in First World War historiography, e.g. morale and ideological violence, may not be sufficient or even applicable to many of the conflict's combatants.

First World War aerial violence had a vivid and under-explored life after the Western Front Armistice of November 1918. This thesis' focus on the development of aerial violence therefore requires examining its trajectory beyond the immediate temporality of combat culture. Historiographical considerations of post-war aviation have largely focused on contemporary cultural interpretations of aviation *technology*, e.g. its place within early fascist aesthetics and use as a tool of state and imperial power. This thesis instead argues that First World War-type aerial violence was specifically and powerfully commodified in the immediate post-war years, in part due to the particular ways in which veteran pilots represented their wartime experiences. Following on from previous chapters' considerations of the writing genre driven by early flight experiences, the final chapter of the thesis uses performance theory and media studies to read the embodied *performance* of violent First World War flight as memoir. It examines pilots who translated aerial combat practices they had

learned in the First World War into entertainment flying, e.g. in air displays or Hollywood's late 1920s aviation film boom, to demonstrate the lasting impact of wartime aerial combat culture. Entertainment flyers attempted to cope with violent flight via wartime hierarchies and language, with limited success. Their performances, however, effectively commodified First World War aerial violence as a powerful cultural tool. The thesis identifies its palpable and under-examined use by a 'next generation' of aviators who had been slightly too young or otherwise excluded from wartime flying, demonstrating how these pilots used associations with First World War aerial violence for distinctive political and social agendas.

This study of combat culture deliberately joins cultural histories of war, especially recent developments within First World War historiography, with military-oriented sociological and psychological studies of combat violence. It explicitly addresses the long-standing gap between cultural and military histories by emphasising using combatants' own terms and knowledge networks to build a wider picture of their specific, environmentally informed communities. In other words, the thesis joins in-community military perspectives – from tactics to military medical interpretations of trauma – with the most interdisciplinary aspects of the First World War's rich cultural historiography, grounding critical, rigorous interpretations of its combatants in their own bodies, spaces, and labour. It also recognises violence as an active participant in culture rather than as an external event, and provides a coherent methodological approach to expanding not just rigorous scholarship of First World War violence but of combatants and wartime communities in general.