



This JN4 of RAF Canada carried the first airmail in Canada. (RE 13728)



An RFC recruit's reaction to spinning is tested in a revolving chair. (RE 19297-4)



Artillery co-operation instruction RFC Canada scheme. The diagrams on the blackboard illustrate techniques of ranging. (RE 64-507)



Brig.-Gen. Cuthbert Hoare (centre) with his Air Staff. On the right is Lt-Col. A.K. Tylee of Lennoxville, Que., responsible for general supervision of training. Tylee was briefly acting commander of RAF Canada in 1919 before being appointed Air Officer Commanding the short-lived postwar CAF in 1920. (RE 64-524)



Instruction in the intricacies of the magneto and engine ignition was given on wingless (and sometimes tailless) machines known as 'penguins.' (AH 518)



An RFC Canada barrack room (RE 19061-3)



Camp Borden was the first of the flying training wings to become fully organized. Hangars from those days still stand, at least one of them being designated a 'heritage building.' (RE 19070-13)



JN4 trainers of RFC Canada, at one of the Texas fields in the winter of 1917-18 (RE 20607-3)



'Not a good landing!' A JN4 entangled in Oshawa's telephone system, 22 April 1918
(RE 64-3217)



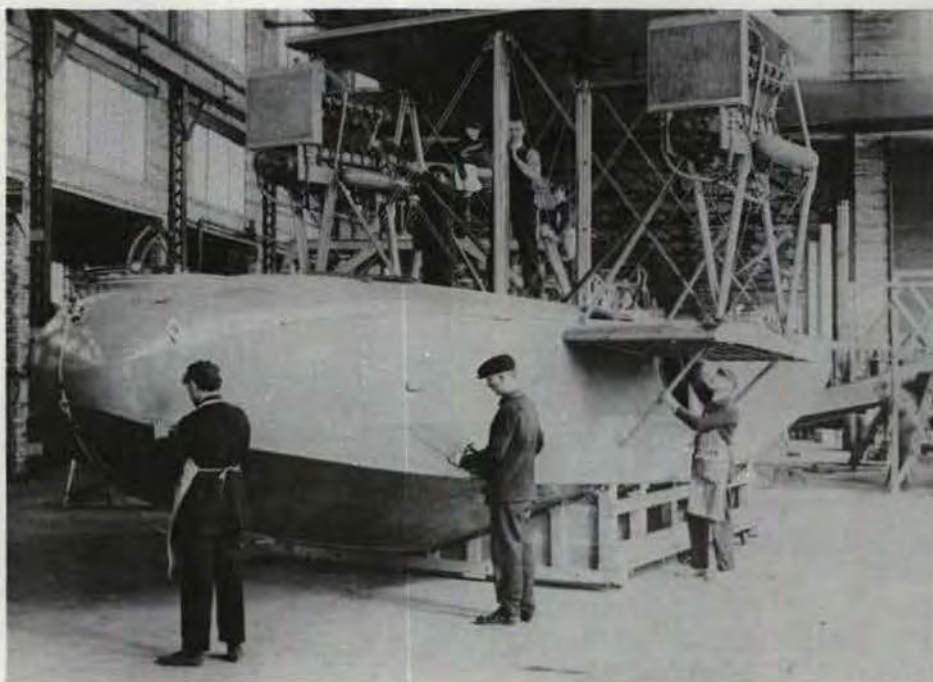
Members of HQ staff, RAF Canada, at the University of Toronto, which housed the School of Military Aeronautics. (RE 64-523)



RFC cadets on their way from Toronto to Texas in October 1917. Canadian winters, it was believed, would prevent or drastically reduce flying training. (RE 20947)



JN4s on skis devised by Canadian Aeroplanes Ltd, probably in February 1918. In an era of open cockpits RFC Canada pioneered winter flying in Canada. (RE 19071-16)



Felixstowe F5 flying-boat under construction at Canadian Aeroplanes Ltd in Toronto. Thirty F5Ls, with American Liberty engines, were built by this company for the US Navy. (RE 15159)

Introduction

During the First World War the policy of the Canadian government towards aviation, and particularly towards the idea of the formation of a Canadian air force, was variously negative, indifferent, inconsistent, and puzzling. It was almost always ill-informed. Yet the behaviour of the government was undoubtedly a faithful reflection of the public mind, or at least of that portion of the public mind that counted politically. For most Canadians there were many subjects of far more importance than aviation; participation in the war brought changes so fundamental that they approached the revolutionary. In the course of the war the Borden government organized and kept in the field an enormous military force, by far the largest in the country's history. To sustain it, in face of the staggering casualties caused by a form of warfare for which Canadians, psychologically as well as militarily, were utterly unprepared, the government had to resort to conscription. In consequence, Borden and his Cabinet had to deal, as best they could, with a political crisis of the most serious nature. And, to meet the insatiable needs of the modern war machine, the government had to give leadership in the transformation of the economy and in the organization of the labour force in ways that were unprecedented. Measured against these great matters, aviation was of small importance, and because the government consistently underestimated the importance it did have, no one made it either a prime concern or a continuing responsibility.

Yet when every allowance has been made for the immense difficulties which beset the Canadian government, there remains a small-mindedness, a species of unimaginative colonialism about its attitude towards aviation, out of keeping with its strong stand over command and control of the Canadian Expeditionary Force and with its political and constitutional thrust for recognition and status within the councils of the British Empire. Until late in the war no Canadian politician (with the quixotic exception of Sir Sam Hughes, the Minister of Militia until the end of 1916) had the faintest glimmering of the potentialities of aviation.

Cabinet ministers, however, being neither military experts nor seers, could assess the value of aviation only in terms of the pressure placed upon them to do something about it. In the opening stages of the war such pressure came chiefly from the few people who wanted very much to fly, and the government therefore did not shift from the essentially negative attitude towards aviation it had displayed in the prewar years. The unhappy and short-lived attempt by Sam Hughes to

improvise an air force while the First Contingent was assembling at Valcartier alerted the militia department staff to their minister's propensity for ill-considered and idiosyncratic solutions to military problems and doubtless helps to explain their guarded responses to subsequent proposals concerning aviation, as well as to those having to do with the wide range of other subjects in which Hughes dabbled briefly in the first months of the war.

The efforts of a small number of young men to gain entry to the British flying services through initial training at civilian flying schools in Canada and the United States constitute the modest beginnings of Canadian military aviation. In 1916 their numbers grew as interest spread, and in addition some Canadians for business and patriotic reasons began vigorously to promote a more positive national policy towards aviation. The government's decision in late 1916 to collaborate in the establishment of a domestic aircraft manufacturing industry and in a British pilot training scheme in Canada was taken largely in reaction to the initiatives of these promoters and to the association of some of them with Sam Hughes. That decision inaugurated a period during which the government believed it had done all that could be reasonably expected.

The establishment of the Royal Flying Corps training scheme in Canada in 1917 brought together the need of the RFC for more trained airmen, a need that had become acute towards the latter stages of the Somme battle in 1916, and the rising desire of Canadians to take part in the air war. It is the purpose of the chapters in this section to explain why Canada's first large-scale experience with the air age came about almost entirely under imperial auspices and to show something of what that experience was like for the thousands of airmen who passed through flying training.

In the last year of the war the work of the many Canadians flying in every theatre and the public attention their exploits drew at home compelled the government to reconsider its aviation policy and to take steps to bring into being a distinct Canadian air force. Since this development was closely linked to the rising importance of the air weapon as well as to the scale and quality of the Canadian contribution to the air war, subjects dealt with in later sections, consideration of it is deferred to the concluding chapter of this volume.

Recruiting and Training in Canada, 1914-16

In the war that was fought over the battlefronts of Europe, Asia, and Africa and above the adjoining seas Canadians were ultimately to play a prominent part. No one could have foreseen this in August 1914. If most political and military leaders saw flying as a novel specialty best suited to the talents of the light-hearted and light-minded, but scarcely as a crucial element in the serious business of waging war, who can blame them? In time, when the air weapon had proved itself and the British flying services expanded greatly, Canada became a major source of airmen. Even in the beginning, however, and without any substantial encouragement from the federal government, Canadians were attracted to this new field of military endeavour.

It would be speculative to explain this Canadian response, as many were to do, in terms of the national character and situation. Was it really true, as Canadians, in a self-congratulatory fashion, were subsequently to suggest, that there was something about their country – its very newness as a nation, its open spaces, its testing environment – that endowed its people with a kind of immediate air-mindedness and its young men with special aptitudes for military aviation? Most Canadians, after all, chose or accepted military service during the First World War in the various branches of the army. What is demonstrable is that an unconventional minority, in the opening months of the war, were so drawn to flying that they were ready to surmount many difficulties, including some put in their way by their own government, in order to try their wings.

Many Canadians shared the fascination with flying that had swept Europe and North America in the prewar era. Much of this interest was uninformed and faddish, but there is little doubt that aviation had captured the Canadian public imagination. Indeed, the Electric Bean Chemical Company of Albert Street in Ottawa felt sufficiently threatened by the pioneering efforts of such 'aeronauts' as Blériot, after his channel crossing in 1909, to subject the readers of the *Evening Citizen* to a full-page advertisement on 26 July: 'Which is the Greatest Attainment. Dominion over Disease or Dominion over the Air? To have Dominion over the air is something new and wonderful – but, like all great achievements it will be a "nine days wonder" and then be crowded out of the public eye by others perhaps even more wonderful, for people soon tire of their toys and are always craving something new.' The medicines Electric Beans and Electro Balm, the company assured its potential customers, had stood the test of time, conquering sores, cuts, and diseases 'caused by an insufficient supply of blood.' The Electric Bean Chemical

Company's assessment notwithstanding, the aeroplane was here to stay. Reliability and performance rapidly improved. Exhibition flights became major attractions at annual fairs and holiday resorts. The fictional exploits of daring young men operating a wide variety of unlikely flying machines formed a favourite subject of popular literature. Even the songs of the day promoted the cause of aviation: 'Come Josephine, in my flying machine, going UP she goes, UP she goes/Balance yourself like a bird on a beam ...'¹

Canadian newspapers and magazines speculated freely about the possible military uses of the aeroplane. Such flights of fancy were unencumbered by mundane technical details; it was suggested to a trusting public, for example, that aeroplanes had great potential as troop carriers – for the cost of one dreadnought, it was argued, 25,000 aeroplanes capable of carrying two soldiers each could be constructed. On a more serious level, a small number of Canadian soldiers, notably G.S. Maunsell, now a lieutenant-colonel and Director of Engineer Services at Militia Headquarters, maintained their strong interest in aviation on the eve of the war. There was no reason to suppose, however, that Colonel Sam Hughes, the Minister of Militia and Defence, had changed his attitude; according to his military secretary, Hughes regarded aeroplanes as simply 'costly toys, only as yet in the experimental stage.'²

Nevertheless, upon the outbreak of war, Ottawa immediately exhibited an acute sensitivity to the possibility that enemy aircraft might intrude upon Canada. The government, with little appreciation of the limitations of aircraft and airpower, was unduly apprehensive: flights into Canada across the polar region or the Atlantic and Pacific oceans would be technically impossible for a long time to come. It was highly improbable that an air offensive might come from the benevolently neutral United States, although an attack from across the border by a lunatic individual or pro-enemy group was not utterly inconceivable. Flying machines might also be used by enemy agents, Canadian or foreign. An Order-in-Council strictly regulating flying in the dominion was therefore issued on 17 September 1914. It prohibited flying within ten miles of wireless stations and in nineteen stipulated areas, including most main population centres. Aircraft entering Canada were required, after passing over the boundary with the United States, to land at one of eleven designated points extending from Annapolis, NS, to Chilliwack, BC. Aircraft were forbidden to carry mails, explosives, firearms, photographic or wireless equipment, or carrier pigeons. The militia minister was authorized to grant exemptions from certain parts of the order, and this was in fact later done for several of the flying schools that were to come into being and for other legitimate aerial operations. This Order-in-Council gave Canada its first flying regulations.³

It was not long after the promulgation of these regulations that reports of suspect aircraft began to arrive at Militia Headquarters. Some of the intruders were undoubtedly American, particularly from New York State,* others were no more

* Enough of the reports concerning American aircraft were substantiated to cause the militia department to complain to the Department of External Affairs. The United States government must be asked to prohibit these unauthorized flights. 'Otherwise,' the military warned, 'there may be regrettable incidents; for troops ... mistaking the intentions of trespassing aircraft, may open fire on them.' Deputy Minister of Militia to Under-Secretary of State for External Affairs, 19 July 1915, HQ 6978-2-57, vol. 1, PAC, RG 24, vol. 2036

than the product of overworked imaginations. Fears that Ottawa might be bombed by hostile aircraft caused a partial blackout of sensitive installations in the capital in early 1915. On Sunday evening, 14 February, reports were received from Brockville, Ont., sixty miles to the south, that several unidentified aircraft had flown over the St Lawrence from the American side of the river. As was usual in the case of such reports, these sinister vehicles advertised their presence by displaying powerful searchlights. Upon arriving over Canadian territory they dropped 'fire balls' before continuing in the direction of Ottawa. The House of Commons continued its session, but orders were issued to darken the tower light on the summit of Parliament Hill, to extinguish every illumination on the grounds, and to draw every curtain. Lights were also put out at the Royal Canadian Mint and Government House. The following day, however, the remnants of a hot air balloon were exhibited in the office window of a Brockville newspaper, one of three such devices reportedly sent aloft by youths in Morristown, NY, across the St Lawrence from Brockville, as part of local celebrations upon the hundredth anniversary of the final ratification of the peace treaty ending the War of 1812.⁴ The *Toronto Mail and Empire* commented sardonically:

Ottawa today is a little sensitive on the subject, and mention of airships is not regarded as being in the best of taste. Fearful ones this afternoon were still for having the lights [on Parliament Hill] extinguished and the clock face masked, but tidings of the finding of the balloons (one of them in the grounds of an insane asylum) was the last straw. The one concession they obtained was the extinction of the little light on the top of the main tower, a light that signifies a sitting of the House. Hence, if an aeroplane approached it would have a thousand other lights to go by, but would remain in doubt as to whether or not the House had adjourned.

Military authorities assert that they took no stock in the Brockville scare. The few precautions that were taken were more of a polite expression of confidence in the honesty of purpose of the Brockvillians than of anything else. On the other hand, Ottawa people have a weakness for airship raids. For many days last Fall there were earnest eye-witnesses who on various occasions heard and saw a mysterious airship which has never yet come down to earth.⁵

If the outbreak of war produced its moments of farce, it also called forth serious suggestions from across the country concerning military aviation. Letters and telegrams came particularly from young men wishing to serve as pilots, most of them assuming that Canada would be forming a flying service. In the first month of the war Militia Headquarters received offers from at least nine would-be military pilots, among them F.H. Ellis, who would eventually become a noted air historian, and F.F.R. Minchin and T.D. Hallam,* who later distinguished themselves as First World War flyers. These enquiries were referred to Maunsell, who made it clear that he favoured any proposal which would further the cause of military aviation in

* Hallam, from Toronto, had trained as a seaplane pilot in the United States. He was later accepted as an armoured-car officer, and went to Gallipoli. There he won the DSC before he was wounded. On his return he took up flying duties at Hendon and then went to Felixstowe, where he twice more won the DSC in anti-submarine flights. Under the pseudonym P.I.X. he wrote *The Spider Web: the Romance of a Flying-Boat War Flight* (Edinburgh 1919).

Canada. But he was again forced to conclude, as he had in late August, that 'the Minister is not favourable to aircraft.' The department was not 'taking up aviation at present.'⁶

In October and November 1914, however, Militia Headquarters engaged in a lengthy correspondence with M.A. Kennedy, vice-president of the Ontario Motor Car Company Ltd, who proposed that members of Toronto's Royal Canadian Yacht Club form a 'civilian aviation corps' and pilot training school. Maunsell argued that the department should encourage Kennedy and his friends: 'at present they do not ask for any financial or military assistance, but they might be a very useful organization in case Aviation is taken up by the Department at a future date.' In the event, the idea received something less than encouragement, the department simply suggesting that Kennedy apply for exemption from the ruling that no person could navigate or be carried in an aircraft of any class or description within ten miles of Toronto. The Chief of the General Staff, who opposed the formation of a Canadian air service throughout the war, indicated privately that he would recommend acceptance of Kennedy's application. The proposal, however, came to nothing.⁷

Nor was the attitude of the Minister himself by any means as clear-cut as it seemed. Hughes had apparently received 'many more' applications for service in the air than the nine names which were listed on headquarters files after a month of war and, although the government had told these young men that 'it was not anticipated the military authorities would have any requirements for the service of aviators,' Hughes did not let the matter end there. On 25 August he sent a wire to Lord Kitchener at the War Office in London: 'Many Canadian and American aviators offering services for the war. Latter offer to come to Canada and enlist here. Have you any suggestions.'⁸

Hughes perhaps overstated the number of applications that the minister and department had received from North American aviators. By this time other Canadians had followed Baldwin and McCurdy into the air, although not in large numbers, and only a very few held the *Fédération aeronautique internationale* [FAI] certificates issued to those having passed certain elementary flying tests under official observation.* Anyone could fly an aeroplane if he was self-taught or if he could find someone to teach him, but the Royal Flying Corps insisted that applicants for pilot service possess proper certificates as evidence of their qualifications.

The War Office, even so, replied on 31 August that it would accept six 'expert aeronauts' at once and that more might be required later. Qualified volunteers would be sent to England to be tested; if accepted, they might be enrolled either as commissioned or non-commissioned officers.⁹ No action appears to have been taken to send the RFC its six aeronauts. But early in September two men arrived at Valcartier, Que, where the 1st Contingent of the Canadian Expeditionary Force

* Canadians known to have received certificates as pilots before 4 August 1914, in order of certification, were J.A.D. McCurdy, William M. Stark of Vancouver, R.B. Russell of Toronto, Lieutenant F.A. Wanklyn of Montreal, P.H. Reid of Montreal, Ian C. Macdonell of Winnipeg, Jean-Marie Landry of Quebec, and William Fray of North Battleford. In addition, William Sharpe of Prescott, Ont., though not certificated, passed the requisite tests at the Curtiss School, San Diego, in January 1914.

was preparing to sail for overseas and where Hughes himself had gone to supervise activities. Sam Hughes – who up to now had shown himself to be ‘not favourable to aircraft’ – impetuously granted both of them commissions, authorized the purchase of a secondhand aeroplane, and so improvised a flying corps which sailed with the 1st Contingent. The two airmen, with the ranks given them by Hughes, were Lieutenant W.F.N. Sharpe of Prescott, Ont., and Captain E.L. Janney of Galt, Ont. Neither was gazetted nor attested in the CEF – an omission that was to baffle paymasters and others – but they drew pay for their ranks from 7 and 10 September, respectively.

Shortly after arriving at Valcartier, Janney left to check on aircraft available for purchase at plants in the northeastern part of the United States. Following his return, the Canadian Aviation Corps was born. Many of the details of its birth are unknown, but there seems little doubt of its paternity. A militia department file for the period contains a document bearing the Valcartier Camp stamp, dated 16 September, which reads:

Submitted for the consideration of the Hon’able the Minister

AVIATION CORPS

Mr. E.L. Janney is appointed provisional Commander of the Canadian Aviation Corps with the rank of Captain, and is authorized to purchase one bi-plane, with necessary accessories, entailing an expenditure of not more than \$5,000.00

A Burgess bi-plane has been ordered for quick delivery.

The paper is initialed ‘S.H.’ by the Minister and bears, in his handwriting, a bold ‘O.K.’ The words ‘quick delivery’ are circled.¹⁰ The author of the document was undoubtedly the energetic Janney himself, who had already gone back to the United States, where he intended to purchase the Canadian Aviation Corps’ first aircraft.

Hughes seems to have neglected to inform his headquarters of this startling development. Militia department officials knew nothing of Janney, Sharpe, or the imminent purchase of an aeroplane. The Deputy Minister must have been puzzled to receive a telegram from Hughes at Valcartier on 16 September advising: ‘Am arranging for Mr. E.L. Janney to fly from United States to Canada. Please notify authorities.’¹¹ Janney had crossed the border into the United States packing a pistol on his hip and bearing his written appointment and a government cheque for \$5000. His choice of aircraft fell on the first of a number of machines built by the Burgess Company of Marblehead, Massachusetts, to a design produced by Lieutenant J.W. Dunne, a British aeronautical pioneer. It was a tailless, swept-wing float-plane with a pusher propeller and two seats positioned in tandem in an open nacelle mounted on the lower wing. Janney, it appears, had not ordered the aircraft on his earlier visit and he now made it clear that immediate delivery, not safety, was the main consideration.

Captain Janney [an official of the Burgess Company recalled] called here on September 12, took a flight in this machine during a general trip to all the principal factories. He

returned on the 17th and made us a spot cash offer for the demonstrating machine as it then stood. We explained to him fully that the motor had been run a great many hours and needed over-hauling and that there were a number of things in the aeroplane which could be put in better shape with a few days' time.

He insisted that to make the sale possible we must ship the machine on Saturday, or less than two days from the time of the sale. We agreed with him that it would be to our advantage as well as his to have the machine at Valcartier and flying, but we did want more time for the overhauling. He wanted to rush the overhauling in order to have the machine flying before the first contingent sailed. The result was that we took the motor down and went over it very hastily, scraping some connecting rod bearings that were tight and regrinding the valves. The aeroplane was knocked completely down, dissembled and shipped in an express car not adapted to it to Isle Le Motte, Vt. We sent men at our own expense up there to assemble the machine in order to help Janney and ordered him the services of Webster [a company pilot] for further training and assistance in delivering the machine to Valcartier.

The aircraft took off for Valcartier Camp on 21 September, with the company pilot at the controls and Janney aboard. 'I don't think anyone shot at us,' Janney's companion reported:

... our altitude varied from 1,000 to 2,000 feet and the wind which had been following at first swung to our port beam and so proved detrimental. Janney drove about a fourth of the time. At the end of an hour and fifty-five minutes we reached Sorel and I decided to land as the gas was getting low.

We managed to get ashore alright and get some gasoline and oil ordered. We started out again at quarter of twelve and made good time to Three Rivers where I expected to land, but Janney signalled me to continue. About ten minutes later I heard a knock in the motor so came down and ran ashore at Champlain (in flight 45 minutes). As the motor would still turn over fairly freely Janney decided (as against my advice) to load it up with oil and chance it for Quebec. I managed to get off and get started down river, but the motor was turning over so slowly that I had to keep damn busy to keep up. I did not get above 15 feet at any time and was often only a few inches clear.

After 18 minutes of this inferno the motor gave up the ghost and I landed with regret but not without relief also. After we had drifted for some twenty minutes a motor boat saw our distress signal and towed us in.¹²

The aircraft was loaded aboard a transport and shipped to Quebec City, where it was embarked, along with the members of the Canadian Aviation Corps, with the 1st Contingent. The corps was now three strong, having added to its number Harry A. Farr, from West Vancouver. Farr had arrived at Valcartier with a Victoria infantry unit. After meeting Sharpe he was able to transfer to the newly-formed aviation corps as a mechanic with the rank of staff sergeant. On arrival in England the three members of the corps accompanied the contingent's headquarters staff to Bustard Camp on Salisbury Plain. The already well-worn Burgess-Dunne aircraft, damaged in transit, appears to have been shipped to the Central Flying School at Upavon.

Having formed an aviation corps, Hughes apparently lost all interest in it. The 1st Contingent was given no indication of the role its three airmen and single aircraft were expected to play. Determined that the aviation corps should be a proper one, Janney took off – with doubtful authorization – on an extended inspection tour of flying fields and aircraft plants in Britain. In early November 1914 he submitted an ambitious proposal for the equipment, organization, and maintenance of a one-flight squadron at an estimated expenditure of over \$116,000. Shortly thereafter, however, Militia Headquarters informed the Canadian Contingent that it was 'not intended to form a flight unit' and that 'the intention is to sever Lieutenant [sic] Janney's connection with the CEF.' Janney sailed for Canada on 23 January and was struck off CEF strength on that date. At his own request Sharpe was sent to an RFC reserve squadron at Shoreham for flying training. He was killed on 4 February when he crashed the machine he had taken up on his first solo flight. Farr was discharged from the CEF in May 1915 'in consequence of Flying Corps being disbanded.'¹³

Did Janney and Sharpe represent two of the six pilots that the British War Office had said they would accept? Even assuming that this was the case, why was nothing done about the remaining four? Most of those who wrote to Militia Headquarters volunteering for aerial service possessed no qualifications, it is true, but some did hold FAI certificates or had attended a proper flying school. It was admittedly difficult for the government to separate qualified volunteers from those who possessed nothing but enthusiasm and a venturesome spirit. Maunsell, however, had become sufficiently familiar with flying by this time to have carried out a screening process had he been given the opportunity. Instead, every applicant, regardless of qualifications, was told that his services were not required. The request for six qualified pilots seems to have been shelved or was perhaps left in the hands of the Minister, who moved on to other matters.

The British did not stop trying. On 25 February 1915 the Governor General's military secretary, Lieutenant-Colonel E.A. Stanton, wrote to the Chief of the General Staff explaining that the War Office had asked what arrangements might be made for enlisting 'certain British-born aviators, in Canada or the United States who desire to join the Royal Flying Corps.' He mentioned that the Governor General had also received a similar letter from Major-General Sir David Henderson, then in command of the RFC in France. Stanton enclosed in his letter the RFC conditions of service. Applicants for pilot service were required to hold an aviation certificate of the Aero Club of America or a similar institution issued since 1 January 1913 and to be medically fit with normal vision. No age limit was stipulated. Those accepted would be sent to England as air mechanics, 1st class, and after arrival would be paid £75 as partial reimbursement for the cost of obtaining a certificate. The Governor General's office was to handle the recruiting, although Stanton asked the militia department to assist in locating suitable candidates and in arranging 'to have the men found suitable, duly attested and enlisted and forwarded' to England at imperial expense. A similar arrangement, to be described shortly, was soon established for the Royal Naval Air Service.¹⁴

It was in this manner, then, that the Canadian recruitment programme for the flying services began. Until the end of 1916, entry for candidates on this side of the

Atlantic was essentially controlled by individuals in Ottawa who, whatever their other duties and lines of responsibility, were for this purpose acting for the Royal Flying Corps and the Royal Naval Air Service with the benign concurrence of the Canadian government. The regulations they enforced for entry were those of the War Office and the Admiralty, and had no relationship to Canadian regulations for recruitment into the dominion's forces. Because recruitment took this form, nothing resembling a broad campaign for enlistment could take place. No authoritative information about the frequent and confusing changes in the regulations was disseminated officially, and publicity about the war in the air and the means by which Canadians might take part in it was left largely to interested newspapers and to private initiative. Despite this situation, the RNAS experienced no difficulty in meeting its small quotas. The number of Canadians who succeeded in entering the RFC in these early years, however, though not insignificant, was probably substantially less than it otherwise would have been had a genuinely national effort been mounted. Moreover, the expense involved in securing the required certification (together with whatever unspoken social requirements were employed) tended to restrict entry, in the main, to young men from families more comfortably situated than the generality of Canadians.

Hughes' cablegram to the War Office in the first month of the war indicating that there were 'many' willing North American aviators may have helped to focus British attention on Canada and the United States as sources of qualified flyers. Most of the credit for the War Office's action, however, must be given to an English electrical engineer living in the United States. In December 1914 Warner H. Peberdy, a recent Oxford graduate, wrote to the War Office from New York, pointing out that there was a supply of young men in Canada and the United States who lacked formal flying experience but who possessed the educational background and other characteristics required of a good pilot. Peberdy suggested that 'an almost ideal combination for an Aviator is that obtaining in a man who has had a British public school education, a good all round engineering training, and has outdoor sporting tendencies.' This proposal gave rise to considerable discussion in the War Office, and it was decided in February 1915 to enlist British-born aviators in Canada, but only those holding certificates.¹⁵

Militia Headquarters supplied Stanton with names of those who had applied for aviation service and asked the commanders of military districts and divisions across Canada to forward the names of any other suitable candidates. British consular officers in the United States were informed of the plan by the embassy in Washington but were told not to publicize it. Enquiries from suitable British-born persons were to be referred to Stanton, who now applied himself industriously to his task. But only a few enquiries, it transpired, came from qualified aviators in the United States and Stanton had even less luck in Canada: as we have seen, there were few resident Canadians who held FAI certificates. Over the first months of 1915 Stanton was able to send only five men to Britain.¹⁶

The Royal Naval Air Service, meanwhile, had also begun to recruit in Canada. A private flying school had been established in Toronto to enable embryo naval pilots to obtain their certificates, and the country had acquired an aircraft manufacturing plant. The man responsible in large part for these developments was J.A.D.

McCurdy, who was now associated with the Curtiss Aeroplane Company of Hammondsport, NY. In December 1914 McCurdy had proposed to Sir Robert Borden that Canada form an aviation corps, purchasing machines manufactured by a branch of the Curtiss firm which was to be established in Toronto. The company offered to set up a small school in connection with the proposed Toronto plant and to train, at its own expense, a pilot for each aeroplane ordered by the government. The Canadian government was not interested in another venture into aviation, but Borden did pass the Curtiss proposals to the Admiralty and War Office in February and March 1915, adding that the government would welcome the development of an aviation industry in Canada. The War Office exhibited no immediate interest. On 26 March, however, the Admiralty made an order of additional aircraft from the Curtiss Company, and in so doing asked that as many as possible be built in Canada, provided that no delay resulted.¹⁷

The Admiralty's proposition came as a direct consequence of a North American visit by Captain William Leslie Elder, Inspecting Captain of Aircraft Building in the Admiralty's Air Department. There seems little doubt that aircraft procurement in the United States was the reason – or one of the main reasons – for his mission. In fact, the Admiralty order of 26 March was probably placed with the Curtiss firm by Elder personally. He then struck an agreement with Curtiss that fifty of the aircraft ordered from his firm would be produced in Canada. After Elder had conferred with Canadian naval officials and Borden himself, arrangements were also made for Naval Service Headquarters in Ottawa to recruit pilots for the RNAS, and for those accepted to obtain their certificates at the Curtiss School in Toronto. Curtiss and McCurdy must have had good reason to anticipate the decision to produce Admiralty aircraft in Canada, because on 18 February 1915 federal incorporation papers were taken out for a Toronto-based company known as Curtiss Aeroplanes and Motors, Ltd. The firm began operations on 12 April with McCurdy as its managing director.¹⁸

The RNAS call for recruits was publicized in newspapers in mid-April 1915. Recruiting began almost immediately in Ottawa and at the naval establishments on the east and west coasts. It was limited to British subjects of 'pure European descent' and preference was to be given to those between nineteen and twenty-three years of age, thirty being the maximum age limit. Successful applicants, having been interviewed and medically examined, were declared to be 'candidates,' meaning that they had been accepted into the RNAS on the condition that they obtain their pilot certificates. When they reported back to Naval Headquarters with their certification, the young pilots were to be appointed as temporary chief petty officers, 3rd grade, and sent to Britain for service training. Selections for commissions would be made 'in due course.' The Curtiss School charged \$400 for its flying training, which involved some 400 minutes of flying time. All training costs were the responsibility of the candidates, although, like the RFC, the RNAS partially reimbursed those accepted by providing a gratuity of up to £75.¹⁹

Despite the costs involved, there was an immediate response to the call for RNAS pilots. The recruiting programme was geared to quotas set by the Admiralty and although the limited capacity of Curtiss's Toronto school presented a notable obstacle, the Canadian naval authorities had little difficulty in finding sufficient

young men to meet RNAS needs. Indeed, active recruiting was suspended at various times, pending the receipt of further quotas. The RNAS recruiters in Canada, headed by Rear-Admiral Charles E. Kingsmill, Director of the Naval Service, could afford to be, and were, highly selective.

The Toronto school began its flight training on 10 May and twenty pupils, some of whom held commissions in the militia, were soon receiving instruction. Although the school had been set up as a result of negotiations with Elder, an Admiralty representative, three RFC aspirants were amongst the first group to begin training and more followed.²⁰ Most of the school's graduates throughout the two years that it operated went to the RNAS, but RFC candidates were freely admitted.

Shortly after the announcement of the new RNAS recruiting programme, Stanton urged the War Office to send a representative to Canada to look after RFC requirements. He argued that the War Office's envoy should be authorized to grant immediate commissions to suitable candidates or to develop co-operation with the navy. Otherwise the RFC would gain only a few recruits from graduates of the Toronto school or from any similar school that might be formed.

On 20 June Captain Alec Ross-Hume arrived in Canada to oversee RFC recruiting. After a brief survey of the situation he reported to the War Office that there were 'absolutely no trained aviators out here of any kind.' He then visited the Toronto school to see if he could lure recruits into the RFC. Ross-Hume was authorized to offer immediate commissions to suitable certificated applicants (the five that Stanton had sent to Britain having gone as air mechanics, 1st class). Pointing out the advantage of second lieutenant rank in the RFC over that of chief petty officer in the RNAS, Ross-Hume persuaded almost a score of the registered RNAS students to switch their allegiance to the War Office. Not surprisingly, this unedifying development brought harsh words from those handling RNAS recruiting. The RNAS countered by raising the ante, promising commissions to successful candidates, and explaining that as flight sub-lieutenants they would outrank second lieutenants in the RFC and draw more pay. Faced with this counter offer, most of the defectors promptly transferred their allegiance back to the RNAS.²¹

Ross-Hume established his headquarters in Toronto and continued to interview candidates for RFC service. His initial impression of the young Canadian applicants was anything but favourable. During his first ten days in Canada he told the War Office that he had seen 'a great many applicants but the greater number are quite impossible.' Before the end of July, however, he had changed his mind: '... of course the Canadian wants knowing ... [but] take them as a whole the Canadians are a d--d fine lot of fellows.'²²

The Toronto Curtiss School produced its first graduates on 11 July. By the end of the month a total of eleven had been passed out; eight were commissioned in the RNAS, three in the RFC. Sent to Britain within a week or two of gaining their certificates, they underwent normal service training before being despatched to their operational units. The recruiting programmes of the two British services were rewarded by a small but steady flow of certificated recruits from the Toronto school throughout the summer and autumn of 1915. It soon became apparent, however, that the main problem was not the selection of suitable young men but the limited

capacity of the training facilities. The school became hopelessly plugged, with a long waiting list of candidates who had been tentatively accepted by the flying services. Many of the candidates turned south, to flying schools in the United States, but even these had waiting lists and could not accommodate all the Canadians who applied.²³

There was no thought of the Toronto school trying to carry on through the Ontario winter. As the bad weather approached, concern mounted for the many candidates who had been accepted into training but who were waiting to complete or even to begin their course. McCurdy offered to move the school to Bermuda or to some other warm spot for winter training if the naval service could arrange transportation for the pupils, but this proposal fell through partly because McCurdy subsequently judged Bermuda 'unsuitable for flying.' With the exception of one last student who was tested on 10 December, flying at the school ceased for the winter during the latter part of November. It is estimated that in mid-November 1915 there were some 100 RFC and 150 RNAS candidates waiting for certificate training, most of whom had signed up at the Toronto school. A deputation of RNAS candidates travelled to Ottawa, where, according to one account, Sam Hughes told them 'to forget all about this aeroplane business and join the Army.' The British were more sympathetic. The War Office and the Admiralty authorized the passage overseas of all the candidates who had been accepted into flying training. Both services then temporarily suspended recruiting.²⁴

In late September or early October Ross-Hume and Stanton had been informed of changes in the War Office's recruitment policy in the dominions. An FAI certificate was no longer required but candidates were expected to hold a commission in one of their country's armed forces and had to agree to serve overseas with that force should they prove unsuitable for flying duties. So far as Canada was concerned, the new conditions were subject to an important qualification: the requirement for a Canadian commission could be waived in the case of a candidate holding a flying certificate or having progressed far enough at one of the private schools to leave no doubt concerning his suitability as a pilot. These changes in the recruiting regulations eased the problem of dealing with uncertificated RFC candidates whose training had been interrupted by the coming of the Canadian winter. Some already held Canadian militia commissions and others had logged sufficient instructional time in the air to warrant their appointment to RFC commissions before leaving Canada. Three dozen of the RFC candidates went overseas as newly-created second lieutenants in the Canadian militia, hoping to find their way into the RFC after their arrival and indoctrination in England. If they failed to qualify for the RFC, they would be transferred to a Canadian infantry unit overseas. Several others proceeded overseas during the early part of 1916, having attended flying schools in the southern United States. Apart from this group, however, the new RFC regulations were not applied to any other Canadian candidates. Those who were accepted during 1916 entered under new and different sets of regulations.²⁵

The uncertificated RNAS candidates, whose passage to England had been authorized by the Admiralty, were given several choices. They could, if they wished, persist in their efforts to obtain a certificate: a large group of candidates

completed their instruction at American schools and sailed for England during the early part of 1916. Those who could not or did not wish to continue their pursuit of certificates – and most of these young men simply did not have the financial resources to remain in training – awaited RNAS appointments and overseas passage. The Canadian Department of the Naval Service offered assistance to those for whom delay meant hardship. A special company of the Royal Naval Canadian Volunteer Reserve was formed and the RNAS candidates were invited to join it. Eighteen did so and were given transportation to Halifax, where they boarded HMCS *Niobe* as able seamen in the RNCVR. They received 85 cents a day and underwent elementary naval training pending their RNAS appointments as probationary flight sub-lieutenants and their passage overseas. 'It is highly desirable,' wrote Kingsmill to the *Niobe*'s Commanding Officer, 'without making too many invidious distinctions that this class should be kept to themselves and treated with as much consideration as proper discipline allows.'²⁶

Ross-Hume, who yearned for 'real work' and begged not to be left to 'languish here forever,'²⁷ had been replaced as RFC recruiting officer by Lieutenant-Colonel C.J. Burke, who arrived in Ottawa in the first part of November 1915. Burke served in Canada only a little more than two months. His main legacy was a long and perceptive report, sent to the War Office on 18 December, on aspects of RFC recruiting in Canada.²⁸ Burke strongly recommended that the RFC establish its own flying school in the dominion. In his view, a false start had been made. The publicity attending the recruitment and elementary training of pilots for the RFC and the RNAS had fostered pressure groups for the construction of additional schools, and public subscription campaigns for that purpose had been organized. 'In fact,' he observed, 'in the language of the country, an aviation boom took place.' Unfortunately, a 'distinct muddle' developed because more candidates were accepted than the existing flying schools could handle. As a result, uncertificated candidates became increasingly apprehensive over their prospects. Burke implied, incorrectly, that this error in judgment had been made, not by RFC recruiters, but by Canadian agencies or individuals. At any rate, much of the public enthusiasm generated for flying had been misdirected. Almost all the schemes for additional flying schools had been faulty in conception, and nothing had come of any of them, leaving 'a feeling of disappointment and of soreness among those who collected money or interested themselves in trying to help.' The War Office, he thought, might well conclude that what had passed was 'a good deal of trouble for a mixed batch of untrained candidates.'

Nevertheless, Burke believed that there were 'great possibilities' in Canada. He was astonished at the number of Canadians of military age not yet in uniform, which he put down to the failure of Canadians yet to realize the grimness of the war. Moreover, because of the heavy immigration of single men, those of military age constituted a higher proportion of the total population than was the case in Britain. Clearly, then, there was a large pool of manpower for the RFC in Canada. Burke, who had begun his career in the Royal Irish Regiment, did have misgivings about the social suitability of most of the potential candidates, and could not accept the blurring of old-world social distinctions which had occurred in Canada. As he wrote to a War Office colleague the day after he submitted his report: 'The R.F.C.

can get a lot out of Canada provided that they retain complete control out here. There are several people who really enjoy giving appointments in the R.F.C. regardless of the suitability of the candidates. Two people I saved you from are examples, one had been a Berkshire farm labourer two years ago and another ran a newspaper stand in Regina. Suitable material for the R.F.C.!!!²⁹ In his view, the majority of potential flyers in Canada would be better suited to serve as sergeant pilots than as commissioned officers.

Turning to the Canadian aircraft industry, Burke described it as further advanced than the British air industry was in 1912, and considered that with the right supervision it would repay encouragement by the British government. Moreover, the thriving American aircraft industry was next door, and could provide all the skills needed for an expansion of Canadian plants. International boundaries, he found, meant little in North America: 'a mechanic does not mind whether he works in Toronto or Buffalo, Winnipeg or Minneapolis, Vancouver or Seattle ...' He concluded that Canadian aviation potential could best be tapped by forming an RFC training wing in the dominion, headed by a small RFC detachment but drawing mainly upon Canadian resources for both personnel and material. Six officers and about 150 non-commissioned officers, air mechanics, and civilians would be needed, and all but four or five could be recruited or engaged in Canada. Canadian manufacturers could produce the fifteen aircraft required, presumably obtaining engines in the United States. The wing could handle twenty pilot trainees at a time; each would be given twenty hours' flying time after passing the FAI test. Burke recommended that students should be enlisted as air mechanics and promoted to sergeant the following day. Unlike the Curtiss candidates, then, they would be uniformed members of the RFC, subject to military discipline. A maximum of 10 per cent of them might be recommended for commissions. Some might be held back in Canada as instructors, but the majority would be sent to England for advanced training on service-type aircraft. He estimated that his scheme would cost £50,000 to establish.

In considering a possible site for the training wing, Burke rejected Toronto 'as a centre from which to start aviation in Canada.' Land cost too much, the surroundings were 'indifferent,' and the climate was poor. Winnipeg was his first choice. It was surrounded by a vast 'natural aerodrome,' and though it was somewhat cold in winter, he had been told by the natives that it was 'the halfway house across the Continent and ... the centre of a very wealthy district.' Calgary was his second choice, with its fine terrain and only 'occasional spells of cold weather.' Victoria, he thought, would be a suitable winter flying station.

Burke placed most emphasis upon his recommendation that the school must be under RFC control, and its commander responsible to RFC Headquarters and to no one else. A Canadian-run organization was not in the cards; the Canadians possessed neither the experience nor the expertise. He argued privately that it would be essential to 'keep the fellow in charge free from being pressed on by other interests in Canada - if you *cannot* arrange for him to be directly and only responsible to R.F.C. H.Q., Canada should be left severely alone.'

It was only reasonable that Burke should believe RFC expertise was essential, for his plan called for a much higher level of training than that offered at the

Curtiss School. As it was the Toronto school had had to depend on instructors from the United States. Nor should his desire for direct RFC control be put down entirely to metropolitan condescension. It is true that he feared the possibility of a government takeover should Canada decide to form its own squadrons, which 'cannot expect to be a success,' but he also had become aware of the private interests pressing for advantage in the aviation field. The following year his views were confirmed when a variety of Canadians made a bewildering series of direct approaches to the British government. J.A.D. McCurdy, one of these supplicants, was told, in explanation of his failure to obtain an interview with Lord Curzon, the President of the Air Board, that the board and the War Office 'apparently have not quite understood why so many "different" and "unofficial" persons should desire to see Lord Curzon about a matter which they expect to hear from the Canadian Government.'³⁰

Burke's recommendations were considered by the War Office but eventually rejected.³¹ This was unfortunate. Burke foresaw the continued growth of the RFC in France and the resultant demand not only for more pilots but also for the means of producing them. He believed – quite rightly as events were to prove – that Canada could help materially in meeting these needs. The proposed school was a realistic project, geared to resources and facilities available or capable of being developed in Canada and the United States and designed for expansion as RFC requirements grew. Had Burke's training wing been established early in 1916 under experienced RFC direction and control, there seems little doubt that it would have evolved into a large-scale training plan along the lines of the scheme that the RFC eventually set up in Canada at the beginning of 1917. A year would have been gained.

Stanton again acted for the RFC following Burke's departure and continued to do so until August 1916. From 1 January the RFC reverted to its original recruitment policy. Pilot certificates were once more required, but no commissions were granted in Canada.³² During the first eight months of the year no more than twenty RFC pilot recruits were accepted. Most of them had obtained their certificates in the United States; all were sent overseas as air mechanics, 2nd class. The dismal RFC recruiting figures were partly the result of the better terms offered by the RNAS to certificated candidates. RFC officials, however, made no effort to obtain large numbers of pilots in Canada in this period. They seemed content with the trickle of recruits that Stanton was able to despatch. They were only too aware that possession of a certificate meant that a recruit had completed merely the most elementary stage of his training. He would still have to undergo a much longer period of instruction in British schools and training squadrons after leaving Canada – exactly the same training as that given uncertificated candidates accepted at the end of 1915 and those candidates from the CEF who had never attended a private flying school. For at least the first half of 1916 the RFC was concerned with expanding its training facilities in Britain and finding the experienced personnel to operate them. There was no shortage of candidates to fill their training programmes.

The RNAS showed more interest in Canadian pilots. Certificates were still required and candidates having gained them were appointed probationary flight

sub-lieutenants. No attempt was made to push RNAS recruiting in the first four months of 1916; nevertheless, a steady stream of naval candidates was commissioned and sent overseas. Some of these were the uncertificated 1915 candidates whose training had been interrupted and whose passage overseas had been authorized late in that year. The last of these men did not leave until February 1916. Others of the new RNAS officers, more than forty in number, had attended schools in the United States during the winter and early spring. The exact source of these pilots is unclear. They may have been accepted under the 1915 quotas and then elected to gain their certificates before being sent to England. It is also possible that the naval service had been authorized at the end of 1915 or the beginning of 1916 to accept a number of additional candidates. Active RNAS recruiting, however, was not begun again until May. The Toronto Curtiss School reopened at this time, with all but a handful of its pupils designated as RNAS candidates.³³ As before, the programme was tied to quotas received from the Admiralty and little difficulty was encountered in finding the required numbers. Admiral Kingsmill again took a strong personal interest and the Canadian naval service continued to act on behalf of the Admiralty in seeking recruits until the programme ceased in January 1918. By this time 635 men had enrolled, of whom fifty-five had transferred to the RFC.³⁴

RFC recruiting, by contrast, remained almost dormant until after the arrival in August of Stanton's replacement, Captain Lord A.R. Innes-Ker. He was empowered to offer commissions in the RFC Special Reserve to suitable candidates whether or not they had certificates. Those who held certificates were to be commissioned before leaving Canada; those without were to be sent overseas as civilians and commissioned on arrival in Britain.³⁵ The new regulations even provided for acceptance of men not considered suitable for commissioning, but this provision does not seem to have been used. These modifications reflected the steady growth of the flying corps and the realization of RFC Headquarters that a flying certificate obtained in Canada or elsewhere meant very little.

Innes-Ker's arrival ended Stanton's long involvement in the RFC's Canadian recruiting programme. He returned to Britain several months later when the Duke of Connaught's term of service as Governor General ended. There is no doubt that Stanton's departure was welcomed by the Prime Minister and some of his Cabinet. Borden was convinced that Stanton was a malign influence at Rideau Hall. 'That gentleman,' he recalled in his memoirs, 'had been Governor of a small Crown Colony or Dependency and seemed to be under the impression Canada occupied the same status as the territory he had governed.' That view was mellow compared to the Prime Minister's fury with Stanton during the war. To his colleagues he depicted Stanton as 'stupid, conceited, maladroitness and meddlesome,' and stated that he was 'continually running to the Governor-General with silly tales about administrative matters and unfortunately the Governor-General is inclined to listen to such tales and to attempt unconstitutional interference.' It must be said, however, that although both Stanton and the Governor General had assiduously promoted RFC recruiting and the cause of military aviation in Canada, they had carefully refrained from appearing to commit the Canadian government to action. 'Please ... understand,' Stanton wrote in favourably responding to one of

Colonel W.H. Merritt's training schemes, 'that this has nothing to do with a future Canadian Flying Service, as his Royal Highness understands that the Canadian Government does not contemplate any such department at present.' Moreover, there is no indication of friction between Stanton and General Gwatkin, his chief contact at Militia Headquarters, nor between the military secretary and men like McCurdy, with whom he was closely associated in the search for RFC recruits.³⁶

With the requirement for a pilot certificate eliminated, RFC recruiting increased markedly in the autumn of 1916. Twelve or fourteen recruits sailed in late September, followed by a group of thirty-two in mid-October and additional parties at intervals throughout the remainder of the year. This development, as it happens, coincided with a period of heavy RFC losses during the latter stages of the Somme offensive. The RFC regulations were once again altered in mid-November, this time as a result of changes in the flying corps' training organization in Britain. There was, as before, no requirement for a certificate. All candidates for commissions were to be sent to England, there to be attested as air mechanics, 3rd class, and posted to the recently created RFC Cadet Wing, from which they would proceed to other training schools. On completing a preliminary four-month course they would be appointed second lieutenants in the Regular Army for duty with the RFC. Those who proved unsuitable as pilots could be sent to an officer cadet battalion to qualify as infantry officers. Provision was again made for recruitment and pilot training of those not considered suitable for commissioning. The maximum age limit was dropped from thirty to twenty-five.³⁷

The RNAS also modified its recruiting regulations during the latter part of 1916. On 25 August the new rank of probationary flight officer – the rough equivalent of midshipman – was introduced. Those who held the new rank were rated as officers but not actually commissioned. Commissioning, in the rank of flight sub-lieutenant, followed successful completion of initial training overseas. Those accepted into the RNAS in Canada were given the new rank after the early part of October. In November the RNAS dropped the requirement for a pilot certificate. This was initially announced as a temporary measure to apply throughout the winter months. The stipulation, however, was not reintroduced.³⁸

Although the RNAS and RFC enjoyed the full co-operation of the naval and militia departments in their Canadian recruitment programmes, the recruits themselves received little official assistance. Candidates who were accepted into the flying services were given rail transportation from their homes to Ottawa. From November 1915 onwards, until the requirement for a certificate was dropped, RNAS candidates undergoing instruction at one of the private flying schools qualified for an Admiralty allowance of \$1.25 for each day over seven weeks at the school. No such allowance seems to have been available to the RFC candidates. In 1916 the city of Toronto paid a special grant to students at the Curtiss School. This assistance, however, was limited to Toronto men attending the school, who received \$8 a week up to a maximum of \$64. Payment was made after qualification for a certificate and city records show that a disbursement of \$1472 was made to twenty-three students. Some small measure of financial aid was added by the Canadian government from May 1916; those who obtained their certificates in Canada and were accepted by either of the British flying services were given

\$100. This payment was not retroactive and did not apply to those gaining certificates at American schools. Only sixty-one recruits qualified.³⁹

It is probable that the combined total of 1915-16 RNAS and RFC recruits was in the neighbourhood of 700 - somewhat more than 300 for the RNAS and 350 or more for the RFC. Of these, fewer than 250 were properly certificated pilots. The Toronto Curtiss School contributed slightly over one half of the certificated recruits; almost all the others obtained their qualifications in the United States.⁴⁰ The existence of the Curtiss School (and to a lesser extent of schools in British Columbia) seems to have been the major factor determining the provincial origins of the recruits of these early years. In statistical terms, both Ontario and British Columbia were subsequently over-represented among these first entrants. Ontarians alone made up more than half of the recruits to the two flying services in 1915-16. Albertans and Manitobans also enlisted in numbers rather larger than might have been expected. All the other provinces, however, contributed less than their statistical share, presumably because of the absence of flying opportunities and of publicity for flying.*

The Curtiss School had begun its training programme in 1915 with two Curtiss F-type flying boats brought to Toronto from the United States. A third was added a week later. These aircraft were flown from Hanlan's Point, on one of the islands in Toronto harbour, where two hangars were erected. An aeroplane section was opened some weeks later just outside Toronto, at Long Branch on the shore of Lake Ontario, where the initial group of flying-boat students progressed to training on wheeled aircraft on 22 June. A militia department rifle range there was placed at the school's disposal and Curtiss JN3 biplanes were used as training machines. The Long Branch field, where three hangars were built, may justly be called Canada's first proper airfield. During the 1915 season pupils learned to fly at Hanlan's Point, putting in some two hundred minutes of dual time before proceeding to the aeroplane section where they completed their instruction and flew their tests. In 1916 the flying-boat section was closed and the pupils took all their instruction on the JN3s.

With the exception of the FAI examination at the end of the course, all flying at the Curtiss School was dual. The tests called for three separate solo flights. Two involved flying a series of figures-of-eight around two posts 500 metres apart. In these flights the aircraft's engine had to be cut before or at the moment of landing and the machine brought to a stop not more than fifty metres from a predetermined point. On the third flight the student was required to gain at least 100 metres of altitude and then to cut the engine, gliding down without power to a successful landing. The tests were witnessed by official observers and certificates were issued in the name of the Royal Aero Club of the United Kingdom, which then represented all parts of the British Empire in the FAI. Most of the flying was done during the early morning and late afternoon to early evening to avoid windy conditions. With only a few aircraft available, rapid progress was impossible. Operations often slowed to a crawl because of aircraft unserviceability and bad weather. Students spent much of their time waiting and the instruction for many of

* See Appendix C, Tables 1 and 6.

them extended over several months. Little if any technical ground instruction was given and there was no night flying.

The school's activities drew large weekend crowds of spectators. Something of the atmosphere of the school and the boyish enthusiasm engendered by aviation in its early days were captured in a story that appeared in *The Globe* on 15 May 1915, a few days after the opening of the school. 'The roll is called at 5 a.m.,' wrote the reporter assigned to cover the start of the day's flying-boat instruction:

A calm atmosphere is desirable for teaching the novice, and the winds are still asleep for some hours after sunrise. At the same time one has but to meet these young airmen to come into touch with an enthusiasm and earnestness for their calling that would bring them from their beds at a still earlier hour, were that necessary ...

The rendezvous was the foot of Spadina Avenue, where a gasoline launch is moored ...

'All aboard!' was the call and off we went to the Island sandbar. In the gray, calm morning a barque was making sail for the harbor and sea birds flew overhead ...

The boat touched the shore and we leaped out on the sand and entered the hangar. The next stage in the flying was reached - the awakening of George, the mechanic, who slept keeping watch near the flying boat. A few handfuls of sand with sundry odd ends of rope thrown over the wooden partition brought quick shouts from the interior and told that the aim had been true, and in a moment George, thus unceremoniously awakened, emerged and set the engine agoing. This was an operation that required patience till the engine was warmed up ...

'All aboard' again was the call from Instructor Pierce, now clad in a blue coat, with a balaclava helmet on his head and rubber shoes on his feet. Lieutenant Smith* took his seat on the boat, which slipped out over the lake, slowly at first, then faster and faster as the chug, chug of the engine increased in intensity. Sixty miles an hour is the speed the boat is capable of on water and about 65 miles in the air. All gaze after it. 'Thirty,' ... as the boat travels faster; '40,' 'now he's in his swing.' 'Look at her tail rising.' 'She's on the surface of the water.' 'There, she's in the air now.' 'She's going up by bounds.' 'My, that's the highest flight yet.' 'He must be 300 feet up.' 'Compare them with the C.P.R. building.' Then the flying boat swerved round for home, descending gently to the water. Instructor Pierce brought her level a few feet above its surface and she dropped down with a slight splash. A moment more and Lieutenant Smith stepped ashore. He had been away only six minutes ...⁴¹

The school's standard course remained at four hundred minutes of flying time throughout the 1915 and 1916 seasons. Nevertheless, most of the 1916 pupils received considerably more than the stipulated number of minutes, the extra instruction being subsidized by Colonel Merritt's Canadian Aviation Fund. In January 1916 Merritt had proposed to the War Office that the fund might improve the training given to RFC candidates in Canada by underwriting the cost of thirty hours of flying beyond the certification standard for five to ten pupils a month. The War Office replied that the offer would be 'of material assistance' provided that the extra flying time was given on 'fast machines.' None of the sixty-three pupils who

* A number of the students held militia commissions; hence the use of military rank.

obtained certificates during the school's 1916 season logged anything close to the thirty extra hours contemplated by Merritt and almost all were RNAS rather than RFC candidates. But the great majority of pilots did receive additional flying time, though of course there were no 'fast machines.' Nearly three-quarters obtained 480 minutes or more and close to half logged in excess of 540 minutes. Thirteen flew more than 600 minutes while three rolled up over 720 minutes of flying time. None of the Canadian Aviation Fund's cash found its way into the pockets of Curtiss candidates, however. The standard \$400 fee remained unchanged. The Curtiss Company presumably was paid directly by the fund for the added flying time.⁴²

During the two seasons that the school operated there was neither serious injury nor fatality, a tribute to the corps of excellent instructors, most of them from the United States. The chief instructor was Theodore C. Macaulay and two of his subordinates were Bert Acosta and Guy Gilpatric.* The school produced a total of 130 certificated pilots – sixty-seven during 1915 and sixty-three in 1916. Of these, 106 joined the RNAS and twenty-two went to the RFC.[†] Many others received partial training or were registered on the school's waiting list without ever having an opportunity to fly. The list of pupils, like that of the instructors, contained the names of men who would later become well known, such as Robert Leckie and Wilfrid A. Curtis, both of whom won gallantry awards during the First World War and became Chiefs of the Air Staff in the RCAF in the 1940s.

Although the Toronto Curtiss School was the only truly successful one in Canada during this period, there were a number of other Canadian schools. A company known as the Canadian Aircraft Works in Montreal South, which seems to have constructed two or three Caudron-type aeroplanes, advertised itself as operating a flying school as early as November 1914 and offered to train pilots for the militia department.⁴³ Little is known of the training, if any, that was given there, but it produced no qualified pilots.

Several new schools blossomed following the news in early 1915 that the RFC – and later the RNAS – were seeking certificated pilots in Canada. E.L. Janney stated his intention to establish a training school upon his return from England in February, the first to be announced following the start of Canadian recruiting. Janney's tiny operation opened and closed later that same year. A small school was also formed in the Vancouver area by the Aero Club of British Columbia, with financial backing from a group of Vancouver businessmen and by public subscription. Training was given to a dozen pupils on a single machine during the summer and autumn of 1915. In the following year a non-profit, patriotic organization known as the British Columbia Aviation School Ltd was formed and stock offered for public sale. The school operated during 1916 from Coquitlam, twenty-five miles east of Vancouver, and when it stopped instruction in October it had two

* Acosta became one of Admiral Richard E. Byrd's pilots during the 1927 trans-Atlantic flight of the *America*. Known to his fellow pilots as 'Goggles,' Gilpatric had obtained his pilot certificate before the war at the age of fifteen. After the war he turned to the writing of fiction, creating the popular 'Mister Glencannon,' chief engineer of the *Inchcliffe Castle*.

† Two of the school's 1916 graduates did not enter either of the flying services after having obtained their certificates.

aircraft and twenty-two students. Some of the pupils at the school flew solo but none obtained their certificates there. Most, however, were ultimately accepted by the RFC and RNAS. Other schools were formed in Toronto, Montreal, and Vancouver, but they existed only for brief periods and offered little to those in search of certificates.⁴⁴

We have noted that many who sought to join the RFC or RNAS and were unable to obtain certificates in Canada travelled to schools in the United States.* More than one hundred Canadian candidates for the two British flying services earned certificates in the United States, most of them at the Wright, Curtiss, and Stinson schools. So extensive was the Canadian invasion of the American flying schools that from July 1915 to the same month in 1916 more than half the pilot certificates issued by the Aero Club of America went to Canadians seeking acceptance by the RFC and RNAS.⁴⁵

Since there was no 'recommended list' of flying schools, candidates seeking certificates were very much on their own. Even the best of American schools had only a few aircraft and instructors and the sudden influx of Canadians was almost too much for them. Temperamental engines, the inevitable flying accidents, and spells of bad weather could hold up training for days at a time, when for all the Canadians every day lost was frustrating and for some at least another bite into dwindling funds. The Wright School at Huffman Field outside Dayton attracted many Canadians in this period, among them such prominent pilots of the future as D.M.B. Galbraith and A. Roy Brown of Carleton Place, Ont., J.O. Galpin and C.G. Bronson of Ottawa, Basil Hobbs of Sault Ste Marie, Ont., J. Lindsay Gordon of St Lambert, Que, C.J. Creery of Vancouver, and Kenneth F. Saunders of Victoria, BC. Somewhat exaggerating their affluence, the *Dayton Sunday News* of 3 October 1915 proclaimed that 'Thirty Wealthy Canadian Men Taught Aeroplane,' and quoted one of them as saying that though 'thousands of young men' in Canada wanted to enter the flying service, 'we are among the fortunate ones who are able to obtain sufficient money to pay for the course and our expenses while taking it.' Lloyd Breadner of Ottawa was another member of the group at the Wright School. His letters home show that he was a little concerned about money (his family financed his stay in Dayton), but he chafed at the delays caused by too many students competing for too few aircraft. He decided to go right to the top: 'I went out to see Mr. Wright the other day & he assured me that the school would be run on a different method after this. He said he hadn't been looking after it for the past month & that the instructors weren't doing their work. He told me not to worry, that I'd be finished up before December 1st.'⁴⁶ As it happened, at that very time Orville Wright was deeply involved in disposing of his interests in the Wright Company. Breadner did not in fact get his certificate until 28 December, but by January he was bound for England and advanced training with the RNAS.

* Known to have produced certificated Canadian recruits for the flying services during 1915-16 were the Wright Schools at Dayton, Ohio, Augusta, Georgia, Mineola and Hempstead Plains, NY; the Curtiss Schools at Newport News, Virginia, and Buffalo, NY; the Stinson School, San Antonio, Texas; the Thomas School, Ithaca, NY; the Martin School, Griffith Park, Los Angeles, the Burns School, Los Angeles, and the Christofferson School, Alameda, California.

At the same time that Breadner and his fellows were getting their certificates at the Wright school, other Canadians were going even farther afield. Joseph Gorman of Ottawa, J.A. Harman of Toronto, J.E. Walker of Montreal, and H.W. Mackenzie of Victoria, finding the Dayton school overcrowded, travelled in November to the Stinson School at San Antonio. There they became the first four students of Marjorie Stinson, a famous aviation pioneer then still in her teens. Their success, and the excellence of the school, soon attracted other Canadians to San Antonio, but not everyone was so fortunate as to find such a high calibre of instruction. Alfred W. Carter and Thomas R. Shearer, both natives of Calgary who had been classmates at Queen's University, were part of a group of Canadians who attended a very different school in St Augustine, Florida. Having been accepted as RNAS candidates, they borrowed \$1000 each and set out in January 1916. Carter has recalled that

On arrival ... we were requested for the \$400.00 in advance, which we paid. The whole thing was a promotion by a middle-aged slicker called Benedict. His son was the so-called instructor. There were ten of us Canadians and a few Americans. The money we put up got the Airframe and Engine out of the crates. We were put to work measuring off flying and landing wires from a roll of cable and splicing them and erecting the machine, installing the engine, etc., all under the direction of a hired mechanic who knew damn all about aircraft ... This was all considered to be valuable training ...

After lengthy delays, which included replacing the pontoon landing gear with a wheeled undercarriage, and 'after a lot of threats, some physical,' Carter managed to persuade the reluctant instructor to begin flying.

... we started out one early morning, no wind, low tide, etc., and I got into the seat beside Benedict ... and away we went along the beach. We got into the air and went about a mile swooping from side to side, diving and rising, before he got it in a fairly stable attitude close to the ground and he switched off and plopped on the sand. He was pale as a sheet and shaking. I thought in my complete ignorance that it was great. What actually happened was he got into the air by accident and not knowing how to fly had overcontrolled like crazy, but was committed until he got it down again near the ground and called the whole thing off. We taxied back to the gang who were in great glee that finally instruction would be under way.⁴⁷

The instructor immediately, and understandably, announced that first-time training would be restricted to 'tail up' taxi runs to get some idea of what it was all about. On the first such run, however, the aircraft hit a puddle left by the tide, flipped over, and was smashed. Their borrowed funds nearly depleted, Carter and Shearer 'threatened some money out of Benedict up in his bedroom' and made their way back to Ottawa. Both were appointed to RNAS commissions and sent overseas in the spring of 1916.⁴⁸

Canadian aircraft construction was in the same embryonic stage as flying training. Although there was some scattered activity in this area in different parts of

Canada during 1914-16, the only work of consequence took place in Toronto. In the spring of 1916 the Polson Iron Works, an established shipbuilding and engineering company, designed, built, and test flew an aeroplane known as the MFP machine, a two-place tractor biplane notable for the tubular steel construction of its fuselage. Two of these machines are known to have been constructed, each to a somewhat different design, and others may have been produced. In addition to the test flights out of Toronto, one or more of the aircraft were flown from Hempstead Plains, NY, and the machine was advertised in an American aviation journal during 1916, but no evidence of any sales has been uncovered.⁴⁹

The major producer of aircraft, however, was Curtiss Aeroplanes and Motors Ltd in Toronto. It will be recalled that in March 1915 the Admiralty had arranged for fifty Curtiss JN3s to be made in Toronto. Only eighteen of these were produced and it is possible that six of them may have been diverted to the RFC, which had followed the RNAS lead in placing orders with the American Curtiss Company. In 1915 the Toronto Curtiss plant designed and constructed a twin-engine, three-seater tractor biplane bombing machine for the British services known as the Curtiss Canada. It was intended to serve as a land-based companion to the twin-engined flying boats that the American parent firm was supplying to the Admiralty. The prototype passed its tests early in September 1915 at the Long Branch field and was then delivered to the War Office. Eleven more, known as the Model C1, were built, ten going to the War Office and one to the Admiralty. An additional order of twenty-five was placed by the Admiralty and the contract again went to the Toronto plant. This order was cancelled in June 1916, however, before any of the Admiralty machines had been produced. The Toronto firm continued to make parts for its American parent company, but it does not seem to have produced any further aircraft after the cancellation of the Canada orders in mid-1916. At that time the plant was employing 600 men.⁵⁰

In December 1916 Ottawa loaned the British government \$1,000,000 to purchase most of the assets of Curtiss's Toronto plant. The new company, Canadian Aeroplanes Ltd, came under the control of the Imperial Munitions Board* as an essential ingredient in the Anglo-Canadian agreement on a RFC training organization for Canada. The negotiations leading to these developments, which will form an important part of chapter 3, had been proceeding since early 1916, the IMB acting as an intermediary between the two governments. The board had pressed for the diversion of British aircraft orders from the United States to a government-owned operation in Canada. Both Borden and the War Office accepted this argument in principle and, once the agreement to form RFC training squadrons had been completed on 12 December, the accord on a supporting aircraft factory soon followed. Indeed, the IMB had been authorized on 25 November to place an order with a Canadian company for 200 Curtiss-type training machines. The new company quickly acquired the manufacturing rights to an aeroplane based on the

* The Imperial Munitions Board was organized 30 November 1915. It served as an agent for British purchases of munitions and other war supplies in Canada and supervised their production. Although responsible to the British Ministry of Munitions, most of its personnel, including management, was Canadian.

Curtiss JN4 two-seater trainer; production of this aircraft and spares, which were to constitute the bulk of Canadian Aeroplanes' output, was designed largely to meet the RFC's needs.⁵¹

Canadian Aeroplanes Ltd achieved – and with notable efficiency – the first mass production and large-scale export of aircraft in the history of Canadian aviation. The Canadian government, whose attitude towards the development of military aviation had been characterized by the *Toronto World*, among other newspapers, as negative and 'deplorable ... for Canada as a nation,'⁵² had supported the establishment of the new aeroplane company and now provided some of the training facilities for the RFC Canada scheme. These were small steps, however, and, perhaps in national terms, even backward ones. Ottawa's critics seemed unlikely to be silenced.

Sir Sam Hughes, the Aviation Lobby, and Canadian Air Policy, 1914-16

Canadian aviation policy in the years 1914-16 cannot be divorced from the character and personality of Sir Sam Hughes. He was a strange man, intense, self-dramatizing, and mercurial, formidable on the stump or in the House of Commons, a fierce partisan who could excite, amuse, puzzle, or exasperate his fellow Conservatives, not to speak of the opposition. He had been a fine athlete in his youth, a school teacher, and then a newspaper editor who became the most powerful figure in central Ontario's Orange Toryism. He seemed to think of himself primarily as a man of action. From the age of thirteen he had been a member of the militia. His appointment as Minister of Militia and Defence in 1911 was to him a vindication of his militia career - one not lacking in controversy - and he threw himself into his duties with great enthusiasm, enthusiasm redoubled with the coming of the war and its opportunities for action upon a more spacious stage.

Immensely proud of the part Canada was taking in the war, and of his own contribution to it, Hughes jealously guarded his powers as minister, so much so that his Cabinet colleagues, including Sir Robert Borden, usually left him to run his own show. While unquestionably an ardent Canadian patriot, always on the watch for imperial misuse of Canadian troops, at the same time he sought imperial recognition for himself in the way of honours and promotions. Both at home and in the heady atmosphere of the metropolis, he was highly susceptible to praise and flattery. He was not always discriminating in his choice of friends and associates, and some of those whom he appointed to positions of authority or influence in the early days of the war failed the trust he had placed in them, thereby weakening his own political position. In his ministerial style Hughes was unorthodox, preferring to short-circuit established departmental procedures and to run his department as a kind of feudal barony. Since he frequently took advice from persons outside government circles, it was difficult for his officials, as well as his Cabinet colleagues, to ascertain at any given time the extent to which he had committed himself and the government to a variety of schemes.

Hughes' principal military adviser was Major-General W.G. Gwatkin, Chief of the General Staff and, like all his predecessors (with the exception of General Sir William Otter), a British officer. A highly intelligent and long-suffering officer, Gwatkin gave loyal if uneasy service to his volatile Minister, allowing his feelings to surface only in the occasional wry minute, usually written in the course of rectifying the confusion caused by one of Hughes' impulsive initiatives. Gwatkin

was both able and orthodox. Unfortunately for those who hoped to see the establishment of a Canadian air force, he took the view from the outset of the war that aviation was not a proper sphere for Canadian involvement, for reasons more fundamental than the chagrin occasioned by his Minister's brief flirtation with the Canadian Aviation Corps. The fact that he held such views made it unlikely that any scheme for a Canadian flying corps would receive support within the militia department itself, despite the presence of such officers as Colonel G.S. Maunsell.

Gwatkin did not express himself at any length about aviation until 1916. Prior to that time, however, his letters and minutes provide ample evidence of his unsympathetic attitude. Towards the end of September 1914 Lieutenant-Colonel P.E. Thacker, a Canadian officer on attached duty at the War Office, sent home information about the equipment, establishment, and cost of raising 'a Flight of Aeroplanes' in Canada. In passing Thacker's notes to Maunsell, Gwatkin merely observed, somewhat ambiguously, that 'of the enclosed documents you are at liberty to make any use you like.'¹

More explicit evidence about the degree of Gwatkin's hostility to Canadian departures in the field of aviation emerged during discussion of a proposal from the Burgess Company of Marblehead, Mass., an affair that also brought out for the first time Borden's view of the subject. It will be recalled that Hughes had authorized E.L. Janney to purchase from this company Canada's first military aircraft, a Burgess-Dunne machine. Sensing the possibility of further sales, the company approached the Prime Minister and the acting Militia Minister, J.D. Hazen, with the proposition that the government purchase twelve Burgess aircraft, complete with American pilots, and at one stroke acquire an air force. Colonel Maunsell was asked by Borden to draft a cable to Sir George Perley, the acting High Commissioner in London, outlining this novel proposal and requesting the views of the War Office. To Maunsell's draft the Prime Minister added this important sentence: 'We have no aviation service and do not think it desirable [to] attempt organization such service during progress [of] war.' The War Office response made no reference to this statement of policy, but simply advised that Burgess-Dunne aircraft were both expensive and unreliable. In letting Edward Slade, the president of the Burgess Company, know that his proposal had been rejected, Gwatkin saddled the War Office with responsibility for the decision. 'The War Office discourages the organization of a flying squadron,' he wrote, 'and it is our intention, for the present at any rate, to abandon the idea.'²

With R.B. Bennett, the Conservative member for Calgary East, the Chief of the General Staff was more direct. Bennett wrote to him in December asking whether he supported the proposed formation of an Alberta flying corps. Gwatkin said flatly that he was 'not in favour of forming a military aviation corps in MD [Military District] 13 or elsewhere in Canada - at present.' There was 'so much else to be done,' he told Bennett. For instance, Alberta had just been asked to produce 'two more regiments of mounted rifles and three more battalions of infantry.'³

* Gwatkin was half persuaded that his Minister had encouraged the Albertans. When the Governor General's patronage for the Alberta air force was requested, Gwatkin asked Hughes' military secretary: 'Has the Minister by any chance given his support to the so-called "Alberta Aviation Corps"?' Gwatkin to Winter, 31 March 1915, HQ 6978-2-9, PAC, RG 24, vol. 2033

The truth was that the government, and especially the militia department, was overwhelmed by the tasks confronting it, and had no time and little patience for aviation. The Canadian Expeditionary Force's 1st Contingent sailed for England on 3 October; three days later the government offered a second contingent of 20,000 men. The mobilization and preliminary training of this large force, together with a reinforcement pool of 30,000 also decided upon, demanded the whole attention of Gwatkin and his subordinates, and continued to do so until the 2nd Contingent began its movement to England in April 1915.

In the hectic atmosphere of these months, the many inquiries and suggestions concerning aviation that were received in Ottawa got short shrift. An exception was the proposal made by J.A.D. McCurdy, who had become an executive with the Curtiss Aeroplane Company of Hammondsport, NY. On 21 December he placed before Sam Hughes the outlines of a plan to combine a flying corps with a domestic aircraft industry: 'It has been my desire, as a Canadian, to do what ever in my power lay for Canada. With this object in view, after consultation with my partners, I determined that the establishment of an aeroplane factory in Canada would do much to make easy the inquiring into and purchase of machines by the Canadian Government, should you decide upon the establishment of an aeroplane corps to work in conjunction with the second and subsequent contingents.' What McCurdy wanted most was a guarantee that if a branch of the Curtiss company were established in Canada, 'an order will be placed with us for the manufacture and equipment of an aeroplane squadron ...'⁴

Hughes gave McCurdy an interview, and advised him to see the Prime Minister. In writing to Borden, McCurdy claimed that Hughes gave his proposal 'hearty sympathy and approval.' He saw the Prime Minister at least twice over the next two months and on 3 February 1915 formally summarized his proposal for him. The Curtiss Company intended to start a plant in Toronto capable of producing four aircraft a week. The directors wished a government contract for eight aircraft and for any further aircraft required over the next five years. In addition, 'the Company offers its services to assist the Government in organizing and training an Aviation Corps, and would instruct, for each machine ordered, one Aviator, selected by the Government, at the Company's expense.' This was an offer that Borden could refuse, and he did so, advising McCurdy that 'up to the present time' Canada had 'not decided to order aeroplanes for either military or naval purposes.' Nevertheless, he promised to lay the Curtiss plan before the Admiralty and the War Office. In the event, the Admiralty placed a large order with Curtiss and fifty aircraft from that order were diverted by the parent company to its new branch plant in Toronto. For the time being, McCurdy dropped his advocacy of a Canadian flying corps.⁵

Even as McCurdy was pressing, and losing, his case, the Directorate of Military Aeronautics in the War Office was taking the first step towards a comparable proposal. As we have seen, on 22 October 1914 Gwatkin had mentally crossed his fingers and told the Burgess Company that any idea of a Canadian aviation corps had been dropped by the government because the War Office 'discourages' it. It was, perhaps, a convenient pretext for explaining away E.L. Janney's air force. On 23 October, however, Lord Kitchener himself, the Secretary of State for War, had approved the idea of a Canadian squadron. The unwitting cause of this development

was an Englishman with Canadian connections named Griffith Brewer. Brewer had taken his flying certificate with Orville Wright at Dayton, Ohio, in August 1914. On his return to England, having secured a letter from the Aeronautical Society of Great Britain describing him as 'a responsible man and means business,' Brewer obtained an interview with Lieutenant-Colonel Sefton Brancker, Assistant Director of Military Aeronautics. His great plan was that a Canadian squadron should be organized under the cover-name of 'Brewer's Exhibition Flights,' and that Canadian airmen, after training in secret at Dayton and in Florida and California during the winter, should be despatched overseas to form a dominion squadron. 'All this could be done very quietly,' he assured Brancker, 'by the choosing of discreet recruits.' Brancker gave no attention to the notion of smuggling Canadians in and out of the United States for training, but the idea of a Canadian squadron interested him so much that he took it up with Kitchener personally. As a result of that conversation, Brancker noted that 's of s ... agreed that Canada should be approached with a view to the raising of this Squadron as a part of the Canadian Forces.'⁶

No immediate action followed this interesting conversation with Kitchener, possibly because Borden's cable of 9 October discouraged Brancker and his colleagues. Yet the idea was not forgotten. Lieutenant-Colonel C.C. Marindin, a senior British staff officer who had initially assessed the Brewer proposal, returned to the idea of a Canadian squadron, in a quite different context, within a few months. What reawakened his interest was the despatch to England of those members of the South African Aviation Unit who had volunteered for imperial service.* It appeared to Marindin that 'as none of the Dominion forces have their own aviation units, there seems to be an opportunity of making use in the R.F.C. of aviators and mechanics from the different Dominions, and at the same time fostering the spirit of Imperial co-operation.' He therefore proposed converting the Royal Flying Corps into an imperial force.

Marindin's ideas were embodied in a memorandum he circulated to members of the Directorate of Military Aeronautics on 3 August 1915. Canada, Australia, and New Zealand, he suggested, ought to be approached to see whether they would be willing to recruit the officers and men needed for a squadron. Dominion squadrons thus raised would 'form part of the R.F.C., but ... should have a distinguishing designation, e.g. No. 29 (Canadian) Squadron.' Such squadrons would be equipped and maintained by the RFC, and all costs associated with them would be borne from imperial funds. 'Should it not be possible to raise four squadrons,' he thought, 'it might be feasible for South Africa and Canada and for Australia and New Zealand to combine.'

Only the finance officers could see anything wrong with this plan. The imperial government should not be burdened with the entire cost of dominion squadrons, they thought, because the dominions were already paying the expenses of the

* This unit, organized before the war, served in the campaign in German Southwest Africa. When that campaign was successfully concluded in July 1915, the air unit was demobilized and most of its officers, and later the other ranks, were sent to England for further training. Eventually the South African Aviation Corps was constituted and became 26 (South African) Squadron of the Royal Flying Corps. It served in German East Africa. H.A. Jones, *The War in the Air: being the Story of the Part played in the Great War by the Royal Air Force*, III (London 1931), 15-16, 19

forces they had sent overseas. As an alternative, they suggested that the Colonial Office, in approaching the dominions, 'might assume that the colonies would bear the pay, but might say that the Imperial Government would provide and maintain, at Imperial costs, all the materiel (other than what is personal to the officers and men).'⁷

Marindin's suggestion, with this amendment and with the addition of information covering the question of recruiting generally for the RFC in the dominions, was passed by the Colonial Secretary to the Canadian High Commissioner, Sir George Perley, on 18 September 1915. After rehearsing the conditions under which Canadians, as individuals, could enter the RFC, the War Office proposal went on: 'It is thought, however, that the Governments of the Dominions might wish to raise complete aviation units, either independently or in conjunction with one another. Should this be the case ... the Army Council would gladly accept the offer of such units ... Such units would take their place in the general organization as units of the Royal Flying Corps, as it would be necessary that they should come under the orders of, and be at the disposal of, the General Officer Commanding that Corps. In order to mark the connection of these units with the Dominions with which they were associated, arrangements would be made to give them a distinguishing designation.' This concept would not necessarily ensure an all-Canadian squadron, however. The RFC reserved the right to post individuals out of the squadrons, or to post in 'officers and men who have no territorial association with them.' High wastage rates might make the second course necessary, and, initially at least, it might not be possible to find dominion officers with sufficient experience for higher appointments. Moreover, if dominion officers were locked within their squadrons, they would have very limited opportunity for promotion. Subject to these conditions, and to dominion responsibility for pay and personal equipment, the War Office invited dominion participation.⁸

Here was an opportunity, then, to establish at relatively small expense the nucleus of a Canadian flying corps within the bounds of the RFC.* It was considered by Major-General Gwatkin, in consultation with Lieutenant-Colonel E.A. Stanton, the Governor General's military secretary, who at that time had responsi-

* This was an opportunity seized by the government of Australia, 'mainly for national reasons,' since it had a standing policy forbidding the transfer of personnel from Australian to British forces. On receipt of the War Office's invitation, the Australian official historian records, 'the Australian Government, perceiving the value of an air force for future training as well as for the present emergency, promptly adopted the suggestion.' On 27 December 1915 a commitment was made for one squadron, subsequently formed and trained in Egypt. As 67 (Australian) Squadron RFC and later as 1 Squadron, Australian Flying Corps, it served in the Middle East theatre. Three additional AFC squadrons flew on the Western Front from late 1917 to the end of the war, and a replacement pool of reserve training squadrons was maintained in England. Even before the war the Australian government had established its own Central Flying School at Point Cook, near Melbourne. Its first graduates were despatched to Mesopotamia in response to an appeal from the Viceroy of India. The Australian half-flight there was ultimately incorporated into 30 Squadron, RFC. The AFC, according to its historian, 'was a portion of the Australian Imperial Force, though its squadrons for the most part served separately from each other and under the orders ... of the Royal Air Force.' F.M. Cutlack, *The Australian Flying Corps in the Western and Eastern Theatres of War, 1914-1918*, 3d ed. (The Official History of Australia in the War of 1914-1918, VIII; Sydney 1934), 1-2, 11, 31-2, 175-84, 213, 422-3

bility for RFC recruiting in Canada. Neither of these British officers had any sympathy for the suggestion, though Stanton thought the Canadian government might give some assistance to flying schools. They recommended that 'for the present at any rate, no attempt be made to organize a squadron or any other unit of the R.F.C.' This single sentence, devoid of any supporting explanation, sealed the fate of the British proposal. It was appended to two recommendations for assistance to RFC recruiting in Canada. The whole matter was dealt with summarily - indeed, perfunctorily. On the same day Gwatkin signed this set of recommendations, they were 'approved by the Minister in Council,'* and the document killing the proposal bears the same bold 'OK S.H.' that had called into being the Canadian Aviation Corps. Failing some sudden reconversion of the Minister to the cause of aviation, Gwatkin had had his way.† Only initiative from the Prime Minister and the Cabinet, or strong public pressure, or both, would change the stand of the militia department, and at the end of 1915 neither prospect was at all likely.⁹

Yet within a few months the government was to retreat from its policy, and it was only a few months more before that policy had been drastically revised. The development of aviation was so rapid, and its growing importance so demonstrable, that a policy based on negation alone could no longer be maintained. Pressures built up from a number of directions, none of them sufficiently powerful to bring about a drastic shift of emphasis, but strong enough to cause Canadian authorities to think again about aviation. In 1916 the air war began to expand dramatically in scope and significance, especially on the Western Front. Inevitably senior officers of the RFC were receptive to the ideas of any enterprising Canadian who had plans to push for a more effective use of Canadian manpower. Like it or not, first the High Commissioner in London, and then the government in Ottawa, found it necessary to react to such plans, until finally the hand of the government was forced by the unexpected re-entry of Sam Hughes into the field of aviation.

Before these events took place, however, the government had been impelled to give some ground to a campaign mounted at home for a more positive aviation policy. Its author and leader was Colonel William Hamilton Merritt; his vehicle was an organization he put together in late 1915 called the Canadian Aviation

* The phrase 'Minister in Council,' which might suggest some Cabinet discussion of the matter, in fact refers in this case to Hughes' novel method of carrying out his duties as presiding officer of the Militia Council. Since the beginning of 1914 he had ignored the council, and no minutes exist for the period 1914-16, except for those meetings held in 1916 when the Prime Minister, in Hughes' absence, called the council together and presided over its deliberations. The minutes resume in January 1917, shortly after Hughes left the Cabinet.

Instead of Militia Council meetings, Hughes held what Gwatkin once termed informal gatherings to dispose of business which the council, under other circumstances, would have transacted. It is not suggested that a formal meeting of the council might have adopted another course in the case of the British proposal for official Canadian participation in the RFC. Yet the procedure followed in this case ensured that the deliberation would be confined to a few persons, and, given the predilections of those concerned, also ensured that there would be no discussion of it. It is altogether likely that no Cabinet minister, other than Hughes, had any knowledge that such an approach had been made.

† Ironically, in 1920 Gwatkin would become the first and only Inspector-General of the short-lived Canadian Air Force.

Fund. Merritt, the grandson of the builder of the Welland Canal, was a well-known mining engineer who had also had a distinguished military career. He had served in the North-West Rebellion and the South African War, had commanded the Governor General's Body Guard, and had been president of the Canadian Cavalry Association and the Canadian Military Institute. He had formed the Canadian Defence League before the war to awaken a 'militia consciousness' in Canada, notably by securing the adoption of universal compulsory military service. This cause he pursued with unflagging zeal once war had broken out. But he also discovered a new enthusiasm – aviation.

When war came, Merritt was in Switzerland. As he told Sir Robert Borden, his stay there had impressed him with 'the remarkable change made in warfare by the advent of the Aeroplane.' Having been a cavalry officer for more than thirty years, he readily discerned (as many younger military men in Canada had not) the revolution wrought by the new arm, especially in its reconnaissance function. He was also struck by 'the splendid results obtained in Military Aviation through the Swiss public aiding the government,' particularly in the purchase of aircraft by public subscription. On returning to Canada, Merritt made it his business to discover the state of aviation in the country, and the government's attitude towards it. He travelled from Montreal to Vancouver, talking to anyone who knew something about aviation, or might be encouraged to become interested in it. Among others, he met McCurdy, Gwatkin, Kingsmill, and probably Maunsell, as well as a large number of politicians and businessmen. Merritt found that the government was doing little or nothing. His summation of the official attitude, made at a later date for public consumption, was not unfair. 'The disposition of the Government,' he concluded, 'was that, as so much had been undertaken by Canada in raising the ordinary branches of the service, and the matter of aviation being so new, it was considered best to leave it in the hands of representatives of the Admiralty and the British War Office who were in Canada.'¹⁰

Having satisfied himself that there was need for his energies, Merritt founded the Canadian Aviation Fund to awaken both the public and the government to the significance of military aviation, and to stir both to contribute to it. His first attempt to win government support won honeyed words from Sir George Foster, the acting Prime Minister, but nothing more. On 3 August 1915 Foster wrote: 'The Government of Canada has no objection at all to the proposal to form a fund and undertake the immediate training of men with a view to the promotion of Aviation in Canada. On the contrary it welcomes every well-based and intelligent effort to stimulate work in that direction, believing that this branch has already demonstrated its great ability for scouting, defensive and offensive work ... In writing the above I am in no way committing the Government as to its policy in relation to the assistance or promotion of Aviation Corps.'¹¹ Merritt thereupon bypassed Ottawa altogether. During the visit to Canada of the RFC's Lieutenant-Colonel Burke, the two discussed how best the fund might assist in the training of pilots for the RFC. As a result, Merritt proposed to the War Office that the fund would finance the training of 120 pilots a year up to a level of thirty hours in the air (well beyond the certificate standard). This offer, welcomed by Lieutenant-Colonel Marindin on 18 February 1916, was the basis upon which the fund was

first organized. The Governor General agreed to act as patron, and eventually Merritt secured every provincial Lieutenant-Governor as a vice-patron. The trustees included Lord Shaughnessy, Sir Henry Pellatt, H. Bell-Irving of Vancouver, and A.G.C. Dinnick, a Toronto investment banker. Merritt served as honorary secretary, but was in fact the real driving force behind what he termed 'the movement'.¹²

Such an assemblage of influence, spearheaded by a person of impeccably Conservative antecedents, would be difficult for the government to ignore. To be certain, however, Merritt laid the groundwork for a newspaper campaign. In late March 1916 an editorial entitled 'Aviation,' clearly based upon information obtained from Merritt, appeared in the *Toronto World*. Its first sentence was sufficiently unpalatable for the acting Minister of Militia and Defence to refer it immediately to his staff:¹³ 'Almost daily there is coming to hand the evidence that the Government of Canada is doing less than it ought to do to increase the aviation forces which are of such vital importance to the army at the front.' The editorial continued: 'At Ottawa the authorities who have power appear to be deaf to all representations on the question. The authorities who have no power are precluded by their position from expressing their views.* ... Canada is behind every other place in the world in aviation. Deplorable as this must be felt to be by all patriotic Canadians, there does not at present appear to be any way of remedying it except by private effort ... It is not long since Australia made an offer of a complete squadron for the Royal Flying Corps ... Yet the government will not budge ... as a nation we are not doing as much as the little Island of Mauritius, which raised \$25,000 in three weeks by public subscription for the presentation of aeroplanes to the war office.'¹⁴ At the same time that he launched this flank attack, Merritt also wrote directly to the Prime Minister, inviting him to join with the Canadian Aviation Fund in establishing as many as five aviation schools in Canada, the government to contribute \$20,000 for every \$40,000 raised by public subscription.¹⁵

The Prime Minister seems to have urged the militia department to find some means of placating Merritt without actually adopting his ambitious programme. After consulting with Stanton, Gwatkin suggested that the government pay \$100 to persons qualifying for pilot certificates at Canadian aviation schools, to be paid when the candidate obtained a commission or enlisted in the RFC. This was approved by the Militia Council on 19 April, subject to a further condition contributed by Borden himself that bound every recipient 'to become a member of a Canadian Flying Corps should one be organized in Canada' after the war.[†] Stanton's opinion that this would 'go a long way towards encouraging aviation, and be the foundation of a Canadian Flying Corps in the future' was surely an exaggeration. The step taken was a small one, and had been wrung from the government only as a result of Merritt's campaign.¹⁶ In the House of Commons on 14 April J.D. Hazen, Minister of Marine and Fisheries and of the Naval Service, speaking

* This probably refers to Colonel Maunsell.

† The council met under Borden's presidency. Borden noted that 'Hughes was much exercised.' Robert Laird Borden, *Robert Laird Borden: His Memoirs*, Henry Borden, ed. (Toronto 1938), II, 564.

on the naval estimates, gave a concise summation of the position of the Cabinet with respect to aviation. In replying to W.F. Maclean (South York), who favoured government encouragement to the aircraft manufacturing industry in Canada, and also 'a corps of flying machines manned by Canadians and men trained in Canada' for coastal defence, Hazen stated: 'So far as Canada is concerned, the opinion of the military experts is that, for its own purposes, there is very little need for a flying corps at the present time. The only service which they could render would be, perhaps, to observe what was going on along the coasts of the Atlantic and the Pacific, and that is not considered very necessary at the present moment.' He went on to outline the assistance the government was giving in qualifying candidates for the British flying services. While he thought the work of Merritt and his friends was 'worthy of all possible praise,' he saw no grounds for large government expenditure unless 'a use might be made of these young men who are being turned out from these aviation schools in large numbers at the present time.'¹⁷

Merritt recognized that, for the time being, the concession he had won was the most that could be looked for from government. Though he continued to write about aviation to Borden and Gwatkin, he now concentrated upon publicizing the importance of military aviation through press stories, speaking engagements, and newspaper advertisements soliciting contributions to the Canadian Aviation Fund. Merritt was careful in his advertisements not to raise questions about government policy, though readers of them may well have asked themselves why, if aviation was so significant, their government was taking no obvious action in the field. A typical advertisement, featuring a picture of a Zeppelin being brought down in flames by a BE2c, included this message:

FIGHT OR PAY!

HOW YOU CAN HELP THE FIRING-LINE AT HOME

You can help to win the war if you must stay at home! Thousands of good money was poured out for machine guns but it did not add one machine gun to the firing line which would not otherwise have been there! The British War Office has asked for ten expert fliers a month. They want help. They need aviators. Canadian boys are now being trained by the Canadian Aviation Fund to the highest standard yet attempted on this continent. This cannot be done without money. Can you, at home, make better use of money than having a Canadian boy represent you in hurling bombs on German Zeppelins or disclosing the whereabouts of army corps or batteries of the foe?¹⁸

Merritt's publicity campaign helped stimulate a number of newspaper editorials on the subject of aviation during 1916. Most came from journals hostile to the government, yet they constitute evidence that the public was becoming aware of the air war and of the government's reluctance to take any positive part in it. In the view of the *Toronto Star*, Canadians would have cause to regret 'that Canada did not more fully engage in this arm of war service.' Canadian aviators 'do not form part of our army at the front; they are not attached to our expeditionary forces.' Canada ought to seize the opportunities that would come from building up an

aircraft industry 'in a special and sensational new field,' and should also take steps to ensure that she receive 'the credit that will come from the fine deeds of her sons who fly.' The *Star* found it humiliating that the only aircraft owned by Canada had been presented in her name to the RFC by the people of an English city, 'with the proviso that, when war ends, it is to be sent to Canada where, presumably, it is to be viewed with intense interest by the simple natives.' The *Toronto World* was even more critical. It considered that the attitude of the government towards aviation was 'the strangest phenomenon of the war.' The 'unaccountable stupidity' of the government, and the fact that, so far as the militia department was concerned, 'aeroplanes have not yet been invented,' was deeply frustrating to legitimate Canadian aspirations, 'as we have the national spirit to take hold of such work, and we have the national future which cannot ignore the development of the flying machine commercially which will inevitably follow the war.' The *World* anticipated much subsequent editorializing in believing that Canadian aviators were 'an unrivalled class' because of their 'keenness, dash, independence, initiative and native daring,' and in concluding that 'the meagre grants and the cold shoulder of departments that should be interested will remain as historic blots on the record of the war government of Canada.'¹⁹

Merritt's work was also having some success in encouraging young men to learn to fly. By July the fund had contracted with the Curtiss School to train a number of pilots to the thirty-hour level, and Merritt was considering whether another school should be opened. He therefore asked Gwatkin whether certain newspaper rumours about the formation of a Canadian flying corps or aviation school had any substance and, upon Gwatkin's denial of any such intention on the part of the government, explained that members of the fund wished 'to bring about the creation of a larger school, on a more favourable site for training - such, for example, as on the large plain at Deseronto.' He told Gwatkin that he had been successful in obtaining a commitment from the Ontario government, and had approached other provincial governments, to give financial aid to the establishment of an inter-provincial school, but 'the whole matter is, and has been, held in abeyance by constantly recurring reports that the Dominion Government is about to install a training school and train aviators for the war.'²⁰

This was Gwatkin's first clear indication that Merritt and his friends had been putting together a scheme of considerable potential embarrassment to the government, involving as it did the co-operation of provincial and municipal governments, private individuals, and even the imperial authorities:

... under the impression that the Dominion Government did not desire to go further than their grant of \$100.00 per man, we approached the Ontario Government and secured from them a promise of substantial assistance, and have been in touch with other Provincial Governments. With this aid, and municipal and private assistance in connection with the raising of a Fund, we feel satisfied that the education of Aviators in Canada can at once be put upon a very much more satisfactory footing than at present exists. This is, of course, contingent on the Imperial authorities being willing to cooperate by allowing an Officer or Officers to come and take charge of a school, or schools, and perhaps further assistance in

allowing some trained Officers in the flying services to come to Canada as Instructors, for which work some of them have already applied.²¹

Gwatkin's response was the startling admission that 'the establishment of a Government Aviation School had been the subject of recent discussions.' It was the major change in government policy that this statement presaged that turned Merritt and his committee from their concern with flying training to other aspects of the aviation cause, chiefly the raising of money for the presentation of aircraft to the RFC. Their work, to an extent even Merritt probably did not realize, had had some influence in bringing about the government's change of attitude.²²

The complex negotiations which, by the end of 1916, had paved the way for the establishment of the Canadian Aeroplane Company and for RFC Canada were set in motion by A.G.C. Dinnick. Like Merritt, Dinnick was an aviation enthusiast who was disgusted by his government's inaction. He found it absurd that young Canadians could gain entry to the flying services only through the inefficient operations of a single private flying school or through the costly expedient of resorting to an American school. Aviation, he thought, was properly the responsibility of the national government; 'it should not be a question of patriotic inspiration.' Since the federal government, chiefly because of the obstruction of the Minister of Militia, refused to take up its proper role in the field, Dinnick was determined to bring pilot training under some alternative form of governmental control. After the War Office had responded positively to the fund's offer to train students to an advanced level, a public meeting of the trustees and others was held in March 1916, at the Canadian Military Institute in Toronto. At that meeting Dinnick was elected chairman of the fund's Ontario committee. Unlike Merritt, he believed that an appeal to the federal government was useless. Instead, he immediately left for England to enlist the help of the imperial authorities.²³

Dinnick was attentively received in London. On 6 April, through the agency of Marindin who was evidently still intrigued by Canadian possibilities, he had an interview with Sir David Henderson, the Director General of Military Aeronautics. Two days later he saw Admiral Vaughan-Lee, who arranged for him to visit the Royal Naval Air Service training station at Chingford in the company of Captain Elder, an officer who knew the Canadian situation from an earlier visit. At a subsequent meeting at the War Office attended by Brancker and by Captain Vyvyan of the Admiralty Air Department, Dinnick believed that 'an understanding was arrived at' with respect to a Canadian aviation school. At the very least, there was enough interest for Vaughan-Lee to agree to divert twenty training aircraft to the proposed school from those on order in the United States.²⁴

The plan Dinnick had unfolded was a simple one, based essentially on the thinking of the Canadian Aviation Fund, but including a role for himself perhaps not contemplated by his colleagues. He proposed that the RNAS and RFC jointly establish an aviation school in Canada, and held out the prospect that financial assistance would probably be forthcoming from the Ontario and other provincial governments. Aircraft for the school would be obtained, at cost, from a factory financed by the British government. Dinnick further proposed that the factory be built upon land he owned in North Toronto, that he manage the enterprise, and

that he be given an option to buy the plant at the end of the war. He assured the British authorities that no political objection would come from Ottawa, since the Canadian government would bear no financial burden.²⁵

Sir David Henderson immediately referred Dinnick's proposals to R.H. Brand, the representative of the Imperial Munitions Board at the Ministry of Munitions in London. He asked Brand whether, in the view of the board, it was desirable to build aircraft in Canada, and if it was, whether Dinnick or the IMB should supervise their manufacture. Brand relayed these enquiries to Ottawa, and on 5 May J.F. Perry replied that the IMB was 'strongly in favour' of the idea of a factory, that Dinnick, though of sterling reputation, had no manufacturing experience, and that the Canadian government was being approached to find out whether it was prepared to assist. At this point Dinnick ceased to be an important factor, though some weeks were to pass before he was to know it.²⁶

The initiative passed to the Imperial Munitions Board, which throughout the course of the ensuing negotiations remained a consistent and even enthusiastic proponent of the idea of a Canadian aviation factory, but to a much lesser extent of a flying school in association with it. As an agency of the British government, charged with the procurement of war materials in Canada on the most favourable terms, the IMB saw financial advantage in building training machines. But for at least some of the board's officials, there were political questions at stake in the issue, particularly with respect to the United States. Both Brand and Perry had been members of Sir Alfred Milner's 'kindergarten' in South Africa, a group largely composed of Oxford-educated young Englishmen with upper-class backgrounds. Though members of the group went their separate ways in business, finance, and government at the close of their South African experience, their tutelage under Milner ripened into a continuing association as the nucleus of the Round Table movement under the guidance of Lionel Curtis. Milner's central belief had been in the superiority of the Anglo-Saxon civilization, or race as he termed it, an idea at the heart of the Round Table mystique of the British Empire. Above all, the movement sought to promote imperial unity and to counter the political, economic, and military threats posed by rivals to British supremacy. Before the war the Round Table had gained adherents in the self-governing dominions, and its members constituted a private network of considerable dimensions and some influence.

The coming of the war provided an opportunity to put into practice at least some of the aims of the movement. The IMB was a case in point. When the Shell Committee, established by Sir Sam Hughes to manufacture munitions for Britain, got into serious difficulties in 1915, the British government despatched W.L. Hichens, chairman of the great Cammell-Laird shipbuilding and manufacturing group, to straighten out the munitions supply organization in Canada. Hichens had been one of Milner's kindergarten and was a prominent member of the Round Table group. He was accompanied to Canada by R.H. Brand. It was upon their recommendations that the Imperial Munitions Board had been established in the first place, and its chairman, the Toronto financier and businessman Joseph W. Flavelle, appointed. Flavelle was already known to Hichens and Brand as a member of the Toronto Round Table group. J.F. Perry became the financial member of the board,

based in Ottawa, and Brand its representative in London at the Ministry of Munitions.*²⁷

It was natural, therefore, that the approach taken by the IMB to the question of Canadian aviation policy should reflect, in part at least, Round Table views. That approach was first laid out by Perry in a series of telegrams to Brand on 9 May. IMB officials, he reported, had inspected the Curtiss factory in Buffalo and its Toronto branch plant, and had found that the Admiralty had placed orders to the value of \$12 million with the American firms. 'We see no reason,' Perry stated, 'why this business should not be largely transferred to Canadian National Factory in the course of 12 months if Admiralty and War Office [are] prepared to cooperate.' If the IMB took over the Curtiss plant in Toronto, it could then be expanded to accommodate fresh British orders.

Perry saw the flying school, in effect, as an appendage to the factory, and was confident that it could be organized without difficulty. There was 'plenty [of] good material available' in the way of young Canadians anxious to fly, and perhaps the Canadian government might be tapped to provide hangars. But the school, like the factory, should be an imperial operation with its entrants 'regularly enlisted and under military discipline.' The Canadian government, he thought, was favourable to the plan, but the IMB view was that it did not seem necessary to rely upon it 'for direct financial assistance.' Perry therefore urged Brand to see Henderson and A.J. Balfour, the First Lord of the Admiralty, and to '... impress on them importance strategically even more than commercially establishment of aeroplane manufacture in Canada now instead of using British orders solely to build up great plants in foreign countries. Curtiss plant have been building up out of our war business and there is no earthly reason why we should not do this in Canada and gain advantage ourselves ... if [the Admiralty] flood American plant with orders without any compensation or previous arrangement U.S. firms will then snap their fingers at us and difficulty of establishing Canadian plant will be enormously increased ...'²⁸ To Perry the issue appeared an imperial, not primarily a Canadian matter. Indeed, he specifically advised against a factory financed or controlled by the Canadian government, which in his opinion would lead to interdepartmental disputes, delays, and poor management. His argument, that 'it is deplorable' that the British government 'should continue building up industries in foreign countries which could be equally well conducted within the Empire,' might well bring benefits for Canada. But it left no room for such manifestations of national feeling as the creation of a Canadian flying service.²⁹

In short order Brand found that the flying school, to which Perry had given little attention, was in fact a major obstacle to any agreement. Neither the War Office nor the Admiralty was prepared to finance and operate one, though they were both willing to supply instructors and aircraft and to absorb the product, for which they were ready to pay a grant to Canada for each pilot enlisted. On turning to Sir George Perley, Brand found the High Commissioner even less inclined to be help-

* It is not known whether the Vice-Chairman, Charles Blair Gordon, a Montreal manufacturer, had any connection with the movement. The most recent study is J.E. Kendle, *The Round Table Movement and Imperial Union* (Toronto 1975).

ful. Perley confirmed that Canada would welcome an aeroplane factory, 'to which no doubt a school would be attached,' but that the government had no intention of launching either. A Canadian-run school would be virtually the equivalent of a Canadian air service, to which Ottawa remained unequivocally opposed. In taking this position Perley was merely relaying a message he had received from Borden on 19 May. He advised Brand, in his dealings with the War Office and Admiralty, not to raise the question of a school at all, at least until a factory had been decided upon. Brand, convinced that the factory and school were inextricably linked, believed that the project was dead.³⁰

It could only have been with surprise that Brand learned from Perry that the Canadian Prime Minister had been acting upon the advice of the IMB in Ottawa. According to Perry, Borden 'wants factory started under management of Board. Canadian Government do not wish to be tied up with private enterprise such as McCurdy's, and this is why they have discouraged High Commissioner who recommended McCurdy's scheme and asked him to leave matter in our hands ... We strongly recommend starting factory.'³¹ The Canadian government would furnish \$75,000 towards the buildings for a flying school. The school itself might be operated by the board, perhaps with instructors from the RNAS and the RFC.³²

Brand knew that McCurdy was in London trying to obtain new orders for Curtiss, but he seems to have been unaware of the extent of his designs. As well as seeking advantage for his company, McCurdy was trying to get out of the flying school business, a concern that had brought him little profit and much trouble and criticism, especially when student pilots had been left high and dry when the school closed down in the late autumn of 1915. In March McCurdy had told A.E. Kemp, the acting Minister of Militia, that he could no longer accept full responsibility for students who, while waiting their turn to fly, might spend as much as six months in Toronto with meagre financial resources. He had suggested to Kemp that a better alternative would be to establish an aviation branch in the militia department to take over responsibility for flight training. Successful candidates might be given a commission 'in the Canadian Air Corps, from which the British Army or Navy could draw.' Though such a corps would be nothing more than a temporary war measure, amounting to a training organization and a reinforcement pool, it could 'easily be later moulded into a permanent branch of the service.' Naturally McCurdy hoped to sell Curtiss aircraft to the Canadian air arm, but on the face of it his proposal was feasible.³³

Despite his distinguished contributions to early Canadian aviation, McCurdy in some ways was an unfortunate advocate of the idea of a Canadian flying service. Inevitably his motives in promoting the idea were suspect in the minds of politicians, because he so clearly stood to gain by it. Moreover, his tactics were frequently unwise and not always overly scrupulous. He displayed, in short, a distressing tendency to play both ends against the middle. On 11 April he had a long interview with Sir Robert Borden in which he reiterated the ideas he had put to Kemp and asked for the Prime Minister's support in his quest for new aircraft orders in London. Borden gave him a letter of introduction to Sir George Perley, in which he noted that McCurdy was 'a member of the well-known Nova Scotia family,' and said vaguely that 'he has suggested to us the establishment of a

Canadian Air Service and we have that subject under consideration at the present time.' The government, of course, was considering nothing more than Merritt's proposal for help to flying schools, but McCurdy was able to build much upon Borden's sentence.³⁴ To Sir George Perley he provided a free interpretation of it, and Perley immediately set about putting his government's new air policy into effect. On 4 May he cabled Borden: 'Regarding establishment air service and complete training by Canadian Government McCurdy thinks you would welcome official suggestion to that effect from Imperial authorities. Am inclined to think they would approve. Am making private inquiries please cable fully your wishes.'³⁵ While awaiting detailed instructions from Ottawa, Perley took McCurdy on the rounds of London offices. Doubtless British officialdom was perplexed to receive yet another Canadian proposal, but under such auspices, who could question its legitimacy? On 8 May the two met Sir David Henderson, and Perley immediately cabled Borden that Henderson would welcome a Canadian government flying school: 'although he would not be inclined to make a suggestion to the Canadian Government in that direction,' Perley judged, 'it would receive his cordial approval and cooperation if put forward by the Canadian Government itself.'³⁶

All this was too much for Borden. He turned Perley's communications over to Loring Christie, legal adviser to the Department of External Affairs, and a man upon whose incisive intelligence he was coming increasingly to rely. As Christie noted, the main question raised by the affair was not McCurdy's tactics, but whether or not 'it is intended to establish a Canadian Flying Corps during the war.' Christie brought a fresh mind to this issue, but little else. He had no special knowledge of aviation, and his only recourse was to turn to General Gwatkin for advice. The Chief of the General Staff's response was pungent and predictable: 'Mr. McCurdy has an axe to grind, and, not without success, he has tried to bluff the High Commissioner.' Gwatkin assured Christie that he had discussed the whole question with the representatives of the RNAS and the RFC, 'and we are all agreed that for the present it would not be advisable to establish in Canada anything in the nature of a Canadian Flying Corps.'³⁷ Christie fleshed out this judgment with arguments already becoming familiar. Canada, by lending assistance to British recruiting and by granting a gratuity to successful pilots, was already making the best possible contribution. No experienced senior officers were available to command a Canadian air arm. Aircraft for such a force could only come from Curtiss, and 'it is not unfair to say that this consideration points to a prominent motive in [McCurdy's] and the Company's efforts.' Moreover, the Curtiss aircraft was a foreign machine; the 'resources of the Empire' should be used 'for the Empire.'³⁸ Christie then summed up his findings: 'In short, the con-

* As for McCurdy himself, Christie was damning. 'Mr. McCurdy has apparently conveyed the impression to Sir George Perley that he had reason to believe that the Canadian Government would welcome an official suggestion from the British Government that an air service should be established here. It seems pertinent to recall that Mr. McCurdy has before this displayed a tendency towards misrepresenting or overstating to one Department of the Government statements made to him by another. The file discloses several instances of this and the resultant confusion. A somewhat similar instance occurred last year when in interviews given to the press he intimated that the Canadian Government were responsible for the plight in which certain aviation students at Toronto found themselves when the approach of winter stopped the possibility of training at Toronto and left them in a difficult position.'

clusion of everybody seems to be that the needs of the war are not such as to demand the immediate organization of a distinct Canadian flying service, and that it is therefore better to wait until it has a fair chance of being established on a sound basis when a trained personnel will be available and the conclusions drawn from the experience of the war will have been more carefully considered and formulated.³⁸

Christie's report contained no argument in favour of an air service, for he had no evidence upon which to construct one. Undoubtedly senior officers of the Canadian Expeditionary Force could have provided much information on the role of aviation in war, but their advice was not sought. Nor, probably, was Christie aware of the existence of Brigadier-General D.S. MacInnes, the Canadian officer associated with the RFC from its inception and at that time Director of Aircraft Equipment at the War Office and Henderson's chief aide on the technical side. If Christie knew of the Australian government's decision to look after its own by forming an Australian flying corps, his report was silent on the subject. His advice was conventionally sound, and the Prime Minister accepted it. Borden despatched a curt message to Perley, disavowing McCurdy's statements, reiterating the Cabinet's strong opposition to a Canadian air service, and instructing the High Commissioner to leave the whole matter of aviation in the hands of the Imperial Munitions Board.³⁹

At this point, with Dinnick eased out and McCurdy discredited, the IMB ought to have had a clear field. That it did not was owing to the creation in London of the Air Board, whose civilian members knew nothing of the parties involved and little of the objects of the IMB. As a result, the whole charade was run through once more. Under the presidency of Lord Curzon the Air Board held its first meeting on 22 May, and immediately thereafter found itself enmeshed in the complications of the Canadian question.

The IMB was first off the mark. Brand briefed Curzon and Sir Paul Harvey, Secretary to the Air Board, on the nature of the IMB and its interest in Canadian aviation matters, and warned them about Dinnick and McCurdy. Dinnick was able to marshal support from political friends in London, one of whom pointedly stated that he was 'absolutely genuine, and is not simply a representative of an American firm.' For his part, McCurdy proposed to Harvey that Curtiss should be given orders to enable it to expand production to 400 aircraft a year. In addition, he was prepared to manufacture engines as well, provided he could finance the necessary plant with an order for 1000 of them. According to Harvey's notes, McCurdy believed that 'no private company should run a school in war time,' and that Borden was 'interested in flying service & Govt if pushed from here would adopt Canadian Flying Service.'⁴⁰

It did not take the new Air Board long to dismiss the two Canadians. Despite his friends, Dinnick was soon written off as an enthusiast whose plans were 'childishly optimistic and altogether too vague.' McCurdy ruined what slight chance he had of a fuller hearing by an injudicious interview published in the *Daily Mail*. In it he was alleged to have said that Canadians had been agitating for a separate flying corps for some time, and that, though diffident about bringing it before the British government, Borden and a majority of the Cabinet were also in favour. The only obstacle was British officialdom, and therefore he had come to England to lay the

whole matter before the Air Board. Though McCurdy apologized for this clumsy attempt to force their hand, board members decided to 'decline to embroil ourselves' in the tussle between the two Canadians, and told them both that future negotiations were to be pursued exclusively with the IMB.⁴¹

The task of the Air Board was now to co-ordinate the desires of the Admiralty, the War Office, and the Treasury in order to put together a proposal that the IMB could negotiate with the Canadian government. It had accepted the IMB's case that 'it is desirable to foster the aeroplane industry in Canada' rather than in the United States, and was satisfied that the IMB, 'who appear to be a very competent and trustworthy body,' could be relied upon to deal effectively with Ottawa.⁴²

More than a month elapsed before the Air Board could secure agreement upon a proposal. The Admiralty had backed away from the factory concept because, from the RNAS viewpoint, 'there would be no advantage in the establishment of a National Factory in Canada.' The War Office, on imperial grounds, supported the factory and was ready to place an initial order for 200 aircraft worth about \$1.5 million. But both services, and not solely for imperial reasons, strongly supported a Canadian government flying school, and were willing to provide enough instructors and aircraft for it to make a start. The RFC was particularly anxious. On 30 June Sefton Brancker circulated within the War Office his foreboding that 'our waiting list in England is growing perilously short, and heavy casualties in other arms will make officers increasingly difficult to obtain.' As usual, Brancker was to be proven correct, and in the long run the reinforcement crisis would change drastically the RFC's approach to the Canadian question. For the moment, however, the departments involved agreed that the major responsibilities ought to fall upon the Canadian government. It would be expected to finance the factory, underwrite the capital cost of the school, estimated at \$500,000, and meet its estimated annual operating costs of \$500,000. The cost of operating the school would be partly offset by British per capita grants of £250 for each graduate of the Canadian school enrolled in the RFC and RNAS. The Treasury, while authorizing the Air Board to enter into negotiations, expressed some concern about the exchange problems anticipated in the financing of the aircraft order.⁴³

Curzon outlined this proposal to Brand at a meeting of the Air Board of 7 July. In return, Brand gave the board its first indication that negotiations with Canada were likely to be difficult. As he pointed out, the Canadians were pleased at the prospect of acquiring a factory and an associated school. The Canadian government was prepared to make some contribution, but it also believed that 'the main burden thereof should rest upon this country,' especially because it could see no postwar requirement for either. He also pointed out that the capitation grants would fall short by at least \$150,000 a year in meeting the school's operating costs, though he hazarded the opinion that Ottawa might absorb the deficit since 'the Minister of Militia now admitted the importance of aviation.' As we shall see, Brand had some ground for thinking that Hughes was changing his position, but he was badly off the mark about the school. To the Canadian government, a school was a flying corps in embryo, and quite as unacceptable.

Though Brand had sugar-coated his assessment of the likely Canadian position, the Air Board found it unpalatable. Brancker, who throughout these interminable

negotiations proved himself the most level-headed and far-sighted of all the participants, had no doubt of the right course for Canada to follow. To him, it was axiomatic that Canada should bear the major cost of the factory, because it was self-evident that she would need an air service after the war. He was not yet sufficiently disturbed by reinforcement prospects for the RFC, however, to propose a larger part in the scheme for Britain, and indeed observed that the project 'was not of vital importance to this country and has been supported by the War Office largely from imperial considerations.' Nor was the Treasury disposed to make concessions to Ottawa; its representative stated that 'the more we could get the Canadian Government to undertake without our being obliged to buy Dollars for payment the better.' Other board members found it incomprehensible that there had not yet been any direct approach from the Canadian government. Brand was thus forced to point out that Canada had taken no initiative in the matter whatsoever; the whole project had started with Dinnick. This appears to have been something of a revelation. Curzon immediately grasped that the situation was a quasi-diplomatic one. Since it was unthinkable that the Air Board could attempt to 'dictate' a solution to Canada, he suggested that representatives of the IMB, in a semi-official way, sketch out to Prime Minister Borden the nature of the British scheme, and obtain his reaction.⁴⁴

Brand, in consultation with the Air Board, prepared a cable to Flavelle giving the details of the British proposal, and emphasizing that 'although school and factory would be valuable from Imperial point of view, it cannot be said that either [is] indispensable to this country.' On receiving this information, Borden asked for further details. On 18 July J.F. Perry outlined for him the history of the factory scheme and argued that British war orders should be used to build up a Canadian aviation industry, partly because of Britain's foreign exchange problems but also 'on general considerations of defence.' Perry suggested that if Canadian financing was available, the IMB could manage the plant, the British government could guarantee sufficient war orders to keep the plant going, and at the end of the war Canada would have recovered its investment and have acquired a national asset. Almost in passing, he observed that a training school for pilots was 'a secondary matter' which need not be considered until the factory was actually in operation.⁴⁵

Thus stated, the case was thoroughly in accord with the thinking of the IMB, but reversed the priorities of the Air Board. Nor had the British proposal been framed in a fashion to impress its urgency upon Canada. Sir Thomas White, the Minister of Finance, was decidedly cool. 'In view of the employment situation,' he advised Borden, 'I think we should not be justified in making advances for the mere purpose of establishing an industry - especially an industry of the unproductive sort - which after the war may not be needed.' Skilled labour was in short supply and it would be an error to direct some of it into an enterprise 'that is not imperatively required by military considerations.' To White, the factory scheme was a small part of a big problem. British difficulties with respect to the financing of munitions orders in Canada had become acute, and he had been asked by the British Treasury to find \$1 million a day to help meet their balance-of-payment liabilities. In these circumstances, negotiations concerning the factory were suspended until after White's visit to London in early August to discuss the balance-

of-payments question, but the outlook for the scheme, from the Canadian end, was unpromising.⁴⁶

The British air staff was distinctly unhappy with the manner in which the aviation school issue had been shoved to the background by the IMB, and with the constant delays which plagued the whole question. It was therefore resolved to bypass both the IMB and the Air Board, and to approach Canada directly. On 11 August the War Office (through the Colonial Secretary) formally requested the Canadian government to take under consideration the establishment of a training school on a *per capita* grant basis. The basic proposal was unchanged; Canada was still to absorb both start-up costs and operating expenses. But it was now clothed with a new urgency. The school, the Canadians were informed, was a military necessity, 'owing to the difficulty of obtaining and training sufficient numbers of aviators for the Royal Naval Air Service and the Royal Flying Corps in this country.' Here, then, was a deliberate appeal for Canadian assistance. So far as the RFC was concerned, it reflected a sense of genuine emergency. Brancker's appreciation of a possible manpower crisis had been borne out by the enormous casualties of the Somme battle. Already there had been disturbing intimations from RFC Headquarters in France that a vast expansion of the air arm would be vital to military success in 1917. A further indication that a crisis mentality was beginning to take hold in the air staff, and that the Canadian project had assumed a new importance, was the information given to Ottawa that Captain Lord Alistair Innes-Ker was being sent to Canada to discuss the training plan with the government, and to stimulate an RFC recruiting campaign.⁴⁷

On 21 August Innes-Ker met the Canadians in Ottawa. It was 'a somewhat awe-inspiring business,' he reported to Brancker. The meeting was chaired by J.D. Hazen, Minister of Marine and Fisheries and of the Naval Service, and was attended by Sir George Perley, Loring Christie, C.B. Gordon for the IMB, Colonel Stanton, and Commander R.M.T. Stephens. Innes-Ker found Hazen as hot as the Ottawa weather, 'comparable to Mesopotamia, 92-95 in the shade.' What had rendered the Minister 'most antagonistic' was his belief that a flying school financed by Canada would inevitably be run from England. He 'simmered down,' Innes-Ker thought, when he was told that although the school would be staffed by the RFC and the RNAS, the officer commanding would be a Canadian responsible to the dominion government. This explanation, however, did not meet Hazen's real objection. Prior to the meeting he told Borden that Canadian control over the school would be purely nominal, 'as the War Office and Admiralty would have representatives in Canada for the purpose of selecting the pupils, superintending the training and being responsible for the carrying out of the prescribed tests.' It would be far better for the British to finance and control the school, because the illusion of Canadian control 'would lead to a great deal of trouble.'⁴⁸

According to Innes-Ker, the Canadians also objected because the costs of the school would far exceed the proposed *per capita* grants, and because, in their opinion, a factory was unnecessary to support the school and would be useless when peace came. 'I tried to explain that an Imperial Air Service was bound to come,' he wrote, while Gordon argued that the flying-school costs were scarcely more than those needed to raise a new infantry battalion. Neither idea enthralled the commit-

tee, which agreed merely to meet again in a week's time, and in the interim to secure the views of the federal departments concerned.⁴⁹

In the interval Admiral Kingsmill dealt a body blow to the project. In a memorandum prepared for Hazen, but which he promptly (and quite properly) sent to Rear-Admiral Vaughan-Lee as well, he forcefully attacked the proposed Canadian flying school and what he saw as its corollary, a Canadian flying service. Because of the Canadian climate and the lack of experienced air officers, he argued, the organization of a Canadian school would be a long and costly process. He predicted that no pilots would be graduated from such a school in less than a year from its inception, and that the British would find that far better results would be obtained by giving financial help to young men to enable them to train in the United States or Canada. For those misguided nationalists who wished a Canadian flying corps, he had no patience: 'A great plea has been made by certain persons in Toronto that we should have a Canadian Air Service because Canadians want to be known as a Canadian Corps. I think that this is an idea only in the minds of those people who are anxious to be busy and who perhaps have some interest in forming an aviation school in this country for various reasons.'⁵⁰ Such people had alleged that the British were sympathetic to the idea of a distinct Canadian service. In refutation, he cited a letter written to Perley by Sir David Henderson in June, in which the head of the RFC stated: 'I do not think it would be advisable to form any Canadian Units. Promotion is very rapid, and squadrons are constantly changing, and it would not tend to efficiency if we were obliged to keep Canadian officers in particular squadrons; nor would such squadrons be really Canadian, as there is only a small proportion of Canadian mechanics in the Corps. Further, my personal opinion undoubtedly is that the more all British born people are mixed up in this war the better. When peace breaks out you will have the nucleus of a very fine Canadian Air Service.'⁵¹ For all these reasons, Kingsmill came down strongly against the flying school. 'I think the thing is madness,' he told Vaughan-Lee.⁵²

Kingsmill's broadside determined the Admiralty to withdraw altogether from participation in the Canadian scheme and stiffened the Canadian resolve to have nothing to do with an aviation school. The second conference with Innes-Ker was attended by Hazen, Flavelle, White, Gordon, and Kingsmill. The meeting decided that the school would go ahead only if funded by Britain. Should an IMB investigation determine that there was a requirement to have a factory in connection with the school and that its operation in Canada would be technically and financially feasible, then and only then would the Canadian government consider giving some financial assistance towards its establishment. Beyond this highly contingent position the Canadians refused to go.⁵³

At this point the entire project had reached an impasse. Significantly, the Canadians had not been sufficiently impressed by the War Office approach to budge from their decided opposition to direct government involvement in air training. They had displayed no enthusiasm for the factory, and the minimal commitment they were prepared to make was unsatisfactory to the Air Board and the ministries for which it was acting. The IMB, by its persistence in promoting the factory because of the imperial benefits expected to flow from it, had thus far managed to keep the whole question alive, despite Canadian passivity. Between

them, however, the IMB and the Air Board had mismanaged the approach to the Canadian government in three ways. They had put forward the scheme in a manner that suggested that a boon was being conferred, a gross miscalculation of Canadian official attitudes. They had assumed that Canada would respond positively to an economic arrangement that would assist the empire rather than the United States; the Canadians insisted on viewing the matter as a business proposition. Finally, they had masked the real importance of the scheme to the war in the air, especially as it concerned the training of pilots. This may well have occurred because IMB representatives were insufficiently aware of the military issues at stake, but in the light of their original approach it is scarcely surprising that the Canadians found the change of emphasis by the War Office unconvincing.

Yet within another three months the British and Canadian governments reached an agreement satisfactory to both, and one which was based upon arrangements quite different from those originally suggested. This came about because events external to the negotiations forced both sides to abandon their original positions. The mounting reinforcement problem would eventually compel the Air Board and the Treasury to alter their views. Quite as important were developments which dislodged the Canadian government from its position of virtual immobility. It was the Canadian stance which crumbled first, undermined not by the air situation on the Western Front but by purely domestic political considerations that the British never quite comprehended.

The first hint that there might be a break in the obstructionist tactics of the Canadians came at an Air Board meeting on 24 August, during a discussion of the Canadian flying school. Henderson told the board that 'Sir Sam Hughes was now taking up the matter, so that it was likely to progress.' As a consequence, he thought, the Canadian government would also have to establish a factory. Henderson's information was correct, to a point, but he and the Air Board were mistaken in their conclusion. It was true that Hughes was actively taking up the question of aviation and in a form that would not require extensive British participation. The perfectly understandable mistake made by the board was to conclude that Hughes represented the position of the Canadian government. Because they did, they failed to give proper weight to Innes-Ker's disappointing experience in Ottawa and waited instead for definite proposals from Canada. Thus on 31 August Lord Sydenham, who acted as Curzon's deputy on the Air Board, informed his colleagues that he had seen Hughes the night before and 'tried to impress upon him the importance of a factory & school in Canada.' On 8 September Hughes made a proposal, either to the board or directly to the War Office, and thereafter British officials assumed that a Canadian plan to take full responsibility for pilot training and aircraft supply was in the making. As late as the first week of October, at the time that the board was informed of the Admiralty's withdrawal from the project, Sir Paul Harvey judged that 'at present the best hope of the fruition of the scheme appears to lie in Sir S. Hughes' intervention,' to which Sydenham replied, 'Yes, we must await Sir S. Hughes' proposals.'⁵⁴

In order to explain the surprising behaviour of the Canadian minister, so utterly at variance with his own record on the aviation question as well as with his government's stand, it is necessary to retrace our steps. It was true that Hughes had

become a convert to aviation, but not for any of the obvious reasons which, at that juncture in the war, might have prompted an informed politician to cast aside old prejudices and to adopt fresh ideas.

The agent in his conversion was a personal friend, W. Grant Morden* of Montreal, who virtually browbeat the Minister into a reversal of his stand. Hughes had appointed Morden an honorary lieutenant-colonel in August 1914 and had named him to the Remount Committee. As in so many of the appointments Hughes lavished in the first months of the war, friendship seems to have been the chief qualification: Morden had been 'provisional lieutenant in a Militia cavalry unit but had never trained.' He was a Montreal businessman with financial connections in London and on being posted overseas rapidly built up impressive associations in the political, financial, and military worlds of the capital. He was a man of powerful if diffuse ambitions, and when the termination of his brief sojourn with the Remount Committee threatened to cut short his military career, he was fortunate enough to secure from Hughes appointment as his 'Personal Staff Officer Overseas.' Vaguely attached to the Canadian military authorities in Britain, he was given various instructions by Hughes. 'I was specially authorized by him,' he later stated, 'to make a thorough study of Aviation.' The evidence of his subsequent correspondence with the Minister indicates that there is no reason to doubt this assertion.⁵⁵

Early in his aviation studies Morden formed a relationship with Sir A. Trevor Dawson, one of the directors of Vickers. It was with Dawson's help that he organized a 'demonstration' of two Vickers Scouts at Joyce Green on 4 April 1916. Harold Barnwell, the firm's chief pilot, and an RFC aviator put on an aerobatic show for a number of senior Canadian officers, including Major-General J.W. Carson and Brigadier-General David Watson.⁵⁶ Morden's purpose, in what otherwise would appear to have been a pointless display, was revealed in a cable from Carson to Hughes. Morden required the Minister's authority to gain access to aviation data held by the Admiralty and the War Office. His aim, Carson said, was to '... draw up a scheme for establishment of Canadian Air Service both in England and in Canada, for submission to you. I naturally refused to take such a serious step without your approval and authority. Morden states that you have decided to go in for an Air establishment in connection with Canadian Expeditionary Force with himself as Director.'⁵⁷ Despite repeated reminders from Carson, the only reply received from Hughes was a promise to 'cable later.' No later message appears in the existing record, nor did Morden then obtain the access he sought.⁵⁸

Morden pursued his studies undaunted. In June he was introduced to McCurdy by Walter Long, the British Colonial Secretary. After some discussion, Morden

* Walter Grant Morden was born in Prince Edward County, Ont., in 1880, and was educated at Toronto and Harvard. He died in England in 1932. From 1918 to 1931 he was a Unionist MP for Brentford and Chiswick. He was director of many Canadian and British companies, and was a founder of Canada Steamship Lines. Hughes appointed him to the Remount Committee on 21 September 1914; on 21 October he became second-in-command of the Advanced Remount Depot, CEF. Returning to Canada in February 1915 he was appointed staff officer in England to Hughes on 13 August (PC 1838), and later a member of the Pensions and Claims Board. On 3 April 1918 he was seconded from HQ OMFC to the War Office.

and McCurdy decided to pool their interests. Their scheme hinged upon the creation of a Canadian air service. In Canada it would consist of a training organization equipped with a hundred aircraft and staffed by six instructors drawn from the British air services. This organization would produce a thousand pilots within a year; while they were being trained, ten thousand mechanics would be recruited to keep them in the air when they went overseas. On operations they would fly a fleet of one thousand service aircraft, also built in Canada. Within thirteen months this great new air force would take to the skies against the Hun. Its squadrons would serve under imperial command, but would retain their identity as Canadian units. As Director of the Canadian Air Service, Morden would remain in England, 'in constant touch with the Imperial Air Board.'

Manufacture of both training and service aircraft, and the engines they required, would be carried out in Canada, the airframes to be built by Curtiss and the engines by Canadian Vickers. McCurdy estimated the cost of the proposed air fleet at \$10,000,000, 90 per cent of which, he later told Borden, might be met by Great Britain. A hundred training machines would cost Canada \$750,000, and to operate the training school another \$250,000 annually would be required. When he outlined this scheme to the Prime Minister on 10 July, he urged him to act quickly, for otherwise the Curtiss plant with its highly skilled labour force would have to close down for want of orders.⁵⁹ At the same time, Morden was warning Hughes that the IMB idea of a government factory was faulty: 'It would be a fatal mistake to commence a Government Factory to turn out machines. The experience of the Royal Aircraft Factory at Farnborough has been a most disastrous one here. It also discourages independent manufacturers, & the results are of the worst description. I would therefore recommend in the strongest way possible that independent manufacturers should build our machines, and not have any Government Factories.'⁶⁰

This rough-carpentered scheme was put before the Air Board, probably on 20 June. Harvey's notes show that in the form it was then presented, Canada was to bear the whole cost. Brancker's comments upon it were scathing. With a hundred aircraft, plus necessary spares unprovided for in the Morden-McCurdy plan, he estimated that perhaps four hundred pilots could be trained in a year, if twenty instructors and five hundred ground tradesmen were available. No Canadian factories were capable of turning out a thousand aircraft and engines, let alone spares, in a year. Under his critical eye the whole scheme became smoke and idle fancy. Yet the Ministry of Munitions was sufficiently disturbed by the proposal (Morden was, after all, Hughes' staff officer) to cable a summary of this 'very ambitious scheme' to Ottawa. On being confronted with it by the Prime Minister, Hughes denied that Morden had his authority to lay the plan before the British, though he admitted having received a copy of it.⁶¹

Borden, for whom Hughes had provided ample cause for concern during 1916, must have believed that he had scotched at least one potentially damaging situation. He was wrong. When McCurdy returned to Canada he saw both Borden and White and, ever the optimist, came away from these interviews believing that if the British government were to insist that a Canadian flying corps would be 'of great assistance to the Empire in this war,' the Canadian Cabinet would yield. Only

Hughes could bring this about, however, 'as there seems to be a tendency for the Government at the present time to discourage concerns that are regarded as being organized entirely for war profits.' He therefore cabled Morden that 'conditions here require forcing by General from there on imperative grounds. After which Ottawa may fall in.' This was the signal for the start of an extraordinary campaign, devised by Morden, to bring Sir Sam Hughes round.⁶²

In mid-July Hughes had been exonerated by the Royal Commission on shell contracts, and assumed once more the ministerial functions he had given up while the Shell Committee was under investigation.* He promptly left for England, and almost upon his arrival was besieged by Morden. The progress of the affair can be traced in cables exchanged during August between Morden and McCurdy.

On 2 August Morden reported that he was doing well with Hughes: 'his ignorance entire subject appalling but am very confident.' The Minister, he found, had no conception of the growth of the flying services, but he was 'driving it in to him by degrees, and our different friends here are also helping.' One of them was General Watson, who was 'arranging that I can have a good go at him at Bramshott on Sunday.' Once the Minister was won over, Morden thought there would be no trouble with the Air Board, 'provided he backs me up in the way I hope he will do.' On 9 August Morden arranged an aerial demonstration for the Minister, during which Captain K.E. Kennedy performed,[†] while a number of Morden's business friends exercised their persuasive talents. In addition, Morden organized a written campaign. He was able to tell McCurdy that 'Sir Frederick Williams Taylor, John Aird of the Canadian Bank of Commerce, Ashe of the Union Bank, G. McL. Brown of the Canadian Pacific Railway, and other prominent Canadians have all written very strong letters to the Minister urging the establishment of our Air Service at once.'⁶³

A story in the *Montreal Gazette* on 23 August gave the first indication that Morden's campaign was succeeding. Headlined 'Canadian Flying Corps Now Seems To Be Assured,' the newspaper account gave chief prominence to Morden's part in the 'movement' for a Canadian air service. Canadians serving in the RNAS and the RFC would form 'a splendid nucleus for a Dominion corps,' while the CEF would 'welcome the cooperation of their own fliers.' Besides, there were large industrial benefits to be anticipated. 'The details of the scheme have been fully elaborated and could be inaugurated, Col. Morden asserts, within a week by

* On 28 March 1916 G.W. Kyte, a Liberal MP, had charged that American promoters had made enormous profits from fuse and cartridge case contracts awarded by the Shell Committee. He also alleged that another promoter, J.W. Allison, whom Hughes had appointed an honorary colonel at the beginning of the war, had made use of the Minister's influence to obtain lucrative contracts from the Shell Committee. The Royal Commission cleared both Hughes and the Shell Committee, but censured Allison for deception in his relations with them. See G.W.L. Nicholson, *Canadian Expeditionary Force, 1914-1919* (Official History of the Canadian Army in the First World War; Ottawa 1964), 207.

† Captain Kennedy, from Sherbrooke, Que., was one of the officers selected by Morden for his air service. An artillery captain with the 1st Contingent, CEF, he had transferred to the RFC after being wounded in April 1915. He qualified as an observer in June and, after service at the front, trained as a pilot in England and qualified in February 1916. He later served as an instructor with RFC Canada.

sending to Canada officers and men already selected, all of whom, with three exceptions, would be Canadians. Col. Morden says the scheme had the support of Sir Robert Borden and Sir Sam Hughes, but the Imperial authorities have not yet approved of the financial proposals.⁶⁴ This newspaper despatch probably caused the Prime Minister some disquiet; a copy of it is to be found in his papers.

Borden would have been much more disturbed had he known of a meeting held at the War Office on 26 August. It was attended by representatives of Australia, South Africa, and Canada; its subject was the arrangements necessary for 'the acceptance of RFC Squadrons from the Dominion Governments.' Grant Morden was the Canadian representative, a status he could only have achieved through Hughes. The dominion spokesmen discussed with Brancker and other RFC staff officers such matters as officers' pay, efficiency badges, and distinctive insignia, but spent more time upon the organization and conditions of service for dominion air units. Morden's remarks show that his earlier plan had been much reduced in scale. The minutes record that 'Colonel Grant Morden stated the ability and willingness of Canada to supply eventually 4 Service Squadrons and 2 Reserve Squadrons.' As he outlined the Canadian proposal, the first two service squadrons would emerge from a Toronto reserve squadron, and they, plus a reserve squadron to replace wastage, would proceed overseas. The next two squadrons would then be formed in a similar manner. Brancker warned him that since wastage in training was 10 per cent and on operations was '240% in pilots,' the manpower demand would be heavy. With respect to the Canadian proposal, the meeting agreed that Canada would supply Curtiss aircraft for the reserve squadrons, but that the British government would equip the service units. Specific financial details were to be settled later.⁶⁵

Clearly Morden had made great strides. He did not, however, relax the pressure upon Hughes. On 29 August he gave an elaborate dinner in honour of the Duke of Devonshire, shortly to go out to Canada as Governor General, with Hughes sharing the place of honour with the Governor General designate. Among the glittering guest list, which included General Sir William Robertson, Admiral Beresford, Walter Long, and a number of peers, were men who had a strong interest in aviation, such as the Earl of Derby, Lord Montagu of Beaulieu, Lord Sydenham, Sir Trevor Dawson, and the Premier of Ontario, W.H. Hearst, who had become one of Morden's backers. Doubtless Morden deployed this company, in part, to persuade the Minister to take the final plunge. On 4 September he told McCurdy that he hoped 'to get things definitely fixed up next week.'⁶⁶

At some point between this date and 8 September Morden's campaign came to fruition. Sir Sam Hughes committed Canada to Morden's scheme, or a version of it (no document is extant). On 8 September the War Office wrote Hughes officially 'in connection with the offer of the Dominion Government to raise certain Royal Flying Corps Squadrons and place them at the disposal of the Imperial Government.' The Minister had clearly taken it upon himself to reverse the standing policy of his government, but he neglected so to inform his colleagues. All he told Borden about aviation was contained in a cable of 9 September, informing the Prime Minister that 'General Sir David Henderson and General Brancker, heads of Army Air Service, have each consulted me urging formation of Reserve Air

Squadron.' He withheld the letter he had received from the War Office, which confirmed that an offer had in fact been made. A copy of this letter was not received in Ottawa until December, through the High Commissioner. As General Gwatkin then commented: 'until I read the attached correspondence I had no knowledge of the fact that the Dominion Government (which in this connection means, I take it, Sir Sam Hughes) had offered to raise Royal Flying Corps Squadrons and place them at the disposal of the Imperial Government.'⁶⁷

Though Gwatkin may have been in the dark, word that Hughes had made some kind of commitment in aviation soon filtered back to Canada. In some trepidation C.B. Gordon, vice-chairman of the Imperial Munitions Board, fearing that his organization had been outflanked by Morden and McCurdy, cabled to London for more information.⁶⁸ On 28 September Perry sent him all he had learned: 'General Brancker informs us that Hughes has now made proposal for establishment of Reserve Air Squadron by Dominion Government. This would necessitate school and would probably include it. Brancker thinks it would also necessitate local factory though latter need not be under same control. Of course if it is intention of Dominion Government to establish Reserve Flying Squadron including aviation school there would be no need to proceed with proposals for separate school.'⁶⁹ This news transformed what had been a desultory and unpromising set of negotiations into swift action by the IMB to stave off renewed contracts for Curtiss, and an equally precipitate move by the Canadian Cabinet to head off the Minister of Militia.

On 4 October Gordon reviewed the whole course of negotiations for Hazen and told him that C.S. Wilcox, Chairman of the Board of the Steel Company of Canada, had investigated the feasibility of taking over the Curtiss plant and expanding it. Wilcox was convinced that with \$1,000,000 of start-up money from the federal government, and a guaranteed British order, an IMB-operated plant was a workable proposition from which Ottawa would be able to recover its investment. In the light of this judgment the IMB therefore recommended proceeding with the factory, and was confident that if Canada moved to do so quickly the Air Board would be able to find the additional monies needed to meet the deficit of a Canadian-run flying school. The next day Hazen passed Gordon's report to Borden, and asked that it be brought before Cabinet for early decision.⁷⁰

While this was going on, Hughes was preparing himself to face his colleagues on the aviation question. On 9 October he and McCurdy had a long discussion. In answer to a series of questions posed by the Minister, McCurdy prepared a report, delivered the same day, which gave a synopsis of the current state of aviation in Canada and Britain, provided a summary proposal for a Canadian air service and a critique of state-controlled factories, and attempted to forecast the probable post-war importance of aviation in Canada. Among other things, McCurdy informed Hughes that Curtiss Aeroplanes Ltd was now wholly Canadian owned and was about to reorganize under dominion charter. In the postwar period this Canadian company, if suitably supported during the war, could take the lead in manufacturing aircraft for timber ranging, fire patrols, air mail, and northern exploration. During the war a Canadian air service, employing Curtiss-built aircraft, would rescue Canadian aviators from the situation they were now in, having 'entirely lost

their Canadian identity and Canadian pay.' 'It is a matter of extreme regret among Canadian pilots,' he asserted, 'that they are officered directly by English, and that they do not receive promotions to which they are entitled, and they all feel they would work to much greater advantage if organized into a Canadian Corps, Canadian officered and under Canadian control.' This was, as McCurdy was aware, no more than the principle for which Hughes had stood with respect to the CEF. He therefore concluded: 'I feel, Sir, that if you personally undertake the organization and control of a Canadian Air Service that it will be a success and will be received by the public with great favour.'⁷¹

It does not appear that Hughes was given an opportunity to fight for a Canadian flying corps. The government made its decision on 12 October not in Cabinet but in a sub-committee of it, probably chaired by Hazen and from which Hughes may well have been excluded. It is unlikely that his presence would have made any difference. His activities in connection with other aspects of his portfolio had already caused great apprehension within the government, especially to Borden, and had fatally undermined his position. His known advocacy of a Canadian air force was, by itself, now sufficient to kill the idea. The fact that Hughes had allowed himself to become involved with individuals in whom the government had no reason to repose confidence made the possibility of an aviation initiative from him doubly dangerous. An open-ended arrangement with Curtiss, and with Vickers in the wings, could conceivably mushroom into the same sort of scandal created by the shell contracts. Hughes could not be trusted, and therefore he must be forestalled.

We learn of the Cabinet's motives from a synopsis that Flavelle found it necessary to give the Air Board on 27 October. In explaining the action taken by the Canadian government, he stressed that Hughes' position was pivotal. When the Minister of Finance had learned that the factory and flying school were indeed considered matters of high importance by the British authorities, he had concluded that it was his duty to find the money for them. He and other ministers, however, had thought it 'undesirable that the School should be placed under the Minister of Militia; they were afraid of the situation which might result.' Even before Hughes returned from England, therefore, they favoured a solution in which Ottawa would advance money for the factory on the understanding that Britain would conduct and administer the school. When Hughes returned to Canada, and appeared about to follow up the intervention in aviation policy he had already made, Flavelle had learned that 'for the purpose of preventing any fresh departure they had passed an order-in-council approving the above scheme.'⁷²

From the point of view of the British authorities the Canadian decision had not advanced matters very far. When they first heard of it Flavelle had not yet made his explanation and they were inclined to put their faith in Hughes. As Harvey observed, were Hughes' offer accepted, 'the Canadian government will require a School of its own and would no doubt like to see it constructed at our expense.' In agreeing with this point, Sydenham added that he was opposed to starting an imperial school in Canada for reasons of general policy.⁷³ Even when Flavelle disabused the board of its reliance upon Hughes, it refused categorically to approve the Canadian plan. Its members were willing enough to guarantee orders for the factory,

but they were unwilling to endorse a British-run school. As Sydenham put it, according to Air Board minutes, '... the proposed treatment of the School question was the result of political considerations. He asked whether, apart from these, the Canadian Government really desired that the Imperial Government should construct and administer a School in Canada. Was it a wise step to start an Imperial Institution in the heart of Canada which would remain Imperial property after the war? ... the projected Factory would be run by Canadians; the School on the other hand would be run by Imperial Officers. He pointed out the difficulties and friction which might arise if the discipline of the School were under British authority.' Flavelle unavailingly protested that the situation was 'abnormal' and that it was 'impossible to dissociate the question from the political considerations of the moment.' The Air Board was ready to recommend to the Treasury that the factory proposal be accepted, but Hughes was Canada's problem. Canada must operate the school, by whatever means it chose, and the British government would pay a *per capita* grant that would cover all operating costs.⁷⁴

In this decision the board had the backing of the War Office, or at least of General Henderson. Though he had not been present at the 27 October meeting, Henderson registered his disapproval of the Canadian stand shortly thereafter. He thought the financial terms far too favourable to Canada, and for a somewhat different reason sided with Sydenham about the school: 'He thought it most undesirable that he should be under any obligation to accept the pilots turned out by the school. Local pressure would be brought to bear upon the authorities of the school to accept all sorts of people who might not, in all cases, be desirable members of the Royal Flying Corps.' A Canadian rather than an RFC school was the only proper solution. The RFC should retain the right to weed out rough colonials, or, as Henderson put it, 'the power of requiring the rejection at any stage of any pupil.'⁷⁵

Flavelle was in a quandary. He recognized that the British were reluctant because 'they fear possible conflict with Canadian military authorities,' and especially with Hughes, but at the same time he knew that the Cabinet would never approve a Canadian air service, especially one run by the militia department. In cabling Ottawa a resumé of the British position, he therefore sought from Canada a declaration that would dissolve British scruples and apprehensions: 'This scheme seems ... necessarily to involve further negotiations with Militia Department. Do you know attitude of Hughes towards scheme as it stands and would you think it wise to put these considerations before Prime Minister. If he thinks there would be no difficulties with a school under direct control of British Government please let me know.'⁷⁶ His answer came in little more than a week. On 11 November Borden told Gordon that there would be 'no difficulty' with a British-run school. 'So far as we can judge,' Borden wrote, 'there is no probability of any friction with the Department of Militia and Defence in carrying out that arrangement.'⁷⁷ There was a good reason. On that day Sir Sam Hughes had defiantly submitted his resignation to Borden.

In the exchange of letters preceding Borden's request for Hughes' resignation, the only specific complaint the Prime Minister had to make with respect to the Minister's recent activities was his establishment of a Sub-Militia Council in