The Dominion of the Air: the Imperial dimension of Britain's war in the air, 1914-1918

MICHAEL MOLKENTIN

University of New South Wales Canberra Email: mail@michaelmolkentin.com

ABSTRACT

It is now well established in the historical literature of the First World War that manpower and materiel, provided by the colonies and self-governing dominions, figured importantly in Britain's war effort. One area, however, in which the war's imperial dimension has yet to be properly analysed, is the air war — perhaps the very epitome of the 'total war' struggle that British society faced between 1914-18. This article evaluates the imperial contribution to Britain's war in the air. Besides revealing the considerable extent of empire involvement in the British flying services, it demonstrates something of the distinct and nuanced relationships that colonial authorities had with London, and the way this shaped their respective involvement in the empire's war effort.

When 2nd Lieutenant Eric Dibbs of the Royal Flying Corps (RFC) arrived in France for his first operational posting in June 1917, he discovered that many of his new colleagues hailed from Britain's colonial settler societies. 'Essentially an Empire unit', is how he described the squadron. 'We had in it three Australians, a number of Canadians, two South Africans, a Newfoundlander, as well as representatives of England, Scotland, Ireland and Wales'. Like Dibbs (himself an Australian) the officers in No. 11 Squadron's mess all wore the uniform and insignia of the RFC, having eschewed service in their respective dominion forces for a commission in the British service.

What Dibbs found at No. I I Squadron reflects the imperial character that the RFC and its counterpart, the Royal Naval Air Service (RNAS), developed during the Great War. By the Armistice Britain's air services had recruited individuals from all over the world: surviving personnel records indicate at least 40 countries of birth as

Anon, 'Interview with Captain Eric Rupert Dibbs formerly of the AFC', 14–18 Journal (1967): p. 91.

represented.² After the British Isles the next largest cohorts hailed from Britain's self-governing dominions – Canada, Australia, New Zealand, South Africa and Newfoundland. Although surviving records will never permit a precise quantitative evaluation of the empire's contribution to the air war, casualty records indicate that of the 9,800 fatal casualties Britain's flying services sustained between 1914 and 1918, nearly one in five hailed from the dominions.³ Training infrastructure outside of the British Isles – in Canada and Egypt in particular – also made an important contribution, training thousands of aviators and other technical specialists.

Yet this aspect of Britain's air war is largely obscured in the RAF's archival record and the secondary literature – expansive as they both are. The principal operational and organisational record of Britain's First World War flying services, the UK National Archives' (TNA) 'AIR I' series, reflects the interests and priorities of the RAF's official historians who created it in the early 1920s by culling aviation-themed papers from War Office, Admiralty and other sources, to create an artificially, subject-classified series from which to write the six-volume series *The War in the Air* (1922-37).⁴ Though a work of considerable breadth and detail, the RAF's official history neglects to properly consider the imperial character of Britain's flying services. The Canadian and Australian roles are, respectively, detailed in official histories produced by their own governments and a few other book-length treatments.⁵ The first full-length study of New Zealand airmen in the Great War was published recently.⁶ To date, the role played by South Africans, Newfoundlanders and other colonial airmen, has only been

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² United Kingdom National Archives (TNA) AIR 78, Air Ministry and Ministry of Defence: Department of the Air Member for Personnel: Index to Airmen and Airwomen; TNA, AIR 79, Air Ministry: Air Member for Personnel and predecessors: Airmen's Records.

³ See Table A.

⁴ Walter Raleigh and H. A. Jones, The war in the air: being the story of the part played in the Great War by the Royal Air Force, 6 vols (Oxford: Clarendon, 1922-37).

⁵ F. M. Cutlack, The official history of Australia in the war of 1914-1918: volume VIII: the Australian Flying Corps in the western and eastern theatres of war 1914-1918 (Sydney: Angus and Robertson, 1923); S. F. Wise, Canadian airmen and the First World War: official history of the Royal Canadian Air Force, Volume I (Toronto: University of Toronto Press, 1980); C. W. Hunt, Dancing in the sky: the Royal Flying Corps in Canada (Toronto: Dundurn Press, 2009), p. 17; Michael Molkentin, Fire in the sky: the Australian Flying Corps in the First World War, (Crow's Nest: Allen & Unwin, 2010); Michael Molkentin, Centenary history of Australia and the Great War, Volume I: Australia and the war in the air (Melbourne: Oxford UP, 2014).

⁶ Adam Classen, Fearless: the extraordinary untold story of New Zealand's Great War airmen, (Auckland: Massey UP, 2017).

interpreted through articles and chapters of limited depth.⁷ The historiography of the imperial dimension of Britain's flying services is, therefore, fragmented by the nationalistic focus that had traditionally characterised the historiography of dominion involvement in the war. There has, been no attempt to examine the empire's involvement in Britain's war effort in the air from an international or comparative perspective, or to consider its role in the development of British air power during the conflict.

This article draws on research in the archives of British and Commonwealth countries to evaluate the nature, extent and impact of imperial involvement in Britain's flying services during the Great War. The first part of this paper outlines how colonial defence authorities engaged with military aviation before the war. The second part examines negotiations between authorities in London and the dominions regarding the recruitment, training and employment of colonial manpower in the flying services between 1914-18. The distinct manner in which each dominion negotiated with London regarding aviation suggests the unique strategic circumstances that influenced the way that each contributed to the empire's war effort and, more broadly, engaged with London over strategic matters. This paper concludes with an evaluation of the imperial contribution to Britain's air effort, employing both quantitative and qualitative criteria to determine the nature and extent of imperial contribution through manpower, materiel, training infrastructure and operational effectiveness.

Military aviation in the empire before 1914

Pre-war interest in military aviation in the empire occurred in the context of substantial reforms to imperial defence policy and a considerable expansion of colonial and dominion forces. At a series of imperial conferences held in London during the first decade of the 20th Century, the dominions agreed to raise and maintain forces locally for their own regional protection and to provide expeditionary forces to support Britain in the event of a major conflict. For the British authorities, this concept of 'imperial defence' eased the onerous burden of guarding its imperial assets overseas while also establishing the basis on which the empire's potentially enormous military power might be harnessed for imperial causes. For dominion governments, it

⁷ Dick Silberbauer, 'Origins of South African Military Aviation', *Cross & Cockade Journal* (*Great Britain*) Vol. 7, No. 4 (1976); J.O.E.O. Mahncke, 'Aircraft operations in the German colonies: the South African Aviation Corps', *Military History Journal* (The South African Military History Society) Vol. 12, No. 3, (June 2002); Antonio Garcia, 'Airpower in the Union of South Africa's First World War campaign in German South West Africa', *Historia* Vol. 62, No. 2, (November 2017); Michael Deal, 'Newfoundland's first air war', *Newfoundland Quarterly* Vol. 101, No. 3 (2008).

presented the possibility of greater strategic autonomy and national self-expression, and gave them access to Britain's well-established industry and considerable expertise in military and naval affairs – though it also emphasised their obligation to participate in distant wars on the Empire's behalf. The leaders of each dominion weighed the obligations of imperial defence with their own self-interest in what Chris Clark describes as a 'dual policy of collusion in imperial defence and self-reliance in local defence'. Although the specifics of each dominion's new defence force structure differed, by 1914 all had increased their defence budgets substantially and had undertaken to train and equip local forces that could serve as part as an inter-operable, imperial expeditionary force in the event of war.

With the exception of Newfoundland, defence authorities in each of the dominions considered aviation in their pre-war defence plans. The War Office responded to their inquiries about military aeronautics and accepted officers from colonial forces to train with the RFC and to observe it on manoeuvres. The War Office and Admiralty did not however, encourage the dominions to establish their own flying services in the manner it pressed the dominions to raise militias and naval units. Before the war Britain's defence authorities only perceived the tactical application of airpower -scouting on the battlefield or co-operating with the fleet. Aviation, indeed, would not figure in the British government's Committee of Imperial Defence's meetings until May 1921.

Consideration of aviation's potential in an imperial context nonetheless found expression through a number of unofficial channels that, together, helped to establish military flying in the mindset of dominion defence authorities. Michael Paris identifies the theme of aviation's imperial significance in a number of works by popular pre-war fiction writers such as Rudyard Kipling and Herbert Strang. Patriotic leagues and aviation lobbyists in Britain likewise championed aviation's significance to imperial defence. In the influential Aerial Warfare (1909), for example, R. P. Hearne predicted that aircraft would provide a means of securing the empire's fringes more economically than armies or navies.¹¹ The editor of *The Aeroplane* agreed, but for different reasons:

⁸ Chris Coulthard-Clark, 'Australian defence: perceptions and policies, 1871-1914', in The German Empire and Britain's Pacific dominions: essays on the role of Australia and New Zealand in world politics in the age of imperialism, ed. Christopher Pugsley & John A. Moses (Claremont: Regina Books, 2000), p. 171.

⁹ Michael Paris, 'Air power and imperial defence 1880-1919', *Journal of Contemporary History* Vol. 24, No. 2 (1989), p. 215.

¹⁰ TNA, CAB 2/3, Minutes of CID meetings Nos 120- 175, 2 December 1912 to 23 July 1923.

Paris, 'Air power and imperial defence', pp. 212-15.

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to him the aeroplane represented Britain's racial superiority and 'would give the white population [in the colonies] much the same advantage which they once possessed when they alone owned modern rifles'. Such populist sentiments found expression in aerial-themed defence leagues. The Aerial League of the British Empire, which formed in London in early 1909, had Agents-General from some of the dominions on its executive committee and spawned overseas branches such as the Aerial League of Australia. The Imperial Air Fleet Committee, an initiative of the Overseas Club, meanwhile raised funds to provide the dominions with aeroplanes.

Although such initiatives helped establish aviation in both the public mindset and on the political agenda, of greater consequence were the efforts of British aircraft manufacturers to advertise their machines to colonial military forces. A demonstration tour by the British and Colonial Aeroplane Co. during 1911 proved particularly influential, with display flights in both India and Australia prompting local military authorities to provide their forces with an aviation capability. ¹³ In early 1912 approaches by the African Aviation Syndicate Ltd., British agents for Blériot and Paterson aircraft in British Africa, had a similar effect on South African authorities. ¹⁴

Ultimately, however, each colonial government's engagement with military aviation depended on its perceived strategic circumstances and how this shaped its force requirements. It also depended on the value that influential individuals within each administration and military executive, particularly the defence minister, accorded to new aeronautical technology.

On the basis of advice from the War Office, Canadian soldiers made two proposals to start an aviation school in 1912 and 1913 but cabinet blocked both. The scepticism of Canada's Minister of Militia and Defence, Sam Hughes, appears to have been an important factor; he reportedly dismissed aircraft as 'costly toys, only as yet in the experimental stage'. Beyond this, defence authorities in Canada had to be sensitive to what the electorate suspiciously regarded as 'militarism' and a popular reliance on the benevolence of the USA and its Monroe Doctrine that made the justification of

¹² 'Aviation and the Empire', The Aeroplane, 15 August 1912, pp. 159-60.

¹³ Paris, 'Air power and imperial defence', pp. 217-219; National Archives of Australia [hereafter NAA], A289 1849/8/31, Reports by Irving and Foot, 16 January 1911 & 27 February 1911.

¹⁴ TNA AIRI/I17/15/40/23, South African High Commissioner to the Secretary, War Office, 17 May 1912.

Wise, Canadian airmen and the First World War, pp. 16-24. www.bjmh.org.uk

Canadian military spending politically difficult. ¹⁶ In New Zealand, soldiers likewise considered 'the question of aviation', arranging for an officer to train with the RFC. They then shelved these plans after the British Army's Inspector General of Overseas Forces pointed out the expense of keeping abreast with the rapidly evolving aviation technology. ¹⁷ New Zealand thus adopted a 'waiting policy' – a reflection of its small population and defence budget and, more broadly, its strategic outlook, which tended to perceive the military efforts of the imperial whole as more fundamental to local security than autonomous home forces. ¹⁸

South Africa, Australia and the British Indian Army made more earnest inroads in military flying before 1914. All established flying schools and were developing the nucleus of a flying corps when hostilities began. The South African government would have preferred to 'await developments in aviation' for fiscal reasons, but by mid-1912 felt compelled by 'the fact that military aviation is about to be taught and practised in adjoining territories'. 19 Its 1912 Defence Act included provisions to establish 'a small flying corps' and in 1914 it sent six officers to Britain to learn to fly.²⁰ In Australia, strategic insecurities regarding Japan's imperial aspirations and the reorientation of British naval strength from the Pacific to home waters, fuelled a substantial military expenditure in the decade before the First World War that included the establishment of the Royal Australian Navy, a compulsory military service scheme and, in 1912, a flying corps. The enthusiasm for aviation of Australian Defence Minister, George Foster Pearce, also played a crucial role; he pushed for the establishment of an Australian flying corps, even pressing ahead when British authorities suggested a more circumspect approach.21 By August 1914 the Australian Defence Department had established a Central Flying School at Point Cook, in Victoria, with five aircraft and

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¹⁶ James Woods, *Militia myths: ideas of the Canadian citizen soldier (Vancouver:* University of British Columbia, 2010), p. 195; Richard A. Preston and Ian Wards, 'Military and defence development in Canada, Australia and New Zealand: a three-way comparison', *War & Society* Vol. 5, No. I (1987), pp. 9-10.

¹⁷ New Zealand National Library (NZNL), AJHR, 1913 Session I, H-19, 'Defence Forces of New Zealand: report of the General Officer Commanding the Forces for the period 28 June 1912, to 20 June 1913'.

¹⁸ NZNL, AJHR, 1914 Session I, H-19, 20 June 1913 to 25 June 1914; TNA, CAB 2/2, CID Minutes, 112th Meeting, 29 May 1911, pp. 26-28.

¹⁹ TNA, AIRI/II7/I5/40/23, Louis Botha, minute, 16 July 1912.

²⁰ TNA, AIRI/II7/I5/40/23, H. H. Brade to the Under Secretary of State, Colonial Office, 20 November 1912.

Molkentin, Australia and the war in the air, pp. 6-14; John Connor, Anzac and empire: George Foster Pearce and the foundations of Australian defence (Port Melbourne: Cambridge University Press, 2011), pp. 41-44.

two instructors, all sourced from Britain; it had included £28,000 for aviation in estimates. Finally, in India, demonstrations by the British & Colonial Aircraft Co.'s Boxkite' machine during the 1911 manoeuvres impressed the Indian general staff of aviation's capability in local operations, prompting the Chief of the General Staff, Major-General Douglas Haig, to write to the War Office for advice on establishing a flying school and corps in India. The Government of India's 1913-14 estimates included a £19,600 vote to establish a flying school at Situpur and that year four Indian Army officers trained with the RFC in Britain.

By August 1914 six South Africans, one Australian, one New Zealander and six British officers of the Indian Army had been seconded to the RFC or trained at the Central Flying School, with the War Office charging dominion governments £450 per pupil for a three-month course. The South African government had purchased a private flying school in Kimberley, while authorities in India and Australia were preparing to commence instruction at their respective flying schools. Dozens of others with a dominion background had already learned to fly in Britain, either privately or as regular officers in the British Army or Royal Navy. The RFC and RNAS units that mobilised in 1914 would contain a number of these men, including five each of the Indian Army officers and South African officers who had been training with the RFC when the war began. Perceiving the value of service experience to its own local air service, the Union Government was 'glad' to grant the War Office permission to post one South African officer to each of the squadrons preparing to embark for France.

Colonial airmen in the British flying services, 1914-18

During the First World War manpower represented one of the most critical considerations for those concerned with administering Britain's flying services. This was especially the case in the RFC, where the Army's demands for air support drove an expansion program that, at all stages of the war, outstripped available resources in both men and materiel. The RFC's strength in personnel more than doubled in size every six months during the war's first two years and then expanded another five times before the Armistice; between August 1914 and November 1918 the RFC and RNAS

²² Molkentin, Australia and the war in the air, pp. 10-15.

²³ Paris, 'Air power and imperial defence', pp. 217-19.

²⁴ 'Military aviation in India', Flight, 10 May 1913, p. 522.

²⁵ TNA, AIRI/117/15/40/23, War Office memorandum, 3 June 1914.

²⁶ Walter Raleigh, The war in the air: being the story of the part played in the Great War by the Royal Air Force, Volume 1 (Oxford: Clarendon, 1922), p. 410.

²⁷ TNA, AIR I/I I7/I5/40/23, Secretary for the High Commissioner of South Africa to the Director of Military Aeronautics, 31 July 1914.

grew from fewer than 2,000 airmen and ground crew to 270,329.²⁸ Exacerbating the pressures created by this rate of growth was the unexpectedly large training, administrative and logistical organisation that Britain's service squadrons came to require and the excessive 'wastage' suffered by airmen in both training and combat. As the war went on British recruiters experienced difficulty finding suitable candidates to meet the air service's exacting standards in physical fitness, character and aptitude.²⁹

Although the dominions would come to represent part of the solution to expanding and maintaining Britain's flying services, during the war's first two years the recruitment of colonial airmen occurred on a mostly ad-hoc basis, dependent more on the initiative of individuals than on official policy. With little opportunity to learn to fly at home, and with none of the dominion expeditionary forces including a flying corps in their initial contingents, dozens of civilian men from all over the empire funded their own passage to Britain to join the RFC or the RNAS during 1914-15.³⁰

The first semi-official recruitment occurred in Canada with the establishment of RFC and RNAS recruiting offices there in early 1915. With the tacit approval of Canadian authorities, the British flying services sought pilots who had qualified at private flying schools in North America, intending to send them to Britain to complete their training before appointment as officers of the RFC or RNAS. Under these arrangements approximately 700 Canadians joined the British flying services during 1915-16, considerably more than came from the other dominions on their own initiative during this period. These Canadians helped the RFC to triple its strength on the Western Front during the same period; indeed, by June 1916 10 per cent of RFC pilots in France hailed from Canada. Nevertheless, the War Office and Admiralty became dissatisfied with the system of recruitment in Canada. They had little assistance from Canadian authorities and found that the expense of reimbursing recruits for their private tuition was not worthwhile, as they usually needed to start training from scratch in Britain. Lieutenant-Colonel Charles Burke, the RFC's recruiting officer in Canada, considered the arrangements 'a distinct muddle' and a 'good deal of trouble in return for a mixed

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²⁸ Peter Dye, The bridge to air power: logistics support for the Royal Flying Corps on the Western Front, 1914-18 (Annapolis: Naval Institute Press, 2015), p. 165.

²⁹ H. A. Jones, The war in the air: being the story of the part played in the Great War by the Royal Air Force, Volume 3 (Oxford: Clarendon Press, 1931), pp. 289-92.

³⁰ See, for examples, Molkentin, Australia and the war in the air, pp. 23-25; Auckland War Memorial Museum Library, MS 996, H. W. Butterworth, diary, 11 June 1915.

Terry Copp, 'The Military Effort 1914-1918', in *Canada and the First World War:* essays in honour of Robert Craig Brown, ed. David Mackenzie (Toronto: University of Toronto Press, 2005), p. 49.

batch of untrained candidates'. He nevertheless saw 'great possibilities' in Canada's large population of eligible civilian men if the RFC could establish training units there.³²

The modest, pre-war aviation arrangements by South Africa and Australia meanwhile permitted these dominions to make smaller, but more distinct, contributions to the air war during 1915. In December 1914, the South African authorities requested the immediate return of Union Defence Force pilots serving with the RFC in France to join a South African expedition to capture German South West Africa. Struggling to reinforce its squadrons in the field, the RFC's leadership opposed the transfer, acquiescing only after the South African High Commissioner raised the matter with Lord Kitchener. 33 Besides these South African officers from the RFC, the Union Defence Force had to borrow additional personnel from the RNAS to raise their unit. During June and July 1915 this nominally South African squadron supported General Louis Botha's brief campaign to occupy South West Africa.³⁴ At the same time, the Australian government despatched a small contingent of locally-trained airmen and mechanics to Mesopotamia to join a British-Indian aviation unit equipped and administered by the Indian Army (and, later, the RFC). Like the South African Aviation Corps (SAAC), the Australian Flying Corps' (AFC) status as an independent dominion flying service in 1915 was ostensive.35

The involvement of colonial personnel in the air war had, nevertheless, come to the War Office's attention by mid-1915, prompting discussion on how the dominions might better support the RFC's growing demand for manpower. A memorandum on the subject by Lieutenant-Colonel Colville Marindin, GSO I in the War Office's Directorate of Military Aeronautics, reasoned that, 'as none of the Dominion forces have their own aviation units, there seems to be an opportunity of making use in the RFC of aviators and mechanics from the different Dominions, and at the same time of fostering a spirit of Imperial Cooperation'. Marindin recommended inviting the dominions to raise four 'Imperial Colonial' squadrons that would be part of the RFC but have a 'distinguishing designation' in their title. The British government would train, equip and maintain them, and reserved the right to employ British personnel in dominion squadrons and transfer dominion personnel into other units of the RFC as

³² NAA, A2023 A38/I/193, 'Report on what has been done up to the present'.

³³ TNA, AIR I/I I 7/15/40/23, anon. (possibly Brancker) to Secretary of the High Commissioner for South Africa, 16 December 1914.

³⁴ Jones, The war in the air: volume 3, pp. 14-18.

³⁵ Molkentin, Australia and the war in the air, pp. 77-95.

necessary.³⁶ Alternatively, the War Office offered to fund the passage of individual officers and men from the dominions who sought general service in the RFC and who met the service's medical standards and had the endorsement of their local defence authorities.³⁷

Communicated to the dominion governments in September 1915, this offer elicited responses that largely conformed with their respective pre-war policies regarding aviation. The Canadian and New Zealand governments declined to form squadrons, preferring to provide recruits for general service in the RFC. The Canadians opted to maintain the status-quo, whereby the RFC and RNAS recruited volunteers through their offices in Canada. Faced with a 'large number of applications' from civilians wishing to go abroad to join the RFC, the New Zealand government took the opportunity to make a similar agreement with aviation authorities in London. ³⁸ Under the scheme, New Zealand civilians who qualified for a Royal Aero Club Certificate at one of two private flying schools in New Zealand and passed a medical examination based on RFC recruitment standards, would be sent to Britain on a passage funded by the War Office. ³⁹ As one of the flying schools' directors put it, under these arrangements, New Zealand's 'Defence Department practically acts as agents in New Zealand for the Royal Flying Corps…'. ⁴⁰

In contrast, the South African and Australian governments accepted the War Office's invitation to raise complete squadrons for service with the RFC. By the end of the year South African personnel assembled in Britain to form No. 26 (South African) Squadron – a unit to be administered and equipped by the RFC but maintained by monthly reinforcement drafts raised by the Union Defence Forces. The squadron arrived at Mombasa at the end of January 1916 and, during the following two years, served with Entente forces in East Africa. As with its aviation unit in South-West Africa in 1915, the Union Government struggled to maintain No. 26 Squadron in the field. In the campaign's first year 346 other-ranks passed through the unit – nearly all due to

³⁶ Directorate of History and Heritage, Ottawa [hereafter DHH], 75/514 file DI, 'Dominion Squadrons, 1915-1918', research notes by F. H. Hitchins, nd.

³⁷ Australian War Memorial, Canberra [hereafter AWM], AWM27 303/17 PARTI, B. B. Cubitt to Maitland, 10 September 1915.

³⁸ 'Going home to enlist not encouraged officially', *The Dominion* (Wellington), 18 January 1916, p. 6.

³⁹ 'Aviation candidates', Evening Post (Wellington), 27 January 1916, p. 7.

⁴⁰ Christchurch Central Library, 629.13 WIG, Henry Wigram, 'The first hundred pilots', June 1918.

sickness.⁴¹ Unable to replace these losses, the South African authorities had to turn to the RFC for recruits though, even then, No. 26 Squadron usually operated 'very much under strength'.⁴² Reduced to nine officers and 81 other ranks, the unit returned to Cape Town in March 1918 where the Union Defence Force discharged the personnel it had recruited for service in Africa. Those attested for general service in the RFC returned to Britain with the squadron where, in July 1918, the Air Ministry disbanded it.

When approached, in August 1916, to raise additional squadrons, the South African authorities declined – probably conscious of the difficulties already manifest in maintaining a single unit in the field. Instead, the South African government followed the policy of its Canadian and New Zealand counterparts, permitting the RFC to recruit volunteers on its soil. In October 1916, a South African officer of the RFC, Major Allister Macintosh Miller, toured the dominion with a brief to recruit 400 volunteers. The 900 applications he received were eclipsed during a second tour in 1918 that secured 3,250 applications, from which the new Royal Air Force (RAF) accepted 1,350 South Africans for training.

Australian defence authorities also accepted the War Office's September 1915 invitation to raise a squadron, citing the 'inestimable' benefit 'for the future training' of its forces. Personnel for the squadron arrived in Egypt in March 1916 where, although nominally remaining part of the Australian Imperial Force (AIF), they formed a unit of the RFC. An Australian-born RFC officer took command of the unit and it came under the operational command of the RFC's 5th Wing for operations in the Sinai-Palestine theatre. Aside from personal kit, all its equipment came from the RFC and, due to a shortage of Australian Flying Corps (AFC) officers, until early 1918 it would regularly employ RFC officers to meet shortfalls in flying personnel. Although Australian authorities persisted in referring to the unit as No. I Squadron of the AFC, the War Office designated it No. 67 (Australian) Squadron RFC. This confusing nomenclature

⁴¹ F. A. de V. Robertson, 'No. 26 (Army Co-operation) Squadron', *Flight*, 10 August 1933, p. 111.

⁴² TNA, AIR I/1247/204/7/4, 'Historical Record of the South African Unit of the Royal Flying Corps', nd.

⁴³ DHH, 75/514 file B1, 'Minutes of conversation held with representatives of Canada, Australia and South Africa', 26 August 1916.

⁴⁴ Tilman Dedering, 'Air power in South Africa, 1914-1939', Journal of South African Studies Vol. 41, No. 3 (2015), pp. 451-465.

⁴⁵ NAA, A2023 A38/8/542, CGS to Secretary, Defence, 18 November 1915.

persisted until August 1918, when after much petitioning by AIF staff, the Air Ministry fully recognised and applied the Australian designations.⁴⁶

Awareness of the increasingly important role played by air power in military operations overseas prompted the Australian government to raise further squadrons during the second half of 1916. The War Office, having recently agreed to appeals from commanders in the field to double the RFC's size by spring 1917, eagerly accepted the Australian offer and, indeed, asked the dominion to raise as many additional units as it could, along with reserve squadrons to train Australian reinforcements in Britain. By the end of 1916, the Australian government had raised another three service squadrons from pilots given rudimentary training at the Central Flying School and tradesmen volunteering from the ranks of the AIF. These, along with the basis of two training squadrons, arrived in Britain at the beginning of 1917 to prepare for service on the Western Front. The two AFC training squadrons (later increased to four in 1917) remained in Britain where, in early 1918, they combined to form an AFC training wing.

In 1917-18 the War Office conceded to the insistence of Australian authorities that the AFC squadrons remain unequivocally part of the AIF and that Australian administrative staff maintain control of personnel. The Australian government, responding to public concern that its troops received inadequate recognition for their part in the war, refused to make AFC personnel available for general service in the RFC; they could serve in AFC squadrons only. These conditions were all contrary to the wishes of the RFC's staff; they served Australia's political interests rather than enhancing the RFC's effectiveness in the field.⁴⁷ British authorities had little recourse, though, given that all AFC personnel volunteered for service with the AIF in accordance with Australia's Defence Act - not for general imperial service. Nevertheless, the AFC remained firmly under British operational control: here Australian authorities had no alternative given that their diminutive flying corps relied on the RFC's logistical and command infrastructure. The Australian squadrons operated in RFC/RAF wings and brigades, took their orders from British staff, drew supplies through RFC/RAF depots and used aircraft and other technical equipment manufactured in Britain (for which the Australian government agreed to pay). And whereas the establishment of an Australian training wing in Britain gave the AFC the appearance of self-sufficiency, it likewise functioned as a subordinate element of the larger British training establishment. The AFC trained pilots (though they attended British schools for theoretical and specialist combat instruction) but had no capacity for training the AFC's observers and mechanics; they trained in RAF schools.

⁴⁶ TNA, AIRI/1044/204/5/1506, Everitt to Air Council Secretary, 21 August 1918.

⁴⁷ See correspondence between RFC HQ and AIF HQ in TNA AIR I/1044/204/5/1506. <u>www.bjmh.org.uk</u>

British authorities began to question the suitability of distinct dominion flying units operating within the RFC even before the majority of the AFC squadrons had reached the front. In early 1916, for example, the RFC's recruitment officer in Canada criticised the idea of 'purely Canadian Squadrons', predicting that they would struggle to operate efficiently unless completely integrated into the RFC and led by experienced British officers. In August 1916 Lieutenant-General Sir David Henderson, the War Office's Director General of Military Aeronautics, made a similar point, citing the high level of mobility of personnel between squadrons and how 'it would not tend to efficiency if we were obliged to keep Canadian Officers in particular squadrons'.

These were prescient observations. Already justified by the difficulties faced by the Australian and South African units in 1915-16, Henderson's position would be further vindicated the following year when Australian authorities again struggled to train sufficient reinforcements for the AFC's No. I Squadron in Palestine. The situation became so bad that in July 1917 RFC staff in the Middle East warned their AIF counterparts that unless they organised 'a sound system for the supply of officer reinforcements', the unit would be so reduced as to 'altogether cripple' its operational capacity. 50 The AIF's administrative staff again faced difficulties during 1917-18 in training personnel for the three AFC squadrons on the Western Front. Producing pilots within the AFC's small training organisation in Britain sacrificed the economies of scale that the RAF's vast system had secured by 1918 – a situation exacerbated by the Australian government's refusal to allow AFC personnel to be interchangeable with their British counterparts. At various stages in 1918 the Australian service squadrons faced surpluses and then shortages of personnel trained to fulfil particular roles. In June 1918 half of No. 4 Squadron AFC's flying roster were British pilots seconded from the RAF due to a shortage of AFC pilots qualified to fly rotary-engine fighters. In the same month, the AFC had too many mechanics; and rather than make them available for service in the RAF the AIF's Administrative Headquarters ordered them re-mustered into the infantry.⁵¹

Once recognised, these difficulties and inefficiencies prompted British aviation authorities to prefer to use the dominions as a source of manpower rather than

war in the air, pp. 38-59.

⁴⁸ NAA, A2023 A38/1/193, Burke, 'Note RE: forming Canadian Squadrons', nd c. early 1916.

⁴⁹ TNA, AIRI/514/16/3/80, 'Memorandum for the Deputy Minister', 27 August 1916.

⁵⁰ AWM, AWM22 31/9/2000, SO I, Middle East Brigade to AIF HQ, Egypt, 17 July 1917. For inefficiencies in the AFC's training see: Chapter 3, Molkentin, Australia and the

complete units. Regarding Australia, the War Office could hardly renege on its acceptance of AFC squadrons, though it did refuse to provide instructors and equipment for the Australian Central Flying School at Point Cook. It insisted that the AFC's airmen train in Britain or Egypt (where the RFC had recently established several training schools) to 'save time and expense'. Unable to produce its own aircraft, the Australian government had little option but to accept this – though it kept the flying school open, fearing that closing it would 'cripple[s] future development of our air service'. Australian government had little option but to accept this – though it kept the flying school open, fearing that closing it would 'cripple[s] future development of our air service'. Australian government had little option but to accept this – though it kept the flying school open, fearing that closing it would 'cripple[s] future development of our air service'. Australian government had little option but to accept this – though it kept the flying school open, fearing that closing it would 'cripple[s] future development of our air service'. Australian government had little option but to accept this – though it kept the flying school open, fearing that closing it would 'cripple[s] future development of our air service'. Australian government had little option but to accept this – though it kept the flying school open, fearing that closing it would 'cripple[s] future development of our air service'.

Canada, however, presented a distinctly different case being considerably closer to the war's principal theatre, possessing a white male population nearly as large as all the other dominions combined and with access to North American industry. Although the idea of training RFC aviators in Canada occasionally appears in documents from earlier in the war, sustained discussion of the topic started in June 1916, following Major-General Hugh Trenchard's projection that the RFC needed to expand from 27 to 56 squadrons in the following year. As authorities in the War Office and other government departments realised, this was impossible given Britain's training and industrial resources. Negotiations between the relevant British ministries and their counterparts in Canada proved difficult. British authorities were determined to convince the Canadian government to fund flying schools and an aircraft factory but, after six months of unsuccessful negotiations, the 'very urgent' need for manpower compelled the British government to concede and pay for the schools in Canada. 55 The Canadian Government loaned the Ministry of Munitions finances to purchase a factory in Canada to produce training aircraft on the agreement that after the war the British government turn it over to the Canadians.

The 'Imperial Royal Flying Corps', or 'RFC Canada', as it came to be known, established a headquarters in Toronto in January 1917. The aircraft factory, also in Toronto, and administered by the Ministry of Munitions' Imperial Munitions Board, produced its first training aeroplanes in February 1917 and the flying schools commenced instructing pilots the following month. By the end of 1918 the RAF training establishment in Canada had expanded to a brigade, staffed by 12,000 personnel. It produced over 10,500 air and ground crew for service with the RFC/RAF and a further 2,000

⁵² NAA, A2653 1917, Military Board minute, 13 July 1917.

⁵³ NAA, A2023 A38/7/333A, Department of Defence minute, 31 June 1916.

⁵⁴ TNA, AIR1/140/15/40/306, War Office Secretary to the Under Secretary of State for India, 2 October 1915.

⁵⁵ TNA, AIR I/514/16/3/80, A. E. Widdows, minute, 24 October 1916. <u>www.bjmh.org.uk</u>

personnel for the US Army.⁵⁶ In 1918 the Canadian schools averaged an output of 230 graduates per month and were on track to providing, in 1919, a fifth of the reinforcements that RAF squadrons required.⁵⁷

Believing this level of contribution justified it, and hoping to secure a good foundation for Canada's post-war air defences, in mid-1918 the Canadian Ministry for Overseas Forces, asked the Air Ministry for Canadian representation at RAF HQ and mooted the establishment of 'a small Canadian flying corps ... on somewhat the same lines' as Australia and South Africa. The Air Council and the RAF's leadership opposed the formation of an 'independent Canadian Flying Corps on the Australian model', fearing disruption to operations in the field.⁵⁸ Ironically, the extent of Canadian involvement in the RAF made the organisation of Canadian units problematic: some service squadrons had over 50 per cent Canadian pilots, including numerous flight and squadron commanders who were as essential to the RAF's frontline units as they would be to a new Canadian Flying Corps. What's more, the 'Australian model' had no benefits for the RAF's operational performance. If anything, experience to date had suggested that the dominions were incapable of fielding autonomous air services – and that attempting to operate them as semi-autonomous (under dominion administrative control but British operational command) had been inefficient and, at times, deleterious to their operational performance.

Despite this, at conferences between senior Air Ministry and Canadian administrative staff during June 1918, the Canadians again argued British authorities into a compromise. The Air Council agreed to the establishment of two new squadrons of the RAF, staffed by Canadian officers and men. As with the Australian and South African squadrons, these units received numbers in the RAF's sequence (Nos 93 and 123) though Canadian authorities referred to them as No. I and 2 Squadrons Canadian Air Force (CAF). The Canadians could use Canadian Expeditionary Force (CEF) officers serving with RAF squadrons but had to get Air Council Approval to transfer Canadians with RAF commissions into the new units. In the event, the time taken to identify and arrange for the transfer of Canadian personnel delayed the formation of these Canadian squadrons and they did not begin training until a fortnight after the Armistice.

⁵⁶ Hunt, Dancing in the sky, pp. 289-90.

⁵⁷ Wise, Canadian airmen and the First World War, p. 118.

⁵⁸ DHH, 75/514 file D1, 'Dominion Squadrons 1915-1918'. www.bjmh.org.uk

Evaluating the empire's contribution

According to the surviving records and secondary literature, the dominions contributed at least 30,000 personnel to Britain's flying services. In numerical terms, Canada made the largest contribution, with 'substantially more than 20,000' serving in the RAF and its RFC/RNAS antecedents. At least 5,022 of these Canadians transferred from the Canadian Expeditionary Force (CEF) and the RFC and RNAS recruited most of the others in Canada.⁵⁹

Australia followed with approximately 4,500, of whom some 600 officers and 200 other ranks served with the British flying services, while 880 officers and 2,840 other ranks served overseas with the AFC.⁶⁰ Of those 800 or so Australians who joined the British flying services, most did so independently. The AIF permitted a couple of special drafts of volunteers (fewer than 300 in total) to join the RFC when approached by the War Office in 1915 and 1916 but thereafter generally refused, in the words of one AIF commander being, 'wary of the eyes being picked out of the Australian squadrons for the RFC'.⁶¹ This priority for meeting the needs of the AFC was reflected in Australian government policy at home. Unlike all the other dominion governments, the Australians refused to allow the RFC/RAF to recruit on their shores.⁶²

There is limited literature on the South African involvement but a volume in the South African Air Force's Second World War official history estimates the number of South Africans in the RFC/RNAS/RAF at 3,000.⁶³ If accurate, then over half of this number volunteered in South Africa during Major Allister Macintosh Miller's 1916 and 1918 recruitment drives on the War Office's behalf.

The latest work to consider New Zealand's involvement in the First World War in the air suggests that 850 New Zealanders served in the British air services.⁶⁴ Most either made their own way to Britain to volunteer or went through the local flying

⁵⁹ Wise, Canadian airmen and the First World War, p. xi and pp. 594-95.

⁶⁰ Molkentin, Australia and the war in the air, p. 26 (Since the publication of this book it has been possible to establish, following the digitisation of TNA AIR79 series (RFC/RAF other-ranks personnel dossiers), that 216 RFC/RAF other ranks also recorded their birthplace as being in Australia).

⁶¹ AWM, AWM22 31/2/2004, H. Chauvel to Commandant, AIF HQ, Egypt, 9 April 1917.

⁶² NAA, A11803 1918/89/276, Ferguson to Walter, 25 October 1918.

⁶³ James Ambrose Brown, A gathering of eagles: the campaigns of the South African Air Force in Italian East Africa June 1940–November 1941 with an introduction 1912–1939 (Cape Town: Purnell, 1970) p. 5.

⁶⁴ Classen, Fearless, p. 8.

schools and the arrangement their government had with the War Office; the New Zealand Expeditionary Force's staff permitted relatively few personnel to transfer. Like the Australians, they feared the impact this would have on their forces in the field.⁶⁵

The only known work on Newfoundland's contribution identifies 'about twenty-five' personnel who, given the apparent absence of any formal agreement between London and St John's, probably volunteered independently.⁶⁶

Casualty records suggest that the majority of the 30,000 colonial volunteers undertook combat (i.e. flying) roles. Whereas they comprised considerably fewer than 10 per cent of the total number of personnel who served in the RAF and its antecedents during the war, at least 19 per cent of all fatal casualties suffered by the British flying services during the war came from the dominions (Table A). The casualty data reflects the evolution of dominion involvement in the air war and the policies that underwrote it. The participation of dominion personnel in the British flying services increased over time, both in overall numbers of personnel and their size as a proportion of the RFC/RNAS/RAF. The steepest gradient occurred between 1915-16, indicating the success of the War Office's efforts to formalise its access to dominion manpower. The extent of dominion involvement in the air war peaked in the war's final year. Although the proportion of dominion airmen killed decreased slightly between 1917 and 18, it needs to be noted that during this time the RAF itself doubled in size.

⁶⁵ John Studholme, New Zealand Expeditionary Force record of personal services during the war of officers, nurses, and first-class warrant officers; and other facts relating to the NZEF (Wellington: W. A. G. Skinner, 1928), p. 10 & pp. 369-72.

⁶⁶ W. David Parsons, 'Newfoundland and the Great War', in Briton Cooper Busch, ed., Canada and the Great War: Western Front Association Papers (Montreal: McGill-Queens University Press, 2003), p. 156.

Year	Fatal casualties in the British flying services	Australian casualties (RFC/RNAS/ RAF)	Australian casualties (AFC)	South Africans	Canadians	New Zealanders	Dominion fatal casualties as a % of British flying service casualties
1914	28	1	0	0	-	-	3.57
1915	211	2	ı	2	8	ı	6.64
1916	779	13	8	13	80	13	16.05
1917	2 889	62	51	49	387	29	20.00
1918	5 918	29	124	82	897	25	19.55
Total (percent)	9 825 (100)	107	184 (2.95 total Aust.)	146 (1.48)	I 372 (I3.96)	68 (0.69)	19.10

Table A: Dominion fatal casualties in the British flying services 4 August 1914 – 31

December 1918⁶⁷

Considering the raw numbers of colonial volunteers against the population sizes from which they hailed (Table B) suggests how the means by which the dominions provided the RAF with personnel affected the extent of their respective involvement. Despite ostensibly making the most visible and easily quantifiable contribution through the AFC, Australia actually made a smaller contribution than South Africa and an only slightly larger one than New Zealand. If approximate figures for only those who flew in combat are considered (i.e. not ground crew)—roughly 200 New Zealanders and 1,000 Australians—the two Pacific dominions' contributions come out about even when weighed up against their pre-war populations.

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⁶⁷ Chris Hobson, Airmen died in the Great War, 1914–1918: the roll of honour of the British and Commonwealth air services of the First World War, (Suffolk: J.B. Hayward, 1995), pp. 413–15; Commonwealth War Graves Commission burials database. http://www.cwgc.org/search-for-war-dead.aspx; Australian War Memorial Commemorative Roll. Accessed October 24 2012. See: https://www.awm.gov.au/research/people/commemorative roll. Accessed December 2012; NAA MT1487/I, "Service records and correspondence concerning Australians serving with other imperial forces, World War I"; Graham C. L. Du Toit, Roll of Honour South African Air Force, Seventh Edition, consulted 14/10/17, www.saafa.co.za/images/Roll of Honour.pdf; Wise, Canadian airmen and the First World War, p. 648; Errol W. Martyn, For your tomorrow: a record of New Zealanders who have died while serving with the RNZAF and Allied air services since 1915 Volume I: Fates 1915-1942, (Christchurch: Volplane Press, 1998).

	Dominion personnel who served in the British flying services: total	Dominion personnel who served in the British flying services: per 100,000 head of white male population	
Canada	20,000+	588+	
South Africa	3,000	438	
Australia	4,500	175	
New Zealand	850	147	
Newfoundland	25	20	

Table B: Dominion enlistments in the British flying services

Indeed, the Australian contribution was less than it might have been had the Australian government followed its colonial counterparts and recruited personnel for general service in British squadrons. The relatively small size of the AFC, combined with the Australian government's refusal to allow AFC personnel to be interchangeable with their RFC/RAF counterparts, while also generally refusing to allow transfers from the AIF into the RCF/RAF and RCF/RAF recruitment in Australia, limited opportunities for Australians to fly. It also limited their prospects to gain experience in leadership. Among the 600-odd Australian officers who served with British squadrons, at least 25 commanded service squadrons, six commanded wings and several others commanded schools and experimental stations. Of the AFC's 880 officers, only eight commanded service squadrons and one commanded a wing in the field (another commanded a training wing). Ironically then, Australians had considerably better prospects for promotion in the British, rather than their native, flying corps. 68

Experience revealed that a centralised imperial training system worked more efficiently than disparate dominion flying schools. The remoteness of schools in Australia, New Zealand and South Africa and a lack of experience and an aviation industry in these dominions stifled local endeavours to train airmen for the empire. The various antipodean schools produced nearly 500 pilots trained to a Royal Aero Club standard, but most had to start their courses in British schools from scratch. These schools, therefore, actually provided an impediment to Australian and New Zealand efforts to support the empire's war effort – something British authorities recognised in the second half of the war when they pressed the dominions to supply untrained men. Even in Canada, where the RFC made a considerable investment in finances and personnel, the quality and relevance of instruction lagged behind that provided in the United Kingdom. News of the innovative 'Gosport System' of training instructors, for

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⁶⁸ Molkentin, Australia and the war in the air, p. 35. <u>www.bjmh.org.uk</u>

example, was introduced in Britain in August 1917 but only reached RFC Canada, through unofficial channels, in March 1918. The absence too, in Canada, of high-performance aircraft and, especially, those with rotary engines, meant that even the most extensively trained RFC Canada graduates required additional instruction on service types in Britain.⁶⁹

Besides manpower, the aviation industry represents the second pillar on which British air power developed between 1914-18 and here the dominions generally contributed little. Australian schools produced three airframes and no viable engines during the war (a feasibility study conducted in 1918 determined that Australian industry was at least several years away from being able to produce its own aircraft). The New Zealand schools produced a handful of airframes but had to rely on imported engines. Again, Canada proved exceptional, enabled by substantial British government support and some assistance from US industry. The Toronto-based Canadian Aeroplanes Ltd. (CAL) manufactured 1,290 Curtis JN4s (nearly 3,000 if spare parts are included). Besides the engines, radiators, instruments and wheels, which came from US plants, CAL produced all components, largely from materials sourced in Canada. The canada components is a component of the canada c

Yet these arrangements by the dominions to provide manpower, training and materiel to Britain's flying services do not represent a unilateral relationship between London and the self-governing elements of its empire. The dominions benefited too – something frequently calculated by their defence authorities as they weighed up how and to what extent they should contribute to the air war. The war dramatically accelerated all of the dominion militaries' plans for acquiring an aviation capability; between 1914-18, besides having thousands of their citizens trained in flying and other technical occupations, to varying extents the dominions also acquired training establishments, industrial infrastructure, equipment and – though this is harder to quantify –a burgeoning sense of air-mindedness.

Although some colonial personnel received commissions in the post-war RAF, the majority returned home with experience pertinent to the development of civil and military aviation in their respective countries. The majority had worked at the tactical level of Britain's flying services – as pilots, observers and ground staff –but some had the opportunity to get experience at the command and staff level. Despite their suspicions to the contrary, Canadian authorities discovered that Canadians in the RFC

⁶⁹ Wise, Canadian airmen and the First World War, p. 105.

⁷⁰ NAA, A2180 1821/1/6, Draft report to Secretary, Aeroplane Construction Committee.

⁷¹ Wise, Canadian airmen and the First World War, p. 105 and p. 116. www.bjmh.org.uk

had the same opportunities for promotion as their British counterparts.⁷² Examples of Australians, New Zealanders and South Africans who achieved higher levels of command suggest this to have been the case generally. It would be these individuals who would be the founding leaders of air forces in Australia, Canada, South Africa and New Zealand during the early 1920s (although none of the dominion air forces would become large enough between the wars to employ more than a tiny proportion of their First World War airmen). Assisting in the establishment of post-war air forces around the empire, in May 1919 the British cabinet agreed to offer an 'imperial gift' of 100 war surplus aircraft to each of the dominions.

The empire's involvement in the air war, therefore, reflects the somewhat bilateral, and indeed even reciprocal, nature of the imperial relationship that British military authorities had with their counterparts in the dominions during the First World War. As they had done before 1914 according to the principles of 'imperial defence', the dominions contributed to the air war in a way that ultimately reflected their own strategic self-interest. While defeating Germany and its allies certainly represented the most pressing concern for the defence authorities in the dominions, there were other, longer term, considerations too. During the course of the war dominion governments increasingly sought to define their respective contribution to the imperial effort – a reaction in part to popular sentiment but also, pragmatically, with a view to securing influence in post-war settlements and imperial politics. Fielding distinctly national squadrons represented the obvious way in which dominion governments could assert their contribution to warfare's newest arena -but it was not the most operationally efficient means by which imperial resources could be channelled into the war effort. Nevertheless, the compromises that British authorities made in this regard, and their willingness to contribute to financing and equipping dominion volunteers, underlines the extent to which they perceived the importance of access to the dominions as a source of manpower for their air services. This notion, that the dominions represented large reserves of manpower on which the RAF could draw to be trained, equipped, administered and employed by the imperial centre, underlines how the First World War both demonstrated the value of imperial cooperation, while also furthering the autonomy of dominion military capabilities and identities. The complexities of this relationship would continue to be played out in the inter-service cooperation that occurred between RAF and dominion air forces during the inter-war years and then, on a considerably larger scale, in the Empire Air Training Scheme of the Second World War.

⁷² Wise, Canadian airmen and the First World War, pp. 583-85. <u>www.bjmh.org.uk</u>