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EVOLUTION OF THE ROYAL CANADIAN AIR FORCE

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THE history of military aeronautics covers a period of just over 150 years from the first observation balloon at Maubeuge, Charleroi and Fleurus in June, 1794, to the first atomic bombs over Hiroshima and Nagasaki in August, 1945. The story of military aviation in Canada is much briefer, covering at the most no more than four decades.

A few years after the Boer War the first attempt was made to make the Canadian Army air-minded when a group of men in Montreal, inspired possibly by the use of balloons for observation work in South Africa, proposed that a balloon corps be formed in Canada.¹ Nothing came of the suggestion. It was not long, however, before another attempt was made to add a third dimension to the Dominion's armed forces.

In February, 1909, J. A. D. McCurdy and F. W. Baldwin, charter members of Dr. Alexander Graham Bell's Aerial Experiment Association, successfully flew their "Silver Dart" biplane over the ice-covered surface of Bras d'Or Lake at Baddeck, Cape Breton Island. These brief flights have been recognized by the Royal Aero Club as the first true heavier-than-air flights made by British subjects anywhere in the British Empire.

That summer McCurdy and Baldwin took their biplane to Petawawa Military Camp to demonstrate before senior army officers the role which aircraft might play in war. The two aviators suggested that the aeroplane could be used to reconnoitre enemy dispositions and range artillery fire. McCurdy and Baldwin accurately stated what the new invention *might* do, but the demonstrations at Petawawa were not successful in proving what the aeroplane *could* do. The "Silver Dart" after several flights of about half a mile was wrecked in a heavy landing; a second machine was also damaged, and the Militia Council, unimpressed, decided to await the outcome of experiments in Britain before proceeding further.²

Five years passed—years during which Germany, France, Britain, and many other countries organized air forces. In the Turco-Italian and Balkan Wars the military aeroplane received its first tests in action for reconnaissance, photography, artillery ranging, leaflet and bomb-dropping. In August, 1914, when the Great War began, some of the first stories, or rumours, flashed from overseas were reports of hostile air attacks and scouting Zeppelins shot down. When Canada began mobilizing the First Contingent, Sir Sam Hughes offered to provide a corps of six military aviators, an offer which the War Office gladly accepted. In the event six proved to be too ambitious a number, only two pilots were actually enrolled. With an American biplane which the government purchased for \$5,000, these two

¹In 1861 when the British government, because of the tension over the Trent affair, sent reinforcements to the garrisons in Canada, it was suggested that a balloon should accompany the troops. The War Office did not agree.

²In May of that year the British government had set up an Advisory Committee for Aeronautics.

men, constituting the Canadian Aviation Corps, accompanied the First Contingent overseas in October, 1914.

One of the aviators, who had been designated "Provisional Commander" of the Corps, soon returned to Canada with exaggerated and quite unfounded claims of overseas service. His subsequent career is a fascinating story, but it has no place in the history of the Canadian Air Force. The second pilot, Lieutenant W. F. Sharpe, did go to France for a short time and then returned to England for further training. He was killed in a flying accident in February, 1915. His name is the first of 1,560 Canadian airmen inscribed in the Book of Remembrance in the Memorial Chamber at Ottawa.

Meanwhile the Burgess-Dunne biplane, Canada's first military aircraft, had become a heap of "worthless junk" behind a hangar on Salisbury Plains. So ended the Dominion's first aviation corps. Over three years elapsed before Canada again took definite action to organize an Air Force.

In the interval, however, the Dominion had provided many thousands of recruits for the Royal Flying Corps, the Royal Naval Air Service, and their successor, the Royal Air Force. From the outbreak of war the attention of the War Office and the Admiralty had been drawn to Canada as a potential source of pilots, and early in 1915 officers were sent out to recruit men for the two branches of the British air service. In the late summer of that year the Army Council, through the Colonial Office, appealed to all the Dominions for recruits for the Royal Flying Corps and suggested that they might, singly or in conjunction, raise complete air units. Canada replied (October 29, 1915) that efforts would be made to secure recruits, but "for the present at any rate" no attempt would be made to form Canadian squadrons. Australia, however, accepted the offer and began organizing air units. As a result the Commonwealth at the end of the war had four squadrons with distinguished records in the Royal Air Force.

In 1916 several conferences were held between British, Australian, and Canadian officials to discuss plans for Dominion air units, and the Canadian authorities even went so far as to frame informal recommendations for a Canadian Flying Corps, but at a final conference held in March, 1917, they were still undecided whether to proceed or not. So the matter stood over for another year.

Then in May, 1918, Sir Edward Kemp, the Minister for the Overseas Military Forces of Canada, armed with statistics which had been collected during 1917, raised the question again. He presented to Lord Weir, the new Secretary of State for the Royal Air Force, a series of specific proposals: that greater publicity should be given to the work of Canadian airmen, and that Canadians in the R.A.F. should be formed into a Canadian section with distinctive badges. He added that a small Canadian Flying Corps might also be formed.

Sir Edward's first suggestion that "adequate credit . . . [be given] . . . in despatches and reports to all Canadians for conspicuous services rendered from time to time" was, in the opinion of the Air Council, a "difficult" one. The established practice in the R.A.F., as it had been in the R.F.C. and R.N.A.S., was to avoid mention of individuals by name. But deeming it politic to meet the Canadian wishes, the Air Ministry arranged to have a monthly report prepared of noteworthy incidents, for Kemp's

information, on the understanding that, if released to the press, no names were to be mentioned. In actual fact all names were deleted before the Canadian Minister received them, and the reports were of little interest or value. Likewise an attempt to have Canadians designated in the R.A.F. Weekly Communique of operations was too late to bear any significant result before the end of hostilities; only twelve were marked in the last two communiques issued in November, 1918.³

Sir Edward's second proposal, that a Canadian section be formed in the R.A.F., the Air Council accepted in principle. It demurred at the third suggestion that a small Canadian Air Force be organized. The Council agreed that the establishment of a C.A.F. was a logical and indeed inevitable move, but this was not the time for it. To avoid dislocation and confusion in the newly created R.A.F. at so critical a stage of the war (the German spring offensive was still raging), the British Air Minister suggested that definite action be avoided for the present. A scheme could be worked out to be brought into effect during the winter.

As a first step to meet the wishes of the Canadians it was agreed to man two R.A.F. squadrons with Canadian personnel. In June a series of meetings began between Air Ministry and Canadian Army officials to discuss details. The Air Ministry officials repeated their reluctance to set up Canadian units at that time, but the Canadians resisted all suggestions to defer action until the war was over, insisting that the principle had been settled and that it was imperative that the natural aspirations of the Dominion should be considered. While the complicated questions of equipment, pay, and upkeep were slowly threshed out, the Air Ministry in August issued instructions to form two squadrons manned entirely with Canadian personnel. Training of ground crew began late in August but the squadrons did not actually form until after the Armistice.⁴ Early in 1919 the formation of the C.A.F. was carried a step further by the formation of No. 1 Canadian Wing "as a purely Canadian Unit" to administer the two squadrons. The intention then was to return the two units to Canada, intact, as the nucleus of the new Canadian Air Force. Future plans were, however, still quite nebulous and, until the Dominion government could decide its policy, training continued in England.

While the Air Council and Canadian military authorities in Britain were setting up a Canadian Air Force overseas, the Admiralty and Department of Naval Service had been organizing another air service in Canada. As early as the winter of 1916-17 the Admiralty had become concerned over the possible extension of German U-boat activities to the western side of the Atlantic; the construction of long-range submarines boded ill for the future. An officer of the Royal Naval Air Service (Wing Commander J. W. Seddon) was therefore sent to Canada early in 1917 to investigate the possibilities of establishing anti-submarine defensive measures on the Canadian east coast. An Inter-Departmental Committee of the Naval and Militia Departments, after considering the subject, reported that "an Air Service [was] necessary for the adequate defence of the Atlantic Coast."

³There were at that time over 6,600 Canadian officers in the R.A.F.; approximately one pilot in four came from this Dominion.

⁴The squadrons were variously referred to as Nos. 81 and 123, R.A.F., and No. 1 Scout and No. 2 Day Bombing, C.A.F.

Plans were accordingly drafted, costs estimated, sites inspected, and four seaplanes were sent out from Britain to facilitate an early start.⁵ But nothing was done that year. For financial reasons the Canadian government dropped the project and the seaplanes remained in their crates at Halifax.⁶

A year later the Admiralty again raised the subject. New German cruiser submarines were already operating off the Azores, the Canary Islands, and the coast of north-west Africa as far south as Dakar. It was to be expected that in the spring and summer of 1918 they would appear off the east coast of Canada in the focal area between Newfoundland and Cape Breton. Since Britain could spare neither ships, aircraft, personnel nor equipment to set up defensive patrols, the Canadian and American Naval Departments were asked if they could arrange for the manufacture of what would be required and the establishment of the necessary anti-submarine measures. In discussions at London, Washington, and Ottawa details were worked out for seaplane and kite balloon bases at Halifax and Sydney with a number of sub-stations along the coast.

Plans were fairly well advanced before the Air Ministry in May, 1918, first became aware of them. It came as something of a shock to learn that, while Britain after long deliberation and no little controversy had succeeded in amalgamating her two air services into one arm, Canada was considering the creation of two air corps. The Air Ministry expressed some concern lest the new Canadian Naval Air Service would mean a serious loss in personnel to the R.A.F. "If the war continues we shall have yet another rival air force in the Field, probably under either direct naval or direct military authority."

Nevertheless the formation of the Royal Canadian Naval Air Service (as it was styled) proceeded, largely under Admiralty direction, with the assistance of several ex-R.N.A.S. officers on loan from the R.A.F. This dual "control" raised many problems and caused long delays in securing supplies. In Canada too, Lieutenant Colonel J. T. Cull, DSO, who was in charge of the new corps, encountered many difficulties—inertia, indifference, delays, lack of equipment, and other obstacles. German U-boat operations off the American coast provided a useful fillip for government officials who (Cull reported) "know nothing about the needs of aviation and, sometimes, one is driven to thinking, care less."

Recruiting began for a force of about 1,000 men. Some cadets were sent to the United States for a course of ground training and seaplane flying, while a small detachment went to Britain for lighter-than-air training. Since it would be early in 1919 before the R.C.N.A.S. would be ready to begin operations, the United States Navy undertook to carry on in the interval. Aircraft and personnel were sent to the two stations at Halifax and North Sydney. Seaplane flights from the first station began late in August, and in the following month from Sydney. The U.S.N. commander at

⁵Two seaplane stations at Halifax and Sydney were considered to be minimum requirements. Seddon estimated that a force of 300 men would be required, with thirty-four seaplanes, at a cost of £300,000, of which £102,000 would be for purchase of the aircraft.

⁶In October, 1917, they were presented to the United States Naval Flying Corps for training purposes.

Halifax, Lieutenant Richard E. Byrd, was later to win great fame as an aviator and explorer. Convoy escorts and reconnaissance patrols continued from the two stations in Nova Scotia until the end of hostilities. No enemy submarines were sighted, although there was one scare in mid-October, when a U-boat was reported off the entrance to Halifax harbour.

When the Great War ended, therefore, Canada had two Air Forces under formation—one overseas, the other in Canada. What should be done with them? Within a month of the Armistice an order-in-council was issued (December 5, 1918), discontinuing the R.C.N.A.S. "for the time being" and its personnel was released.⁷ But the Honourable C. C. Ballantyne, then Minister for Naval Services, emphasized that the R.C.N.A.S. was not abolished; the present action was being taken only until such time as the government decided on the details and policy of a permanent air service. A Canadian officer remained attached to the Department of Naval Service as acting Director of the R.C.N.A.S. from December, 1918, until December, 1919. The Air Ministry then discovered that this officer, on loan from the R.A.F., was working solely for Canada and accordingly requested and obtained from the Canadian government a refund of his pay.

Meanwhile the Canadian Air Force in Britain had continued its training, at R.A.F. expense, in the expectation that the training would be completed by June 30, 1919, and the units would then be transferred to Canada. The Canadian authorities were unable, however, to formulate a definite air policy by that date and demobilization of the C.A.F. began. Early in June Sir Edward Kemp cabled from Ottawa that "Government do not feel that time is opportune for committing itself to maintaining permanently two squadrons. . . . Government will decide future policy Air Force later." The units gradually faded away. One squadron was formally disbanded on January 28, 1920, followed a week later by the second squadron and the Wing Headquarters.

The inability of the Canadian government to make up its mind on air policy was certainly not due to lack of enthusiasm among Canadian officers in the R.A.F. or lack of encouragement from the Air Ministry. The latter gave good counsel and advice and prepared detailed plans and probable costs to be laid before the Cabinet at Ottawa. In addition to plans and advice the British government gave more tangible encouragement in the form of gift aircraft and supplies. The first donations were eighteen "token" aeroplanes presented in January and February, 1919, as replacements for machines donated during the war by patriotic Canadian individuals and organizations. Some weeks later, when plans for the post-war C.A.F. were being fully considered, the Director of Air Service, C.A.F., asked the Air Ministry for about 100 aircraft as initial equipment. Such a donation, it was pointed out, might hasten the Canadian government in formulating its plans. Sir Robert Borden admitted that initial expense was likely to be the chief obstacle. "There is a good deal of difficulty [he wrote] in connection with any proposal to organize an effective Air Force for Canada. The financial difficulty stands chiefly in the way." The Air Council and War Cabinet approved the Canadian request for gift aircraft

⁷Canada purchased from the United States the ground material at Halifax and Sydney, and received as a donation the flying material (twelve seaplanes and four kite balloons with a number of motors and spares).

but decided "in the interests of imperial defence" to include all the Dominions, India, and the colonies. On June 4, 1919, the British government announced in the House of Commons that it would give 100 aircraft from surplus R.A.F. stores to each Dominion and India, and a few machines to each colony or protectorate requiring them.⁸ As a result of this offer the Dominion received approximately \$5 million of equipment, consisting of eighty aeroplanes, fourteen flying boats, twelve airships, six kite balloons, together with sheds, motor transport, armament, wireless equipment, cameras, and other stores. Britain in fact gave more than Canada herself spent on the Air Force in over four years.

When the offer was first made, the Canadian authorities in Britain provisionally selected aircraft types suitable for a military Air Force. The types finally accepted were more adapted to non-military air work in the Dominion. This change was due to the establishment of the Air Board in Canada. This body, of seven members, was set up by the Air Board Act of June 6, 1916, with wide powers to regulate aviation throughout the Dominion. In addition to the control of commercial flying and the conduct of civil government air operations, the Board was charged with the air defence of Canada, including the organization and administration of a Canadian Air Force.

After long consideration by the Air Board a C.A.F. was created by order-in-council on February 18, 1920. The establishment authorized was 1,340 officers and 3,905 airmen—figures never attained in actual fact; indeed in August, 1939, the R.C.A.F. was over 1,100 below the strength authorized in 1920. The new C.A.F. was a non-permanent, non-professional force whose function was to give biennial refresher courses to ex-officers and airmen of the R.A.F. A Canadian Air Force Association was formed, with branches in the provinces, to compile nominal roles of pilots, observers, and airmen and prepare rosters for the monthly training courses. The first courses began at Camp Borden on October 1, 1920, and by the end of 1922, 550 officers and 1,271 airmen had received refresher training.

Two years' experience, however, demonstrated that the results hardly justified the effort and expense involved. It was obvious that drastic changes were necessary if Canada was to have an Air Force at all worthy of the name. There were two major defects. Under the existing scheme no new pilots had been trained since the Armistice. New blood—a new generation of airmen—was needed to carry on the Force. Furthermore, as originally constituted, the C.A.F. had no permanency. Its staff were civil servants employed in the Civil Operations Branch of the Air Board who were appointed for periods of six months to a year for duties with the C.A.F. It was, therefore, decided in 1922 to reorganize the C.A.F. on a more durable basis. As a first step, until final plans could be completed, the Civil Operations Branch was consolidated with the C.A.F., the civil servants of the Branch being granted temporary commissions in the Air Force. The order-in-council (June 30, 1922) which was issued to cover this transition period authorized a temporary establishment of 69 officers and 238 other ranks.

⁸The offer was later expanded in August, 1919, to include spare parts, mobilization equipment, motor transport, lorries, hangars, etc.

1922 was a year of re-organization not only for the C.A.F. but for all three defence services. The government decided on a policy of centralization under one Minister of National Defence. This would mean economy, greater efficiency, closer co-operation between the services, and a single comprehensive scheme of defence rather than three separate plans. A bill to incorporate the Departments of Militia and Defence, Naval Services and Air Board was passed by Parliament in June, 1922, and on January 1, 1923, the new Department of National Defence was created.

A month later (February, 1923) the King approved the prefix "Royal" for the Canadian Air Force, but since the whole organization of the Force was at that time under consideration, general use of the new title was deferred until the following year. On April 1, 1924, "The King's Regulations and Orders for the R.C.A.F." were promulgated and the Force emerged as a permanent body, consisting of an active force and a reserve. That date, April 1, 1924, on which Canada's fifth Air Force came into being, is generally regarded as the birthday of the present R.C.A.F.

Its strength now totalled a modest 61 officers and 262 airmen, administered by a "Director, R.C.A.F." under the control of the Chief of the General Staff. The annual appropriation for its support was \$1,561,000 (for 1924-5). During the next few years the Force slowly expanded to reach a peak in 1931 of 177 officers and 729 airmen, with a parliamentary vote (for 1930-1) of \$7,475,700.⁹ Then its growth was cut short and the depression of the nineteen-thirties all but destroyed the R.C.A.F. The annual vote fell, or plunged, to \$1,750,000 for 1932-3, and approximately 20 per cent of the Force (78 officers, 100 airmen, and 110 civilians) had to be released, leaving only 103 officers and 591 airmen.

Fortunately the R.C.A.F. survived the drastic financial stringency of 1932 and during the next seven years gained strength slowly but steadily. At the same time, the character of the Force underwent a major change. Prior to 1932 the R.C.A.F. had been unique among the Air Forces of the world in that the greater part of its work was essentially non-military in character. Military aircraft indeed were few and of obsolete or obsolescent types. During these years (1923-32) the R.C.A.F. acted as the government's civil air company, carrying out flying operations for the various departments. In this capacity it performed very valuable services; photographing great areas of the Dominion, helping to open up new sections of the interior, transporting officials into remote and inaccessible regions, blazing air routes, patrolling forests and fishery areas, suppressing smuggling of narcotic drugs and liquor, experimenting in air mail services, carrying treaty money to the Indians, and performing many a humanitarian act by flying sick and injured trappers, traders, farmers, and Indians from remote outposts to places where adequate medical attention could be given. After 1932 the Force was relieved of this civil government air work and was able to concentrate on military aviation.¹⁰ Steps were taken to secure more modern types of service aircraft, but as so many other competitors were now in the field it was difficult to obtain equipment.

⁹Of this total, \$2,510,000 was for the R.C.A.F., \$4,065,000 for Civil Air Operations, and \$900,700 for air mail routes.

¹⁰Commercial companies and provincial governments took over much of the "civil" work.

Another feature of the recovery of the Force after 1932 was the formation of an Auxiliary Active Air Force. This force had been authorized as early as 1924, but no action was taken prior to 1932 when the formation of three squadrons was approved. By September, 1939, twelve auxiliary units had been authorized, although several were only in preliminary stages of organization.

Other significant changes occurred in these years of falling barometer in Europe. The increasing gravity of the situation overseas was clearly reflected in the parliamentary vote. For 1936-7 the sum allotted for the R.C.A.F. was \$4,130,000. For the next year it was \$11,391,650 — an increase of over 175 per cent. With adequate funds at last available new units were formed and the construction of new stations was accelerated. In 1938 three Commands were organized — Western Air, Eastern Air, and Air Training. The head of the R.C.A.F., whose title had been changed in 1932 from "Director" to "Senior Air Officer," was elevated to Chief of the Air Staff (December 15, 1938), and the Force, formerly under the control of the Army, became an independent arm, directly under the Minister of National Defence (November 19, 1938).

When Hitler invaded Poland the R.C.A.F. had a total strength of 4,071 officers and men (298 permanent officers, 112 auxiliary, 10 R.A.F., 2,750 permanent airmen, and 901 auxiliary).¹¹ On September 1, 1939, this small Force was placed on active service and nine days later went to war.

War meant a tremendous expansion and many new responsibilities, the greatest of which was the administration of the British Commonwealth Air Training Plan. To cope with these heavy burdens, a separate Ministry of National Defence for Air was created in May, 1940, with an Air Council to advise the Minister. Three new components were added to the Force, a Special Reserve to accommodate the thousands of new recruits, a Women's Division in August, 1941, and the Air Cadets in April, 1943. For a time there were also University Air Squadrons and an Aircraft Detection Corps assisting in the work of instruction and defence.

From its tiny force of 4,000 men at the outbreak of war, the R.C.A.F. expanded to over 206,000 by the end of 1943 and held fourth place among the Air Forces of the United Nations. It developed and administered the great British Commonwealth Air Training Plan which produced 131,553 trained airmen for the British and Dominion Air Forces. At home the R.C.A.F. put over forty squadrons into the field which, in addition to guarding our coasts and sharing in the Aleutian operations, played a very important part in co-operation with Coastal Command and the British, Canadian, and American Navies in the hard-fought battle of the Atlantic. Overseas the R.C.A.F. contributed forty-eight squadrons for service with the several Commands of the R.A.F. Fourteen of these units formed a special R.C.A.F. Group (No. 6) in Bomber Command; fourteen others constituted four wings in the Second Tactical Air Force. Other squadrons flew with Coastal Command over the North Sea, the Bay of Biscay and the Atlantic, fought with the Desert Air Force from Alamein to Treviso, patrolled over the Indian Ocean, and carried supplies to our armies in North-Western Europe and Burma. In addition to the personnel of these

¹¹There were at that time more Canadian officers in the R.A.F. than there were in the R.C.A.F.

units at home and abroad, great numbers of Canadians served in R.A.F. formations in every theatre of war. The R.C.A.F. suffered 17,054 casualties in killed, presumed dead, and missing; it won over 8,600 awards for gallantry.

Now the R.C.A.F. is contracting to post-war requirements. These plans call for a Force of three components, Regular, Auxiliary, and Reserve, with a total overall strength of 30,600 officers and men. The Air Cadets will also be continued as a valuable training ground for our youth. Though relatively small, this Force, it is believed, will be a well balanced arm which, should occasion ever again arise, can be expanded into a great war-time training and operational Air Force — just as the R.C.A.F. was expanded after 1939.

From the flights of the "Silver Dart" at Petawawa in the summer of 1909 to the homecoming by air of R.C.A.F. overseas squadrons in the summer of 1945 is but a brief span as time is measured. But in that generation a new air arm was created. In the Great War of 1914-18 its seed was planted by the thousands of young Canadians who flew with the R.F.C., the R.N.A.S., and the R.A.F. In the years between the wars the sapling grew, despite lack of nourishment and drastic pruning. That the young tree's roots were well planted and its timber sound, was fully proved in the great storm of 1939-45. Now it has grown to maturity, taking its place with pride beside the other services to spread its protecting branches over the Dominion. On the flag which was designed for the Canadian Army Commander overseas, there are three red maple leaves springing from one stem. They may be taken to symbolize the three services—Navy, Army, and Air Force — united in a common cause.