

Services with suitable Canadians as they may require them.'²⁷ He conceded that this left the situation precisely where it had been – one in which 'the Dominion does not get sufficient credit for the splendid work which is being done by the Canadians in both the Air Services' – and he therefore suggested that some good might come from the appointment of a Canadian liaison officer to the staff of the RFC.

During the period in which Kemp and Perley were assembling advice to place before the Prime Minister, Borden himself remained favourably disposed to the idea of a Canadian air service. 'Is anything being done with a view to establishing a Canadian Flying Corps?' he asked Kemp in July. 'It seems unfortunate that when so much splendid work is being done by Canadians that they should have no distinctive part in the service.'²⁸ When Kemp and Perley submitted their reports in early August they were reviewed for him in an unsigned memorandum entitled 'Notes on Proposals for a Canadian Flying Corps,' the author of which may well have been Loring Christie, the External Affairs official who was one of Borden's closest advisers on imperial questions. To its author Perley had put 'his finger on the vital spot of this whole question,' the matter of aircraft supply; 'any other details in the proposals are insignificant in comparison with this.' How could Canada expect a square deal when it was notorious that the Air Board had been unable to satisfy its two warring clients, the RNAS and the RFC? Yet the case, on national grounds, for a Canadian flying corps was powerful. What arguments could justify taking a different stand on aviation from that taken towards command and control of the CEF? The solution offered in the memorandum was both novel and interesting. Arguing that neither national pride nor postwar aviation needs were arguments relevant 'to the question of efficiency in the present War,' and that neither consideration should 'be pushed to the point of imperilling that efficiency,' the memorandum author claimed:

It is submitted therefore that any change made for the sake of these objects should be limited to the least drastic reorganization which will satisfy them in some reasonable measure. Because of this consideration, and also because of the very nature of the Air Service, it would seem that one should work from the analogy of the Naval co-operation between Canada and Great Britain rather than from that of their Military co-operation. Military land forces, from the nature of their operations, are much more readily susceptible to a considerable measure of separation in respect of their control. The very different kind of operation performed by the Air Service demands a different sort of co-operation.²⁹

The conclusion drawn was that a Canadian flying service should be deferred, but that the War Office should be approached to discover whether, 'by a redistribution of the personnel of the Royal Flying Corps,' a number of squadrons, and eventually one or more brigades, might not be 'manned and officered by Canadians and be named as Canadian Squadrons and Brigades.' At the same time, Canadians might be given staff posts at the War Office.

Borden appears to have accepted a version of this solution as the most expedient course to be followed. On 22 August Kemp wrote to Perley, asking him to find out whether the Army Council would be willing to distribute Canadians in the RFC in

such a manner that a number of squadrons, or perhaps a wing, could be created that would be officered exclusively by Canadians. If this could be done, it would be gratifying if the Canadian units were employed in conjunction with the Canadian Corps. Perley seems to have done nothing. Kemp's letter had hardly been peremptory; the High Commissioner was to act only 'if the suggestion appeals to you.' Sir George did not reply until 2 October and then merely referred to the advice he had tendered on 10 August, stating that he awaited the opinion of Cabinet upon it.³⁰ Shortly thereafter Borden formed his coalition government, Kemp replaced Perley as Overseas Minister, and Perley himself, no longer a member of the Cabinet, reverted to his position as High Commissioner.

The only subject upon which Perley approached the War Office was the matter of a Canadian liaison officer, to which RFC authorities proved agreeable. Upon their suggestion Major Malcolm McBean Bell-Irving, then stationed with RFC Canada at Camp Borden after having been wounded on operations, was named to this post with responsibility for 'all matters affecting Canadians in the R.F.C., whether they had enlisted directly into it or had been seconded from our Overseas Forces.' He was told to report to Perley, Kemp, and General Turner. Serving three masters could not have been an easy or congenial task, but in any case Bell-Irving viewed his posting simply as a stepping stone to get back on active operations. In little more than a month, having been passed medically fit for flying, he requested an operational assignment.* Perley acceded, but remained convinced that a liaison officer was needed. Turner had a more ambitious idea; he wanted Canadian representation on the Air Board as more 'in keeping with Canada's position.' Kemp, however, asked Perley to defer any replacement; he hoped 'before long to be able to consider the whole question of our relations with the R.F.C. & R.N.A.S. & whether we should have Canadian Squadrons.' The new Overseas Minister, in other words, was about to follow up the results of the policy discussion of the previous summer, which had gone so strangely awry in Perley's hands.³¹

Before approaching the British authorities once again, Kemp initiated the most thorough examination of the number and status of Canadians in the British air services that had yet been undertaken. The problem of numbers was, of course, impossible of solution. Even if British and Canadian officials had been able to agree upon what a 'Canadian' was, the state of personnel records was such that no precise figure could ever be established. Nevertheless, Perley had already laid the groundwork for a reasonable estimate to be made. At the time that it was

* Bell-Irving's wound in June 1916—a piece of shrapnel in the brain which had temporarily affected both his sight and memory—had kept him out of action for eighteen months. Now he went to the School of Special Flying at Gosport (currently commanded by his brother, Alan Duncan Bell-Irving) for a refresher course. Impatient to get back to France, he soon charmed his way into soloing in a Sopwith Camel, spun it into the ground from a left-hand turn—the Camel's stubby fuselage and the torque of its powerful rotary engine made this particular mishap very easy—and suffered further injuries to his head and the loss of his left leg above the knee. The American brain surgeon who had advised on his earlier head wound saw him in a London hospital on 23 May 1918 and reported that 'he only vaguely recalled me—suffering the tortures of hell from neuromas in the stump of his amputated leg ... Still the same charming person, however, despite his thoroughly drugged condition.' Harvey Cushing, *From a Surgeon's Journal, 1915-1918* (Toronto 1936), 358

announced that Bell-Irving had been awarded both the DSO and the MC, Perley had protested to Sir David Henderson that 'it would have been a wise and proper thing' to make some mention of the fact that the recipient happened to be a Canadian. The RFC therefore agreed that in future notification of such awards would be passed to Canadian authorities and that a list of all Canadians in the services would be compiled, even though 'we have so many Canadians in the Royal Flying Corps that there is, of course, a chance of some of them being missed.' RFC staff officers did not greet the paper work entailed in the monthly compilation of a Canadian list with enthusiasm; one of them, at RFC Headquarters in France, complained 'that the Canadians give more trouble than the rest of the Army as regards the returns, lists etc. which they ask for.' 'Them's my sentiments,' echoed his opposite number at the War Office, 'we have supplied voluminous returns to the Canadian Headquarters, Canadian Pay and Record Office, Sir George Perley, etc. etc.' By the time this staff duty filtered down to squadron level, adjutants met the requirement by simply adding to the form officers completed when joining a squadron the question 'Whether of Canadian birth?'³²

Analysis of these returns, together with the limited records possessed by HQ OMFC, was carried out by officers of General Turner's staff, a process in which Turner himself took a considerable personal interest. When OMFC records were combined with data obtained from the RAF and from other sources, a memorandum of 26 April calculated that as of 1 April 1918, the date of the establishment of the Royal Air Force, a total of 13,345 Canadians had served with the RFC and the RNAS; by deleting casualties and other forms of wastage it was estimated that 10,990 Canadians remained in the force.³³

For the first time Canadian authorities were in possession of solid evidence, or what appeared to be solid evidence, of the size of the contribution their compatriots had been making to the air war. It is necessary to reiterate, however, that it was not possible then, nor is it now, to arrive at a total figure for Canadian participation that can be defended with any high degree of confidence. There are a number of reasons for this, beyond those already touched on. It is impossible, for example, to discover from existing records how many Canadians had served with the RFC and the RNAS prior to the beginning of 1917 and the initiation of the compilation of Canadian lists. The lists themselves were far from satisfactory. The question 'Whether of Canadian birth?' excluded men of non-Canadian origins who, nonetheless, had joined the RFC in Canada or, by transfer from Canadian units, had spent a good part of their lives in Canada and had come to think of themselves as Canadians. Such men, or most of those who survived from among them, were to assert this sense of identity by returning to Canada after the war. But RFC records knew them not. Few of the early RFC lists survive, and those that do not only omit such individuals, but also many known to have been of Canadian birth. Such men may have filled out the form incorrectly, but, for whatever reason, they were not returned by their units as Canadians.³⁴

On a panel in the Memorial Chamber of the Parliament Buildings in Ottawa it is stated that 22,812 Canadians served in the British air forces during the First World War. This figure was the result of the labours of the Canadian War Records unit at HQ OMFC in 1919, but it is important to note that the officer in charge observed, at

the time the list was compiled, that 'no guarantee of its completeness can be given.'^{*} As he had discovered, the inadequacy of the records and the difficulty of defining Canadian status had rendered virtually any statistical assessment of Canadian participation an historical problem of great complexity.³⁵

A case in point, worth examining in some detail, is that of the Canadians who transferred from units of the CEF to the flying services during the war. The Memorial Chamber panel gives a total of 3960, but, by collating the many lists compiled in 1918-19 by the Air Ministry and by HQ OMFC, it has been possible to determine that at least 5022 Canadians transferred. The chief reason for the discrepancy appears to lie in the category of other rank transfers.^{†36}

Although the loss of upwards of five thousand men might not appear a significant drain upon the CEF, it should be noted that the bulk of those transferred did so from combat units, were of high medical categories, and included large numbers of junior officers and NCOs. From time to time the leakage of men of this quality concerned the GOC Canadian Corps, but it proved difficult to resist appeals for intra- and inter-service co-operation. The process had begun innocently enough in the earliest period of the war. At that time the only barrier to transfer from Canadian units to the RFC and the RNAS seems to have been the requirements, medical, social, and numerical, of those services. Canadian authorities appear to have encouraged this movement, small as it was; indeed, at the end of 1915 officers commanding units were required to explain any case in which they had refused to forward applications. Nevertheless, it is obvious that many unit commanders did what they could to discourage aspiring airmen, especially those considered valuable to the unit, a tendency that grew with time and the greater attractions of the air war. In June 1916, when the RFC became anxious about its recruitment levels, the War Office drew attention to the fact that only one-quarter to one-third of those Canadians whom its interviewing officers had found 'good' prospects for the RFC were recommended for transfer by the CEF, while nearly all those classified as 'fair' were so recommended. Up to this point the numbers were not large. Perhaps two Canadians a month transferred in 1915, while in the earlier part of 1916 the average seems to have been about ten a month.³⁷

* Another reason for imprecision is the fact, first discovered in May 1917, that only bulk totals of Canadian other ranks discharged from the CEF to the Imperial Forces had been kept, and that there was no total, much less a name list, for those discharged to the flying services. HQ OMFC attempted to obtain this information from RAF sources in early 1918, but was informed that neither the RFC nor the RNAS had accumulated personnel records in a form that would give an answer. Later, by dint of much research on another issue, the Air Ministry calculated that the total of Canadian other ranks serving in the RAF in October 1918 was only twenty-four, an astonishing under-estimate. It was to tackle problems of this kind that a committee was formed within HQ OMFC in March 1919 in association with the Canadian War Records office. CANRECORDS message, 7 May 1917, HQ OMFC A-67-33, PAC RG 9 III, vol. 2867; Gold to OIC RAF Records, 13 April 1918, HQ OMFC to Gibson, 17 April 1918, OS 10-9-27, vol. 1, *ibid.*, vol. 80; Lott to GSO1, 28 March 1919, HQ OMFC A-6-36, vol. 1, vol. 3068; Air Ministry to HQ OMFC, 30 Oct. 1918, HQ OMFC R-1-49, *ibid.*, vol. 343.

† For a full discussion of the transfer question, together with statistical tables, see Rudi Aksim, 'C.E.F. Transfers to the British Flying Services,' DHist 74/14.

The needs of the expanding RFC became so acute, however, that the rate of transfer tripled by August 1916, and had to be restricted by OMFC a few months later so that reinforcement deficiencies in the CEF could be corrected. In the early months of 1917 the RFC requested and received 140 Canadian officers and men to be trained as observers. In May it asked the Canadian forces in England to supply thirty officers and sixty men a month for aviation training. HQ OMFC agreed, though it defined these figures as an upper limit. No ceiling had yet been placed upon transfers from the CEF in the field, though in July 1917 General Currie called for some limitation. The greatest threat to controlling CEF transfers came in early 1918 with a ruling by GHQ in France that personnel from any branch (including the Canadian forces) could transfer to the RAF regardless of the wishes of their own superiors. Such interference with Canadian control over their own troops was unacceptable; following vigorous Canadian protests the order was amended to provide that transfers from the CEF required the consent of HQ OMFC. Despite this, the drain from the CEF in France continued to be heavy. In July the CEF's artillery commander, Brigadier-General E.W.B. Morrison, complained that too many gunners were going to the RAF, citing the virtual immobilization of one of his batteries when forty men were transferred. A similar complaint was made by Brigadier-General R. Brutinel of the Canadian Machine Gun Corps. Not until August was General Currie given full control over transfers from the Canadian Corps.^{*38}

One of the reasons for General Turner's nationalist militancy with respect to Canadians in the RAF was his familiarity with the secondment and transfer process. By the end of April 1918 he believed that as a result of the statistical work of his staff an unanswerable case had been built up for a Canadian air force. That

* Transfer procedures differed for officers and other ranks. Officers on transfer were attached to the flying service during training, and seconded upon qualifying as pilots or observers. Other ranks destined for flying training were shown as 'on command' to the RFC during their cadet period. On successful completion of this stage the cadet was discharged from the Canadian forces and became a flight cadet in the RFC. After April 1918 other rank transfers were discharged immediately upon leaving the Canadian forces. The difference was of some importance, since seconded officers continued to be paid by the Canadian government, while discharged ORs, who received British commissions, were paid by the United Kingdom government. In 1915-16 seconded Canadian officers received no flying pay because the Canadian government refused to accept that such pay was part of its obligation, under the reciprocal agreement with Britain governing the pay of officers on loan. Their commissioned compatriots who had been discharged as ORs received, at lieutenant rank, about a dollar a day more. The Canadian government, by PC 2106 of 30 March 1916, awarded flying pay to seconded officers, but their rate of pay was still below that of imperial flying officers. Not until the end of 1916 was rough equivalence established. Even so, grievances about pay differentials, back pay, and other allowances continued until the end of the war. In January 1918 General Turner suggested to Kemp that the reciprocal pay agreement with Britain be scrapped, on the grounds that, because of the heavy flow to the RAF, seconded Canadian officers greatly outnumbered their British counterparts in the Canadian forces. He also argued, equally unsuccessfully, that the British government should reimburse Canada for the monetary contribution and the manpower commitment it was making to the RFC and RNAS. Incidentally, in the case of the RNAS both officers and ORs were discharged from the CEF retroactive to their date of transfer, upon completion of the probationary training period. There were only 152 transfers in all to the RNAS. Aksim, 'C.E.F. Transfers,' 36-43, 48-51, 53-61, 66-7, 84-5

case, he thought, rested only in part upon numbers. It was also based upon the proven fact that 'Canadians can administer their own troops'; his belief that Canadians in the RAF would never receive adequate recognition, especially for promotion, since it was inevitable that regular officers would receive priority consideration; and his conviction that only the creation of a Canadian service could ensure the welfare of Canadians. In summarizing his position to Kemp, he argued that Canadians should have a share in the command of the RAF commensurate with the numbers of their flying personnel, that a Canadian air force should be created immediately, and that as soon as possible thereafter CAF units should be formed.³⁹ 'Canada is most generously represented in the lower ranks of the flying officers of the Air Force, but she is most inadequately represented in the senior appointments and the administrative positions. So long as this condition exists, the Canadian personnel will feel, as they do, that the Canadian Authorities are lukewarm in their support and careless of their interests and the interests of Canada.'⁴⁰

Kemp was ready to be persuaded. For example, on the key issue of aircraft supply he now thought that a Canadian Air Force could be allocated machines in the same satisfactory manner in which the CEF obtained artillery from the British. However, a CAF could not possibly absorb all the Canadians then serving in the RAF and he feared that, even if it could, the RAF would be irreparably disorganized by their transfer. For Turner, this was not a problem. The creation of a CAF would be a 'paper transaction.' Canadians would be carried on its strength but seconded to the RAF. In this way, 'their Canadian connection would be assured, and the Canadian Authorities would have an accurate and complete record of Canadian personnel.' Canadian units could then be formed gradually, without disrupting the RAF.⁴¹

Turner buttressed his case with a number of letters solicited from distinguished Canadian officers. In November General Currie had written to him on the subject:

Because you and I have never discussed the formation of a Canadian Flying Corps, I do not know what your views are regarding such a step, but in my opinion such a thing is desirable. In the first place, I think we should aim to make the Canadian Corps as self-contained an institution as possible. While I would not for the world make any reflections on the efficiency of the Flying Corps as a whole, I will go so far as to say that I think we would be better served if the squadron detailed for us were entirely Canadian. Our men have done well in the Flying Corps, and I think it would be an additional incentive to them to know that in battle they were serving Canadian troops. I repeat that, in making such a statement, I do not for a moment disparage the good work which is done for us by the Royal Flying Corps.⁴²

A flying corps, Currie thought, would be a necessary part of the postwar Canadian military establishment. He therefore wished to see as its commander someone who from actual experience knew how 'best [to] cooperate with the Infantry and Artillery'; to him an air force was auxiliary to army operations. He concluded by reiterating that 'I am a good enough Canadian to believe, and my experience justifies me in believing, that Canadians are best served by Canadians.'⁴³

In a forthright letter Major W.A. Bishop, the premier Canadian fighter pilot, claimed to speak for all his compatriots in the RAF in strongly supporting a Canadian air force. He particularly emphasized morale: 'Under the present circumstances, Canadians in the R.A.F., although doing remarkably well, are certainly not doing as well as if they were in a Canadian Corps for the reasons that (1) They are in a great many cases working under senior Officers who do not understand them. (2) They are also working with Officers who do not understand them nor often appreciate their different point of view. (3) They have not the personal touch with their country which branches of the Canadian Corps have and consequently are not inspired by direct connection with the country they are fighting for and the people at home.'⁴⁴ To Bishop, the activities of a Canadian flying corps ought to centre first upon working with Canadian troops on the Western Front; the immediate result would be the implanting of a magnificent *esprit de corps*, as well as a heightened appreciation by the Canadian public for the work of those at present 'lost in the R.A.F.'

Brigadier-General A.C. Critchley,* the highest ranking Canadian in the RAF, and a believer in the closest co-operation with it, nevertheless thought there were powerful national reasons for the immediate formation of a Canadian service: 'Isolated incidents, though we have many, do not count, it is the Canadian Air Force as a whole that must come out of this War with a great reputation and a great spirit. These can only be built up in War. We owe it to Canada that the magnificent work of the Canadian Airmen in France is not lost to our country, and the only way to preserve their individual glories is to hand them down to succeeding generations in the glorious reputation of the Canadian Air Force.'⁴⁵ Critchley's letter, together with those from Currie, Bishop, and other Canadian officers were passed to Kemp, presumably to stiffen his resolve. The Minister, however, had already made himself more familiar with the state of military aviation and the Canadian role in it than any of his colleagues in the Cabinet, past or present. In mid-May he decided that the time had come for action.

In a letter to the Secretary of State for Air, Kemp outlined results of his statistical inquiries, on the basis of which he estimated that 25 per cent of all RAF flying personnel, and perhaps 40 per cent of the aviators on the Western Front, were Canadian. In view of these figures, he proposed to Sir William Weir that the Canadians in the RAF should be formed 'into a Canadian section with a distinctive Canadian badge but without segregating squadrons or dislocating in any way your formations in the field,' that Canadians should be given representation at RAF Headquarters and on the staff, and that adequate credit should be given in despatches and reports to Canadians 'for conspicuous services.' He left his most important proposal to the last. He wished the creation of 'a small Canadian flying

* Critchley, born near Calgary in 1890, went overseas in 1914 with the Lord Strathcona's Horse, a unit in which his father and a brother were also serving. After being twice wounded in France he organized the Canadian Training School at Bexhill. In 1918 he was seconded to the RAF and given command of the cadet training organization in Britain. After the war he had a notable career in Britain as a sportsman, industrialist, and politician. A.C. Critchley, *Critch! The Memoirs of Brigadier-General A.C. Critchley, C.M.G., C.B.E., D.S.O.* (London 1961)

corps,' to be administered by HQ OMFC, 'except of course in regard to the operations in the field,' and requested Weir to consider the basis upon which this corps could be supplied and provision made for repair services and replacement of equipment. 'My sole desire in making the above proposals,' he assured Weir, 'is to increase, if possible, the efficiency of Canadians in the R.A.F., and to place Canada in a better position to take advantage of the developments in aeroplane construction and flying which will follow after the conclusion of hostilities.'⁴⁶

Since the last occasion when the possibility of forming a Canadian air force had been discussed with the British authorities, the Air Ministry had replaced the Air Board and there were many new faces on the Air Staff. Neither the Secretary of State, nor Major-General F.H. Sykes, the Chief of the Air Staff, had had any previous dealings with the Canadians. To them, and to most members of their staff, the Canadian question was a new one. They tackled it with no apparent preconceptions, and Weir's immediate response was 'that all possible action must be taken to meet the Canadian authorities in the matter.' But neither he nor his staff were ready to go the whole way with Kemp. At a meeting of the Air Council on 23 May it was decided that 'the suggestion that there should be an independent Canadian Flying Corps on the Australian model could not be accepted,' but that it would be 'politic' to fall in with some of Kemp's other suggestions. The Council even toyed briefly with the idea of renaming the RAF the 'Imperial Air Force' to satisfy dominion aspirations, but dropped the notion as likely to have the opposite result.⁴⁷

Sir W.A. Robinson, secretary to the Air Council, had the sticky task of framing a suitable reply to the Canadian Minister. His first attempt passed rapidly from an expression of appreciation for Canadian help and the enumeration of concessions that might be made to the question of the formation of a Canadian flying corps. This, wrote Robinson, was 'a natural development' which must come at some time, but given the war situation the Air Council believed it should be deferred until after the war ended.⁴⁸ The Under Secretary of State found this draft reply much too blunt. It failed to take into account the political realities behind the Canadian proposal, which Kemp had already outlined. The Canadian Minister would '... require more arguments regarding disadvantages of starting a Canadian Flying Corps now, in order either to be convinced himself or to convince the Canadian Government. There is no doubt that the strongest possible pressure is being brought to bear on the latter, the line taken being that Canada having created an army of her own it is inadmissible that she, of all the belligerents should be the only one lacking a Flying Corps. I am aware of Gen. Salmond's strong objections to the creation of a Canadian Flying Corps and full weight must be given to these.'⁴⁹ Robinson's revised draft took these points into account. Instead of a perfunctory reference to the war situation, he welcomed the prospect of a Canadian flying corps as a normal development. Unfortunately, 'present circumstances are not normal.' General Salmond had declared that the drafting of Canadians into a new corps would inevitably cause confusion and disruption in the RAF, at a moment when 'the utmost possible unity of Command' was vital. Kemp was therefore urged 'to convince your Government that for the moment the position should remain as it is.'⁵⁰

Robinson's task was not yet done. On 27 May Sykes learned that since the interview with Sir Edward Kemp the Under Secretary had 'heard from other and authoritative sources that the creation of, at any rate a nucleus of a Canadian Air Force, is a matter about which very strong feeling prevails not only in Canada but in the Canadian Corps.' It is likely that General Turner was the source. On the same date Major W. Peer Groves of the Air Staff recounted conversations he had had with Turner and Sir George Perley. Turner had expressed, apparently with some vehemence, his dissatisfaction over the absence of Canadian officers on the Air Staff 'to whom Canadians could turn to for advice or assistance,' in Groves' words, 'in their own familiar and intimate way.' Groves had a simple solution. Squadron Commander R.H. Mulock should be named personal assistant to the Chief of Air Staff.⁵¹

As a Canadian, probably every Canadian pilot in the Service knows him well, many of them not only having passed through his hands but have actually fought beside him in the air. Squadron Commander Mulock is pre-eminently suited to fill a position of this kind. He has the reputation of being a wonderful organiser and is at present thought to be carrying out 'Q' work for General Lambe. In this capacity I venture to think he is wasted. But apart from this he has probably done more for air fighting, at any rate as far as the R.N.A.S. is concerned, than almost anybody else. Among Canadians this is looked upon as an indisputable fact and is, I think, very generally recognised throughout the Force. At the same time he is an extremely good judge of character and has made a closer study of the psychology of the pilot than almost anyone else.⁵²

In Groves' opinion Mulock's appointment 'would go a very long way towards stilling any agitation for a separate Canadian Air Force ...'

The Air Ministry had not yet resolved the issue when Weir, Sykes, and other officials conferred on 28 May with Kemp and Turner. The British record of this meeting indicates merely that the points raised by Kemp were discussed, together with Salmond's counter-arguments. The Canadian minutes, however, record Weir's purported statement that 'there was no objection to forming two or more Squadrons manned and officered by Canadians' and that the details could be worked out by RAF and OMFC staff officers.⁵³ Weir's position must have been misunderstood, because the next day he signed Robinson's final version of a reply to Kemp which retreated only slightly from earlier drafts. He began with thanks and an oblique reference to Kemp's statistics: 'The Air Council are desirous that I should first of all convey to you a very cordial expression of their appreciation and thanks for the magnificent help which has been given in the past to the R.F.C. and R.N.A.S. by the Dominion of Canada, and which is being continued to the Royal Air Force. Whatever may be the exact figure of officers and men of the Dominion serving in this Force, there is no question as to the very great value of the contribution made here and in the Dominion.'⁵⁴ On behalf of the Air Ministry Weir then promised that a record of all Canadians in the RAF would be maintained, that Canadians would be permitted to wear Canada badges as a distinguishable mark, and that the RAF would inform Canadian authorities of those Canadians to be listed in the *The London Gazette*, so that publicity might be given at home to their

achievements. Further, he promised that RAF Headquarters in France would compile a monthly record of the work of Canadians at the front, to be furnished for publicity purposes in Canada. These were useful concessions and were to be welcomed by the Canadians, although Weir had by-passed the request for a Canadian section in the RAF, which Kemp had probably intended as the equivalent of Turner's 'paper transaction' for record-keeping purposes. With respect to the proposal for Canadian representation on the Air Staff, Weir temporized, noting merely that 'it is recognised that Canadian officers serving in the R.A.F. have precisely the same right as any other officers to serve on the Headquarters and Staff.'⁵⁵

On the key issue Weir announced the willingness of the RAF to hold staff talks on the creation of a Canadian air force, but warned that in view of the situation in France, 'concrete action on these lines, which is bound to produce some dislocation and confusion, should be avoided for the present, and I would suggest to you that the principle should be to work out a scheme which could be brought into force, say, next winter.' To Kemp, these words conceded the principle for which he had contended, and he was not disposed to accept a deferment. 'Something concrete should be carried into effect as soon as possible, so as to satisfy the wishes of the Canadian people,' he replied, and requested that action to form Canadian squadrons should be taken 'as soon as practicable.'⁵⁶

Canadian reluctance to entertain any long delay also appeared at a conference on 5 June between Brigadier-General B.C.H. Drew, the RAF's Director General of Operations, Lieutenant-Colonel P.R.C. Groves, Director of Flying Operations, Major T. Gibson, Assistant Deputy Minister of the Overseas Ministry, and Brigadier-General H.F. McDonald, Turner's senior staff officer. Groves began by opposing, on grounds of operational efficiency, the formation of a Canadian air service, but withdrew this objection when the Canadians insisted that Weir's letter had already admitted the principle. He next argued that the formation of Canadian squadrons should be delayed 'until the situation in France cleared up,' a formula so far-reaching that the Canadians rejected it out of hand. In their turn McDonald and Gibson employed Kemp's statistical data with some apparent effect; their minutes show that 'it was admitted by the Officers representing the Royal Air Force that quite 35% of the pilots in France are Canadians.' Probably more telling was their recently-acquired knowledge of the structure and workings of the RAF, which enabled them to counter effectively arguments based upon military expediency. As they pointed out, new service squadrons for France were constantly being formed in England, and if two Canadian squadrons were organized in the normal way, with the usual core of experienced officers drawn from front-line squadrons, other officers posted from training units, and tradesmen transferred from the Canadian forces, there need be no disruption whatsoever of the RAF. It was impossible for Drew and Groves to refute this position. The conference agreed that 'the formation of two Canadian Air Squadrons shall be proceeded with forthwith,' that the squadrons should be called 'Nos. 1 and 2 Squadrons, Canadian Air Force,' and that for the time being no further CAF units should be formed.⁵⁷

With these preliminaries out of the way, the conference got down to details. It was agreed that the RAF, in conjunction with HQ OMFC, would form the squad-

rons in England and that the Air Council would determine their type and equipment. Their officers would come from among Canadians seconded to the RAF and from officers of the RAF 'who are Canadian citizens'; non-flying personnel would be selected from 'Canadian citizens' in the RAF and from members of the Canadian forces. The Canadian government would be responsible for reinforcements and for pay, allowances, pensions, initial supplies of clothing and personal equipment. The Air Council was to be responsible for the command and administration of the squadrons while in a theatre of war or under training in Britain, for the provision of aircraft and other equipment, and for the training facilities to enable the Canadian government to meet its reinforcement obligations. It was also agreed that all promotions and appointments in the CAF would be made by the Canadian Overseas Minister on the recommendation either of RAF Headquarters in France or of the Air Council. For purposes of discipline and administration, members of the CAF were to come under the Air Force Act.⁵⁸

The meeting of 5 June was pivotal. At a higher-level conference on 27 June General Sykes attempted to reopen the whole question. Observing that the formation of the CAF at that moment was 'a drag rather than a help,' the CAS asked for a postponement until the war ended. 'It was imperative that the natural aspirations of the country should be considered,' General Turner declared in reply, and the Canadians present lined up solidly behind him. The conference thereupon adopted the agreement of 5 June, with some minor amendments. Formal approval was given by an exchange of letters between HQ OMFC and the Air Council.⁵⁹

Why had the Air Ministry yielded, despite the opposition of its most senior officials? It was partly because the Canadians had done their homework and had a good case. Essentially, however, the decision was a political one, resting upon the belief that not only was Canadian sentiment strongly in favour, but also that Sir Edward Kemp was under heavy pressure from his own government to take action. In fact, Kemp had taken the initiative from the start; as he told Borden, when with a degree of self-satisfaction he summed up his work, he believed that he had been 'anticipating your wishes in the matter.' There had been no real push from the Cabinet. Nevertheless, Kemp must certainly have been aware that aviation had become, in Canada, a hotter issue than at any previous stage of the war. A number of newspapers had begun to campaign actively for a Canadian air force, notably the *Globe* and the *Star* of Toronto. 'We have outgrown the present arrangement,' argued the *Globe* in demanding a separate service consonant with 'a self-reliant

* The Air Ministry subsequently tried to renegotiate the financial implications embodied in the understanding of 5 June. Specifically, it sought to make Canada responsible for the cost of equipping the two squadrons and for retroactive payments to meet the cost of training Canadian pilots. The Canadian refusal generated some heat. It was General Brancker who brought the controversy to a halt. In a characteristically sensible minute he declared: 'I can see no solution but to adhere to the terms of the agreement ratified by us ... The situation financially will then be approximately the same as before the agreement; we shall probably get better Canadian personnel as a result of this measure; and Canadian political criticism of Canada's very generous assistance in personnel to the Royal Air Force without a substantial quid pro quo in Canada will be stilled.' His last point referred to the press controversy over the command and control of RAF Canada. McAnally to HQ OMFC, 3 Sept. 1918, McDonald to Air Ministry, 13 Sept. 1918, OS 10-9-27, vol. 1, RG 9 III, vol. 80; RAF staff minutes, 17-26 Sept. 1918, Air 2/109A/1990

Canadianism.' The *Star* drew attention to the inconsistency (which it blamed upon Sir Sam Hughes) between army and aviation policy and observed that 'we have now many more men in the air service overseas than we had all told in the South African War, yet they do not form a Canadian contingent.'⁶⁰

In the House of Commons questions about the status of Canadians in the RAF at home and overseas had been raised by a number of members. On 2 May Sir Sam Hughes had the audacity to ask Borden why steps had not been taken to organize a Canadian air service. To Borden's reply that many difficulties were in the way, Hughes grandly observed that 'I knew all the difficulties and I had them removed.' Borden could only have been grateful to Kemp for having resolved a matter that had bedevilled the Cabinet for years and that was showing signs of becoming more than a political irritant. At any rate, the Cabinet approved with no apparent hesitation an order-in-council confirming the agreement reached by Kemp, authorizing the formation of the Canadian Air Force 'for the purpose of the present war.'⁶¹ The Minister of Overseas Forces was given authority to form such further units as he might think were required. The CAF itself was defined as a part of Canada's overseas forces and made subject to the Militia Act.⁶¹

Another factor which may well have influenced the Air Ministry not to block the formation of the CAF was the awareness of its senior officials that yet another Canadian air force, the Royal Canadian Naval Air Service, was in the process of creation while the negotiations with Kemp were in progress. Strangely enough, Kemp and his officials do not seem to have learned of this development for some time. As news of the projected RCNAS filtered through the Air Staff in late May, a number of staff officers expressed unease. One of them, Lieutenant-Colonel R.C.M. Pink, pointed out some of the implications:

Thirty-five per cent of our total strength in pilots is Canadian. Under the Air Force Act every one of these can walk out of the door to-morrow and return to the Canadian Service unless this service is definitely part of the Royal Air Force.

With the growth of schools, factories, and the size of the service neither the Admiralty nor the Canadian Navy will be able to control the growth of this service and it will become a very good show backed by national enthusiasm.⁶²

* By this phrase the Cabinet indicated that no decision on a permanent air force had yet been made. On 3 October the Judge Advocate-General, Col O.M. Biggar, raised some important questions about the order-in-council. As he pointed out, although the CAF had been effectively made 'a corps of the active militia,' it was also declared to be a part of the Overseas Military Forces of Canada. In law, he commented devastatingly, 'there is no such thing as the Overseas Military Forces of Canada'; what there was was the Canadian Expeditionary Force. Presumably, therefore, statutory provisions made under the War Measures Act expressly for the CEF did not apply to the CAF. More important for the future of the CAF was his observation that the order-in-council made no provision for the CAF at such time as the Overseas Ministry ceased to exist. The CAF was therefore 'the only unit which will not, automatically, and without any further order-in-council, come upon demobilization under the control of the Minister of Militia and Defence.' This omission, which may or may not have been deliberate, was to have fateful consequences for the infant CAF when the Cabinet, in 1919, took up the question of the postwar military establishment. Biggar to Minister of Militia and Defence, 3 Oct. 1918, HQ 6978-2-131, vol. 9, PAC RG 24, vol. 2043

Moreover, Pink thought, the presence of the RCNAS in Canada would mean that recruiting for RAF Canada 'will practically stop dead.' He warned against lending officers to the new force because the co-existence of competing air forces in the empire would bring 'wastage of man power ... lack of cohesion, lack of cooperation, and jealousy between the various Forces.' Instead, the bold course of immediately establishing Canadian (and Australian) divisions within the RAF should be adopted. Otherwise, the Admiralty would proceed to operate a Canadian naval air service through its local senior officer, the Canadian army might well run its own flying corps, 'and, generally speaking, the position will become so complicated as to be almost inextricable.'⁶³

Despite such opposition from within the air staff, the RCNAS was to go ahead, therefore making it most difficult to oppose the CAF. How did Canada come to be blessed in 1918 with a second air force, created almost simultaneously, when for years the Canadian government had consistently refused to consider the formation of any air force whatever? The answer lies in a sudden change in the anti-submarine war which brought Canada's east coast into the war zone. The new circumstances require some explanation.

In July 1915 the Canadian Naval Service had responded to the threat of German attack by forming the St Lawrence Patrol, consisting of seven patrol vessels and twelve chartered motor-boats, to guard the estuary. No German submarines operated in Canadian waters in 1915 and 1916, though U-53 sank five merchantmen off Nantucket on 8 October 1916. It was the appearance of U-53 that prompted the Admiralty to warn Canada and Newfoundland that patrols off their coasts should be strengthened. J.D. Hazen, then Minister of the Naval Service, raised the possibility of employing an anti-submarine air patrol based at Halifax and on the north shore of Cape Breton. His officials favoured the idea and the Admiralty welcomed it when Borden and Hazen broached the matter during their visit to England in February 1917. A party of RNAS officers under Wing Commander J.W. Seddon was sent to Canada to investigate the feasibility of such a patrol. Seddon recommended, after touring the east coast and visiting Canadian Aeroplanes Ltd in Toronto, that a small seaplane force, divided between Halifax and Sydney, be formed, and that the required aircraft be built in Toronto.⁶⁴

The Cabinet (minus Borden and Hazen) discussed Seddon's report at the end of March. They decided to reject it. Sir George Foster cabled their reasons to the Prime Minister: 'Council unanimously of opinion establishment inadvisable. Cost entailed will exceed two and a half millions for first year, abstract skilled men for construction badly needed in other works, utility limited by our seasonal changes. Money better used in providing [more sea] patrols.'⁶⁵ Nevertheless, the initiative taken by Hazen, the support he received from his own department, and the general concurrence of the Prime Minister demonstrated that the government was ready to take action should air patrols become necessary along the eastern seaboard.

With the adoption of the convoy system in 1917, Halifax and Sydney became assembly ports for eastward-bound convoys. The very success of the system compelled the Germans to shift the focus of their operations. At about the same time they had developed large ocean-going submarines, capable of staying at sea for

three months or more and mounting two 6-inch guns. Suddenly the Canadian coast became a desirable target area. Early in January 1918 the Admiralty warned Ottawa to this effect and the Naval Service immediately set about the further strengthening of its patrol force. No mention of air patrols had been made by the Admiralty, but within its staff the idea was under active consideration. At first the Air Department thought of diverting *Engadine*, *Riviera*, and *Vindex* to Canadian waters, but on 18 February the Operations Committee ruled that these vessels were more usefully employed in the Mediterranean and instead decided that 'the aircraft required for the protection of merchant shipping in Canadian waters could be worked from shore billets.' Where were the aircraft to come from? The Admiralty had no surplus and the only possibility seemed the United States Navy. It was recognized that the Canadian government would have to be consulted first.⁶⁶

Nothing of this was known in Ottawa. When the Admiralty cabled that Flight Commander John Barron (an airship pilot from Stratford, Ontario, then stationed in Washington) could visit Canada 'in the event of your Government contemplating any submarine measures involving the use of airships,' Canadian officials were taken completely by surprise. Scarcely had they declined this puzzling offer when a renewed Admiralty warning of the submarine danger was received, this time coupled with a preliminary plan for an aircraft patrol. The plan was based upon a report to the Operations Committee by Captain F.R. Scarlett. In his opinion the German threat was now so acute that the Canadians ought to be ready to reverse their stand of a year before, and not only create an air service but also the seaplane, airship, and kite balloon factories needed to support it. In the meantime, he recommended that the United States be asked to extend its coastal seaplane organization northwards to protect Nova Scotia and Newfoundland. It was also on the basis of Scarlett's report that the Colonial Secretary urged the Canadian government to arrange for American help, since 'Admiralty fear assistance from this country is not possible.'⁶⁷

Here, indeed, was a crisis, one that placed Canada in a position of singular dependency. Canadian officers were sent to Washington to seek American assistance; within a week an officer of the USN was in Halifax to discuss the possibility of American seaplane patrols across the entrance to the Bay of Fundy. After a month had passed with no further action, Naval Service Headquarters somewhat desperately cabled the Admiralty to 'use influence with Air Ministry to send at once an Officer to take charge and organize.' Meanwhile matters were taken in hand by Admiral Sir W.L. Grant, Commander-in-Chief North America and West Indies, who convened a conference in Washington of British and American naval and air officers, together with Captain Walter Hose, the RCN's Captain of Patrols on the east coast. The conference settled two main points: first of all, that air stations should be established at Halifax and Sydney; secondly, that the United States would supply these stations with pilots, seaplanes, airships, and kite balloons until Canada was ready to take over. On 23 April a second meeting was held at Boston, attended by Rear Admiral Wood, USN, Commandant First Naval District, and Admiral Kingsmill, the Director of the Canadian Naval Service. Here it was agreed that the United States would take responsibility for coastal patrol and anti-submarine work as far east as Lockeport, NS, and that two American torpedo

boats and six submarine chasers would be dispatched to Halifax and placed under the operational control of the RCN. These arrangements, approved by the Canadian government, were followed on 7 May 1918 by an Admiralty message that Lieutenant-Colonel J.T. Cull, RAF, had been appointed to overall command of the air patrol.⁶⁸

Cull did not appear in Canada for two months. When the Admiralty asked for three officers to be attached to the Director of Naval Service, Ottawa, for special duty, it was the first time the Air Ministry had heard of the Canadian project. Doubtless wishing to avoid the appearance of meddling, the Admiralty attributed its request to a purported Canadian desire to establish an aerial defence system. Not until Captain Barron, now a member of the RAF and posted to Ottawa, reported on 24 May that the Canadian government wished to organize an air service did the Air Council approve the despatch of Cull and his party.⁶⁹

Up to this point Canadian authorities had been following rather ineffectually in the wake of the Admiralty and the United States Navy. They had no option but to accept the reality of the German threat to the east coast, could not question the Admiralty's view that an air patrol was necessary, and since they had taken no steps to form an air service of their own, were in no position to refuse American help. A step on the road back from impotence was taken on 5 June, when the government formally approved the establishment of two air stations. The Department of the Naval Service, meanwhile, had already begun to plan the organization of an air arm, and had sent a party, including Barron, to Nova Scotia to make a preliminary selection of sites for seaplane and airship bases.^{*70}

When Cull arrived from England in July, no real progress had been made in organizing an east-coast system. To get construction started, and to take advantage of the money voted by Parliament in June, Cull approved the Halifax sites selected by Barron's party. The seaplane base was to be at Eastern Passage, while the airship site was also on the Dartmouth side. Keating Cove, Barron's choice at Sydney, he found inaccessible, and so he picked Kelly Beach, on the western side of North Sydney, for the seaplanes and balloons, and a site for airships on the opposite side of the town. He also persuaded the United States Navy Department to act upon the April agreement, despite the lateness of the season and some American reluctance to accept the original financial terms. These provisions were somewhat vague; Canada was to pay for all ground installations and the United States for anything airborne. The Americans stipulated that their airmen must be housed in permanent buildings, erected to their specifications, by 15 October, and that US officers must be in command of the stations, with RAF officers acting only in liaison capacity with the Canadian patrol authorities.⁷¹

An advance party of USN airmen arrived at Halifax by sea on 5 August. Within two weeks the Baker Point site at Eastern Passage had become a trim American naval establishment, flying the Stars and Stripes under the command of Lieu-

* Kingsmill was rebuffed by General Hoare when he sought RAF Canada's co-operation in giving flying training to the new service's cadets. Hoare thought such training would be useless because the cadets would ultimately have to qualify on USN seaplanes. What he wanted from Kingsmill was the assurance 'that no men from the Royal Air Force will be taken on for this new Service.' Hoare to Kingsmill, 15 May 1918, NS 1034-3-4, vol. 1, PAC RG 24, vol. 3894

tenant Richard E. Byrd, later famous as an aviator and polar explorer. Byrd was also Officer-in-Charge US Naval Air Force in Canada, his appointment document stating that he was 'responsible to the Senior British Naval Officer ... at H.M.S. [sic] Dockyard, Halifax, NS, for prompt response to all demands made upon your forces for cooperation in carrying out the General Mission of the Allied Naval Force in Canada.' With the assistance of Hose, Cull, Lieutenant Donaghue, USN (the commander designate for North Sydney), and Rear-Admiral B.M. Chambers, RN, Byrd worked out a patrol plan for the two stations. Escorts were to be provided for both inward- and outward-bound convoys, with two seaplanes held in reserve at both stations for emergency action against submarines and to allow for maintenance and repair. Baker Point patrols began before the end of August; construction delays prevented the North Sydney HS2Ls from coming into service until the week of 22-28 September. Between this period and the end of the war the flying boats flew regular patrols and carried out coastal searches. From August to October three German submarines cruised off the Atlantic coast between Newfoundland and Cape Hatteras, but only once was one reported in Canadian waters and no aircraft from Canadian stations actually saw a submarine. During the same period kite balloons were flown from HMCS *Acadia*, but equipment shortages prevented the use of the airships.*⁷²

None of this work so proficiently carried out by the Americans did much to advance the establishment of a Canadian naval air service. That job had been left to Cull, and he found himself in an almost impossible situation. Not only had he to act as the bridge between the USN, the RN, and RCN, but he was also responsible to the Department of the Naval Service, to his old masters at the Admiralty, and to his new ones at the Air Ministry. Before he left England he had asked the Admiralty what uniform his party should wear. The advice he got was that the RAF uniform should be worn, 'otherwise it seems that some of you will wear R.N.A.S., some R.N., some R.A.F. and some R.N.V.R. uniforms.' When, so attired, he reported to Kingsmill for duty, the Director of the Naval Service was outraged. Since Cull and his party would be working with the USN Kingsmill thought they should hold naval ranks; 'it is most undesirable that they should be in any way under the orders of R.A.F. in Canada as their work is entirely separate.' He therefore proposed that the group should be 'lent to the Government for service in Canadian N.A.S.' Cull's party, however, was really not at the disposal of the Admiralty, since it was in fact on loan from the RAF. Though its orders were to come from the Admiralty, 'for purposes of discipline' the party was under the command of Brigadier-General Hoare in Toronto. Though Hoare wanted as little as possible to do with them, they had perforce to continue to wear RAF uniforms.†

* Cull recommended additional sub-stations at Canso, Cape Sable Island, and the Magdalen Islands, and also a station to cover convoys re-routed through the Strait of Belle Isle. None of these had passed the planning stage when the war ended. Cull to Kingsmill, 31 Aug. 1918, draft cable Ballantyne to Admiralty enclosed with Cull to Deputy Minister, 18 Sept. 1918, NS 63-1-1, PAC RG 24, vol. 5666

† After the formation of the RCNAS Cull enlarged on his problems with Hoare in a letter to Ballantyne: '... my position with G.O.C. R.A.F. Toronto, is somewhat anomalous and does not lend itself to correspondence with him on terms of equality. As you may remember, application was originally made for myself and staff to be lent to the Dominion. This was refused and we were told

For all other matters Cull was immediately responsible to Kingsmill, but anything he required in the way of specialized personnel or technical equipment could come only from the Air Ministry. Since that department was cool to his mission, he found that he could get action on his needs only by going through the Admiralty.⁷³

It is small wonder that Cull began to find his lot an unhappy one. At the end of July he had received unexpected assistance from the Prime Minister. 'Every effort should be made,' Borden urged, 'to have Air stations in full working order and manned by Canadian personnel by opening of navigation next year.' But Cull soon found himself in the middle of a complex wrangle between the Naval Service and Public Works Departments over the construction of facilities to house the new service. He was momentarily heartened by a government announcement to the press on 8 August that a new naval air service was to be formed, but then affairs came once more to a standstill.⁷⁴ Cull's frustration appears in a demi-official report to the Admiralty late that month: 'The Navy Department have their hands quite full, know nothing about the needs of Aviation and, sometimes, one is driven to thinking, care less; anyway the civilian element which curiously forms the chief element are busy over their own little municipal affairs and are apt to think us somewhat of a nuisance. However, we have had one or two fights already, involving threats of resignation and with the assistance of our German Friends on the coast putting the wind thoroughly up seaport mayors and public opinion, have won through to date.'⁷⁵ Cull had in fact formally requested to be relieved of his duties, an action which brought quick results. On 30 August the Prime Minister sent for him, and the two discussed the whole situation, including, more than likely, the lack of interest displayed by the Minister of the Naval Service. According to Loring Christie, Sir Robert then advised Ballantyne to 'see Colonel Cull at the earliest moment and take up with him the question of the organization of the Naval Air Service.' On 5 September the new service was officially created. PC 2154 laid down: '1. That the proposed organization shall be regarded as temporary for the purpose of meeting the needs of the war. 2. That it shall be called the Royal Canadian Naval Air Service.' The order-in-council provided for eighty aircraft cadets, twelve airship cadets, and up to one thousand ratings. Officers in the new service were to wear a naval cap and be uniformed in dark blue serge, although with a brown leather Sam Browne belt. RAF rank badges and pilot wings were to be used, with the latter modified to include a green maple leaf and 'RCNAS' in the centre. Men were to be uniformed as 'men not dressed as seamen' in the RCN, and wear appropriate air service badges.⁷⁶

The press did not give the RCNAS much of a welcome. It seemed so much a product of the concerns of Britain and the United States that the *Toronto Star* scoffed that 'one does not observe anything Canadian about this Royal Canadian Air Force [sic] except the name and the solid old sea coast along which it is to operate.' Young Canadians were less opinionated. By mid-September sixty-four

that although we should work separately from the R.A.F. with the Naval Department, we were still to come under R.A.F. Toronto for matters of discipline. As the R.C.N.A.S. is being kept quite distinct from the R.A.F. I think it would be better for the Service if I and my staff had nothing to do with the R.A.F. from the service point of view being either responsible to the Dominion only or to the Air Ministry direct.' The precise status of the RCNAS was never resolved. Cull to Ballantyne, 6 Sept. 1918, NS 1034-3-1, PAC RG 24, vol. 3894

cadets had been recruited in Toronto and Ottawa, and within a few weeks had been sent to the Massachusetts Institute of Technology for ground school. Another contingent was dispatched by 31 October. Twelve airship cadets were also sent to the United Kingdom for training.⁷⁷ Once Cull had been given his head, he had put together the RCNAS organization with efficiency and despatch.* But as the end of the war approached, the future of the Canadian naval air arm was back in the hands of the Cabinet.

If public reaction to the creation of the RCNAS was lukewarm at best, that of the staff of HQ OMFC in London was ice-cold. It was not simply that the RCNAS was the senior Canadian flying service (by two weeks), although that rankled. Brigadier-General McDonald and W.A. Bishop (whose secondment to the RAF had ceased in order that he might assist in the organization of the CAF) protested to General Turner over 'the utter futility' of forming two Canadian air forces. Turner passed this complaint, with his strong support, to Kemp; Bishop was impulsive enough to complain directly to General Mewburn, the Minister of Militia, thus by-passing Kemp. Without authorization, Turner then approved a trip to Canada for McDonald and Bishop, in order that they might present a comprehensive plan for the amalgamation of the two new services, thus precipitating an acrimonious clash with the Deputy Minister, Walter Gow. This tempest was quelled by a sharp reproof from Kemp and his statement that the establishment of the RCNAS was the result of 'the very careful consideration of the Prime Minister and certain members of the Government with whom he desired to consult.'⁷⁸

At least some of the anger expressed by these men arose from their frustration with the slow pace at which the CAF was proceeding, after the bright hopes raised by its authorization. On 25 July Brigadier-General Drew had agreed that the two squadrons were to be organized at once. But 'at once' did not mean instantaneously. Not until 5 August did the Air Ministry give notice that two squadrons, first designated as 93 and 123 Squadrons by the RAF, were to be 'manned entirely with CANADIAN personnel.'[†] The Air Council had decided that 93 was to be a fighter squadron equipped with Sopwith Dolphins, and 123 a day-bomber squadron equipped with DH9s. In order to allow time for the assembling of personnel and necessary training of groundcrew, the mobilization date for the two squadrons was tentatively set as 10 October, at which time preparations would be made for active service on the Western Front.⁷⁹

Prime responsibility for assembling the officers and other ranks belonged to Bishop, who was promoted temporary lieutenant-colonel and attached to HQ OMFC at the head of the CAF Section. He was given general liaison responsibilities with the RAF, and was to act as the minister's adviser for all questions respecting the organization and training of the CAF and for the selection of personnel. Only the most general guidelines for the selection of flying officers had been laid down. All

* One of the members of Cull's new organization was Sub-Lieutenant E.L. Janney, RNCVR, formerly Captain Janney of the Canadian Aviation Corps.

† No 93 Squadron was redesignated as 81 Squadron RAF on 19 October. From the outset the squadron was known to the Canadians as 1 Squadron CAF, and 123 as 2 Squadron CAF. 'Notes on the Formation of No. 1 and 2 Squadrons Canadian Air Force,' nd [Aug. 1918], DAO order, 19 Oct. 1918, OS 10-9-27, vol. 1, PAC RG 9 III, vol. 80

were to be Canadian citizens. It was also thought that there should be a mixture of officers with considerable active service and officers who had just completed flying training. When responsibility passed from OMFC officials to the airmen themselves, a tendency began to restrict appointments to active service officers, until, in the final stages of the CAF, the objective clearly became the creation of two élite squadrons. Thus when Bishop took over, he stressed that it was 'preferable to give appointments to people who have served with the C.E.F. in France rather than to those who have enlisted in the Air Force in Canada.' Less than two months later the Air Ministry was told that, in manning 2 Squadron, 'as far as possible it is desired to have Officers who have good records with the Flying Corps in the R.A.F., and have had a certain amount of active service flying in France and other theatres of the war.'⁸⁰

To command 1 Squadron, Bishop's first choice was Major Raymond Collishaw, but when he proved unavailable he secured the services of Captain A.E. McKeever.* For 2 Squadron he recommended Captain Walter B. Lawson.† When, in early October, Bishop decided to relinquish his position and return to Canada, he had put together a list of officers for the fighter squadron which McKeever accepted, but Lawson was left the job of finding suitable bomber pilots. Complete lists were not in the hands of the Air Ministry until 19 November. None of those named were to be offered permanent appointments, partly because McKeever and Lawson wished to leave room for airmen with outstanding operational records. The whole selection process had been slowed by Bishop's departure, by delays in securing the services of McKeever and Lawson from the RAF, and by the uncertainty of whether or not the CAF would survive the end of hostilities.⁸¹

The RAF had agreed that some of the groundcrew for the two squadrons could be drawn from Canadians in RAF units, while the rest would be chosen from those with appropriate civilian trades in the Canadian forces. The RAF's Director of Manning, ordered to 'comb out' Canadian tradesmen, was able to find only a handful by late September because RAF personnel records did not show the national origins of other ranks. Ultimately the RAF found more than 150 fully-trained Canadian mechanics among its number. Doubtless many more could have been turned up. But long before this the Canadians had selected the 237 other ranks they required from the several Canadian depots in England. Bishop had begun the process at Witley in early August; others were obtained from the camps at Bramshott, Seaford, and Shorncliffe.⁸²

Most of these recruits were sent to RAF Halton Park to train as mechanics and riggers, while a smaller number went to Uxbridge for armament training. According to the original plan, at the conclusion of their training they were to be posted to RAF squadrons for a month's experience before being mobilized. This fell through, and the delay in assembling officers for the squadrons, together with indecision about

* Andrew Edward McKeever of Listowel, Ont., had been an RFC direct entry in 1916. An outstanding Bristol Fighter pilot, his chief operational service had been with 11 Squadron on the Western Front.

† Walter Brogdin Lawson of Barrie, Ont., was a 1913 RMC graduate who went overseas with the 15th Battalion CEF in the First Contingent. He transferred to the RNAS in 1915. His last operational service was with 215 Squadron of the Independent Force.

whether or not to mobilize the squadrons at all, meant that CAF groundcrew spent much longer in training than had been expected. Many of them began to question the worth of an air force career. When Major J.D. McCrimmon from HQ OMFC arrived at Halton in October to take over the Canadians there, he found 'a pretty bad mixup.' RAF Halton had treated them as RAF recruits, given them new RAF numbers, and managed to lose many of their personal documents. McCrimmon succeeded in restoring morale, but even so these Canadians had more than a month's further wait before they joined their squadrons.^{*83}

All this effort would have gone for naught had it not been for the efforts of Major Gibson, the assistant deputy minister. Gibson obtained from General Brancker an assurance that the Air Ministry would uphold its part of the bargain. Brancker told him that the two squadrons 'shall not be broken up as we proposed, but shall be kept as units until such time as you are prepared to move them back to Canada.' With this guarantee, he was able to secure from the Prime Minister, on 17 November, authorization for mobilization to proceed. Borden took under advisement the question of whether the squadrons should be returned to Canada as the nucleus for a future Canadian air force. As a result, 1 and 2 Squadrons CAF were mobilized between 20 and 25 November at their airfield at Upper Heyford, and though somewhat under strength and underequipped, commenced training.⁸⁴

The CAF's position was precarious. No overall command and administrative structure had been established. The CAF itself was nothing more than two squadrons of the RAF which happened to be all-Canadian. No thought had been given to equipping the squadrons for service in Canada rather than for the Western Front, nor had the financial implications of maintaining them for any considerable period after the Armistice been faced. The CAF continued to exist because the RAF was willing to co-operate and because the Canadian government had not made up its mind. But all concerned with it knew that its future was clouded, and they manifested their awareness in a variety of ways. For battle-hardened pilots the transition to peacetime conditions, and to the very different challenges of organization and administration, was difficult enough. The task of formulating a policy that would persuade the government to maintain the CAF was one for which most of them were not equipped.

* Another one hundred Canadians were recruited in mid-October as a replacement pool and sent for training at Halton and Uxbridge. All but twenty specially qualified for training as mechanics were returned to their units after 22 November because wartime wastage rates no longer applied. Scarcely happier was the experience of twelve other ranks recruited for training as NCO observers. At the end of August Bishop selected twelve candidates from the Young Soldiers Battalion CEF at Bramshott. They were trained at the Eastchurch School of Aerial Bombing and Gunnery, then at 1 Observers School of Aerial Gunnery at Hythe, and finally at 1 School of Aerial Navigation and Bomb Dropping at Stonehenge. After three months' training they were mobilized with 123 Squadron, but Captain Lawson then decided that they were insufficiently qualified, having only had short courses and 'no Overseas experience.' Further, specialist NCO observers were not wanted for postwar service. Four of the twelve decided to return to their units; the others were employed on ground duties with the CAF. 'Lists of trades and numbers required, [Aug. 1918], '123 Squadron [2 Canadian] monthly return of other ranks, 30 November 1918,' HQ OMFC R-1-49, PAC RG 9 III, vol. 3432; Lott to McDonald, 22 Nov. 1918, OS 10-9-27, vol. 2, *ibid.*, vol. 81; correspondence on NCO observers, 29 Aug. 1918-18 Feb. 1919, HQ OMFC 0-1-49, Lawson to GS, 13 Jan. 1919, HQ OMFC P-10-49, *ibid.*, vol. 3431

Continued difficulties with the other ranks were a sign of the disorganized condition of the CAF and betrayed not only the inexperience of its officers but also its indeterminate status and the unsettled feelings of the men in a period when general demobilization was well under way. At Halton Camp, early in January 1919, the Canadians still there refused in a body to obey orders to drill. An investigating officer dispatched by HQ OMFC found that a British RAF officer had 'fallen in the parade on a ground which was in a deplorable condition and began to drill the men before a crowd of young soldiers who obviously took much pleasure in seeing the detail drilling in the mud.' No sooner was this trouble quelled than McKeever reported a 'crisis' with the men at Upper Heyford. This station was under RAF command, and Canadian other ranks had been detailed for fatigue duties by British officers. On 7 January the men refused to move off from morning parade to duty at their flights. As it turned out, they had a number of legitimate complaints. They had had no Christmas leave; because the CAF had no real administrative organization they had been given no trades pay since mobilization; their messing was atrocious; they were anxious to know when the squadrons would be returning to Canada; and some expressed the fear that they would not be permitted to demobilize. Major Marshall, sent from Canadian headquarters to look into the problem, reported that the bearing and discipline of the men was 'anything but good - they being discontented and slovenly.' The senior NCOs, who held their positions because of technical competence, had no experience in handling men, nor had many of the flying officers. Things were straightened out by sending a few men with lengthy crime sheets back to their units, securing regular leave for the rest, setting up an army orderly room, organizing better messing, and posting in a CEF sergeant-major to establish discipline. These incidents (there were others) were trivial in themselves, but they revealed the deficiencies of the CAF.⁸⁵

There was much dissatisfaction among the flying officers as well. The chief cause was the aircraft furnished by the RAF. Neither the Dolphin nor the DH9a was held in any respect by men who knew their operational performance. McKeever wanted Snipes for his squadron, and Lawson Bristol Fighters for his, but junior staff officers at HQ OMFC found no willingness on the part of the Air Ministry to change the original allocations. Lawson had no quarrel with the DH9as as training aircraft. They were safe and reliable enough, though operationally obsolete. In mid-January 2 Squadron established the Hounslow Detached Flight, using their machines to ferry senior officials to and from Paris. The Dolphins were another matter; there had already been one fatal casualty,* and in early February the Air Ministry ordered all service flying on Dolphins to cease until safety modifications could be made. Even when flying resumed, no aerobatics were permitted. At a

* On 1 December Lieutenant W.J. Sampson of Vancouver was killed while ferrying a Dolphin to Upper Heyford. There were two other fatal accidents during the CAF's period of existence. On 8 May Captain C.W. Warman was killed while low flying at Chingford. Warman was an American who had gone overseas with the PPCLI in 1914. He was apparently regarded by the CAF as an 'honorary' Canadian. On 22 May Major A.D. Carter of Point de Bute, NB, was killed while flying a Fokker D-VII: 'wing of Fokker folded up and machine descended in nose dive from seven thousand feet.' Staff Captain to GSOL with attachments, 16 May 1919, Leckie to DAS, [23 May 1919], HQ OMFC A-6-36, vol. 2, PAC RG 9 III, vol. 3068; C.W. Warman biographical file, DHist

conference of squadron commanders and OMFC staff officers those present agreed that the Air Ministry should be pushed hard for better aircraft, on the naïve ground that this was a 'small request' and that 'as the Pilots who are to fly these are the Canadian Pilots with the highest records,' it was 'only fair to give them the Machines which they demand.'⁸⁶

On 28 January McKeever's frustration with the whole position of the CAF boiled over. He called upon the Overseas Ministry to appoint a senior officer to command the CAF, in order that some stability could be given the fledgling organization and also to make some impression upon the Air Ministry. Beyond that, he was as perturbed by the hazy status of the CAF as were the other ranks. 'A definite policy should be arrived at as soon as possible by the Canadian Authorities as to the purpose of the two Canadian Squadrons,' he wrote. 'Is it the intention to use these two Squadrons as the nucleus of the Canadian Royal Air Force?' If it was, then arrangements must be made in Canada for their reception in the form of accommodation, hangars, and other installations, and it was vital to determine what aircraft were most appropriate for a Canada-based force. McKeever's views were received sympathetically at HQ OMFC. 'I cannot help feeling,' wrote Lieutenant-Colonel C.M. Edwards, 'although I hesitate to make the statement, that the Air Ministry take very little interest in our organization and equipment.'⁸⁷ In fact, Canadian Headquarters had already been exploring the question of a commander for the CAF.

Their first choice was Colonel R.H. Mulock. However, Mulock did not wish to pursue a career in military aviation, although he was deeply interested in the establishment of a satisfactory Canadian military aviation policy. It was therefore decided to attach Mulock to HQ OMFC, so that he could devote himself to the formulation of a policy proposal, gathering material for the purpose from the Air Ministry, with a view to his eventually laying a policy document before the Cabinet. He took up his duties on 20 February. At the same time Lieutenant-Colonel G.C. St P. de Dombasle, one of the senior Canadians in the RAF, was appointed to command the CAF, initially only working part-time on his new duties until the Air Ministry released him from his previous responsibilities.* One of his first recommendations was that a better airfield be found; he also requested that the Dolphins should be replaced by SE5as so that training could continue. To both requests the Air Ministry agreed, and on 31 March the CAF moved to a new home, Shoreham-by-Sea. By this time de Dombasle's appointment had been changed to Director of the Air Service and he and his administrative staff were housed at HQ OMFC in London. Under his direction, the two Canadian squadrons had been formed into 1 Canadian Wing, CAF. Its commander was the distinguished RNAS pilot, Major Robert Leckie, who was also station commander at Shoreham. In addition, a Technical and Supply Branch was established and its members began the task of acquiring technical data from the RAF for future use in Canada. All these measures were taken by authority of the Overseas Military Council.⁸⁸

* Lieutenant-Colonel de Dombasle, of the Royal Canadian Regiment, had transferred from the CEF to the RFC in December 1915. He had had considerable command experience, having been officer commanding 1 Squadron RFC from December 1916, and later commandant of the School of Aeronautics at Reading.

For a brief period the CAF enjoyed relative stability, and as flying training proceeded the organization began to develop its own character and spirit. Part of that spirit, surely understandable in the circumstances, was a certain war-born élitism. McKeever and Lawson had never given up hope of obtaining 'flying officers who will be gradually drifting back from France for Home establishment and who have a good record.' De Dombasle and Leckie were sympathetic; indeed, on 12 April Leckie requested that six of his pilots be posted away. He was actuated, he said, 'simply from a desire to fill their places with more efficient Officers, with longer War Service or special qualifications.' Such officers were available as the result of an Air Ministry notification to all RAF units that applications for transfer to the CAF would be received. To classify the flood of applications, Leckie set up a selection committee. At the same time the Air Ministry was informed that only officers holding two or more decorations could be considered. This provision was cancelled after a protest from HQ OMFC.⁸⁹

The demise of the CAF halted this selection process. Before that occurred the CAF had already departed considerably from the officer mixture that had been planned. Including non-flying staff officers, there were forty-nine officers on the strength of 1 Wing in April-May 1919. Of these forty-one had operational experience, thirty-one had served in France with the CEF before transferring to aviation, and two more had a similar career with the BEF. Only five CAF officers had an RNAS background. Of the forty-two officers on flying duties, twenty-two had been decorated for gallantry and ten had at least two such decorations. The fighter squadron's flight commanders were Captains C.F. Falkenberg, DFC and Bar, G.O. Johnson, MC, and D.R. MacLaren, DSO, MC and Bar, DFC; while those of the bomber squadron were Major A.D. Carter, DSO and Bar, Captain J.O. Leach, MC, AFC, and Captain T.F. Hazell, DSO, MC, DFC. The CAF, in other words, had become an organization weighted towards those with operational experience, outstanding records, and a background of army service on the Western Front. Nevertheless, it was representative of the several ways in which Canadians became aviators during the war; eight of its members, for example, were products of RAF Canada.⁹⁰

No one connected with the CAF was innocent enough to believe that an all-star cast would guarantee its survival. Both Gibson and Mulock were quite aware that the high cost of military aviation was bound to influence the Canadian government. The crux of the matter was the cost of equipment and of its maintenance and replacement. Ought a future Canadian air force to have equipment identical to that of the RAF, or should its aircraft be adapted to the special features of the Canadian environment? The assumption underlying the first alternative was that

* Not all the wing's officers were Canadian. Two of the flying officers were American graduates of RAF Canada and two others were British. Leckie protested to de Dombasle that 'the Pilots feel very strongly on the subject' and that 'I thoroughly agree with this point of view.' An undated and unsigned memorandum singled out a Major Hazell, appointed by de Dombasle, as an Englishman 'never in Canada,' and also criticized the lack of aviation experience among the officers in de Dombasle's directorate. Leckie to de Dombasle, 20 April 1919, HQ OMFC P-6-49, PAC RG 9 III, vol. 3431; critical memorandum, nd [May-June 1919], HQ OMFC A-6-36, *ibid.*, vol. 3068.

the CAF should be primarily a military force, designed to act in concert with the RAF in time of war; the adoption of the second meant a distinctive Canadian force carrying out civil as well as military functions.

Those guiding the CAF chose the first alternative. The decisive consideration seems to have been cost. The RAF had large supplies of aircraft surplus to its requirements, and during his initial discussions at the Air Ministry de Dombasle detected a readiness to make this available to the Canadians. At a meeting with Air Ministry officials on 3 March, therefore, de Dombasle accepted the principle of identical equipment and subsequently requested the allocation to Canada of fifty DH9s, thirty Avro trainers, and twelve Camels, with sufficient spare parts and other equipment to keep them in service for a year. Senior staff officers of the RAF supported the idea, Brigadier-General P.W. Game noting that 'Cols. Mulock and de Dombasle informed me that the chief obstacle to the formation of an Air Force in Canada is likely to be the initial expense.' When opposition from the financial officials to the idea of a free gift arose, Trenchard (Chief of the Air Staff once more) brushed it aside. 'It seems absurd to me,' he wrote to the Under Secretary, '... that we are talking about destroying machines instead of giving them straight-away to Canada.'⁹¹ It was finally agreed that a gift would be made to each of the dominions from RAF surplus aircraft. On 4 June the Colonial Secretary cabled to Ottawa that 'His Majesty's Government have approved of proposal of Air Council that a gift of aeroplanes not exceeding 100 in number should be made to any Dominion requiring machines object of His Majesty's Government being to assist Dominions wishing to establish air forces and thereby develop defence of the Empire by air.'⁹²

The Canadian government spent some time in careful examination of this gift horse, and rather more in some picayune bargaining over what aircraft it would be pleased to receive. Eventually Ottawa agreed to accept 62 Avro 504s, 12 DH9as, 12 SE5s, 10 DH4s, two H16 flying-boats, two Bristol Fighters, and a Snipe. In addition, Canada received at least six non-rigid airships, some kite balloons, a large amount of tools, spare engines, and other equipment, and three hundred vehicles of various types. The total value of this gift was approximately \$5 million; the only cost to Canada was that of shipment. This, it was later remarked, was 'a sum greater than that which the Canadian government spent on aviation during the four years 1919-20 to 1922-23.'⁹³

The imperial gift, despite the Colonial Secretary's stipulation that it was intended for dominions willing to establish air forces, was not enough to save the CAF. Its fate had been foreshadowed in the earlier demise of the RCNAS. Only two days after the Armistice Lieutenant-Colonel Cull had been informed by the Deputy Minister that the RCNAS had 'ceased to exist,' and doubtless this followed from a strict interpretation of the order-in-council establishing it. Nevertheless, the Minister of the Naval Service fought a rearguard action to preserve the infant force. On 22 November he cabled Borden that although a majority of the Cabinet

* In addition to the imperial gift, Canada also received at least fifteen German aircraft as trophies, as well as engines and spare parts. Finally, a number of aircraft were substituted for the eighteen presented to the British flying services by various individuals and organizations in Canada.

wished to wind up the RCNAS immediately, he personally favoured the maintenance of a small unit at Halifax. Borden did not meet the issue directly, but stated that in his judgment Canada 'should maintain the nucleus of an air service as that service is essential to any system of naval or military defence.' He expressed a preference for a single service uniting both military and naval functions. With no explicit guidance from the Prime Minister, the Cabinet on 5 December did not precisely kill the RCNAS, but rather decided not to proceed with it 'on its present basis.' Instead, they looked forward to its resumption, not with half-trained cadets, but with Canadian veterans of the RNAS. As Ballantyne explained the decision to G.J. Desbarats, his deputy, 'the R.C.N.A.S. is not abolished, and the action that is now being taken is only until such time as the Government decides on the details and policy of a permanent Air Service.'⁹⁴

The dismantling of the RCNAS was carried through with expedition. The cadets were speedily released; by early January the last American party had left the east-coast camps. Cull's final duty was to accompany Desbarats to a meeting in Washington, called to settle the division of expenses between the two countries. The Canadian government agreed to purchase all American ground equipment at the Nova Scotian stations; in exchange, the United States donated to Canada twelve flying-boats, twenty-six Liberty engines, and four kite balloons. Canada's first venture into naval aviation had cost a total of \$811,168 for bases, equipment, and personnel. The US donation was valued at about \$600,000, and the flying-boats were to give much valuable service in the years to come.⁹⁵ Desbarats summed up well this early experiment in US-Canadian naval and air co-operation:

The operation of these two stations has afforded protection to the convoys of British and American ships sailing from these ports and has added to the safety of these vessels and protected all the troops and supplies which they carried.

The combined action of the two Governments enabled the stations to be established without delay so that they could be operated during the past summer. It would have been impossible for Canada to organize a Naval Flying Service on the short notice which was given and, on the other hand, the United States needed protection for their shipping along the Canadian coast, so that the joint action that was taken seems to have been the best way of obtaining this protection.⁹⁶

The last member of the RCNAS, Major C.C. MacLaurin, kept himself busy by making periodic inspection tours of Baker Point and Kelly Beach, where, doubtless nostalgically, he test flew the aircraft. The end of the RCNAS finally came on 10 December 1919 when the Air Ministry, which was still paying MacLaurin, refused a Canadian request to extend his tour of duty. Canada's one-man air force then became a civilian member of the recently constituted Air Board.⁹⁷

The RCNAS had built up no favourable constituency within the government, and apart from Ballantyne, no one lifted a finger to save it. The CAF, in contrast, had been preserved by the personal authority of the Prime Minister, had become a force in being staffed by some of the country's ablest airmen, could look to the Overseas Minister and his officials for strong support, and could count upon the sympathy and co-operation of the RAF. When no word of the CAF's future was

received from Ottawa for over two months after its mobilization, Kemp forced the issue by informing the Minister of Militia that the two squadrons would be ready to return to Canada as early as 1 April. He also stated that the Air Ministry was preparing an 'Imperial Flying scheme' and suggested that it might be useful for the government to have a senior flying officer available to help in 'forming your plans for Canadian post bellum Air Force.' Mewburn's reply was a shock. The Cabinet, bearing in mind that the CAF had been formed 'for the purposes of the present war,' had decided that the squadrons would be demobilized on their return to Canada. Nevertheless, Mewburn requested that a senior officer competent to advise the government be sent over.⁹⁸

To Kemp, this decision was quite unacceptable. He wanted, he told Mewburn, swift and positive government action in aviation policy:

Most strongly urge that matters of Canadian post bellum Air Service be considered seriously by Government without delay so that trained Canadian personnel in two Canadian Squadrons and in Royal Air Force may be drawn upon for future Canadian Air Service and aeronautic development before they are demobilized and scattered throughout Canada. Consider most desirable Canadian Air Force should have its natural place in Canadian post bellum military forces as indicated conclusively by experiences of war. In view of great development flying and flying machines in war and in all countries after war, Canada surely should take definite stand now to have Air Force which would enable it to keep pace with rest of world and particularly other Dominions in all matters relative to flying.⁹⁹

At the same time Kemp wrote to the Prime Minister, urging him to 'do everything possible to prevent the total demobilization of the two splendid squadrons which are so capable and so well equipped.' He thought it 'preposterous' that the CAF should disappear, because inevitably the government would have to make up its mind about aviation. 'I understand,' he told Sir Robert, 'we are to have a permanent army of 5,000; surely we should have some sort of Air Service in connection with this force.'¹⁰⁰

By this time the Prime Minister was in Paris, immersed in the great matters of the peace conference. His preoccupations may account for the singular evasiveness of his reply. He told Kemp that the future of the CAF had been discussed 'somewhat,' but that no definite conclusion had been arrived at; for the rest, he heartily agreed that 'in any permanent organization' an air service 'must have an effective part.' Clearly, Borden could not be counted an ally. Nor could General Mewburn. *A propos* of Kemp's cable, he told Sir Thomas White that he 'felt it was imperative for me to take some action,' since there was no provision for an air force as part of the military forces of Canada. The action he proposed to Cabinet was the formation of an air board, an idea he owed to Gwatkin, which would advise the government generally upon aviation matters.¹⁰¹

The CAF's fate now hung on the strength of the case that could be assembled for it. On 3 March Mulock, Gibson, Edwards, and de Dombasle called on Brigadier-General R.M. Groves, the DCAS. An informal conference followed, attended by other senior members of the Air Staff. At the request of the Canadians the Air Staff agreed to prepare a memorandum which could be used by the CAF

'with a view to pressing for a unified Air Service in Canada.' This paper, drafted initially by Lieutenant-Colonel R.C.M. Pink, Director of Flying Operations, and entitled 'Aerial Expansion With Particular Reference to Canada,' was submitted to detailed examination by the acting CAS, General Game, and by the heads of directorates.¹⁰²

The paper commenced by laying out the general responsibilities of governments with respect to civil aviation. Its argument was centralist; that is, it was contended that no matter what form of political structure existed, a national authority was needed to control the registration of aircraft, the inspection of airfields, the issuance of pilots' certificates and certificates of airworthiness, air traffic, and licenses and franchises to private firms. In the case of Canada, 'with its vast distances and unlimited possibilities for expansion,' the early establishment of a central regulatory agency was particularly important. Neither the Air Staff nor the Canadians had any fault to find with this section, all agreeing that civil aviation in Canada was bound to develop rapidly.

The next section dealt with the manner in which the Canadian government itself might engage in civil aviation as an extension of the current work of government departments. On balance, it was the view of the Air Staff that such activities were 'likely to hold a more prominent place in the immediate future' in Canada than were naval or military aviation. The paper foresaw Canadian (or provincial) government aircraft engaged in such work as forest ranging, police and customs patrols, and photographic surveying for mapping purposes.

The final part of the paper contained the argument for an air force as part of the permanent military organization of Canada. It was couched in the language and reflected the thinking of the strategic bombing advocates, who at that time were well represented among the RAF's senior officers. All agreed that Canada had no need of a large air force. Nevertheless, since 'the wars of the future will be largely wars of the air, and as in consequence the first blow struck will be almost coincident with the declaration of war,' an aerial defence force would clearly be necessary. An air force, it was argued, was no longer simply an adjunct to military and naval forces (although it would still be necessary to retain aircraft for such auxiliary purposes); the bulk of any nation's military aircraft would be employed on operations 'quite unconnected with either the land or sea campaign.' 'A completely new art of aerial strategy, as different in its application from either Naval or Military, as these two now are different from each other,' would have to be developed. In Canada, as in Britain, naval, military, and strategic functions of air power ought to be combined in a single force, for reasons both of economy and for unified control. The original draft of the paper therefore advocated the creation of a single government department on the British model to control both civil and military aviation in Canada, to further imperial standardization, and simplify the conduct of future wars 'on either side of the Atlantic.'

General Game was the only officer who took serious issue with any part of this document. He wondered about the relevance to Canada of arguments based upon the strategic use of airpower; Canada was 'hardly open to aerial attack except from the U.S. and I understand her policy does not contemplate armed resistance to that country.' More generally, he was sceptical of any argument which took for granted

the future effectiveness of strategic air power: '... nothing in the late war furnished any convincing proof to that effect. The German bombing of England actually never looked like having any decisive bearing on the war, and the same may be said of the operations of our Independent Force, while admitting that it never approached its full development.'¹⁰³ This was too much for the DCAS. Groves conceded that the German bombing of England had been spasmodic, but it had tied down large forces and had greatly interfered with 'the general life of the country.' As for the Independent Force, though it had been rushed into being, it did 'seriously damage the enemy and it is at least possible that much of the enemy's lack of morale towards the end of the war was due to the fear of our aircraft entertained by the civilian populace.' Land-based torpedo aircraft would, he thought, render defenceless enemy fleets even in secure harbours, while air power could also be used as a distinct weapon against, for example, 'a tribe in the interior of Africa ... giving trouble.' None of these were points likely to impress Canadian politicians, as Game dryly pointed out, but he was a minority of one. Trenchard approved the military section of the paper, and subsequently Gibson, who was shown both the original draft and the minutes upon it, approved it as well.¹⁰⁴

Game had more success in criticizing the recommendation for the creation of a new government department for aviation. If the Canadian air service was to be on the model of the CAF, then a division of an existing government department would be quite sufficient to administer both Canada's air force and her civil aviation until such time as development warranted a larger organization. This point was accepted and the final portion of the paper was so amended. At the same time added emphasis was given to the idea of imperial standardization by noting the continuing ability for 'very close liaison and constant exchange of personnel' between Britain and Canada.¹⁰⁵

Bearing this document, Mulock left for Canada at the end of April, carrying with him as well the hopes of all associated with the CAF. He had also been furnished with an elaborate document, compiled by de Dombasle, laying out the organization and establishment of the CAF. This paper followed the main lines of the RAF recommendations, except in proposing a separate air department. The CAF was visualized as a cadre organization, making up its full officer complement by secondments from the permanent militia. Other ranks, because of their technical expertise, would have to be kept up to establishment. The total establishment recommended was forty-one officers and 468 other ranks. Though de Dombasle argued that his proposed organization was flexible enough to handle both civil and military aspects of aviation, it was in fact rigid in conception, tied as it was to the concept of a fighter and a bomber squadron, plus a training depot. No estimate of expense was included. Mulock had drafted a far less complex organization in two brief pages, providing at once for dispersal of elements to different parts of Canada and for expansion into a larger force should the times so require. But his sketch was overshadowed by the bulkier document.¹⁰⁶

Mulock's mission was crucial to the fate of the CAF, because time was now short. The Air Ministry had agreed to underwrite the cost of the Canadian organization only until 30 June, and there was no prospect of an extension. 'A[ir]

M[inistry] funds have borne the cost of keeping up two purely Canadian Squadrons for six months, and the time has come when they should pay for their own Air Force as the Australians do,' a ministry official wrote. 'The Canadians have always been pressing us to take charges which the other Dominions have borne without question, and we think that they should pay the whole cost of *their* Air Force from the 1st July.' On 26 May Gibson heard that Mulock had been before the Cabinet, but that no decision had yet been made. Mewburn, it developed, had come out in favour of bringing home the CAF and making it part of the permanent force for a minimum of two years. On the basis of this favourable sign, Gibson was asked whether the squadrons ought to be sent home, and 'trust to adjustment their status after arrival.' Mulock, with greater prescience, advised against this course. Most CAF officers agreed with him. If nothing had been settled at home before they left England, they preferred to take up the permanent commissions in the RAF which had been offered to them, rather than risk being left high and dry in Ottawa.¹⁰⁷

On 30 May the Cabinet delivered itself of its judgment on the future of Canadian military aviation: 'for the present, nothing would be done.' 'It is all off,' Gwatkin wrote Mulock; to another he said, 'this is a great disappointment to me.' Kemp instructed Gibson to allow those officers who wished to join the RAF to take their discharges in England. He gave some hint of the factors which had influenced the Cabinet when he added that 'it is hoped that a less elaborate organization and one which would adapt itself to peace conditions in Canada may be worked out.' At the same time, however, he expressed to Borden his 'deepest regret.' 'I am satisfied,' he told the Prime Minister, 'that after we have demobilized our air force it will be apparent to members of Council that a great mistake has been made ...'¹⁰⁸

Unfortunately the papers Mulock had laid before the Cabinet were not the sort of ammunition Kemp could use effectively in the changed political atmosphere of peacetime Canada. He told Gibson, who had sent him an agitated protest,¹⁰⁹ that his cable of 30 May had set out the position of the government, with which he was not entirely in sympathy.*

It must however be borne in mind that our financial position has to be taken into consideration and other difficulties with which Government is faced in connection with expenditures as Budget recently brought down clearly shows. The two squadrons have been organized on a war basis. In order to have Government reconsider matter I have held out hope that peace conditions in Canada might justify someone who possesses the technical information in submitting a modified plan suitable for peace conditions in Canada and having regard to fact that country is four thousand miles long and that exceedingly small units might be stationed

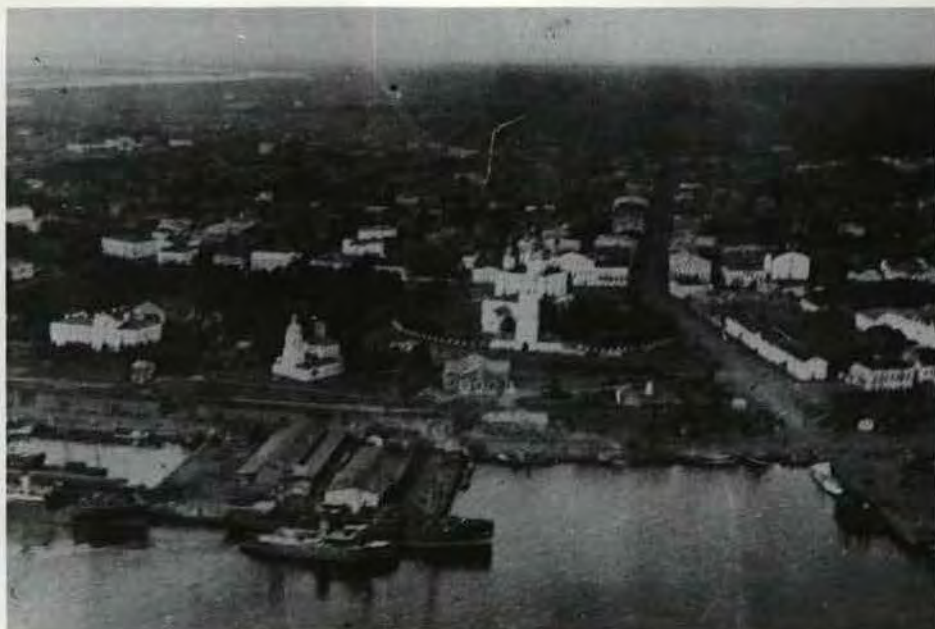
* Kemp was more deeply opposed to the Cabinet's action than he gave Gibson to understand, and hoped to reverse it by encouraging public agitation. His secretary, in giving instructions for the preparation of a paper for circulation to the press, wrote: 'Sir Edward Kemp feels that public opinion has got to be aroused in this country through a press campaign, or in some similar way, to force the Government to take action and not lose the opportunity presented to them just now. IT IS MOST IMPORTANT that Sir Edward Kemp's name be not connected with anything given out ...' Bristol to James, 31 May 1919, Kemp Papers, PAC MG 27 II D 9, vol. 132

at different points, and to put forward a definite proposal as to cost per annum. This is the way business is now done here and what other Dominions are doing will not materially influence situation.¹¹⁰

Kemp's statement accurately forecast the air policy of the 1920s. Gibson accepted it as the death-knell for the CAF, and though 'it breaks my heart to see this done,' gave permission for its officers to return to the RAF, 'and practically all are doing so.' The ghost of the CAF lingered for many months, in the form of a packing section at Shoreham, preparing gift aircraft for shipment, which did not close down until late in 1920. Its last vestiges were 'two Aeroplane Engines, part of a Lorry, a Forge and a small quantity of miscellaneous material' reported by the High Commissioner's office still remaining at the Wormwood Scrubs Depot in December 1921; with its disposal the CAF's last employee was released.¹¹¹

In this muted fashion the last institutional link with the great deeds of the Canadian airmen of the First World War was severed. A new air force would grow from modest beginnings in the 1920s, and many of the men who had given Canada so large, if so anonymous, a part in the first war in the air would serve it and provide leadership for it. Future volumes of this history will record the rise and accomplishments of the Royal Canadian Air Force. The foundations for that force, however, were established during the First World War. When the officer in charge of gathering together the records of service of Canadian airmen reported the results of his labours in July 1919, he noted that 'the identity of many Canadians who served with British flying units lies buried.' He respectfully suggested that 'a work of a literary and historical nature which would deal in a broad way with Canada's airmen and their work in the war' should be undertaken.¹¹² This history has been an attempt to fulfil that task, and to recover for Canadians a chapter of their history that has lain buried for over sixty years.

Appendices



Archangel from the air in 1919 (DND 65-4)



Canadian airmen of the RAF's ELOPE Squadron which flew against the Bolsheviks in North Russia, 1918-19. Lt Dugald MacDougall, DFC, of Lockport, Man. (standing, on right) was subsequently killed in action at Bakaritzka on 25 Aug. 1919. (RE 68-1891)



RAF units, including many Canadian airmen, flew in North Russia in 1918-19 against the Bolsheviks. This picture shows the result of a bombing attack on a Red train near Murmansk, 1919. (AH 450)



DH9as of 47 Squadron RAF in South Russia, 1919-20. This unit was commanded by Maj. Raymond Collishaw of Nanaimo, BC, who remained in the RAF after the war. (RE 17203)



Turkish transport destroyed by RAF aircraft on the Nablus-Beisan road in Palestine, 20 Sept. 1918 (AH 444)



Lt H.W. Price of Calgary with his RE8, 63 Squadron, Mosul, Mesopotamia, 22 Dec. 1918 (PMR 75-521)



An armoured car salvaging a British Martinsyde aircraft captured on the German-Turkish airfield in Tekrit, Mesopotamia (AH 510)

APPENDIX A

Canadian Airmen and the British Intervention in Russia, 1918-20

In March 1917 a left-wing revolution in Russia compelled Tsar Nicholas to abdicate and a provisional 'peoples' government was established. The new régime, dominated by the socialist Minister of War, Alexander Kerensky, pledged itself to continue the war against Germany which had already cost the Russians nine million casualties. But it was obvious, especially after the disastrous Kornilov offensive in July, that Russia's strength was spent. When, as a result of the November Revolution, the Bolsheviks seized power, they responded to the deeply-felt popular desire for peace by opening negotiations with Germany. The Treaty of Brest-Litovsk, signed in March 1918, placed immense areas of European Russia under German and Austro-Hungarian control, made available to Germany the resources of these vast lands, and took Russia formally out of the war.

Long before the advent of the Bolsheviks the Allies had tried to shore up the Russian army and to reconstitute the Eastern Front. Enormous amounts of material were sent to Russia by way of Murmansk and Vladivostok. Military missions were despatched, and even before the Treaty of Brest-Litovsk, at a time when the Allies knew full well that a German offensive was about to be unleashed on the Western Front, military intervention was contemplated, perhaps to support those elements in Russia still prepared to continue the fight but at least to deprive the Germans of some Russian resources and to hold some of their troops in the East. Thus when intervention came, though it was directed against the Central Powers, it inevitably clashed with a Bolshevik government opposed to the renewal of Russian belligerency. By the time of the Armistice on the Western Front the allied powers had become deeply embroiled in civil war in Russia, were backing or working with a variety of separatist and counter-revolutionary movements, and were committed to the overthrow of the Bolshevik régime.*

Britain was the leading allied interventionist power, and Canada, so long as the First World War lasted, tended to follow unquestioningly in her wake.† When Britain was unable to meet its troop commitment to the Supreme War Council for

* For a full account of intervention in Russia see Richard H. Ullman, *Anglo-Soviet Relations, 1917-1921* (Princeton, NJ 1961-72), 3 vols.

† For the Canadian part in intervention see Roy MacLaren, *Canadians in Russia, 1918-1919* (Toronto 1976), and J.A. Swettenham, *Allied Intervention in Russia, 1918-1919; and the Part Played by Canada* (Toronto 1967).

intervention in Siberia and asked Canada for help in July 1918, Sir Robert Borden began the leisurely despatch of a Canadian brigade which was still incomplete in December. No air unit accompanied the Canadian Siberian Expeditionary Force to Vladivostok, though the Department of Militia and Defence had requested a squadron from RAF Canada. Since the Canadians took virtually no part in allied operations, no air support was required; in any event the Canadian government lost all interest in the idea after 11 November 1918. Adverse public reaction soon persuaded the government that its forces should be removed from a situation in which Canada appeared to have no direct interest.

Since Canadian airmen were scattered throughout the RAF, their despatch to Russia and their activities while there were subject to British, not Canadian, policy. More than sixty Canadians were with the RAF in Russia, some of them fresh from flying training, others with considerable war experience. Some were volunteers, including a small group that left the Canadian Air Force when it became clear that its days were numbered; others were simply transferred to Russia with their units in the course of duty. Canadians were present in three of the several theatres in which the RAF carried out operations: in North Russia, in the Caucasus, and with General A.I. Denikin's forces in South Russia and the Ukraine. Four Canadians were killed and four wounded in Russia, and another six were injured in flying accidents.

In North Russia intervention began when a party of Royal Marines went ashore at Murmansk on 6 March 1918, the result of a local decision by the commander of the Royal Navy's White Sea Fleet. The first air work was carried out by the seaplanes of *Nairana*; two Canadians, Captain G.H. Simpson of Toronto and Lieutenant Dugald MacDougall of Winnipeg, flew effective co-operation missions at the time of the seizure of Archangel at the end of July. A multinational allied force was rapidly built up, including the RAF's *Elope* Squadron (so named after the codename for the whole operation) commanded by Lieutenant Colonel A.C. Maund, DSO.* Captain F.V. Robinson of Winnipeg commanded the first flight of *Elope* Squadron to reach the theatre and fourteen more Canadians came in the autumn. Most of them had just completed training; they had not volunteered for service in Russia but were posted and sent in the normal line of duty.†

The RAF carried out corps squadron duties with the allied forces on the five 'fronts' south of Archangel. Aerial combat with the Red Air Fleet was rare; the real enemy was weather. The water-cooled DH4 was entirely unsuitable for winter operations, and only one air-cooled RE8 survived the winter. Most of the Squad-

* Maund was British-born, but had moved to Canada before 1914 and was living at Cando, Sask., when he enlisted in the CEF as a private in February 1915. He served at the front with the CEF, and transferred to the RFC in 1916. As a major he was a member of the RFC mission sent to Russia at the time of the March Revolution, and flew with other members of it in aid of the Kornilov offensive in the summer of 1917. See his 'War experiences' in Air 1/2387/228/11347.

† The Canadians included G.W. Ashbrook of Winnipeg, A.H. Bill of Saskatoon, Sask., F.A. Bradley of Calgary, P.V. Dobby and R.E. Gordon, both of Montreal, J.W. Grant of Lacombe, Alta, B.A. Heeney of Calgary, M.B. Henselwood of Winnipeg, G.W. Jones of Moncton, NB, James McDonnell of Alexandria, Ont., T.F. Naylor of Watrous, Sask., Frank J. Shrive of Hamilton, F.F. Tattam of Winnipeg, and A.E. White of Vancouver.

ron's flying was done on Sopwith 1½ Strutters shared with Russian aviators. In the spring, when it had already been decided to withdraw the demoralized allied force, two fresh brigades were sent out to ensure a safe evacuation; the reinforcements also included new aircraft and aircrew, among them a number of Canadians.* General Edmund Ironside, commander of the force, launched an offensive during the summer of 1919 in order to leave the local Russian governments in a stronger position against their Bolshevik opponents, and during attacks up the Dvina River the RAF saw considerable action. Withdrawal was complete by 21 September.

Subsidiary to the Archangel front was that at Murmansk. With the small force there were six RE8s, the complement of airmen including Lieutenant R.A. Adams of Toronto and Second Lieutenant C.S. Booth of Winnipeg. 'Duck' Flight,[†] made up of seaplanes from *Nairana* and *Argus*, also supported ground and naval attacks,[‡] but the airmen were all evacuated on 27 September 1919, two days ahead of the ground forces.

British intervention took its most significant form in the Caucasus after 11 November 1918, and was justified variously as necessary to protect land communications with India, to sustain the new-born republics of Georgia, Azerbaijan, and Armenia, and to safeguard the rich Baku oil-fields. Two British divisions had been committed to the campaign by the end of 1918; with them came 62 Wing RAF, composed of 221 (DH9) Squadron and 266 (Short 184) Squadron. 'We were asked to volunteer for duty in Russia with extra pay and allowances,' Lieutenant Frank R. Bicknell of Dunnville, Ont., recalled. He, Second Lieutenant H.G. Thompson of Belmont, Ont., and Second Lieutenant R.G.K. Morrison of Chesterville, Ont.,[§] all took a leading part in 266 Squadron's most significant operation during its stay in the Caucasus. On 21 May 1919 the unit bombed a Red flotilla in harbour at Fort Alexandrovsk on the eastern shore of the Caspian Sea, and thirteen vessels were sunk by bombs and naval gunfire. This attack came shortly before the British government decided to withdraw its forces in June 1919.

The Caucasian republics were turned over to General Denikin, a Great Russian who had no sympathy for their autonomist aspirations. With the British Military Mission sent out to Denikin was an RAF training team, commanded by Maund and assigned the task of organizing a Russian air service. Pending that, 47 Squadron, which had served during the war in Macedonia, was sent from Bulgaria to support Denikin's operations; among its pilots was Lieutenant E.J. Cronin of Saint John, NB, who had been with the squadron since 1917. Neither officers nor men

* L.A.A. Bernard of Montreal, W.G. Boyd of Hamilton, N.G. Fraser of Toronto, L.W. Kidd of Listowel, Ont., A.A. Leitch of High River, Alta, Claude M. Lemoine of Toronto (killed 20 Aug. 1919), David Neil of Margaree Harbour, N.S., L.S.E.S. Punnett of Victoria, A.J. Rankin of Montreal, Earl Scramlin of Weyburn, Sask., and F.O. Soden from New Brunswick.

† Canadians in 'Duck' Flight included L.C. Hooton of Victoria, H.A. Marshall of Vancouver, R.W. Ryan of Goderich, Ont., and F.J. Stevenson of Winnipeg. All four were volunteers from the Canadian Air Force in England.

‡ Including the use of gas-filled bombs against Red forces, the first time that aircraft had been used in conjunction with the gas weapon.

§ Other Canadians in the Caucasus included Second Lieutenant W.S. Haney of Sarnia, Ont., with 221 Squadron, and Second Lieutenants W.H. August of Winnipeg and H.M. Keith of Toronto with 266 Squadron.

had volunteered for this duty; according to Air Vice-Marshal Collishaw's recollections there was a 'severe dragging of heels' at the squadron's base at Ekaterinodar (now Krasnodar) in the assembling of the squadron's DH9s. The squadron went to the Volga front in early June 1919. In order to release officers desiring demobilization Collishaw, then a major, was sent out to command 47 Squadron, and he brought with him a party of volunteers. Cronin elected to stay on, and was joined by two other Canadians, Captains W.F. Anderson of Toronto and J.L. MacLennan of Montreal.

The RAF airmen carried out their duties with Denikin's forces energetically, though their numbers were too few to have any appreciable effect. Anderson and his observer, Lieutenant Mitchell, distinguished themselves on 30 July while carrying out a photographic reconnaissance along the Volga. When Anderson's fuel tank was punctured by fire from the ground, Mitchell climbed out on the port wing and plugged the leaks with his fingers, while Anderson jettisoned his bombload on a gunboat in the Volga. Meanwhile, Anderson's escort, a DH9 flown by Captain William Elliott, a future Air Chief Marshal of the RAF, had been shot down by machine-gun fire; Anderson thereupon landed close by. 'Several Squadrons of Cavalry attempted to surround our machine,' he reported, 'but they were kept clear by our machine-gun fire.' Elliott set fire to his aircraft, he and his observer tumbled into the other DH9, and with Mitchell still plugging the holes in the fuel tank with his hand, Anderson flew home. Both Anderson and Mitchell were recommended for the VC by Maund; eventually they received DSOs.

The Red Air Fleet, flying a collection of allied and German aircraft, was more active in this theatre than it had been in North Russia. Collishaw organized a flight of Camels obtained from Mudros to counter the Bolshevik Nieuports. Meanwhile, Russian products of the RAF training team were beginning to fly operationally, using DH9s and RE8s, which the Russians found no easier to fly than had the British when they were first introduced. There appears to have been a good deal of interchange of roles between the instructors with the Mission and the aircrew of 47 Squadron.*

The magnitude of British aid to Denikin was enormous. From March 1919 to March 1920 the Russians received 1200 guns, nearly two million shells, 6100 machine-guns, 200,000 rifles, 500 million rounds of SAA, hundreds of trucks and motorcycles, seventy-four tanks, and 100 aircraft, plus uniforms and many other stores. Only a part of this vast amount of material reached front-line units; the commander of the British Mission, Major-General H.C. Holman, complained in his final report that 'the incompetence and corruption of the administrative services and departments could not be overcome by any scheme.' It was Denikin's successes in an offensive during the summer that persuaded the British government to maintain its support for him, despite his own excesses and rising criticism at home. Even so, domestic political pressure caused the British to withdraw

* Canadians who served with the Mission included W.F. Anderson, J.L. Brandon, and H.S. Broughall, all of Toronto, Harold 'Gus' Edwards of New Aberdeen, NS, E.G. Jones, address unknown, H.W. Minish of Gilbert Plains, Man., F.E. Proctor of Thornbury, Ont., Robert Pyper of Stettler, Alta, and N.G. Reynolds of Pembroke, Ont. Anderson, Broughall, and Edwards served with 47 Squadron as well; there may have been others.

47 Squadron from Russia; its members instead were asked to volunteer for the Mission. The squadron was disbanded on 1 October 1919 and in its place appeared 'A' Detachment, RAF Mission, with the same organization, personnel, equipment, and task.

On 13 October Denikin reached his high-water mark upon entering Orel, only 250 miles from Moscow. General Wrangel suggested that the RAF bomb the capital, but the War Office forbade such an attempt, 'as there is no military value in this operation.' Within a few days the bombing of Moscow became physically impossible for on 20 October Denikin was compelled to withdraw from Orel, and a long retreat commenced, ultimately to end in the extinction of his army along the shores of the Black Sea. During the first stages of Denikin's retreat 'A' Detachment flew on the Volga front, around Tsaritsyn. Collishaw joined frequently in fighter patrols, and on 9 October was credited with his 61st air victory, downing an Albatros D-V which crashed beside the Volga. Shortly afterwards he was invalided to the rear suffering from typhus.

When it became obvious to General Holman that Denikin was in grave difficulty, he intervened directly in RAF dispositions and rushed two flights to the Kharkov front and into action on 8 December. Holman flew personally as the convalescent Collishaw's observer on a number of bombing flights, but it soon became evident that irretrievable disaster was overtaking Denikin's forces. Amid scenes of extraordinary confusion, the various elements of the RAF Mission made their separate ways to the Crimea, Rostov, and the Kuban. One air unit remained in the Kuban until evacuated from Novorossisk in March.* Collishaw, with another remnant, carried out bombing and reconnaissance missions for Wrangel's Crimean army in February and March 1920. RAF participation in the Russian Civil War finally ended with the withdrawal of the British Military Mission in the late spring of 1920.

The RAF had no significant influence upon the course of events in Russia. Its employment was piecemeal, and bore no comparison to the massive deployment of air power on the Western Front. Some of its work had a short-term effect upon military operations, particularly the bombing of the Caspian flotilla by 266 Squadron and some notable air co-operation with sea and ground forces in the Archangel theatre. But nowhere could the RAF exert any decisive effect upon the campaigns in which it was employed, nor, it appears, did the service learn much from its experience in operating over the vast Russian lands and in coping with Russian climatic extremes.

The RAF presence in Russia was, in the first instance, an outgrowth of the exigencies of the First World War. With the end of the war the British intervention was transformed into a species of anti-Bolshevik crusade. It is unlikely, however, that many of the Canadians who found themselves flying over the White Sea, the steppeland, or the Caucasus were motivated primarily by ideological considerations. Most of them were relatively inexperienced airmen who were in Russia because of the lottery of service postings. Among the volunteers some were mili-

* With 'c' Flight in the Kuban were Anderson, its commander, and Broughall, Edwards, and W.F. Hay of Killarney, Man.

tary adventurers, others already professional airmen, and a few a combination of the two. For young men who had joined the armed forces directly from school or university, and had no trade or profession waiting for them in civilian life, Russian service was a chance to earn a permanent commission in the RAF or in the Canadian air force to come.* For others, it was simply another opportunity to continue their love affair with the aeroplane.

* Some of the Canadians who served in Russia remained in the RAF. Among the more prominent were Maund, who retired as an air vice-marshal in 1937, Collishaw, who retired with the same rank during the Second World War, and Broughall, who as a group captain was Collishaw's senior staff officer in the Western Desert. Harold Edwards went into the peacetime RCAF and headed the RCAF Overseas in 1941 with the rank of air marshal. A.J. Rankin retired as an air commodore, RAF, in 1951. Others went on to distinction as civilian airmen. F.J. Stevenson, for example, became an outstanding bush pilot and winner of the Harman Trophy in 1927; he was killed in a crash at The Pas in 1928.

APPENDIX B

Canadians in Other Theatres, 1915-18

'Other theatres,' in the context in which the term is used in this appendix, encompassed a vast, elongated, scalene triangle whose baseline stretched some three thousand miles along a north-south axis from Aleppo in Asia Minor, across the equator, to the southern shores of Lake Tanganyika in German East Africa, and whose apex lay eight hundred miles eastwards in the Tigris-Euphrates delta at the head of the Persian Gulf. It embraced nearly every conceivable type of topographical, climatic, and biological unpleasantness, from sandstorm to monsoon, snow-capped mountain to malarial swamp, and tsetse infested savannah to scorpion-haunted desert. Men fell sick – and often only the lucky and hardy recovered – from malaria, sandfly, dengue, and half-a-dozen other less well-known but equally deadly fevers. Their daily companions were dysentery, heatstroke, jaundice, eczema, and an array of insects and reptiles whose respective bites or stings ranged in effect from painful to fatal. For much of the time the German or Turk was only one enemy amongst many, no more and no less dangerous than the others.

Nor was the environment any easier on machines than on men, imposing strains on engines and airframes far in excess of those experienced by more sophisticated equipment in less intemperate regions. Motors laboured mightily to keep primitive Voisin and BE2c aircraft aloft in the rarified air of the central African plateau, where ground level was approximately three thousand feet above sea level; cylinder linings were scored, pistons abraded, and carburettors blocked by sand and dust; propeller glues melted, spars warped, and rubber tubing shrivelled in the torrid heat; fabric stretched and peeled in the humidity; and violent thermals swirled over desert plains when the noon air temperature at ground level sometimes reached 114°F in the shade for as long as a month at a time.

The problem was compounded by the need to transport spare parts, fuel, oil, weapons, and ammunition over immense distances by means which spanned the technological gamut from triple-expansion steam boilers to camel or ox-cart. Even after Brigadier-General W.G.H. Salmond's* newly-formed Middle East Brigade began to administer and co-ordinate air activities in Palestine, Mesopotamia, and

* The elder brother of Brigadier-General J.M. Salmond, who had been commanding an RFC brigade in France since February 1916 and who would succeed Trenchard as Commander-in-Chief of the RFC in the Field in January 1918.

East Africa (as well as in Macedonia) from Egypt in July 1916, an engine damaged somewhere up-country from Dar-es-Salaam would still have to travel nearly four thousand miles by land and sea, around the Horn of Africa, to reach the brigade's main workshops at Aboukir, near Alexandria, where major repairs could be carried out. One from Amara, on the Tigris, would face an even longer journey.

Another level of complexity was added by the understandable tendency of higher authority to relegate to these distant theatres a kaleidoscopic variety of aircraft which were obsolete, obsolescent, or, in some technical sense, unsatisfactory in the more sophisticated air environments of the European battlefronts. Each type had a different make or model of engine and only rarely was it possible to interchange motors from one airframe to another. The enemy, whose lines of communication were generally shorter but often even more complex and primitive than those of the *Entente*, simplified his maintenance problems by using few types of aircraft and concentrating upon those which had a common power-plant. The Rumpler C-I and Aviatik C-III reconnaissance-bombers, for example, used the same basic 160-hp Mercedes engine which powered the Albatros D-III and Fokker D-IV fighters.

In German East Africa *Oberstleutnant* (later *General-Major*) Paul von Lettow-Vorbeck with some three thousand Europeans, eleven thousand *askaris*, and no air support whatsoever waged a campaign of manoeuvre that kept, at various times, nearly 300,000 Imperial and Belgian troops and up to three squadrons of aircraft in the field for four years. The aeroplane played no major role in operations after the destruction of the *Königsberg* in the Rufiji delta during July 1915 (see chapter 5). While the British forces were so strong that there could be no question of a major defeat, they were quite unable to pin down Lettow-Vorbeck, and the air function, first to last, was essentially a reconnaissance one. Desultory attempts at artillery co-operation and strafing of enemy columns were made, but the effect seems to have been largely limited to frightening, and thus temporarily disorganizing, the columns of native porters upon which the Germans relied for their very limited logistic support.

Only two Canadians, RNAS Flight Sub-Lieutenants John Robinson of London, Ont., and Rudolf Delamere of Toronto, are known to have served in this campaign, both arriving in March 1916. Robinson spent a year there and Delamere more than two.*

In Palestine and Mesopotamia, where the *Entente* had vital interests at stake, the air arm played a more prominent part, and the equipment and tactical evolution of air warfare generally paralleled, after a significant time lapse, the practices of the Western Front, Italy, and Macedonia. Although the British were nominally opposed by an Ottoman air force only formed in 1915 and supported by squadron-strength elements of the German air force, in fact nearly all the 'Turkish' airmen were actually German. Genuine Turkish representation in air operations,

* Robinson subsequently served at Dunkirk (where he was wounded in November 1917) and with 202 Squadron, RAF. On 25 April 1918 he won a DFC for a photo-reconnaissance of Zeebrugge, when his machine was badly damaged by anti-aircraft fire. Delamere also won a DFC 'in recognition of the gallantry and devotion to duty shown by him in carrying out reconnaissance, bombing and photographic flights during the military operations in the Lindi (East Africa) area.'

even at the end of the war, was limited to a few outstanding individuals.* The air war in Asia Minor was only marked by one substantial innovation – and that one of scale rather than of principle – when the besieged and starving garrison of Kut-el-amara was supplied by air with some 19,000 pounds of food prior to its capitulation to the Turks on 29 April 1916.

Seventeen Canadian airmen are known to have participated in the Mesopotamian campaign, the first two being Flight Sub-Lieutenants M.J. Arnold, from the Queen Charlotte Islands, who had won a DSO for his part in the destruction of the *Königsberg*, and W.B. Lawson of Toronto, an RMC graduate who was eventually appointed, in May 1919, to the command of one of the two squadrons that formed the first Canadian Air Force. Lieutenant H.W. Price of Toronto, the longest-serving Canadian airman in the theatre, joined 63 Squadron in June 1917 and served in Mesopotamia until the end of the war. He was wounded on 24 October 1918 but was flying again at Khasvin (Persia) in the early 1919 operations against the Bolsheviks there.

However limited their numbers, aircraft were able to play important roles in Mesopotamia and Palestine. Heat mirages and flat, featureless plains often made artillery observation virtually impossible from the ground, but aircraft enabled both problems to be overcome and thus greatly enhanced the effectiveness of the guns. The comparatively featureless nature of much of the terrain on the fronts also emphasized the importance of airpower in a reconnaissance role, for it proved extremely difficult to camouflage any substantial body of troops or accumulation of supplies in such isomorphous environments. Reconnaissance in depth was carried out by aircraft at a speed and over ranges quite inconceivable in terms of the traditional cavalry reconnaissance capability.† This made it virtually impossible to deny the enemy a comprehensive knowledge of any major tactical preparations or strategic movement. Moreover, in theatres where extant maps were deficient and uncertain in content, photo-survey work by aircraft enabled the Topographical Branch to produce maps adequate to the operational needs of the Army.‡

Airpower particularly distinguished itself in a ground-support role in the course of Sir Edmund Allenby's final Palestinian offensive, when the Turkish army was broken at Megiddo in September 1918. Carefully orchestrated bombing destroyed nearly all the radio and telecommunications which linked the Turkish troops with their headquarters, bringing a total breakdown of the enemy's command and control. Then after ground forces had broken into the Turkish position on 19 September 1918, the fleeing Turks were caught in column between Tul Karm and

* The best account in English of German and Turkish air operations in Palestine and Mesopotamia is to be found in B.P. Flanagan's four-part series, 'The History of the Ottoman Air Force in the Great War, the Reports of Major Erich Serno,' in *Cross & Cockade Journal*, 11, 1970.

† In November 1916 a machine of the German air force's *Fliegerabteilung 300*, operating from Beersheba, flew over Cairo and took photographs of the pyramids of Gizeh to prove it – a round trip of some eight hundred kilometers. See Flanagan, 'The History of the Ottoman Air Force in the Great War,' *Cross & Cockade Journal*, 11, summer 1970, 137.

‡ The planning of operations for the initial campaign in the Sinai had had to be based upon a map series worked up from an 1878 survey done by Lord Kitchener during his service as a subaltern. See A.P. Wavell, 'The Strategy of the Egyptian Expeditionary Force,' in *Army Quarterly*, 111, Jan. 1933, 9.

Nablus. Over eleven tons of bombs were dropped and 66,000 rounds fired at ground targets. By nightfall the two Turkish divisions on the Plain of Sharon had been destroyed and some seven thousand Turks had been taken prisoner. Most of the Turkish Eighth Army positions on the left had been abandoned, and Allenby's cavalry, which had overrun Megiddo, reached the German aerodrome at El Affule by 0800 hrs the next morning. On the 20th the RAF dropped another ten tons of bombs and fired forty thousand rounds of machine-gun ammunition into the retreating enemy. The next day an early reconnaissance revealed that a continuous stream of Turkish guns and transport was pouring northeast of Nablus along the Wadi-al-Fara defile, through Ain Shible, and along the road to Tubas. All squadrons participated in the subsequent bombing, which was planned so that pairs of bombing aircraft would fly at three-minute intervals supplemented every half-hour by a formation of six machines. Nine-and-a-half tons of bombs were dropped and 56,000 rounds were fired and, again, an immense amount of destruction was wreaked upon the Turkish remnants.

Only one disciplined body – the German Asia Corps, a few hundred strong – and a thousand or so Turkish stragglers succeeded in breaking out of the trap which Allenby had laid, and for all practical military purposes the Turkish Seventh and Eighth Armies were annihilated. Moreover, the remaining Turkish forces were so demoralized by the fate of their comrades that they were able to offer little opposition to further British advances, which were limited more by problems of logistics than by the efforts of the enemy. Damascus fell on 1 October, Aleppo was taken on 26 October, and five days later an armistice was concluded between the *Entente* powers and Turkey, four years less five days after Turkey had entered the war.

In the Egypt-Palestine theatre at least nineteen Canadians flew on operations, most notably Captains G.M. Croil (see 451–2) who piloted Col. T.E. Lawrence – 'Lawrence of Arabia' – on at least one flight from Aqaba to Jerusalem; F.F. Minchin, born in India but an original member of the PPCLI, who won an MC and a DSO flying in Palestine; R.B. Sutherland of Ingersoll, Ont., who won a DFC in September 1917; and R.C. Steele of Birch Creek, Sask., who was awarded a DFC before being killed in action in March 1918, one of the four Canadian combat fatalities in the theatre.

APPENDIX C

Statistical Analysis of Canadians in the British Flying Services

Because there was no distinctively Canadian air force during the First World War, Canadians enlisted directly into the British flying services or were seconded or attached from other services. The absence of a comprehensive body of personnel records for Canadians has meant that statistical information on the services of Canadians in the British flying services – where, when, and how they enlisted, how they served, and when and how many gave their lives – has been entirely lacking. For this reason a computerized inventory was undertaken to list briefly biographical details for as many Canadians as could be identified. Combining the data presented in these records in various ways would, it was hoped, provide statistical studies offering some insight into the background experience of Canadians in the flying services.

The largest part of the data base was provided from cards for each identified Canadian, at present held by the Directorate of History. Ninety-six hundred individuals were so identified in 1919 by two non-commissioned officers from the Canadian War Records Office working in the lists of the Postings Branch, Royal Air Force, and from British Expeditionary Force ledgers.¹ The cards were sent to Canada, and numbers were lost before they reached the Air Historian in the 1950s. Since that time information has been added to the card file, some reconstruction of the missing parts made, and new names added. Very significant amounts of data on Canadians in the Royal Naval Air Service were drawn from Director of Naval Service personnel files on RNAS candidates, now held by the Canadian Forces Records Centre.²

In addition to the information contained on the biographical cards, the data base was supplemented by material from a number of miscellaneous sources of information, such as a two-volume register of Canadian Expeditionary Force officers seconded to the British flying services and the service records of former employees of the Canadian Bank of Commerce.³

The computer file contains 13,160 names, of which 6904 were known Canadians, 1736 were known non-Canadians (chiefly Americans who enlisted or trained in Canada), and 4520 were of unknown origin.* There was no evidence to

* In cases where it could be determined, a Canadian was considered to be a person born in Canada, a naturalized alien domiciled in Canada, or a British subject domiciled in Canada for three years, in line with the Immigration Act of 1910.

suggest whether the unknown portion would break down the same way as the known group. The file also showed that 5241 joined the Royal Flying Corps, 936 the Royal Naval Air Service, and 6709 the Royal Air Force – that is, enlisted after 1 April 1918. The remaining 174 were in other armed services or of unknown service. Almost all were aircrew, either officers or cadets.

These figures may be compared to the 'official' figure of 22,812 Canadians in the British flying services as inscribed in the Memorial Chamber of the Parliament Buildings.* If the 7453 mechanics recruited in Canada for the flying training scheme are subtracted from this number, the remaining total, 15,359, is still some two thousand individuals greater than the number in the computer file. Indeed, a comparison of figures in each category making up these figures suggests that the computer file is in fact short some three thousand names, and that this shortage is largely among direct enlistments into the RFC/RAF Canada training scheme. The 'official' figures state 3960 joined from the CEF. The computer file has identified 4580. The figures in the Memorial Chamber indicate 10,010 officers and cadets as coming from RFC/RAF Canada. Alan Sullivan's researches unearthed a number only slightly smaller.⁴ The computer file has identified only 2250. The 'official' figures show 1389 'other Canadians' joined in England. From the computer file one can isolate 486 names which might come into this category. The computer file contained an additional 5558 names for whom no method of joining was indicated. Some were doubtless direct entries, but it is suspected that most were RFC/RAF Canada entrants for whom there was little information. If the numbers of those joining in England (1389) and the RFC/RAF Canada (10,010) in the 'official' figures are added, the total is 11,399. If the equivalent categories in the computer file are added (489 + 2250 + 5558), the total is 8297. Somewhere in these categories, then, the computer file is short over three thousand names. As the individuals for whom data were scanty or non-existent were generally those who joined near the end of the war, the shortage in the file was reflected in disproportionate figures for the RAF portion of the file. This bias must be kept in mind in any investigation of the following statistical tables.

The information contained in some fields of the individual records was, when considered throughout the file, too sketchy or biased to present any meaningful insights into the characteristics of Canadians who joined the British flying services. For this reason, there are no analyses here of such very interesting questions as joining age of the Canadian airmen, their occupations or experience before enlistment, the length of time they spent training before going overseas, or the awards they won while serving in the flying services. The analyses here have concentrated on the fields of geographic origin, dates and methods of joining the flying services, and casualties.⁵

* This figure was based to some extent on approximations and was known even by the end of 1918 to be inaccurate owing to difficulties in the compilation of data. That portion of the figure dealing with Canadians who transferred from the Canadian Expeditionary Force to the flying services has been proven to be considerably low. 'Inscription on Panels, Memorial Chamber, Parliament Buildings,' nd, GAQ 10-20J, PAC, RG 24, vol. 1839; Rudi Aksim, 'C.E.F. transfers to the British flying services,' nd, 1-2, 97, DHist 74/14

TABLE I
Total Canadians: origin by province

	Number of enlistments	Provincial population (000s)	Rate of enlistments per thousand population
BC	816	392.5	2.08
Alta	423	374.7	1.13
Sask.	396	492.4	.80
Man.	584	455.6	1.28
Ont.	3479	2523.3	1.38
Que.	684	2003.2	.34
NB	172	351.9	.49
NS	298	492.3	.61
PEI	48	93.7	.51
Territories	4	27.0	.15
TOTAL	6904	7206.6	

Total $X^2 = 2034.1$

Critical $\chi^2 .001 (9df) = 27.9$

The quantity X^2 is a measure of the deviation of the observed value from that expected on the given hypothesis (here that rates are independent of province). It is approximately distributed as χ^2 with degrees of freedom (df) depending on the number of levels in the categories of the table. From the χ^2 distribution one can therefore determine the probability that a value as large as the calculated X^2 could be obtained by chance. (Here for $X^2 = 2034$ it is less than 1 in a billion.) Alternatively, to a predetermined significance level there corresponds a critical value of χ^2 which would not be exceeded by chance. In the present case with 9 df, there is a chance of less than 1 in a 1000 (.001) that an X^2 value of higher than 27.9 could have resulted by accident. One would therefore reject the hypothesis that the rates are province-independent at the 0.001 significance level.

ORIGIN BY PROVINCE

Table 1 is a breakdown of the 6904 Canadians with known addresses by their province of origin, and shows rates of enlistment per thousand population.* A test for independence of rates by province gave a value of X^2 of 2034.1, significant at well before the .001 level. The joining rates were therefore not independent of province.

The behaviour of Quebec in this table is significantly different from that of any of the other provinces, and this is brought about by the lowest joining rate of any of the provinces, .34 per thousand population. This may be compared to the small Quebec enlistment in the CEF,⁶ which historians have linked to inadequate recruiting methods and opposition to taking part in the war.⁷ It must also be

* Provincial and municipal populations throughout this section were based on the 1911 census figures.

remembered that joining a flying service meant enlistment in a completely non-Canadian, imperial service, where not even the token recognition given to the French language in parts of the CEF would be found.

On the other hand, when the Quebec figures are excluded from the comparison, the British Columbia enlistments, with the highest joining rate in Canada, at 2.08 per thousand, are different from those of any of the remaining provinces. Much of this may be attributed to the proportionately large first-generation British population of the province, who were also quick to volunteer for the CEF.⁸

When the figures for Quebec and British Columbia are excluded from the table, it is not surprising to note that Ontario, which supplied such a large proportion of the enlistments, is different from the remaining provinces. Ontario rates reflected English-Canadian attitudes towards the war and, as well, the substantial British-born population. Many of the important military establishments were in Ontario, which may have been a factor in recruiting for all services. Specifically, many RNAS candidates had to come to the Curtiss Flying School in Toronto at their own expense, clearly an advantage to those living in Ontario.⁹ Also, the RFC/RAF Canada training scheme was wholly located within Ontario, encouraging air-mindedness within the neighbouring population and providing a convenient stimulus to recruiting.

It is of some interest to compare the rates per thousand of joining the flying services for each province with the rate of joining the CEF.

	BRITISH FLYING SERVICES	CANADIAN EXPEDITIONARY FORCE
BC	2.08	141.59
Alta	1.13	130.48
Sask.	.80	84.66
Man.	1.28	145.39
Ont.	1.38	96.17
Que.	.34	43.95
NB	.49	76.90
NS	.61	72.56
PEI	.51	39.43

It may be seen that the only moderate success of recruiting for the CEF in the Maritimes was quite accurately reflected by the flying services. The considerable British Columbia and Ontario contributions to the CEF were paralleled by high rates of flying services enlistment.

ORIGIN BY CITY

Table 2 shows how the 3660 enlistments were distributed in the fourteen largest cities of Canada. These cities, all those of over 5000 population in the 1911 census, have been arbitrarily classified as the 'urban' portion of the country, although one might well consider centres of considerably under 5000 to have been 'urban' at that time.

TABLE 2
Origin by city

City	Number of enlistments	City population (000s)	Rate of enlistments per thousand population
Montreal	474	538.2	.88
Toronto	1285	384.5	3.35
Winnipeg	377	143.5	2.62
Vancouver	350	100.4	3.50
Ottawa	256	87.1	2.94
Hamilton	157	82.0	1.91
Quebec	35	86.1	.41
Halifax	85	51.7	1.61
London	93	46.3	2.02
Calgary	123	43.7	2.80
Saint John	50	42.5	1.16
Victoria	192	37.6	5.05
Regina	70	30.2	2.33
Edmonton	113	24.9	4.52
TOTAL	3660	1698.7	

Total $X^2 = 1158.6$

Critical $\chi^2 .001 (13df) = 34.5$

When the enlistments from Montreal are compared with those of the other cities, it is seen that the low rate of enlistment makes that city different from the others. Similarly, when Montreal is excluded, Quebec is different from the remaining cities in the same way. Much the same reasons for this may be advanced as for the low rate of enlistment in the Province of Quebec as a whole.

If Montreal and Quebec are considered in isolation from the other cities, it is obvious that the number of enlistments from each is not in proportion.

	ENLISTMENTS	REMAINDER	TOTAL
Montreal	474	537,726	538,200
Quebec	35	86,065	86,100
TOTAL	509	623,791	624,300

$$\chi^2 = 20.49^*$$

Quebec is significantly under-represented in enlistments. This must be attributed to its greater proportion of francophone population when compared to Montreal.

* This is not, strictly speaking, a χ^2 value, but behaves as one at 1 df.

Returning to Table 2, if the two francophone cities are excluded, the enlistments from Victoria, at the highest rate of all, 5.05 per thousand, are significantly different from those from the remaining cities. Again, if Victoria is also excluded and the enlistments from Vancouver are considered against those of the remaining cities, it is seen that Vancouver's high rate of enlistment also makes it significantly different from the remainder. Again, the high city rate for these two cities is paralleled by the high rate of British Columbia as a whole.

If Vancouver is compared to Victoria in isolation from the other cities, an imbalance in rates of enlistment is seen.

	ENLISTMENTS	REMAINDER	TOTAL
Vancouver	350	100,050	100,400
Victoria	192	37,408	37,600
TOTAL	542	137,458	138,000

$$\chi^2 = 18.36$$

Victoria is considerably over-represented in the flying services when compared with Vancouver. This may reflect the particularly high concentration of first-generation British settlement in Victoria, and the markedly British character the city has always had. The effect seen in British Columbia as a whole when compared with the rest of Canada is again seen when Victoria is compared with the other major city of the province.

CITY AND RURAL ENLISTMENTS

In Table 3 the numbers and rates of enlistment for the cities in Table 2 are compared with the numbers and rates for the remainder of each province in which the cities are located. Although many urban centres of under 5000 population are included in the remainder of each province, it does give some comparison of city and rural enlistments. On the whole, the city rate of enlistment was somewhat more than three times the rural. It was, apparently, the urban dweller, presumably somewhat familiar with engines and things mechanical, or having the benefits of a better education, or perhaps more easily reached by the recruiting advertising, who was more likely to join one of the flying services than was the rural 'wild colonial boy' sometimes popularly thought to make up the bulk of Canadians in the flying services. It should be noted, however, in Table 3, that the totals joining from the cities and the rural areas were nearly equal.

In Table 3 it was attempted to fit a model in which it was assumed that for given city and rural populations in the provinces the number joining by city or rural areas were province-independent. This would be equivalent to a constant value for city rate divided by rural rate.

The expected values thus determined were used in a goodness of fit test. A value of 25.5 calculated for the statistic distributed as χ^2 with seven degrees of freedom. A value as high as this would occur by chance less than once in a thou-

TABLE 3
Comparison of city and rural recruiting rates by province

Province	City			Rural			Combined rate
	No joined	Population (000)	Rate per 1000	No joined	Population (000)	Rate per 1000	
BC	542	138.0	3.93	274	254.5	1.08	3.65
Alta	236	68.6	3.44	187	306.1	.61	5.63
Sask.	70	30.2	2.32	326	462.2	.71	3.29
Man.	377	143.5	2.63	207	312.1	.66	3.96
Ont.	1791	599.9	2.99	1688	1923.4	.88	3.40
Que.	509	624.3	.82	175	1378.9	.13	6.42
NB	50	42.5	1.18	122	309.4	.39	2.98
NS	85	51.7	1.64	214	440.6	.49	3.39
TOTAL	3660	1698.7	2.15	3240	5387.2	.60	3.58

sand times. Hence the hypothesis that the rate ratio is province-independent is rejected.

It is difficult to assign a significance level to the behaviour of any particular province. However, knowing that the provinces are different, one can look again at those which show a particularly high ratio – that is, at Quebec and Alberta.*

Undoubtedly, it is the high proportion of francophone rural population in Quebec which distorts the rate of that province. The rate of enlistment from Quebec was the lowest of any province, and it is known from individual records that the anglophone community in Montreal made an impressive contribution to the British flying services. These two factors combine to give a very high city-rural rate. Reasons are more difficult to pinpoint in the case of Alberta. Certainly, the province contained a large proportion of first-generation British immigrants. These may have been concentrated in the towns owing to their recent arrival. It may also be that the scarcity of under 5000 population towns and villages in Alberta at that time accentuates the number of enlistments from the two large cities in relation to the remainder of the province.

ENLISTMENTS INTO EACH SERVICE BY PROVINCE

To test whether the enlistments from the provinces were proportionally distributed over the three services, a contingency table was used. The Territories were excluded owing to the small sample and the Maritimes were grouped for convenience.

* Alternatively, one can postulate a log linear model expressing the logarithm of the counts in each of the three factors – joining status, province, and area (city or rural) and their two- and three-way interactions. The three-factor interaction is not zero. Individual values for the provinces have been evaluated. Again it appears that for Quebec and Alberta these interactions expressed in terms of their standard deviations are large, 5.7 and 3.8 respectively.

TABLE 4
Numbers of enlistments by province

	BC	Alta	Sask.	Man.	Ont.	Que.	Maritimes	Total
RFC	381	141	160	241	1536	274	203	2936
RNAS	74	30	19	62	510	80	34	809
RAF	354	244	215	278	1402	320	274	3087
TOTALS	809	415	394	581	3448	674	511	6832

TABLE 5
Percentage of enlistments into each service by province

	BC	Alta	Sask.	Man.	Ont.	Que.	Maritimes
RFC	13.0	4.8	5.4	8.2	52.3	9.3	6.9
RNAS	9.1	3.7	2.3	7.7	63.0	9.9	4.2
RAF	11.5	7.9	7.0	9.0	45.4	10.4	8.9

TABLE 6
Percentage of each province's enlistments by service

	BC	Alta	Sask.	Man.	Ont.	Que.	Maritimes
RFC	47.1	34.0	40.6	41.5	44.5	40.7	39.7
RNAS	9.1	7.2	4.8	10.7	14.8	11.9	6.7
RAF	43.8	58.8	54.6	47.8	40.7	47.5	53.6

Total $\chi^2 = 132.8$

Critical $\chi^2 .001 (12df) = 32.9$

From the χ^2 values there was evidently no marked preference concerning service of enlistment in various parts of the country. However, the RNAS enlistments from Ontario were considerably over-represented when compared with the other RNAS enlistments and the other services. Certainly enlistment was easier in Ontario, for the applicant could appear directly at Department of the Naval Service offices without great personal travelling expense. The only other locations where RNAS applicants were recruited were Halifax and Esquimalt. Also, for much of the time RNAS candidates were required to hold a civil pilot's certificate, and the only school in Canada was the Curtiss School in Toronto. It may also have been that there was in Ontario a larger proportion of the British background, college-educated young men the RNAS seemed most eager to recruit.*

* That the RNAS was consciously trying to recruit this sort of individual is only an impression gathered from the large number of recruits such as R.H. Mulock, Robert Redpath, A.R. Brown, G.A. Gooderham, or W.H. Peberdy who had this sort of background. This impression was somewhat borne out in the computer programme by the number of students and professionals who

TABLE 7
Enlistments by province by year

	BC	Alta	Sask.	Man.	Ont.	Que.	Maritimes	Foreign	Total
1915	41	8	5	18	159	23	15	22	292
1916	60	32	25	44	381	70	36	77	725
1917	263	106	111	179	1151	183	132	505	2630
1918	321	213	195	244	1314	288	252	711	3538
TOTALS	686	359	336	485	3005	564	435	1315	7185

TABLE 8
Percentages of each year's enlistments by province

	BC	Alta	Sask.	Man.	Ont.	Que.	Maritimes	Foreign
1915	14.7	2.7	1.7	6.2	54.5	7.9	5.1	7.5
1916	8.3	4.4	3.4	6.1	52.6	9.7	5.0	10.6
1917	10.0	4.0	4.2	6.8	43.8	7.0	5.0	19.2
1918	9.1	6.0	5.5	6.9	37.1	8.1	7.1	20.1

TABLE 9
Percentages of each province's enlistments by year

	BC	Alta	Sask.	Man.	Ont.	Que.	Maritimes	Foreign
1915	6.1	2.2	1.5	3.7	5.3	4.1	3.4	1.7
1916	8.7	8.9	7.4	9.1	12.7	12.4	8.3	5.9
1917	38.3	29.5	33.0	36.9	38.3	32.4	30.3	38.4
1918	46.8	59.3	58.0	50.3	43.7	51.1	57.9	54.1

Total $\chi^2 = 161.1$

Critical $\chi^2 .001 (21df) = 46.8$

When RNAS enlistments are excluded, a comparison of RAF with RFC enlistments show fewer RAF enlistments from Ontario than one would expect. When Ontario is excluded, the number of RAF enlistments from Alberta is greater than expected. The Ontario enlistments then, being proportionately greater in the RFC and RNAS, were of greater importance earlier in the war. This may be seen in Tables 7-9. Conversely, Alberta's contribution was more important in the last year of the war.

joined the RNAS as compared to the other two services, although incompleteness of the record in this case makes generalization dangerous. Andrew Johnson, 'Canadians in the British flying services: statistical report on the computer programme,' 1973, 11-14, DHist 74/39; Jane Desbarats, 'Statistical study of Canadian participation in the British flying services in World War I,' DMS staff note, no 26/75, Directorate of Mathematics and Statistics paper, 1975, 39-41, DHist 76/123

In Tables 7-9 the enlistments from each province were analyzed by year in the same fashion as they were by service in Tables 4-6. From a χ^2 test it is obvious that the enlistments from Ontario for 1917 were comparatively more important than for other provinces for 1917, or all provinces for the period up until that time. Not only does this figure represent an intensification of the air war in 1917, which made necessary greatly increased direct enlistment of Canadians in 1917, in addition to greatly increased transfers from the CEF overseas, but also it represents the impact of the RFC Canada training scheme. An avenue for direct enlistment in considerable numbers into the British flying services was thus created in early 1917, and the stations of the training scheme were almost wholly located in Ontario. Potential applicants in Ontario were encouraged by recruiting advertising to join through RFC Canada, and they also could see aircraft and airmen, and had places to enlist near their homes.¹⁰

If the 1917 enlistments from Ontario are excluded, the next most important figure is the foreign enlistments for 1917 compared with the remaining provinces for 1917 and all provinces for 1915 and 1916. Most of the foreign enlistment was American. From April 1917 the United States was also in the war, and the potential applicant could feel that he was fighting his country's enemies through the British services. The US Air Service was still in a position to be extremely selective, but the British, with lower standards after two-and-a-half years of war, were on occasion even seeking out those rejected by the American service.¹¹ Again, the RFC Canada system gave convenient locations for enlistment particularly during the winter of 1917-18 when many of the units moved to Texas.

METHOD OF ENLISTMENT

Tables 10-12 are a breakdown of enlistments by method of joining the flying services and year of enlistment. Some difficulty was experienced with this because the appropriate field was left blank in individual records both to indicate a direct entry and to indicate that the method was unknown. This blank field was most significant for 1917, when compared with other years and other methods, for the small numbers involved. With 1917 excluded, the large numbers involved through this method for 1918 were a large contributor to χ^2 . Comparing this method to others for 1916 to 1915 also resulted in a significant contribution to χ^2 through the small numbers involved. The under-representation of the field in 1916 and 1917 may be explained through the proportionately low number of direct enlistments at a time when many Canadians were joining the flying services through the CEF or the RFC Canada training scheme. On the other hand, the over-representation for 1918 may represent the many individuals about whom so little is known, but most of whom likely joined through RAF Canada, which was under-represented for that year.

When the overseas enlistments (largely from the CEF but also from the British Expeditionary Force and Royal Navy) are compared to the Canadian enlistments, it appears that 1917 was significantly different from other years. Similarly, 1916 was different from 1915. In fact, the overseas enlistments were over-represented for 1916 and 1917, considerably so for the latter year. This may be attributed to the increasing numbers of Canadians in England, and perhaps even more to the

TABLE 10
Enlistments by method by year

	1915	1916	1917	1918	Total
1	141	262	733	4188	5324
2	100	437	1724	2240	4501
3	109	206	710	1354	2379
TOTAL	350	905	3167	7782	12,204

TABLE 11
Percentage of each method's enlistments by year

	1915	1916	1917	1918
1	2.6	4.9	13.8	78.7
2	2.2	9.7	38.3	49.8
3	4.6	8.7	29.8	56.9

TABLE 12
Percentage of each year's enlistments by method

	1915	1916	1917	1918
1	40.3	29.0	23.1	53.8
2	28.6	48.3	54.4	28.8
3	31.1	22.8	22.4	17.4

- 1 Direct entry or method unknown
 2 Overseas enlistments - from CEF, British Army, Royal Navy, RNR
 3 Canadian enlistments - from RFC/RAF Canada, Canadian and American flying schools, Innes-Ker

Total $\chi^2 = 1037.5$

Critical $\chi^2 = .001$ (6df) = 22.5

increasing numbers experiencing the horrors of the Western Front after the formation of the 3rd and 4th Canadian Divisions. The greater use of the aeroplane in close co-operation with the ground forces from the time of the Somme offensive doubtless served to acquaint soldiers with this alternative method of serving. In addition, lowering of RFC admission standards and official encouragement of transfers from July 1916 to October 1917 in order to meet the RFC's manpower needs stimulated joining from the CEF. Overseas transfers were less important in comparison to other methods in 1918, partly owing to increasing concern by the Canadian military authorities over manpower losses to the CEF resulting in limitations being put on transfers after October 1917.¹²

TABLE 13
Numbers of enlistments in each service by method

	RFC	RNAS	RAF	Total
1	1219	505	3864	5588
2	2707	216	1728	4651
3	1281	215	1112	2608
TOTAL	5207	936	6704	12,847

TABLE 14
Percentage of each method's enlistments
by service

	RFC	RNAS	RAF
1	21.8	9.0	69.1
2	58.2	4.6	37.2
3	49.1	8.2	42.6

TABLE 15
Percentages of each service's enlistments
entering by method

	RFC	RNAS	RAF
1	23.4	54.0	57.6
2	52.0	23.1	25.8
3	24.6	23.0	16.6

- 1 Direct entry or method unknown
- 2 Overseas enlistments - from CEF, British Army, Royal Navy, RNVR
- 3 Canadian enlistments - from RFC/RAF Canada, Canadian and American flying schools, Innes-Ker

Total $X^2 = 1515.2$

Critical $\chi^2 .001 (4df) = 18.5$

Methods of enlistment were again analyzed in Tables 13-15, this time by the service joined. It is evident that there were considerable deviations from a proportional representation. This may be seen from Table 15, showing the percentage each method represented in a service. In this, the Canadian enlistments came closest to being equally distributed, while the other two methods were out of proportion in opposite directions. Overseas was high (52.0%) in the RFC and low in the other two services, while direct entry/method unknown was the oppo-

site. With high 1918 figures for direct entry/method unknown as mentioned previously, it is not surprising that the RAF should have had the largest percentage (57.6). However, the RNAS, which usually had the fewest unknowns, had 54% by this method, suggesting that the bulk of this figure was probably direct method.

By far the greatest contribution to χ^2 was made by the RFC through the direct entry/method unknown enlistments. The low number of direct entry/method unknown to the RFC doubtless reflects the lack of opportunities to enter that service directly in 1916 and later, and the more complete records in the programme on those individuals who joined the RFC. By contrast, the large proportion of the RAF enlistments in this category, like the same category for 1918, probably is the result of the poorer individual records, as already explained. Similarly, the high proportion of CEF and other overseas entries, when compared to Canadian enlistments, into the RFC was the product of a deliberate policy of encouraging transfers, while, as already explained, such transfers were being controlled in 1918, which accounts partly for the low proportion of this type of enlistment into the RAF.¹³

CAUSES OF FATALITIES

The 1388 fatal casualties (killed or died) were felt to be an almost complete record for Canadians in the British flying services.* Fatalities represented 10.5 per cent of the RFC enlistments, 10.8 per cent of the RNAS, and 10.9 per cent of the RAF.¹⁴ Tables 16-21 analyze the fatalities by cause by year and by service. There are no surprises here. The low figure for died from disease in 1917 makes this category different from other causes and other years. This is not so surprising in the light of the increasing total number of fatal casualties year by year and then the great increase in disease casualties through the influenza epidemic of 1918. Similarly, in Table 21, that 50 per cent of the drownings were of RNAS personnel is not unusual, given the maritime nature of much of the work of that service. In any case, the total number of drownings was only fourteen.

Of some interest was the high rate of accidental deaths, being 32.9 per cent of the total fatalities. As the war progressed, the proportion of those killed accidentally increased, while those killed in action decreased as a proportion of the total fatal casualties.

	1916	1917	1918
Killed in action	46.2	36.7	26.0
Killed accidentally	28.7	29.5	34.8

* The Book of Remembrance lists 1563 Canadian flyers dead, but includes all who died up to April 1922. List of Canadians who served in the British flying services, taken from the Book of Remembrance, nd, DHist 75/374

TABLE 16
Fatalities by cause by year
(excluding 1915)

	1	2	3	4	5	6	7	8	Total
1916	8	37	23	3	3	2	1	3	80
1917	66	142	114	17	39	3	2	4	387
1918	148	233	312	85	59	3	49	8	897
TOTAL	222	412	449	105	101	8	52	15	1364

TABLE 17
Percentage of each year's fatalities by cause

	1	2	3	4	5	6	7	8
1916	10.0	46.2	28.7	3.7	3.7	2.5	1.2	3.7
1917	17.1	36.7	29.5	4.4	10.1	.8	.5	1.0
1918	16.5	26.0	34.8	9.5	6.6	.3	5.5	.9

TABLE 18
Percentage of fatalities by cause by year

	1	2	3	4	5	6	7	8
1916	3.6	9.0	5.1	2.9	3.0	25.0	1.9	20.0
1917	29.7	34.5	25.4	16.2	35.6	37.5	3.8	26.7
1918	66.7	56.6	69.5	81.0	58.4	37.5	94.2	53.3

1 Killed, no reason given

2 Killed in action

3 Killed accidentally

4 Died, no reason given

5 Died of injuries

6 Died as POW

7 Died of disease

8 Drowned

Total $\chi^2 = 69.7$

Critical $\chi^2 .001 (14df) = 36.1$

The enlargement of the flying services, with proportional increases in the training establishment, particularly the RFC/RAF Canada scheme, which was very Canadian dominated, may partly have accounted for this rise in accidental deaths during the latter part of the war. The establishment of new types of operational units, such as home defence squadrons in the United Kingdom, maritime patrol units, and night-bombing squadrons, in which the risk of death from a flying accident was much greater than from enemy action, may have also played a part. Through the enlargement of the flying services, a decreasing intensity in the air war at the individual level may also have been a factor in lowering the proportion of those killed in action.

TABLE 19
Fatalities by cause by service
(excluding 1915)

	1	2	3	4	5	6	7	8	Total
RFC	94	196	169	30	46	4	7	0	546
RNAS	11	33	38	5	5	1	1	7	101
RAF	120	188	244	71	52	3	44	7	729
TOTAL	225	417	451	106	103	8	52	14	1376

TABLE 20
Percentage of each service's fatalities by cause

	1	2	3	4	5	6	7	8
RFC	17.2	35.9	31.0	5.5	8.4	.7	1.3	0
RNAS	10.9	32.7	37.6	5.0	5.0	1.0	1.0	6.9
RAF	16.5	25.8	33.5	9.7	7.1	.4	6.0	1.0

TABLE 21
Percentage of fatalities by cause by service

	1	2	3	4	5	6	7	8
RFC	41.8	47.0	37.5	28.3	44.7	50.0	13.5	0
RNAS	4.9	7.9	8.4	4.7	4.9	12.5	1.9	50.0
RAF	53.3	45.1	54.1	67.0	50.5	37.5	84.6	50.0

- 1 Killed, no reason given
- 2 Killed in action
- 3 Killed accidentally
- 4 Died, no reason given

- 5 Died of injuries
- 6 Died as POW
- 7 Died of disease
- 8 Drowned

Total $\chi^2 = 86.5$

Critical $\chi^2 .001 (14df) = 36.1$

TOTAL CASUALTIES

Of the 13,160 entries in the programme, 1388 were fatal casualties, another 1130 were wounded or injured, and 377 individuals were listed as prisoners of war or interned before 11 November 1918.* As has been mentioned, it is felt that these figures are very close to a complete record of Canadian service. These casualties are broken down by year in Tables 22-24. Although there was no statistically

* These figures are slightly greater than those in Table 22 because they include those for whom the year of casualty is unknown.