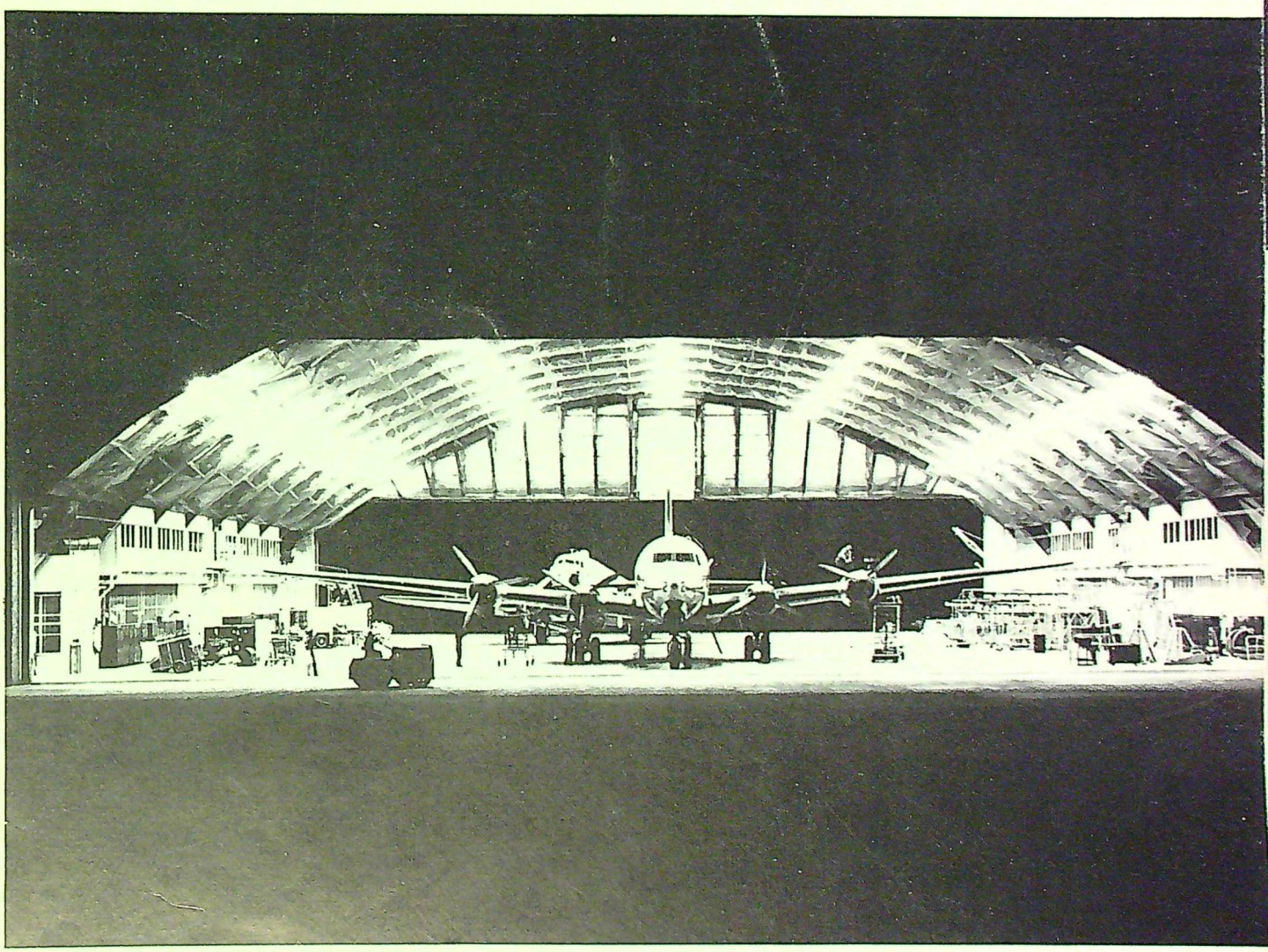
The CROUNDEL

Vol. 6, No. 8
SEPTEMBER 1954



ROYAL CANADIAN AIR FORCE

The Roundel

Issued on the authority of
THE CHIEF OF THE AIR STAFF
Royal Canadian Air Force

Vol. 6, No. 8 SEPTEMBER 1954

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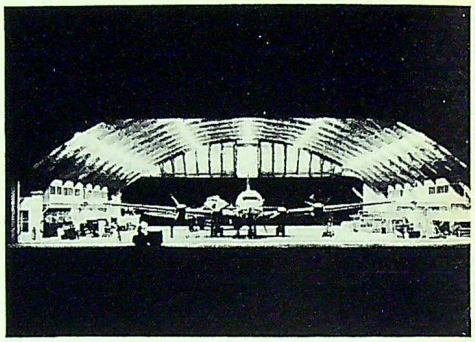
This Month's Cover



One of No. 4 (Transport) Operational Training Unit's North Stars in its hangar at R.C.A.F. Station Trenton. Photograph taken by Flying Officer J. H. L. Le Compte, public relations photographer.

EDITORIAL OFFICES:
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A Good-bye . . .

Ottawa, July 1, 1954.

To: The Armed Forces of Canada, Members of the Department of National Defence, and Personal Staff of the Minister's Office.

From the day I became a member of the government I have had loyal and unqualified support from the members of the departments with which I have been associated and from my own personal staff.

To be closely associated for so long a period with officers and men of the Royal Canadian Navy, of the Canadian Army, the Royal Canadian Air Force and Defence Research Board has been a great experience. I shall never forget the fine way you worked together to strengthen Canada's defences in these troubled times.

There have been difficulties but on the whole we have done what we set out to do, and that is reflected best in the record which you have won for yourselves. As a result of your work together the Canadian forces are, I believe, as General Gruenther said of the Canadians under his command, second to none.

In resigning my post as Minister of National Defence, I leave this association with the members of the armed forces and the other government services with the greatest possible regret. I know you will carry on working steadily at the further improvement of what you have already done so well. I extend to all of you warmest thanks and the best of good wishes.

Brooke Claxton

Brooke Claxton,
Minister of National Defence.

. . . and an Introduction

The Honourable Ralph Osborne Campney, Q.C., M.P., Canada's new Minister of National Defence, entered Queen's University (Medicine) in 1914, and enlisted in the ranks with No. 5 Stationary Hospital (Queen's) in March 1915. In May of the same year he went to Egypt, where the unit operated as a base hospital in connection with the Dardanelles campaign. Later the hospital was moved to France, to play its part in the Battle of the Somme.

Commissioned in 1917, he was posted to the 19th Canadian Infantry Battalion. He served with that unit throughout 1917 in France and Belgium until invalided to England from Passchendaele. He then joined the Royal Flying Corps, and was transferred to a squadron commanded by Major Arthur Harris (later to become Air Chief Marshal Harris of Bomber Command in the Second World War), who taught him to fly. Mr. Campney served with the R.F.C. as a pilot until the Armistice.

Demobilized, he resumed his studies at Queen's University, switching from medicine to arts. He won the Lochhead Scholarship in colonial history and the Gowan prize and scholarship in political science. He obtained his B.A. degree in 1921 and entered Osgoode Hall to study law. During his last year at Queen's he was elected president of the Alma Mater Society.

Called to the bar of Ontario in 1924, he proceeded to Geneva in the fall as secretary of the Canadian delegation to the League of Nations Assembly. Returning to Ottawa, he became political secretary to the late W. L. Mackenzie King, with whom he worked closely during 1925 and 1926. Later, he served as private secretary to the Hon. James Malcolm, Minister of Trade and Commerce, until 1929.

Leaving public service, Mr. Campney embarked on the practice of law and ultimately built a large and successful firm in Vancouver. In 1936, at the request of the Federal Government, he became the first chairman of the National Harbours Board and served in this capacity for 3½ years during the period of its organization. He then resigned and resumed his law practice in Vancouver.

He was appointed a Dominion King's Counsel in 1940, elected as Liberal member for Vancouver Centre in the general election of 1949, and re-elected in 1953.

In 1950 he became chairman of a special parliamentary committee dealing with the National Defence Act. He was appointed parliamentary assistant to the Hon. Brooke Claxton in January 1951, and on 15 October 1952 became Solicitor General. While continuing as Solicitor General, he was also appointed Associate Minister of National Defence in February 1953. He resigned as Solicitor General on 12 January 1954, and on July 1st he succeeded Mr. Claxton as Minister of National Defence.

An avid enthusiast of air development, he is past president of the Air Force Officers' Association of Vancouver, past chairman of the B.C. Committee of the Air Cadet League of Canada, and a former director of the Air Cadet League of Canada.

"MY NOBILITY BEGINS WITH ME . . ."

It is indeed a desirable thing to be well descended — but the glory belongs to our ancestors. (*Plutarch.*)

SGT. SHATTERPROOF IS NOT DERELICT

Sir:

I gather (from a source commonly regarded as informed) that there is a time to keep silence and a time to speak. This, however, is an occasion when the loyal servant of Her Majesty must do both.

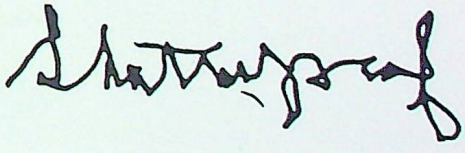
Late last Thursday afternoon, while waiting in your office for you to return from lunch, I noticed a sheaf of galley-proofs lying on your desk. I had begun to scrutinize them in the usual way for pornography or subversion, when two items among their contents caught my eye. One was a letter of farewell from the man who has faithfully guided the destinies of Canada's armed services for the past eight years, the other a brief biography of his successor at the helm.

Since, I assume, it is your intention to print them both on the opening pages of the September issue of "The Roundel," there is little point in my writing now what I have to say on the subject of crossword puzzles. Electrifying though it is, I am not unaware that even the greatest thoughts may be lost to posterity if uttered in anti-climax. May an old wardog therefore content himself this month by wishing the best of luck to the departed Minister and by voicing a soldierly welcome to the new?

Nevertheless, one thought still assails my conscience. During a period of change such as the present, I would be derelict in my duty if I did not again attempt to draw the attention of the Brass to an issue which, if unsettled, may one day depopulate our Service. I refer, of course, to the issue of chessecake in "The Roundel." I must, Sir, respectfully request that you once more approach the Brass (through the proper channels) and apprise it of the peril at our gates.

Let us represent to it the possibly disastrous effect of a policy that denies the boys in the field the merest glimpse of the underlying glory of our womanhood. Slowly but inevitably their appreciation of the Sex will atrophy. No longer will visions of Married Quarters and Subsistence Allowances beckon them on to ever-greater endeavour; no longer will they dream of sturdy little potential airmen and airwomen clustering about their knees and listening wide-eyed to the bed-time reading of the Air Force Act. The outcome of such a situation is obvious. Within reckonable time, the only sound heard on our now-teeming stations will be the footsteps of the Last Airman as he marches between barrack-block and hangar on his loyal but unreproductive way.

The picture I have just painted is admittedly not exhilarating, and I trust that no one will ever see it except with the mind's eye. But we must take steps *now* to prevent its realization; let us not wait until asceticism has taken its toll. No change of policy in "The Roundel" will be of any avail when the Last Airman sits poring alone over the Rules of Procedure in some deserted station library. He will be beyond the reach of Art. I question, indeed, if even forty-eight full-page illustrations of Miss Monroe's earlier days could do much by that time to rekindle his enthusiasm.



The Pipers of North Luffenham

By Sgt. J. A. L. Langston and Sgt. J. T. MacKenzie.

THE SKIRL of the Piob Mor, or Great Highland Pipe, has long been associated with the historical and traditional background of Bonnie Scotland. Some say that the bagpipe was originally a Roman importation, but most Scots agree with the Irish historian, William Gratton Flood, that Scotland got the instrument from Ireland as the result of two colonizations — the first, under Cairbre Riada, in A.D. 120, and the second under Fergus, Lorne, and Angus, the sons of Erc, in about the year 506.

Be the bagpipe's origin what it may, however, it has been said that it takes seven years to learn how to play it and the rest of your life to perfect your skill. As Jerome K. Jerome, with a humorist's exaggeration, wrote: "(The bagpipes) appear to be a trying instrument to perform upon. You have to get enough breath for the whole tune before

The band takes part in the mass parade at the London Caledonian Games.

you start." All the music a piper knows, all the pieces he can play, are carried in his head. Everything is committed to memory. But, when the kilts are swinging, few can resist the sight and sound of the pipes and drums, with their ribbons and banners fluttering in the breeze. Watch the reactions of people at a parade. You will see eyes sparkling, feet tapping, and tears falling, whatever the occasion may be. It is not hard to understand the emotion expressed in Lowell's "Relief of Lucknow," when he wrote:

It was the pipes of the Highlanders,
And now they played "Auld Lang Syne."
It came to our men like the voice of God,
And they shouted along the line.

* * *

In March 1952, a desire to form a Pipe Band in No. 1 (Fighter) Wing was expressed by an L.A.C. who played the pipes. No band formation existed on the station at that time, and recruits for the project were numerous. With the exception of the airman just mentioned, however, none of the volunteers had ever played the pipes. A chance encounter in a nearby village between one of the interested airmen and a policeman who had been playing the pipes since his boyhood, provided the instructor. The policeman was only too willing to pass on his experience and ability — an attitude which is fairly general among skilled pipers.

A considerable number of would-be pipers gathered together one night to start in and learn the scale. The only practice chanter was in the hands of the instructor. A slip of paper with a stave and the notes written on it, representing the scale, and several old chair rungs with holes drilled in them to represent the chanter notes, constituted the band's first equipment. Wrinkled foreheads, amused grins, and facetious comments enlivened

The C.A.S.'s visit to No. 1 (Fighter) Wing. In foreground (left to right): Group Capt. J. D. Sommerville, D.S.O., D.F.C.; Flying Officer R. J. Oliver, Drum Major; Air Marshal C. R. Slemon, C.B., C.B.E.; Air Vice-Marshal H. Campbell, C.B.E., A.O.C. No. 1 Air Division.

the beginning of the gradual elimination contest. Chanters were purchased shortly after and were bought by most of the class. Practices were carried out twice a week in after-duty hours, and, as the instruction gradually progressed, the classes steadily decreased until only a very few individuals were left. Eventually, however, there were about ten pipers attending practices with some regularity, and the band's organizers began to see some results for their efforts.

To experienced players, the noises produced by these aspirants might well have been depressing in the extreme and often funny. But when one considers that, for Scottish lads, instruction in piping begins when they are around eight years old, some credit is due to these grown men who have all learned to play the pipes well — some of them, indeed, outstandingly so. A set of pipes was bought and they were kept in constant use by the men as each of them mastered the knack of "keeping the pipes going."

With the approach of Air Force Day it was felt that pipes, drums, and uniforms should be procured and that the band should make its first major public appearance. The uniforms, delivered a couple of days before the event, provoked some amusement and (in certain cases) embarrassment among their wearers; but finally the band, bravely attired, paraded around the station to the accompaniment of wails and groans, and pursued by waggish remarks and whistles from less fortunate non-players. Nevertheless, the band won great acclaim from the civilians, whose ears, fortunately, were perhaps not as impressionable as their eyes.

In January 1953, a new arrival changed the whole course and destiny of the band. He was the present Pipe Major, Sgt. J. T. MacKenzie, who was recruited into the R.C.A.F. from the Boys' School, Dunblane, where he was teaching piping and dancing. Sgt. MacKenzie took this appointment after serving for seventeen years with the Scots Guards, terminating his service as Pipe Major of the 2nd Battalion. He was in the Middle East during the last war and served on the continent and in Malaya.

A new system of teaching was used to ensure that each member got the same amount of time devoted to him. By March, it was announced that the No. 1 (F.) Wing Pipe Band would compete in the White City Highland Games, held annually in London. This meant much hard work for each man, as the other competitors had been playing for many years and were well known. Backed by Group Capt. E. B. Hale, D.F.C. (the Commanding Officer) and Wing Cdr. T. H. Spear (the Chief Administrative Officer), the members of the band were granted a certain amount of time off work each day to supplement their spare-time practices. Out of eleven bands competing, the R.C.A.F. came fourth.

On returning from London, the band found itself becoming rather well known both in the district and further afield. It was not long before an invitation was extended to play at a military tattoo in Hastings, where once again the members acquitted themselves creditably. In competition at Harpenden, the band narrowly missed being placed. In between competitions, local organizations began regularly requesting its services. In the autumn it played at a tattoo in Nottingham; in October it received an invitation to appear at the Royal Highland Society of Braemar, when the Queen and the Duke of Edinburgh were staying at Balmoral. After Braemar, a request was made for the band to perform at the Odeon Cinema, Leicester Square, London, for the *première* of "Rob Roy," with Her Majesty Queen Elizabeth, the Duke of Edinburgh, and Princess Margaret in attendance. This engagement was followed by a tour of Bournemouth and Bristol with some of the film's notables.

It might be interesting to note that the Band has adopted the Rob Roy Home for Crippled Children, which is located just outside Oakham, Rutland, about eight miles from North Luffenham. The band provided a Christmas Dinner, including Santa Claus who presented gifts to each child; and it followed this up with a Valentine treat and an Easter celebration. All parties are sponsored and paid for by the members of the band.

On December 26th the band made a TV appearance on the programme "Garrison Theatre," which featured a show by the British Broadcasting Corporation at No. 1 (F) Wing. This

brought to a close the band's activities for 1953.

The year 1954 has, to date, proved no less busy. The most important event so far has been the Band's appearance at the White City, London, to compete in the annual London Caledonian Games. It won second place among the competing bands, and its Pipe Major, Sgt. MacKenzie, added to its laurels by winning the second prize in the individual piping contest. The winner of the first prize was the Pipe Major of the winning band — who, oddly enough, was also a former Pipe Major of the Scots Guards and who had taught Sgt. MacKenzie when the latter was a boy piper in the regiment.

* * *

Without too much fear of overstatement, it may be said that the Pipe Band of No. 1 (F.) Wing has proved to be one of the most popular ambassadors Canada has ever sent to England. The goodwill and friendliness created by its many appearances in public has probably exceeded that which could have been aroused by any other means, and it is to be hoped that the future will draw many other aspiring pipers and drummers to its ranks. We must not lose sight of the fact that only continuous effort and interest can maintain and build up that which a handful of men started.

L.A.C. Donald Graham with two young Highland dancers at the London Caledonian Games.

★ ★ ★

Has anyone here seen Mitchell?

The fine old photographic firm of Mitchell, Mitchell, Mitchell, and Mitchell finish another day's work. Three of them (Flying Officer J. A. Mitchell, navigator; Flight Sergeant T. E. Mitchell, photographer; and Flying Officer W. A. Mitchell, pilot) step out smartly towards the hangar, while the fourth Mitchell faithfully waits on the Rockcliffe tarmac for their return.

★ ★ ★

THE PARTY LINE

THE REGULAR OFFICER TRAINING PLAN

Prepared by the Directorate of Postings and Careers.

(In "The Party Line" for the July-August issue we explained how careers are planned for officers of the Regular Air Force. Our article this month has a tri-Service theme: it deals with the method by which the armed services of Canada are attempting to meet their requirements for permanent officers by helping young men to qualify for commissions.— EDITOR.)

★ ★ ★

IT HAS always been recognized that the armed services must have a strong corps of highly trained officers with a university background. For a few years after the Second World War this requirement was met by enrolling graduates of the Canadian Services Colleges and of the universities and also by commissioning from the ranks. After the formation of N.A.T.O., however, these sources proved to be inadequate to take care of Canada's added commitments abroad.

There were insufficient students graduating from the colleges and universities to meet the increasing demands of both the Services and civilian industry. For instance, only about 1,200 engineers were graduating each year — a number far too small to meet the demand, especially when it is remembered that graduates entering the Services must be medically fit and suitable as officers.

The Department of National Defence discussed these problems with the educational authorities, and it was eventually decided that, in order to meet the officer requirement, more students would have to be encouraged to attend university. Since approximately only one third of each year's 20,000 senior matriculants went on to university, it seemed that some form of subsidization would be needed. In 1952, therefore, the Regular Officer Training Plan (R.O.T.P.) was formulated as a means of providing this subsidization.

The Plan is, in effect, a form of mutual assistance to the armed forces and to young Canadians seeking advanced education. It enables large numbers of students, who would otherwise be unable to afford a higher education, to continue their education with Government sponsorship and financial assistance. As these students are required to enrol in one of the armed services in order to receive this subsidization, the officer requirement is being met as they graduate.

The R.O.T.P. is designed basically to provide a four-year college or university education for senior matriculants. At the same time, special provision has been made to permit a limited number of students each year to be accepted and enrolled at junior matriculation level for entry into the Canadian Service Colleges' preparatory year at the Collège Militaire Royal de Saint-Jean. In addition, college or university undergraduates may be enrolled under the Plan while in one of their last three years. Selected graduates of the Services Colleges are also eligible for subsidization of the degree year at university.

Selection for the 1954 entry has just been completed. Those selected will form the third large intake of young cadets into the Services Colleges and the universities. As in the two previous years, competition has been keen, and only those most likely to succeed have been accepted.

These young men, ranging in age from 16 to 21 years, are medically fit, are considered to have leadership potential, have a good scholastic record, and have successfully passed the required tests. In consideration of these and other factors, they have been chosen by the Final Board of Selection at National Defence Headquarters, and the Minister has approved the decision.

As in the past, this year's entries will be enrolled into the Service of their choice (their enrolment to take effect on the day they arrive at the university or Canadian Services College) and will receive the rank of Naval Cadet, Army Cadet, or Flight Cadet, as the case may be. They will be accorded the status and privilege of an officer and will receive benefits applicable to a member of the Regular Forces, e.g. 30 days' leave each year, free medical and dental care, assisted transportation home for leave purposes, and pension rights.

Financially, they will receive pay of $55.00 per month as well as free board and lodging (or, if board and lodging is not supplied, $65.00 per month in lieu thereof). In addition, their tuition fees will be paid and they will be provided with sufficient money to purchase such books and instruments as they may need.

Each cadet will be issued with standard Service uniforms and equipment, to be worn only when required for military duty, and those attending a Canadian Services College will be provided with college uniforms to wear during the academic year.

For these benefits, the cadets are obliged to maintain a good standard in their academic and military training. However, a cadet who fails a year at college or university may, on the recommendation of the faculty and of the Service concerned, be permitted to repeat one year at his own expense, and, if successful, be reinstated. If a cadet fails in his Service training, consideration will be given to transferring him for training in another branch, but this will only be done if it is to the advantage of the Service concerned.

Basically, the college or university courses to be undertaken by these cadets will depend upon the requirements of each Service, although the choice of the individual will be given every consideration. The R.C.A.F. has a primary need for technical officers and for technically trained air crew. Therefore all university applicants accepted by the R.C.A.F. are required to register in a faculty of applied science, the only exception being a student capable and desirous of taking an honours course in mathematics and physics or in chemistry.

The cadets at the Canadian Services Colleges may take either a General Arts Course or an Engineering Course, and the decision, in this matter, is made after completion of their first year. Where possible, however, only those candidates who appear to have the ability and aptitude to complete the engineering course are selected by the R.C.A.F.

During the summer months, the cadets are required to take training with their Service. Those in the R.C.A.F. are integrated with flight cadets of the University Reserve Training Plan (U.R.T.P.) taking air-crew or technical training. The flight cadets who are medically fit for air crew are processed through the Officer Personnel Selection Unit (P.S.U.(O.)) in London, Ontario, to determine their aptitudes for the various air-crew courses. The cadets from the Colleges are directed to a basic air-crew or technical course while those from the universities take the Reserve Officer School course at Kingston for six weeks before beginning training in their particular R.C.A.F. branch. The summer training-period for R.C.A.F. cadets extends from approximately May 11th to September 11th, which normally allows at least seven days' leave immediately after the academic year and another seven days after summer training. In addition, the cadets get leave at Christmas to allow them to receive their full annual entitlement of 30 days' leave.

While under the R.O.T.P., the average cadet will receive four years of academic training and three summers of Service training. On graduation from college or university, if he has completed his

Service training, he will be appointed to a permanent commission in one of the Regular Forces. If he so desires, however, he will be granted the privilege of a release once he has completed three years of full-time service subsequent to the completion of his academic and Service training. This latter privilege is extended in order to allow any R.O.T.P. graduate who does not wish to make the Services a career, the opportunity to re-establish himself in a civilian occupation early in life.

* * *

The Regular Officer Training Plan is important to the R.C.A.F. because it is providing some of the replacements for the senior officers who are leaving the Service each year. The academic and Service training they receive is adequate, potentially, to enable them to become a future Air Member or even a Chief of the Air Staff. Each replacement is a future technical officer who will be responsible for helping to maintain the intricate equipment needed by our modern Air Force. Collectively, they will constitute the corps of highly trained officers referred to at the beginning of this article — men capable of assessing and making provision for the rapidly changing character of war in the air.

★ ★ ★

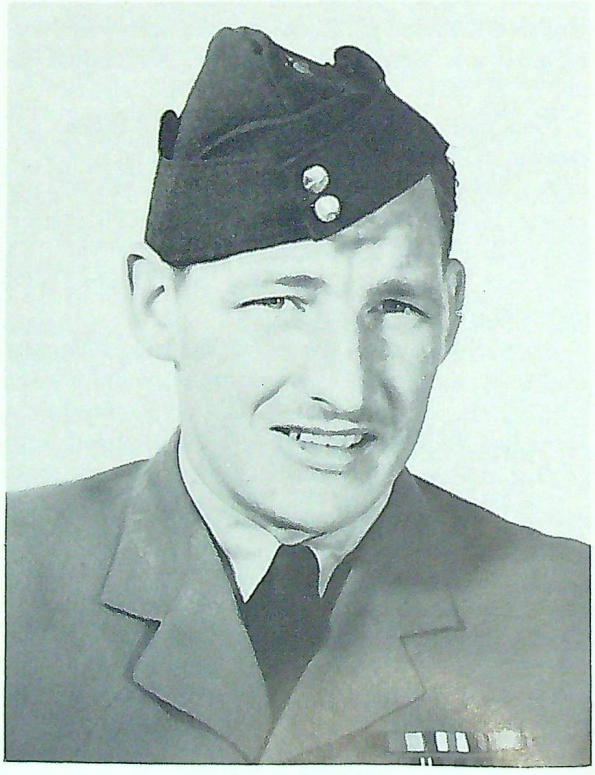
A GOOD SHOW

His coolness and steady handling of a serious emergency earned for **Sgt. E. R. Caird,** of R.C.A.F. Station North Bay, a personal letter of commendation from the Chief of the Air Staff.

Sgt. Caird was the duty G.C.A. controller on the night of 1 April 1954 when four CF-100 aircraft, manned by pupil air crew, were airborne on training exercises. While they were still in the air, there was a very sudden and complete deterioration in the weather at R.C.A.F. Station North Bay. All four aircraft had been recalled to base, and three of them were in the process of descent either under Homer or G.C.A. control. The weather continued to deteriorate to below G.C.A. limits, but since three of the aircraft were already on the descent and their fuel was getting low, it was impractical to divert them to an alternate aerodrome. Sgt. Caird, by excellent handling and an exceedingly calm commentary, brought the first three aircraft round into the G.C.A. pattern and successfully landed them.

Meanwhile the pilot of the last aircraft, who had climbed to 36,000 feet to conserve his fuel, called to say that he was getting very short of it. He was then fed down into the G.C.A. but was unable to carry out a landing on account of excessive icing on his windscreen. The pilot again notified the tower, intimating that he had a maximum of 40 gallons of fuel left. Sgt. Caird immediately took control of the situation and brought the aircraft round on an extremely abbreviated pattern and actually talked the pilot, who was completely blind because of ice, right down on the runway. Sgt. Caird was undoubtedly responsible for averting at least one major accident.

Sgt. E. R. Caird.



The Shape of War to Come

A speech delivered by Marshal of the Royal Air Force the Lord Tedder, G.C.B., to members of the Air League of the British Empire in October 1953.

(Reprinted by courtesy of "Air Power": U.K.)

I HAVE no doubt that in this company there are very differing views regarding Oliver Cromwell and his activities. I know there are in my own family circle — which on this issue is indeed a house divided against itself. Nevertheless, I imagine that most people will agree that his instructions as to putting your trust in God and keeping your powder dry were good morally, politically shrewd, and, from a military point of view, wise; and I also imagine that the Air League would agree that the same fundamental idea is the foundation on which the League's activities are based.

There are, of course, some people who hold that trust is all that is needed and that to have any powder at all is unnecessary and indeed wrong. The trouble about such a policy is that in actual practice it would mean trust, not in God, not even in other nations, but trust, unsupported trust, in the individual politicians who happened to be in power in various countries. I'm afraid that in this world of ours such a proposition needs no comment. The fact is that, despite all the hopes which buoyed people up during the trials and horrors of the late war, the world has been forced, regretfully and bitterly, to the conclusion that the law of the jungle still runs, that security without strength is a mirage, that, in fact, weakness invites and indeed provokes aggression.

Now strength, national strength, is of course not solely a military affair; it is a complex of moral, political, economic and military factors, and weakness in any one direction may be fatal to the whole. One must never forget that these varying factors are closely interrelated, but it is mainly from the military point of view that I want to look at this problem today.

Nevertheless, the first point one must make is necessarily a political one. It has been said before again and again, and it cannot be said too often and emphasized too strongly, that the military strength which the free world has felt it necessary to build up has one prime objective — to prevent another war. It is questionable whether the two world wars or indeed the Korean war would ever have happened had it not been for political and military weakness which misled the aggressor into thinking he could get away with aggression without any serious fighting. There must be no room for doubt in the future. It must be made clear to all that the free nations have the will and the strength — the military strength — to resist aggression, and that strength must be such that it will be clear without a shadow of doubt that aggression will not pay. The would-be aggressor may well try to bluff — that has been the usual technique — but there must be no bluff about the defence; it must have real strength, strength of such a nature as to

force a potential aggressor to think many times before even risking a war. Under present conditions it is only in this way that we can have any reasonable certainty of *preventing* another war. I repeat, our object is to secure peace, not by winning another war but by *preventing* another war.

How to organize the collective defence of the free world, to develop and maintain the military strength of a voluntary association of democratic nations who by their very nature abhor war, is no simple problem, and is not made easier by the fact that expert military opinion is apt to be divided on the subject. What form should the military strength of the free world take? In the first place I suggest that the military forces must be such as to constitute an effective deterrent, that is our primary objective; *but,* they must also be such as to be able to fight a successful war *if* the deterrent fails. One must therefore try to foresee what would be the nature of another war. It is sometimes said that the so-called principles of war do not change — in so far as human nature doesn't change that is probably true. But the shape of war has been changing drastically during this century, and I believe we would be making a fatal mistake — and I mean fatal — if we were to shape our forces on the basis that a war in the future would be on the same lines as those of the last war. War having in the old days been a matter of formal battles and developing in the First World War into a stuggle for lines, the tragic mistake was made before 1940 of preparing for a repetition of the struggle for lines. I hope the bitter tragedy of the Maginot Line and the lesson it affords will never be forgotten. In the event, during the last war it was the war in the air — unforeseen by many and still not understood by some — which was largely responsible for changing the shape of war: the war became one of areas. It might well be that a future war would be one of continents.

So far I have deliberately left the possible aggressor anonymous, but it is no use burking the issue that unless and until the new régime in Moscow (or its successor) clearly by word and by deed renounces the Stalin aim of world domination, the potential aggressor is in fact Soviet Russia.

That fact poses specific problems. All the N.A.T.O. nations (and particularly Britain) depend on seaborne supplies and are therefore vulnerable to attack at sea; all, and again especially Britain, are vulnerable to attack from the air; all the Continental nations are open to attack by land over the relatively short distances from Russian-occupied territory.

What does this mean? Does it mean that we must in peace-time build up and maintain massive armies with all their supporting air forces on the Continent of Europe on the scale which it took four years of the combined British and American nations to attain? Does it mean that we must also during peace build up again the vast numbers of ships, vessels and aircraft we had in 1944 to secure our sea communications? Does it mean that every nation must build up air defences — the great network of communications, anti-aircraft and fighter defences — which proved to be necessary in the last war?

I suggest that to attempt to build up military strength on these lines would be not to provide a deterrent to aggression but to bankrupt the free world and hand it over to Communism and chaos without a blow. Yet military power we must have, defences we must have.

Let us look at the other side of the picture. Russia's seaborne supplies are negligible and against her our traditional weapon of naval pressure is virtually innocuous. The history of Napoleon and Hitler should be sufficient proof of the folly of attempting land invasion of those vast areas. Only from the air is Russia open to attack.

There is the problem.

I have no simple solution, but I do think we tend to make the problem unnecessarily difficult by failing to consider it as a unity. There is still a tendency to regard the war at sea, on land, and in the air, separately. Defence of sea communications being a matter for naval ships and ship-borne aircraft, the land campaign a matter of divisions (with, of course, supporting tactical aircraft), and air defence a matter of anti-aircraft radar and fighters. For some reason which defeats me, many people forget or ignore the other force which in the last war proved to be the one common factor and

did in fact unify the operations in the three elements — the bomber force. The impression seems to have got about that the bombers were a slightly disreputable party that burnt down German cities to no real purpose. It is forgotten or not known that the bombers played a vital part in limiting the production of submarines, that the waters round Denmark were littered with German shipping sunk by bombers' mines. The end of the "Tirpitz" is forgotten. It is forgotten that it was the bombers that were mainly responsible for strangling Rommel's army, that it was the bombers that knocked the Luftwaffe out of Sicily and made the entry into Southern Europe possible, that it was bombers that strangled the communications in Northern Europe, starved German transport and grounded the Luftwaffe for lack of fuel, and made Operation "Overlord" possible. It is forgotten or not realized that, after the first round of the Battle of Britain had been so gallantly fought in 1940 and 1941 by the day and night fighters, it was the bombers that pushed the air war away from British skies to be fought out and won over Berlin; it is forgotten that it was the bombers that delayed the V1 and V2 attack for vital months, reduced it to an unpleasant nuisance, and were the *only* antidote to the V2.

I emphasize all this about the bomber, the offensive component of defence, because I feel it is absolutely essential to remember that purely passive defence with no offensive element is in practice no defence at all. The noble art of self-defence would be a pretty ineffective business if the boxer had no straight left or right hook. In 1944 the Germans were producing (at the expense of their bomber production) more fighters per month than the total British and American production — they were losing the air war.

I also emphasize the bomber for two other reasons. Firstly, I feel that it is only by making proper provision for utilizing the immense potentialities of the bomber that the requirements for pure defence, for the war at sea, on the land, and for close air defence, can be kept within any reasonable financial bounds. Secondly, it is the bomber and the bomber alone that can, under present conditions, provide the essential offensive element of our defences and act as a real deterrent.

I can imagine you may be thinking that I am falling into the error which I have myself denounced — living in the past. It has been suggested that what has been called push-button warfare is just around the corner and that fighters are already obsolete. I would not venture to prophesy what may or may not be possible in ten years' time, but I do know that there is a long, long time-lag between a successful theory and its general application. That gap is inevitable; we don't want to fall into it. There have been spectacular advances in aircraft performance; there may well be further advances yet to come; by and large those advances tend to aid the bomber as against the defence — though the guided projectile may find its first use to help the fighters solve a problem which gets more and more difficult. All the indications are that in the immediate future it will be more true than ever that the bomber will get through.

And that brings me to what is, I feel, the crux of the whole problem — the atomic weapon. There are, of course, people — very sincere people — who would ban its manufacture or use. The armoured knights of old wanted to ban the use of gunpowder. I can understand the Russians proposing that it should be banned, since it is the only effective counter-threat which the Western Powers can wield as a deterrent.

On the other hand, I believe there are very few people in this country who have more than the vaguest idea as to the fearful potentialities of the atomic weapons now within sight. It is no Jules Verne story to say that war with these weapons might literally destroy European civilization. I am sure I am not being an alarmist in saying this. I believe this to be an accurate, cold statement of the actual possibilities now ahead of us. I only regret that we in this country are not given more of the facts. If our American friends can face up to them, surely we can, and, if we were on an equal footing with them in public awareness of the subject, I believe we might be of value to each other in arriving at a balanced judgment as to what action to take. I have seen reports that the American authorities are seriously considering

putting the bulk of their defence efforts into passive air defence against atomic attack. With all respect to the experts who may have given that advice, I myself believe such policy would be a fatal mistake. I frankly do not believe such defence could be really effective even at a cost which would — or at least should — be prohibitive even for the wealthy United States. I also believe that to adopt such a policy would greatly increase the risk of war and of atomic attack, since the deterrent afforded by the atomic bomber force would have been sacrificed. I am one of those who believe that for some four or five years after the surrender in 1945 aggression was averted by the U.S. atomic bomber force. I do not think that the fact that the Russians have now developed their own atomic weapons really lessens that deterrent effect: the fearful counter-threat is still there.

This, then, is the major factor we must take into account in looking ahead. To my mind it makes it more than ever essential that our aim must be to prevent war.

This may seem a pretty gloomy picture — the world divided into two armed camps with the contestants holding a pistol at each other's heart. But I believe there are real grounds for hope. A contest using the atomic weapon would be no duel but rather mutual suicide — that is scarcely a prospect to encourage aggression. No, the development of the atomic weapon has brought the world face to face with the ultimate realities of war, and, provided that the free nations make it clear without a shadow of doubt or vestige of bluff that they are ready and able to deliver the atomic weapon and face that ultimate issue, I believe that sanity will prevail. There was a time when it might have been doubtful whether democracies, with their natural abhorrence of war and tendency to live in the present, would have the solid judgment and the sense of responsibility to accept such an issue and its implications in peace time. As it is, I think that one of the most remarkable developments in this uneasy post-war world has been just that — the growth of a real sense of mutual responsibility among the free nations, and nowhere more remarkable than in the case of the United States, despite their natural absorption in their own problems and their traditional distrust of external commitments. At the same time I must make it clear that I would not for one moment accept the thesis — which has been put forward occasionally — that because atomic development is expensive, because atomic bombers are allegedly expensive, because the United States already has an atomic bomber force, Great Britain should leave this element of military power to the United States.

I believe that now and in the difficult years ahead our British experience and judgment in world affairs are and will be of vital importance to the world at large. If we accept the position that the United States, loyal and stalwart friends though they are, are the sole arbiters in the atomic field, we should no longer be a great power, our influence would be negligible and our ability to help lead the world would be lost.

No, in the scientific and technical, in the military and in the political aspects of the atomic world, we have a vital part to play. If we were to shirk that responsibility I would indeed be gloomy: if we play our part I have real hope, hope that we can show an example of courage and determination, patience and faith, which will inspire the free world and give time for the fundamental human rights of freedom of speech and thought to spread their sway over the whole world, time for police states to become free, time for truth to prevail.

I agree with Cromwell on this issue: let us trust in God and keep our powder dry.

★ ★ ★

DEMOCRACY

Democracy . . . is a charming form of government, full of variety and disorder, and dispensing a sort of equality to equals and unequals alike. (*Plato.*)

Feminine Gen

Cpl. Esther Gardner, of Air Defence Command H.Q., was inspired not long ago to carry out a rather interesting survey at R.C.A.F. Station St. Hubert. Printed below, in her own words, are the answers she received to her question:

SHOULD AIRWOMEN BE TRAINED AS PILOTS IN THE R.C.A.F.?

My first stop was at the Adjutant's office, where I put my question to Flying Officer Barbara Grunlund.

"In case of emergency," she believes, "women pilots trained in the R.C.A.F. would certainly be useful for ferrying light aircraft and for other flying duties in Canada. Some airwomen would no doubt make successful fliers."

Sergeant Helen Rooke, who was in the office at the time, thinks that qualified women pilots could be enlisted as fliers on a trial basis and used in air transport. She recalled the names of women pilots who have made headlines recently — Jacqueline Auriol of France and Jackie Cochrane of the United States, both of whom have broken the sound barrier in Sabre aircraft.

A negative reaction came from a group of airwomen in the Admin. Unit Orderly Room. Cpls. Dolores Peck, Agnes Weston, and Julie Chechotko, all considered that the R.C.A.F. would take a financial loss if such training were instituted. Women, they felt, were not emotionally stable enough for flying duties.

"There's only one airwoman on this station who I believe would make a good pilot", Cp. Weston added. "That's L.A.W. Helen Soucy."

When interviewed, L.A.W. Soucy was definite in her opinion that airwomen could be trained as pilots. "They have proved themselves in every other trade", she pointed out. "Why not flying?" She herself received her pilot's license at Port Colbourne, and has about 50 hours' flying time to her credit. She also declared that, if she had to choose between marriage and flying, she'd choose flying!

Sgt. Kay Dutney was my next call. Sgt. Dutney was one of the first airwomen to be transferred to A.D.C.H.Q.: she arrived there in November 1951. This past year has been an eventful one for her.

"Yes". Left to right: L.A.W.s Honeyman, Taschuk, Cadieux, and Nelson.

"No". Left to right: Cpls. Peck, Weston, and Chechotko.

"Perhaps". Cpl. Gardner (left) and Sgt. Dutney.

To begin with, she was a member of the Coronation Contingent. Shortly after her return, she went on a cross-country tour of stations with the Ground Observer Corps. She was with the G.Ob.C. at the Canadian National Exhibition last fall, and is now N.C.O. i/c Ops, in Combat Operations. During the war she served with the W.D.s.

After some thought, she replied that "if a suitable type of woman was selected who would plan on making a career out of flying, she would be an asset to the R.C.A.F." She pointed out that British and American women pilots did transport and ferrying work during the war.

I then dropped into the Admin. Orderly Room of R.C.A.F. Station St. Hubert. There I saw L.A.W.s Dorothy MacKay, Rachel Dusablon, Barbara Cottle, Violet Andrews, and Cpl. Maria Duleta. Speaking for them all, L.A.W. MacKay said: "We certainly believe that some airwomen could become good pilots. There are quite a number of airwomen in the R.C.A.F. who would welcome flying training."

A search for L.A.W. Mary Honeyman brought me to a hangar where she had just finished doping a patch over a small tear in the elevator of a Beechcraft. An Aircraft Refinisher Technician, Mary is the only airwoman in that trade now at St. Hubert. She was a C.W.A.C. during the war.

My visit to the hangar attracted several other airwomen, curious to hear what we were talking about — L.A.W.s Elizabeth Taschuk, Claire Cadieux, and Mildred Nelson.

"In my opinion," said L.A.W. Honeyman, "the idea of the R.C.A.F. training women pilots would be an excellent one. I'm sure it would be well worth the time and money invested. There are a considerable number of girls who plan to make the Air Force their career. Some of these are in technical trades and already have an extensive knowledge of the different types of aircraft. That certainly would prove to be an advantage in pilot training."

Warrant Officer Sidney Harding firmly believes that a women's place is in the home and "certainly not in the cockpit." Generally speaking, he thinks, jet-propelled aircraft are beyond a woman's scope. "And in any case," he further remarked, "the average woman could not become a successful flier."

What do YOU think?

SOMETHING NEW

A very fine idea comes from L.A.W. T. I. Fraser, of R.C.A.F. Station Saskatoon, and we hope that all our W.D.s will help to put it into effect. It ought to prove of great interest to everyone.

We print her letter below:

"I have been reading 'Feminine Gen' for quite some time now and I enjoy it very much. I have thought of an idea which I hope that you will use.

"A lot of gals at other stations will probably find themselves in a situation similar to my own. I have lost contact with many of the girls whom I knew during basic training and I often wonder where they are. Wouldn't it be possible to do something about it? Here's *my* thought.

"One girl from each station could make up a list of all the girls at that unit and perhaps take a group picture of them. Then, in each issue, you could print the names and pictures of all the girls at one station, saying what their jobs are in the Service. Perhaps some of them may even want pen-pals from other stations. I know that this would greatly increase the length of "Feminine Gen"—but there actually aren't *that* many girls at most stations, and I'm sure that such a feature would be well appreciated.

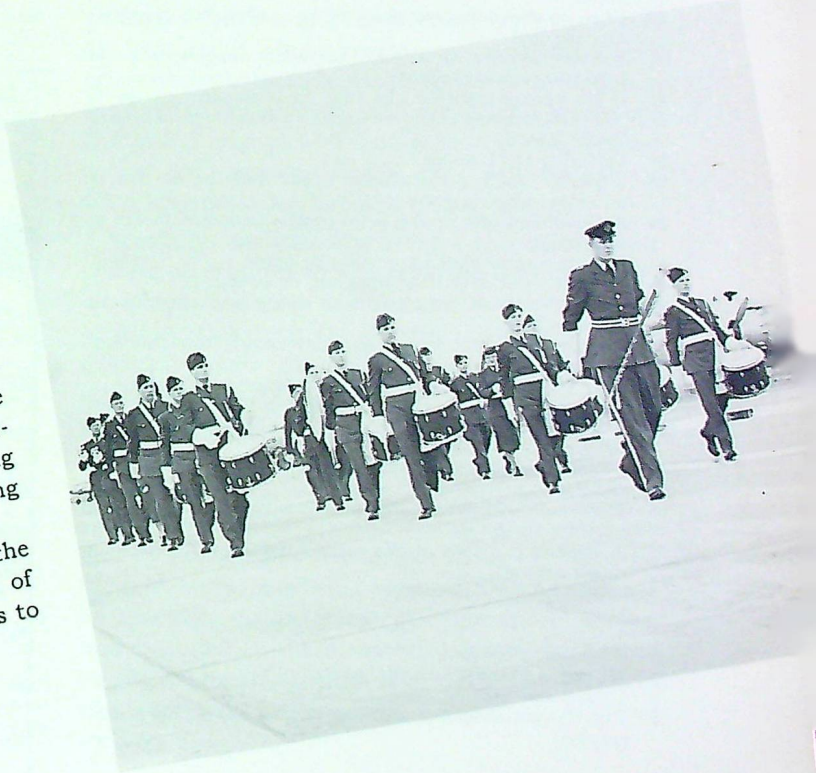
"For instance, we only have twenty-two girls at our unit. Most of us have been in the Service for almost two years — a number of us for three. Some of us have been on many other stations, while others have been nowhere but here. (Please excuse the typing errors, I am a supply tech, not a typist!)

"Please let me know if you are in favour of this idea. I will be glad to send you a list of all the girls here at Saskatoon, plus a picture and a list of their respective positions, hobbies, etc. That would start the ball rolling, and I am sure that other stations would soon follow suit."

STATION SASKATOON'S BAND

The Band of R.C.A.F. Station Saskatoon recently won first prize for precision drill at the Moose Jaw Kinsmen International Band Competition. It also won third prize in the marching competition against 24 other bands, including four from the United States.

The Band won high praise from both the Minister of National Defence and the Chief of the Air Staff on the occasion of their last visits to Saskatoon.



Crossword Puzzle ★ ★ ★

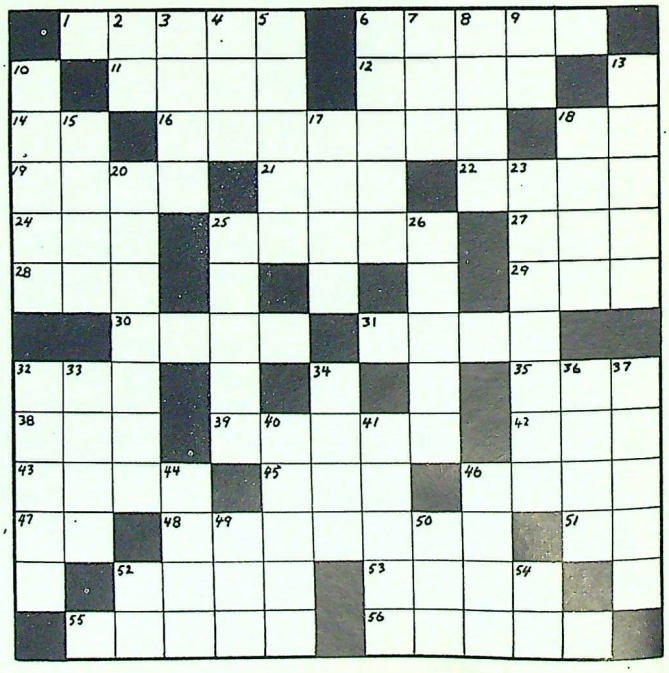
(Here's another of Sgt. G. J. Langill's crossword puzzles. "It will", he assures us, "be a piece of cake for any averagely-informed Service reader equipped with a 'Concise Oxford Dictionary'." Solution appears on page 48.— EDITOR.)

ACROSS

1. An English shire, diminutively airborne wherever our M.R. squadrons fly.
6. An entomologist might class these power-plants with the hymenoptera.
11. A "fall-guy" used by St. Matthew as a symbol for a bad type.
12. Many people now wish the Greeks had been right in caling it "indivisible".
14. "The Roundel's" printers use it to measure the amount of type in a line.
16. An aircraft whose prime function must surely be to exact retribution.
18. Via R.C.A.F. aircraft.
19. Applies both to the Aga Khan and to a Harvard's fuel-air mixture on take-off.
21. He fought for the South although he had freed his slaves before the outbreak of the American Civil War.
22. Pronoun, adverb, or conjunction.
24. The Embarkation Officer and the Movements Officer are still often referred to by these initials.
25. A very organizing kind of staff officer found in Commands.
27. You need only the smallest article in the dictionary to find comfort in this direction.
28. We all have one for something — but it's commonest in Japan.
29. Without any wine, our share looks as though it's electrically charged.
30. Remove half his force, and the person opposite you can help you to travel abroad.
31. If his bereavement be like this, an Irishman may do it.
32. The U.S.A.'s equivalent of Canada's Wartime Prices and Trade Board.
35. Offspring of 11 across.
38. Term by which a Frenchman might describe the size of an extra large cigarette.
39. A Command officer who helps people to communicate at a distance.
42. She ate a somewhat encyclopaedic apple.
43. One can do it with love, a match, or a rope.
45. C.A.P. 90 won't help you here unless you start on an equal footing.
46. A really bad actor seldom gets one except from thunder.
47. Neither male nor female.
48. A very small but very well known American aircraft.
51. Something that the heroine of a current film could not say.
52. A gun which, when reversed, is usually associated with fishermen.
53. Policies governing airmen's postings and careers are developed here.
55. Cat's-paw without which no aero-engine technician can perform his duties.
56. A backward glance at the ocean's depths will provide a quick answer.

DOWN

2. "Tail-end Charlie".
3. He made a landfall on Mt. Ararat.
4. Ceiling and visibility unspecified.
5. There's one thousand between this officer and a stenographer.
6. The wireless air gunner goes on to lay a bet.
7. We must start at the bottom to find the estimated time of arrival.
8. Kind but not kindly.
9. An important minister of the Crown, no longer among the living.
10. A pilot whose name might well be Charon.
13. Many times.
15. If the cheese starts to walk, this is probably a tiny bit of its power-plant.
17. One of several gases without active chemical properties.
18. There's a Command staff officer here — if you don't take our "say-so" too literally.
20. To convey by air is obviously its task.
23. Famous German aircraft of the Second World War.
25. A Command staff officer who sounds like a rather dry chap.
26. His Director has written a letter in this issue of "The Roundel."
32. A circling aircraft describes one.
33. A sullen-looking fish.
34. A Command officer versed in pedagogy.
36. John in Russia.
37. Distribution centre for R.C.A.F. materiel.
40. A lake that might well be mistaken for a sea-bird.
41. A finance company does it daily.
44. Turkey and Greece are the newest members.
46. A slight modification will give the Central Experimental and Proving Establishment protection from the weather.
49. Speak of this fish to a Cockney and he may think you mean a bad type.
50. Publication peculiar to the R.C.A.F.
52. Thus, we find a staff officer as well.
54. A branch of the R.C.A.F. which, oddly enough, has nothing to do with the Archbishop of Canterbury.



Customer Consciousness in the R.C.A.F.

By Wing Commander W. A. Gamble, M.B.E.

(In this very short article, written recently while its author was on course at R.C.A.F. Staff College, Wing Commander Gamble makes a few provocative remarks on the subject of courtesy within the Service. Wing Commander Gamble, an Accounts Officer of considerable experience, asks us to stress the fact that his words are directed at no particular trades, branches, or ranks, but that they may apply — or may not apply, as the case may be — wherever Air Force men and women transact the business of their Service. — EDITOR.)

ONE GREAT NEED on most R.C.A.F. units is for customer consciousness on the part of those who staff the many sections which provide personal services, in any form, to other personnel on the station. In particular, this need is apparent in the services provided by many clothing sections, pay offices, canteens, medical inspection rooms, message centres, and orderly rooms.

The staffs of these sections may be efficient, but if their services to other officers, airmen, and civilians, is given with indifference or with a lack of courtesy, the efficiency and morale of the remainder of the station suffers. How often one encounters complete customer indifference on approaching this or that section with an inquiry or a need! And when one is served, how frequently the service is given without any spirit!

Behind this attitude there is usually found a failure by the individual to appreciate why he is in the Service. There is a tendency for each member of a section to consider himself as complete in his own small kingdom, quite independent of the rest of the Air Force. Each man, behind his own counter, tends to forget that he is there for one purpose only — to provide a service to his fellow officers and airmen and civilians, and to provide that service with efficiency and courtesy.

To criticize without making constructive suggestions is of little value. What can be done to improve customer service in the R.C.A.F.? How can the officers, airmen, and civilians who provide the services be brought to a sense of their responsibility in the matter?

As a first step, the initial trade courses for clerks, supply technicians, medical assistants, clerks-accounting, and for all other tradesmen who are involved in giving personal services, might well be expanded to include comprehensive instruction in courtesy to the Service customer. In this regard the R.C.A.F. might well examine the eight-week course in courtesy which the Bell Telephone Company provides for each new employee.

Secondly, commanding officers and other senior officers on stations should take the lead in ceasing to accept customer indifference as an inevitable attitude. Courtesy should be rated as high as efficiency, and on-the-job training should be introduced to bring sections up to acceptable standards.

Finally, the periodic merit reports on Service personnel, made on forms R211 and R211A, should provide a specific place for rating the quality of the customer service being provided by the member who is being assessed. In addition, the present conception of the "co-operation" factor, now included in these assessment reports, should be given a meaning which relates the individual to the whole Air Force and not merely to his own section.

SIR FRANK WHITTLE

A Bigographical Sketch

When Frank Whittle left school at the age of 16 to join the Royal Air Force as an apprentice, he did so fired by a dream of giving something new to aviation. Today, 31 years later, crowned with many honours, his place in aviation history is assured for all time as the world's foremost pioneer in the development of the jet engine.

Curiously enough, the Royal Air Force, which early recognized his exceptional ability and gave him the best training in engineering which Britain could provide, almost missed getting him. His first efforts to join the Service failed, for at 15, barely five feet tall, he did not reach the physical standards required. There was, however, something very special about the character of young Whittle, and for six months he went through a rigid routine of exercising and special dieting until, as he himself has written, his chest had expanded three inches and he was "three inches nearer the stars".

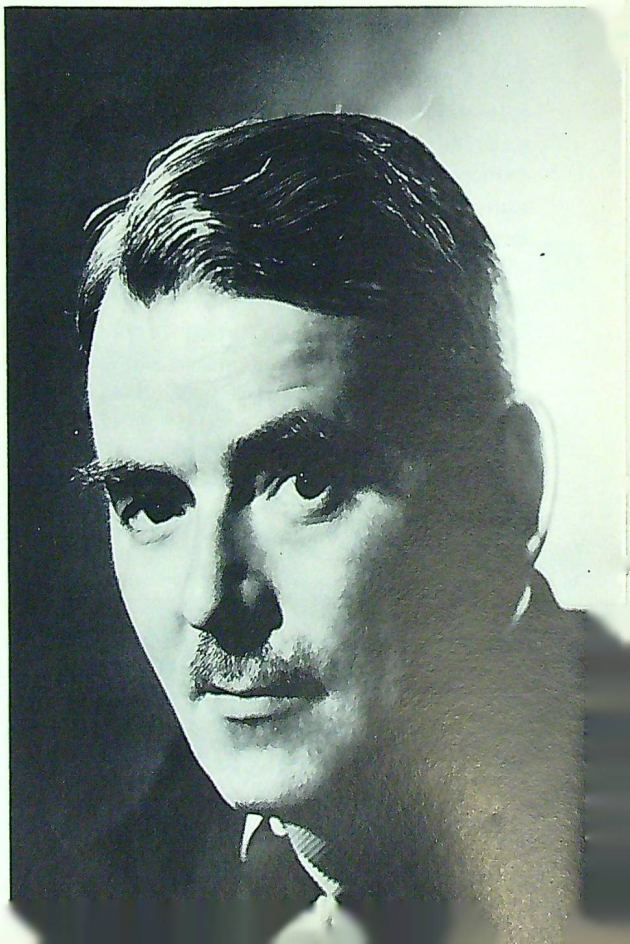
Once more he tried to join the Royal Air Force; once more he was rejected; but, continuing with his regimen, he applied again and was accepted as a "boy" apprentice.

His genius took concrete form from the start, for during his apprenticeship he made a number of remarkable model aircraft. From 1926 to 1928, Frank Whittle was a flight cadet at the R.A.F. College, Cranwell, and before leaving at the age of 21 to become a Pilot Officer, he had won the coveted Abdy-Gerrard Fellowes Memorial Prize for aeronautical sciences.

A spell as a flying instructor (during which he once gave a hair-raising exhibition of crazy flying at the R.A.F.'s Hendon air display) was followed by service as a test pilot of seaplanes, which gave him a further opportunity of experimental flying. He specialized in catapult-launching of aircraft. Since that time, his career has been devoted to designing.

From the engineering course which he took in 1932-1933 he went to Cambridge University, where in 1936 he obtained a first-class honours degree in Mechanical Science, which was followed by a year of post-graduate work.

His work on jet propulsion engines had begun in 1933. Although he had taken out the master patent three years earlier, he had been unable to get official support for the development of his engine, being told that the "practical difficulties are too great". Two ex-R.A.F. officer friends of his,



however, approached a firm of investment bankers who provided capital, and the firm Power Jets Ltd. was formed. Britain's Air Council became alert and the Air Ministry was among the founder-shareholders of the firm.

In 1937, Frank Whittle, in a small workshop, succeeded in running his engine successfully, and two years later the Air Ministry placed its first order for engines with Power Jets Ltd., to whom Whittle had been lent to pursue his work.

The first successful flight of a jet-powered aircraft took place in 1941 at approximately 50 miles an hour faster than the fastest R.A.F. fighter of the time. The strange new propellerless 'plane had been built to Whittle's design by the Gloster Aircraft Company. In 1944, Whittle, then an Air Commodore, saw his first operational jet fighter go into action against Hitler's flying bombs, catching and shooting down more than any other fighter had previously succeeded in doing.

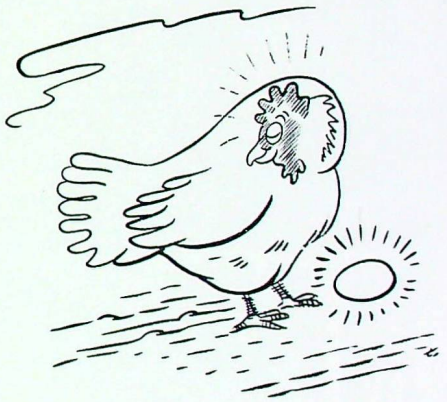
Honours began to descend upon Whittle, decorations from his Sovereign and gold medals from learned societies. In 1948 an award of £100,000 signified his country's gratitude. He was knighted in the same year, and since then he has been further honoured by Cambridge, Oxford, and other universities. From 1948, when he retired from the R.A.F., until 1952, Sir Frank Whittle was honorary technical adviser on jets to the British Overseas Airways Corporation. In January this year it was announced that he had accepted an appointment with one of the principal operating companies of the Royal Dutch Shell Group, to advise on mechanical engineering in the development of technique and equipment in the petroleum and chemicals-from-petroleum industries.

ODE TO THE MESS

Though they heat them to a temperature
Of every known degree,
And sprinkle them with vitamins
Of types A, B and C,
Or beat them light and fluffy
In a flower-coloured dish,
Or make them inconspicuous
Beneath a slice of fish;

Though they sprinkle them with bread crumbs
Or turn them upside down,
Though they boil them or they fry them
Until they're golden brown,
Or serve them in a custard
(Giving it some foreign name) —
They can call them what they want to,
But the taste is still the same.

If they tuned them to a frequency
Of thirty thousand megs,
Still they can't disguise them —
I despise them:
Eggs is eggs.



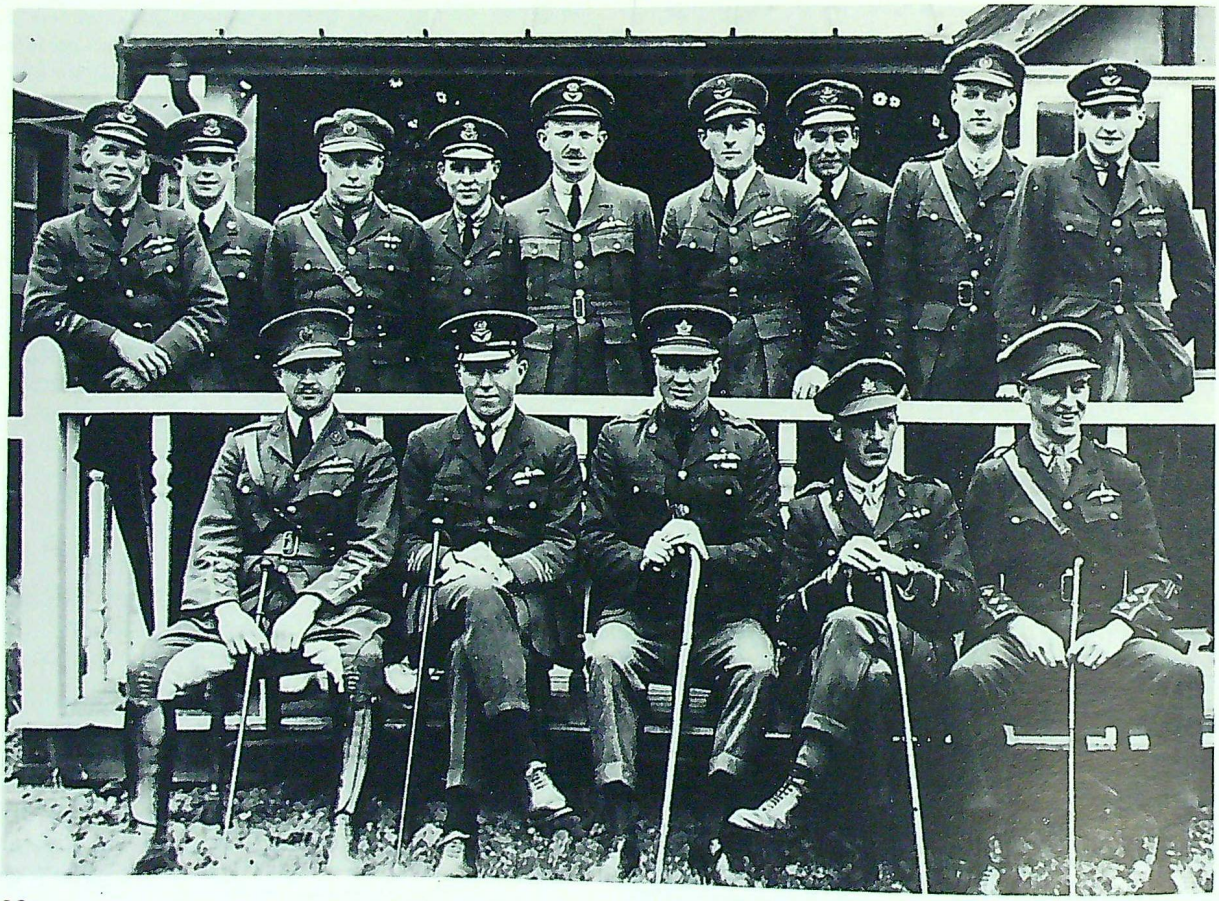
(Iva M. Brown in "The Clinton Mercury": R.C.A.F.)

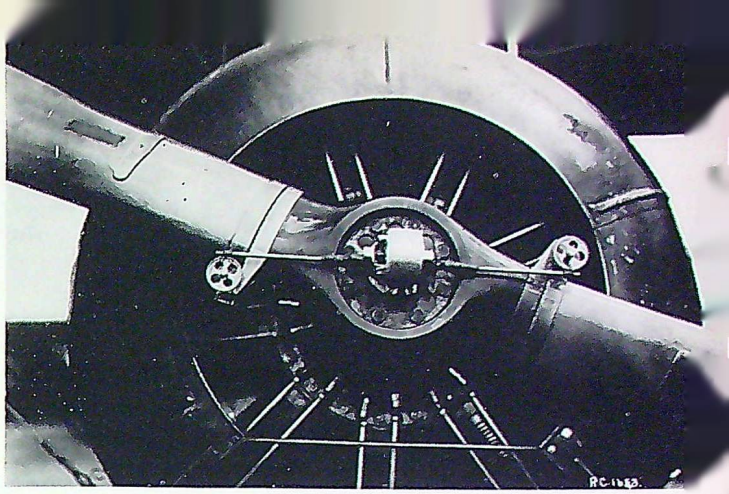
Pin-Points in the Past

One of our photographs this month shows some of the officers of No. 1 (Fighter) Squadron of the Canadian Air Force; the other, what is believed to be the first electric variable pitch propellor. For the former photograph we are indebted to W.O.1 E. E. Crisp, and for the latter to Sqn. Ldr. L. A. Harling.

No. 1 Squadron of the C.A.F. (No. 81 Squadron, R.A.F.) was formed at Upper Heyford, England, in November 1918. The photograph was taken at Shoreham shortly after the squadron's formation, when it was equipped with S.E.5A fighters. The officers standing are (l. to r.): Lt. W. L. Rutledge, A.F.C., M.M.; Lt. P. F. Townley; Lt. G. R. Howsam, M.C. (Air Vice-Marshal, C.B., retired); unidentified; Lt. F. V. Heakes (Air Vice-Marshal, C.B., retired); Lt. C. M. McEwen, M.C., D.F.C. (Air Vice-Marshal, C.B., retired); Lt. H. A. Marshall; Lt. J. Whitford; unidentified. Seated are (l. to r.): Capt. D. R. MacLaren, D.S.O., M.C., D.F.C.; Capt. G. O. Johnson, M.C. (Air Marshal, C.B., retired); Major A. E. McKeever, D.S.O., M.C. (C.O. of Squadron, killed in car accident in 1919); Lt. J. F. Verner; Capt. C. F. Falkenberg, D.F.C.

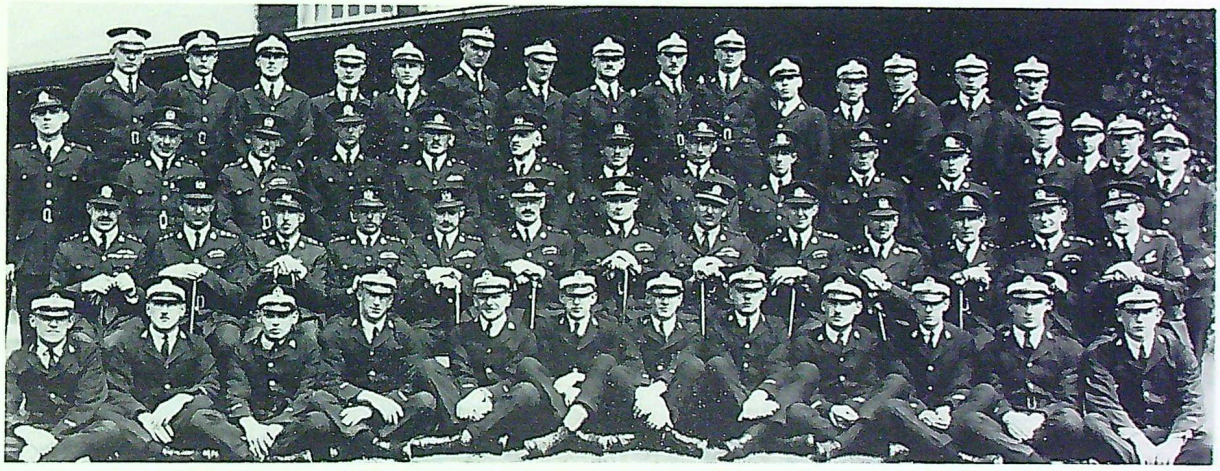
The foregoing names include those of six of Canada's best-known fighter-pilots of the First World War. Capt. MacLaren, a top-ranking





R.A.F. pilot, was credited with 48 aircraft and 6 balloons; Major McKeever (a two-seater pilot) shot down 30 aircraft while his observer brought down 11 more; Lt. McEwen destroyed at least 20 enemy aircraft while flying on the Italian front; Capt. Falkenberg was credited with 14 aircraft and 1 balloon; and Capt. Johnson and Lt. Howsam each accounted for about 12 aircraft. Lt. Howsam, Lt. Heakes, Lt. McEwen, and Capt. Johnson remained in the Service and held key positions in the R.C.A.F. throughout the Second World War.

The variable pitch propeller, invented by Mr. W. R. Turnbull, of Rothesay, N.B., was originally built by him in 1926. Destroyed by fire, it was rebuilt at Camp Borden in 1927, when our photograph was taken. It is shown fitted to a Clerget engine in an Avro 504K airframe. It is believed to be the predecessor of all present-day electrically-operated variable pitch propellers. The present National President of the R.C.A.F. Association, Air Vice-Marshal G. E. Brookes, C.B., O.B.E. (retired), carried out the propeller's first flight-tests. The propeller itself is now in the possession of the National Research Council, in Ottawa.



From Air Vice-Marshal R. E. McBurney, C.B.E., who retired from the R.C.A.F. in 1952, we have received a letter correcting several errors and omissions in "Pin-Points" for our June issue.

In the front row of the group shown on page 16, the fourth officer from the left is P.P.O. Steven Castle, and the eighth is Jack Griffiths (not Weldon Brown, who was on a later course). The unidentified officer between Weaver and McDonald is T. (Warhorse) McLaren. In the back row, the officer listed as E. R. Suttie is, in reality, Trevor Kerr; the "unidentified" between Evans and Day is Alfred Larue; and between Day and McLaughlin (whose name, by the way, was McLaggan) is Bruce Collier. The last "unidentified" is Wally Dean," the only P.P.O. on the course who could not keep step in spite of Sgt. Maj. Dyte's best efforts."

"The photograph", the Air Vice-Marshal goes on to say, "was taken not in October, but late in August 1924. By October, all the P.P.O.s were back at university or R.M.C., soaking their heads in engineering. R. M. Carr-Harris, C. M. Anderson, W. C. Weaver, and Stevenson were killed in flying accidents during the next three years. Six of the P.P.O.s shown in the photograph (Slemon, Weaver, Anderson, Glynn, E. J. Durnin, and H. Durnin) were all university undergraduates from the first course, which entered in 1923. Only three (Slemon, Anderson, and Weaver) joined the R.C.A.F. Thus, Air Marshal Slemon has been the only member of the first P.P.O.s' course in the R.C.A.F. for more than a quarter of a century. The other P.P.O.s in the picture (together with F. A. Sampson, who is missing from the group) entered in the second course, in 1924. Six of them (Irvine, Johnson, myself, Sampson, Van Vliet, and Moar) joined the R.C.A.F. The only one of them still in the Service is Group Capt. Sampson."

The Suggestion Box ★ ★ ★

The Chief of the Air Staff has written letters of thanks to the undermentioned N.C.O.s for original suggestions that have been officially adopted by the R.C.A.F.

Cpl. A. F. Herriot, of R.C.A.F. Station Winnipeg, originated a device for use in the dipping of .50-calibre ammunition for air-to-air exercises. It will ensure easy handling and even colouring, and will prevent stoppages due to jamming of feedways by the irregular deposit of wax.

Flt. Sgt. H. L. Williams, of R.C.A.F. Station Chatham, suggested a modification to the fuel quantity indicator system on Sabre aircraft which eliminates fluctuating indicator readings caused by dirt on the wiper arm tail contacts.

Sgt. N. E. Tustin, of Central Experimental and Proving Detachment, Uplands, suggested a modification to the Greer Hydraulic Test Stand which completely dissipates air and heat from the stands.

Sgt. C. A. Baker, of No. 2 (Maritime) Operational Training Unit, modified a gun-sight to serve as drift sight for use in Maritime Reconnaissance Lancaster aircraft when removal of tail turrets makes it impossible to take drifts at night. He also designed the installation for this equipment.

Sgt. W. Stan, of No. 441 (F.) Squadron, devised a new and more efficient method of installing shroud rings on the J47 engine.

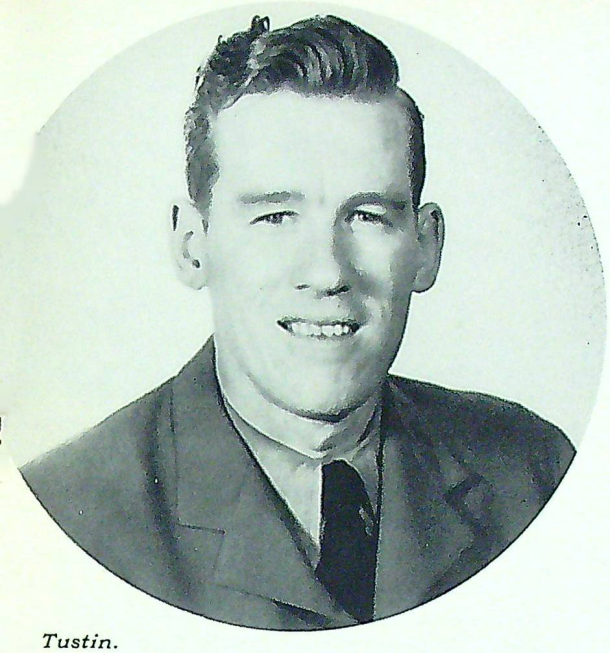
Cpl. P. K. Melligan, of R.C.A.F. Recruiting Unit, Summerside, suggested a new and more economical method of mailing receipted Transit and Receipt Forms (GII).

Sgt.

Cpl. A. F. Herriot.

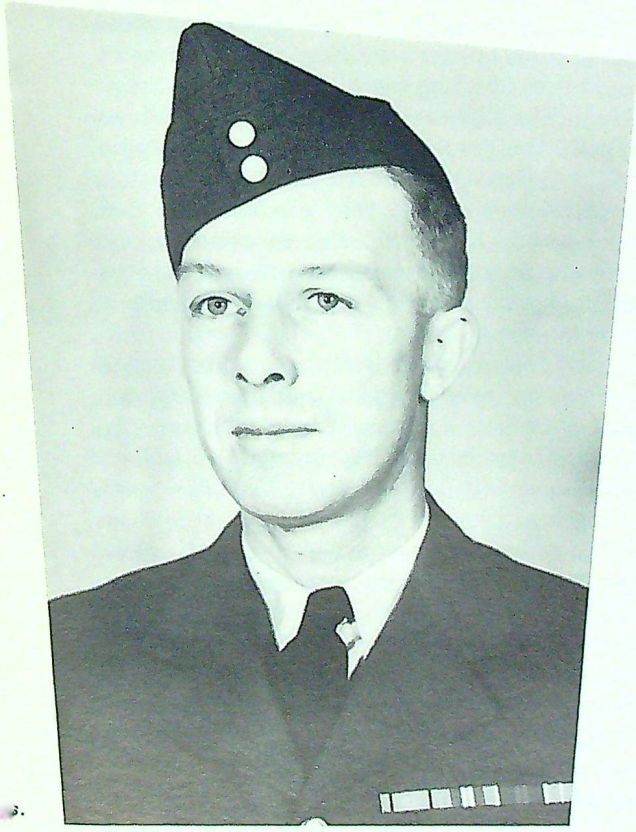
Sgt. W. Stan.

Flt. Sgt. H. L. Wili

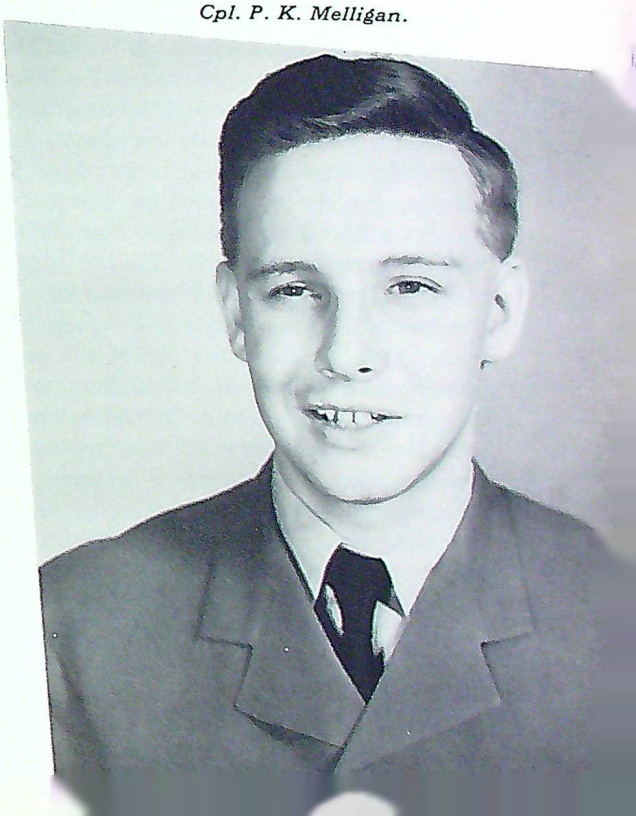


Tustin.

Sgt. C. A. Baker.



Cpl. P. K. Melligan.



FLIGHT THROUGH THE YEARS

Two Review Articles by Wing Commander F. H. Hitchins, Air Historian.

On 17 December 1953 the aviation world celebrated the Golden Anniversary of Powered Flight and hailed the amazing progress that has been made in the brief half-century since the Wright "Flyer" skimmed over the sands of Kitty Hawk. To many laymen who were interested in those anniversary ceremonies Mr. Gibbs-Smith's "History of Flying"* may cause some surprise. His story does not begin on 17 December 1903; three-quarters of the fact-filled volume are concerned with the history of flying prior to that date. The Wright brothers stand at the beginning of one great era of human history; but they also mark the end of another prolonged age of preparatory work. Their achievement was to bring "to fruition a long and complex process of development", and to the story of that preliminary period Mr. Gibbs-Smith devotes the major part of his book, with a supplementary "postscript" to summarize the outstanding events of the last four decades.

Probing into the mists of myth, legend, and religion, for the origins of his story, the author surveys a broad span of more than 4000 years — "from Icarus to the threshold of the interplanetary rocket." Technical developments are explained briefly and lucidly, but the emphasis throughout is on "the very human story of the aeronautical pioneers themselves" and "the historical trivia of the air . . . the romantic fantasies, the eccentric inventions, the reckless adventures and the senseless tragedies" which have become a part of aeronautical lore. The company of pioneers who pass through the pages form a motley and polyglot crew of kings, humble workmen, scientists, dreamers, priests, writers, rich men, poor men, and "crackpots from the lunatic fringe."

In early myths, legends, and religious lore, there are many stories of human flight or levitation by means of winged creatures, flying carpets, magic apparel, or man-made devices. The earliest of these stories comes from China where, in the 23rd century before Christ, Emperor Shun, the "first recorded aviator", not only built a flying apparatus of some kind but also, so we are told, made the earliest reported parachute descent when he clung to two large reed hats to jump from a blazing tower in which his wicked father had confined him. The Chinese also originated kites (about 1000 B.C.) and probably used man-lifting types for military reconnaissance; they instituted a pigeon mail service, and they produced the first rocket aircraft, a pair of kites propelled by 47 rockets, on which the inventor, Wan-Hoo, "departed to his ancestors to the accompaniment of much noise and smoke."

In the Western world early myth and legend give us the stories of Daedalus and Icarus, Bladud (a king of Britain who was killed while trying to fly), and Archytas of Tarentum who is said to have made an artificial pigeon which flew on a revolving arm propelled by a jet of steam. From the Middle Ages there are many tales of experimenters who jumped from towers using parachutes and gliders (and invariably ended by breaking their necks or limbs), and scientists, like Roger Bacon and Albertus Magnus, who speculated on the possibility of human flight (and remained safely on the ground).

With Leonardo da Vinci (1452-1519) there appeared the "first scientific worker in the field of

*C. H. Gibbs-Smith: "A History of Flying"; B. T. Batsford, Ltd., London, Eng.; 1953. Pp 304; illustrations; index. 21/-.

aeronautics." From his versatile, prolific, and brilliant brain, came practical designs for the parachute and helicopter; but it was the ornithopter (flapping flight) that "obsessed" him and led him astray from real flight. Unfortunately, too, his pioneer work was unknown to his contemporaries and successors for 300 years, and as a result he had no direct influence upon the development of aeronautics until the last century and a half when, following the long-deferred publication of his scientific works, he has inspired many labourers in the field. Da Vinci was not the only one to be fascinated and misled by flapping flight, and even today there are some "inventors" who refuse to heed the "irrefutable logic" that man can not fly like the birds by his own strength alone simply because human muscles are inadequate.

A new branch of aeronautical science was opened late in the 17th century by a Jesuit priest, Father Francesco de Lana, who made the "first scientific attempt at a lighter-than-air aircraft". His design for an aerial ship that was to be lifted by four large copper vacuum spheres constituted "a major milestone in aeronautical history." De Lana also prophesied the military possibilities of his craft to invade lands and to bomb ships, forts, and cities, but he added the pious, though ill-founded, hope that "God would surely never allow such a machine to be successful, since it would cause much disturbance among the civil and political governments of mankind." Another Jesuit, Father Laurenço de Gusamo, carried aerostation a step further and became "the first pioneer of practical aeronautics in Europe" by making a small hot-air balloon which he demonstrated before the king of Portugal in 1709. The priest also designed a primitive dirigible airship, a man-operated ornithopter, and a model glider.

Although the two Jesuits had no immediate successors in their pioneer work in aerostation, before the end of the 18th century balloon flight became a reality through the independent investigations of the Montgolfier brothers, paper-makers at Annonay in France. The two inventors did not know what made their hot-air balloons rise — they thought it was some new, unknown gas — but the scientist J. A. C. Charles immediately converted their balloon into the modern gasbag by substituting hydrogen for hot air and using rubberized silk in lieu of the Montgolfiers' combination of linen and paper for the fabric. After the first "passenger" ascensions had been made by a cock, a duck, and a sheep, in a Montgolfière, Dr. Pilâtre de Rozier won immortality by making the first human ascension in a captive hot-air balloon on 15 October 1783. The adventurous doctor also made the first free voyage through the air, in company with the Marquis d'Arlandes, covering 5½ miles in 25 minutes, and eighteen months later he became the first aerial fatality in a foolhardy attempt to combine a hot-air balloon with a hydrogen bag. The Montgolfière, or hot-air balloon, with its limited range, soon became a rarity, except for occasional appearances at country fairs, but the hydrogen balloon dominated the aeronautical scene for many years. Professional aeronauts appeared; J. P. Blanchard, the first and one of the greatest, was the first to coss the Channel by air, from Dover to Calais, in 1785. With the aeronauts came the parachutists, led by A. J. Garnerin who in 1797 inaugurated the sport of parachute-jumping from balloons after a man named Lenormand fourteen years earlier had made the first authentic parachute jump in Europe from the top of a tree.

For a time Europe was swept by "balloonomania"— even the fashions were affected by it — but the problem of dirigibility of the gasbags was not solved, despite ingenious proposals to use oars, paddles, flappers, propellers, or even harnessed birds, until Giffard produced his successful steam-driven airship in 1852. To the history of aerostation belong the first air reconnaissance (1794), the first air bombing (at Venice, 1849), the first air photography (at Paris, 1858, and Boston, 1860), and the first air transport service, with which was linked a carrier-pigeon microfilm service (at Paris, September 1870-January 1871). At the close of the 19th century, when the experimenters in aviation were about to become airborne, the lighter-than-air field was given a fillip through the work of Alberto Santos-Dumont in France and Count Zeppelin in Germany. Although aerostation eventually receded into the background, the balloonists and

dirigibilists helped to make the 19th century world air-minded, gained knowledge of "the air and its ways", and so contributed to setting the stage for winged flight.

Progress in the heavier-than-air field was less spectacular in the 18th and 19th centuries and was attended by much ridicule from those "who knew better". There was, however, great interest in the subject, extending even into the pages of fiction and satire, and one story of 1775 deserves mention for its modernity. It tells of a "flying saucer", driven by electric power, which a scientist on Mercury constructed for interplanetary voyages. Like its modern counterpart, this 18th century "saucer" was accompanied by a luminous glow.

In the realm of fact rather than fancy, two Frenchmen, Launay and Bienvenu, demonstrated in 1784 a model helicopter driven by twisted cord, which is the first "modern" aircraft of this type. Sixty years later an Englishman, W. H. Phillips, foreshadowed another "modern" invention when he built and flew a model helicopter which was driven by steam led up from a boiler through the rotor shaft and thence to holes in the tips of the blades — somewhat like the ramjets on helicopter blades of present-day experiments.

The first half of the 19th century was dominated by three English researchers who put aviation "on a sound basis of science and technology." Sir George Cayley, "the father of modern aviation", was a man with a vision of the future in the air. In addition to theoretical studies in aerodynamics, on the principles of lift, thrust, drag, angle of incidence, camber, dihedral angle, streamlining, etc., he designed model gliders that flew, and later in life he carried out trials with full-size gliders. Mr. Gibbs-Smith calls Cayley "the true inventor of the aeroplane" since "his work definitely formed the inception of the modern aeroplane", and, through his writings, Cayley's influence was felt throughout the century.

Among those who continued the traditions and ideas of Cayley were W. S. Henson and John Stringfellow, two lace manufacturers from Chard, Somerset, who designed and patented a steam-driven aircraft that was "a work of true genius." But public ridicule killed the company that the two partners proposed to form to finance their project for air transport, and Henson, quite discouraged, withdrew from the work. Stringfellow carried on, and in 1848 produced a model craft of ten-foot span, driven by a small steam engine, that made flights of up to 120 feet. Oddly, this first successful powered model aeroplane attracted little interest or publicity at the time.

The next forty years are rich with the names of men who made their contributions or suggestions, men such as F. H. Wenham who built the first wind tunnel (1871), Butler and Edwards who designed a delta-winged jet aircraft (1867), and M. P. W. Boulton who patented an aileron system for lateral control (1868). One of the most noteworthy was Alphonse Pénaud of France, who among many contributions to aviation and aerostation, did valuable work with elastic-driven model aeroplanes that had tailplanes to give automatic longitudinal stability, and designed a full-scale aeroplane which was to be controlled by a "joystick" and fitted with a retractable undercarriage. Had he been able to get a light-weight engine, Pénaud might have been the first man to fly, but, like Henson and Stringfellow, he met only ridicule for his ideas.

The last decade of the 19th century was dominated by the German, Otto Lilienthal, who made a careful study of the flight of birds and applied the data he gathered to successful experiments in gliding. Through the press and the new medium of photography, Lilienthal's work became widely known and injected "a vital force" into aviation. P. S. Pilcher in England, Captain F. Ferber in France, and Octave Chanute in the United States, were among those who came under the "profound and universal inspiration" of the German airman.

By the close of the 19th century the work of Cayley and his successors had brought the science of aviation to the point where only one barrier remained in the way of successful flight — an efficient light-weight engine, and the key to that barrier was being forged through the inventions of Lenoir, Daimler, and Otto, the last-named of whom produced in 1876 the first practical liquid-fuel internal combustion engine. Pilcher was trying to build a light-weight engine for his gliders when

he was killed in an accident in 1899. In France, Clement Ader had succeeded in lifting himself from the ground in a full-sized powered aeroplane, in 1890 and again in 1897, but his brief, laboured hops could not be called real flights. Across the Atlantic in the United States, S. P. Langley, "the unluckiest aero-inventor of history", flew a steam-powered model aeroplane in 1896 over a ¾-mile course at 30 m.p.h., and in 1901 he successfully flew another petrol-driven model; but Langley's tests with full-scale "aerodromes" ended in failure and ridicule when he seemed to be on the threshold of success. On the other side of the world an Australian, Lawrence Hargrave, invented the box-kite (1893) which greatly influenced aircraft design a few years later, even to the extent of supplying the name by which many of the early machines were commonly known. Hargrave also invented the rotary engine, which was widely used in aircraft in the first decades of this century.

Meanwhile Octave Chanute, impressed by the experiments of Lilienthal and assisted by one of his pupils, A. M. Herring, had taken up gliding in 1891, and he wrote a book which became a "bible" of aeronautics. He in turn directly influenced and encouraged the Wright brothers when in 1899 they began their experiments with gliders. After several years of work to perfect their craft and develop a control system of wing-warping co-ordinated with rudder action, the Wrights manufactured their own gasoline engine and propellers and produced the "Flyer", on which, on 17 December 1903, they achieved for the first time in history the goal towards which so many men had striven—powered, sustained, and controlled flight.

From a detailed account of the work and contribution of the Wrights, in the United States and in Europe, the author goes on to describe the many other pioneers who took to the skies in the decade that preceded the Great War, including the members of the Aerial Experiment Association that was formed at Halifax, N.S., in 1907. (The name of J. A. D. McCurdy has, in Mr. Gibbs-Smith's book, been misspelled "MacCurdy".) With the outbreak of war in 1914, the detailed narrative ends, the major developments of the past forty years being compressed into a brief summary.

The text of Mr. Gibbs-Smith's authoritative and fascinating volume is supplemented by a chronology of major dates in the history of man's efforts to fly, a bibliography of the more important books, indices of names and subjects, and a very interesting collection of more than 160 illustrations showing the milestones of the air — the dreams, the freaks, the failures, as well as the triumphs.

* * *

Readers who would like to recapture something of the atmosphere of early flying —"the joys and thrills as well as the struggles and sorrows of the pioneering days"— will find Mr. Warren Merriam's well-illustrated autobiography* an entertaining supplement to Mr. Gibbs-Smith's history. Writing in nostalgic vein about his experiences as a pilot on the primitive "box-kites" of flight's infancy, Mr. Merriam recreates (as Sir Philip Joubert remarks in his foreword) "the smell of burnt castor oil, polluting the fragrance of a summer dawn as the Gnôme engines were starting up; the anxious eyes on the tree-tops watching for the first sign of a breath of wind that would put a stop to instruction until perhaps the evening calm made possible a resumption of activity; the first circuit with the instructor, the cautious landings and the thrill of the first solo."

The author learned to fly in the school operated by the British and Colonial Aeroplane Company at Brooklands race track, which was the most successful flying school in Britain in the years preceding the Great War. Immediately after passing his tests, on 6 February 1912, to qualify for the 179th pilot's certificate issued by the Royal Aero Club, Merriam became an instructor in the school, retaining that position until the end of July 1914. Despite the handicap of failing eyesight, he was an excellent pilot and a first-class instructor — one of the best of those early days — numbering among his pupils many who later won great fame in civilian aviation. He notes, with justifiable pride, that 29 of the 90 pilots who comprised the first four squadrons that the Royal Flying Corps sent to

*F. Warren Merriam, A.F.C., F.R.Ae.S.: "First Through the Clouds. The Autobiography of a Box-Kite Pioneer". With a Foreword by Air Chief Marshal Sir Philip Joubert, K.C.B., C.M.B., D.S.O. B. T. Batsford, Ltd., London, Eng., 1954. Pp 176; illustrated. 21/-.

France in August 1914, had received their flying training from him at Brooklands. In addition to instructing he also took part in exhibitions, competitions, test, and development, and was regarded as "the Box-Kite King". One of his feats, which provides the title for his book, occurred in the summer of 1912 when, for the first time in the history of powered flight, he ventured to fly blind through a 500-foot layer of clouds to emerge into the "bright blue yonder."

On the outbreak of war in August 1914, Merriam became an instructor for the Royal Naval Air Service, although his eyesight at first barred him from a commission and later caused him to be grounded for some months. At Chingford he trained many Canadian members of the R.N.A.S., including A. R. Brown, J. A. Glen, A. S. Ince, Robert Leckie, R. F. Redpath, and K. F. Saunders.* The Canadians, he writes, "were a fine lot of chaps and took to flying with such gusto that it was a job to hold them back." Thanks to his insistence of quality rather than quantity, the Chingford school "had very few fatal accidents and turned out an unusual number of distinguished war pilots." Flight Lieutenant Merriam also took part in hazardous night patrols against Zeppelin raiders and in other patrols against submarines, bombing one U-boat with good effect and on another occasion surviving a forced landing far out at sea. At the end of the war he received an Air Force Cross in recognition of his services.

In the years between the wars Merriam pioneered in the development of gliding in Britain and also opened a bureau of aeronautical consultants. Then, in 1939, he again donned naval blue to serve on boards selecting applicants for the Fleet Air Arm. His views on aircrew selection, based on over 25 years' practical experience, did not agree with current psychological procedures based upon statistics, and the resultant controversy ended only when authority had the last word by boarding Lt. Cdr. Merriam out of the Service as medically unfit.

Comparing the present with the past, the author feels that much has been lost of the joys and thrills of "real" flying. "Will there ever be anything quite as exhilarating as those open machines, with the wind whistling round and playing weird music on the struts and wires, and the shouted conversations? Quaint, 'stick and string', they might have been, but I cannot help feeling that much of the joy of flying is lost to the modern pilot shut up in the cabin of his aeroplane . . . Most of those who are handling modern machines are not enjoying all that flying has to give them. To get the most out of being in the air or on the sea you must feel yourself to be a part of that element . . . In a early Avro or B.E. with their open cockpits, or even in an old box-kite with no cockpit at all, we were far nearer the birds . . . than a modern pilot is in a Vampire or Sabre . . . We were a part of the air and subject to its whims and caprices, but we could turn and twist in our own length, land sideways, land like falling leaves, land round corners, land close to our own shed, tuck ourselves away in a small field or on a narrow beach and get away again unaided, and all the time we were flying we felt the clear air whistling past us."

Mr. Merriam closes his memoirs of three decades in the service of aviation with a plea for the encouragement of light aircraft and glider clubs. "If we are going to be great in the air, as we must be if we are to survive as a great nation, we must make our people airminded and build up a large reserve of men with air experience. The best and cheapest way of laying the foundation of this rereserve is to develop glider and light aircraft flying . . . ".

*Brown later became famous for shooting down von Richthoven. Ince was the first Canadian to be decorated in the First World War. Leckie was Chief of the Air Staff (R.C.A.F.) from Jan. 1944 to August 1947. Redpath became the second Director of the Canadian Air Force in 1921.

Who digs a pit for his neighbour should dig it his own size. (Turkish Proverb)

U.S. AIR MEDAL AWARDS

Four R.C.A.F. pilots have been awarded the United States Air Medal for their work in combat while flying F-86 Sabres with the U.S. Fifth Air Force during the Korean war. They are: Flt. Lt. R. D. Carew (who flew with the 4th Fighter Interceptor Wing), Sqn. Ldr. J. MacKay, D.F.C. (39th Fighter Wing), Flt. Lt. W. H. F. Bliss (4th Fighter Interceptor Wing), and Sqn. Ldr. W. W. Fox (51st Fighter Interceptor Wing).

Flt. Lt. Carew

Sqn. Ldr. Fox.

Sqn. Ldr. MacKay.

Flt. Lt. Bliss.

"JET AGE" TERMINOLOGY

THE specialized vocabulary of the so-called Jet Age has become almost a language of its own in the past ten years. In Great Britain, home of the first successful jet engine, designers have forged ahead with a range of new types of powerplant all of which have their own technical nomenclature.

Even the word "jet" itself is frequently misused; more often than not what is meant is "gas turbine," which can also be used to drive a propeller. And there are other technical terms, such as single and double-sided impellers, free-turbines and so on. Still more are being coined every year.

For the layman there are about a dozen terms that mark the main features of the jet family tree. These are gas turbine, jet, by-pass, turboprop, centrifugal and axial flow, twin-spool, ducted fan, compound engine, re-heat, ram jet, and rocket. Their main features are as follows:

Gas Turbine: The generic name for the jet and turpoprop engines — gas turbine — is derived from the name of the spinning disc of blades that provides power internally to drive the compressor, and, in turboprop engines, the propeller as well. Turbine engines can have axial or centrifugal flow compressors, or both, be of twin-spool, by-pass or ducted fan design, or a combination of each. The compound engine is partly a gas-turbine. Re-heat can be applied to a jet engine for extra thrust. The ram-jet and rocket motor, though often loosely called jets (which they are in a broad sense) are not gas turbines.

Jet: The word is often used to describe any type of engine which has no propeller. It is a gas turbine engine which obtains its thrust from reaction when a high-speed stream (jet) of gases is produced.

By-Pass: In a by-pass type of jet engine, only a proportion of the incoming air is heated; the remainder by-passes the combustion system and turbine, and rejoins the heated gases in the jet pipe to mix with them and lower their temperature before the whole mixture is ejected at a lower velocity than in the simple jet engine. It is particularly suited for long range sub-sonic transports.

Turboprop: Basically, this is a turbine engine in which the energy of the gases (instead of acting as a jet) is almost entirely used to turn a turbine connected to a conventional propeller.

Centrifugal Flow: Early work in Great Britain on jet and turboprop engines was concentrated successfully on this comparatively simple compressor, in which the incoming air meets a vaned disc which, because it is rotating rapidly, flings the air outwards at high speed. The air is then turned into the combustion chambers.

Axial Flow: Though more complicated to build than the centrifugal type, later and more powerful engines have been designed with axial flow compressors because of the higher compression ratio possible with them. Incoming air is compressed progressively through a series of stages, consisting of rows of small blades mounted radially on a drum. *Note:* Some jet and turboprop engines have a combination of both axial and centrifugal types of compressor.

Twin-Spool: The twin-spool engine was designed to overcome the difficulties of designing an engine with very high compression which was also capable of accelerating quickly from low to high speed. It consists of twin compressors in line, one a low pressure and the other a high pressure unit. They are driven independently.

Ducted Fan: This design aims to give the jet some of the characteristics of the propeller engine, yet at speeds far higher than is practicable with a conventional propeller. Basically it is a fan mounted in a duct and driven by a gas turbine.

Compound engine: The compound engine, of which there are several forms, is designed for very long-distance flights. It is a combination of piston and gas turbine engines connected to drive a propeller. The turbine part of the engine is used to increase the supercharging of the piston engine or it may in addition feed power directly to the propeller.

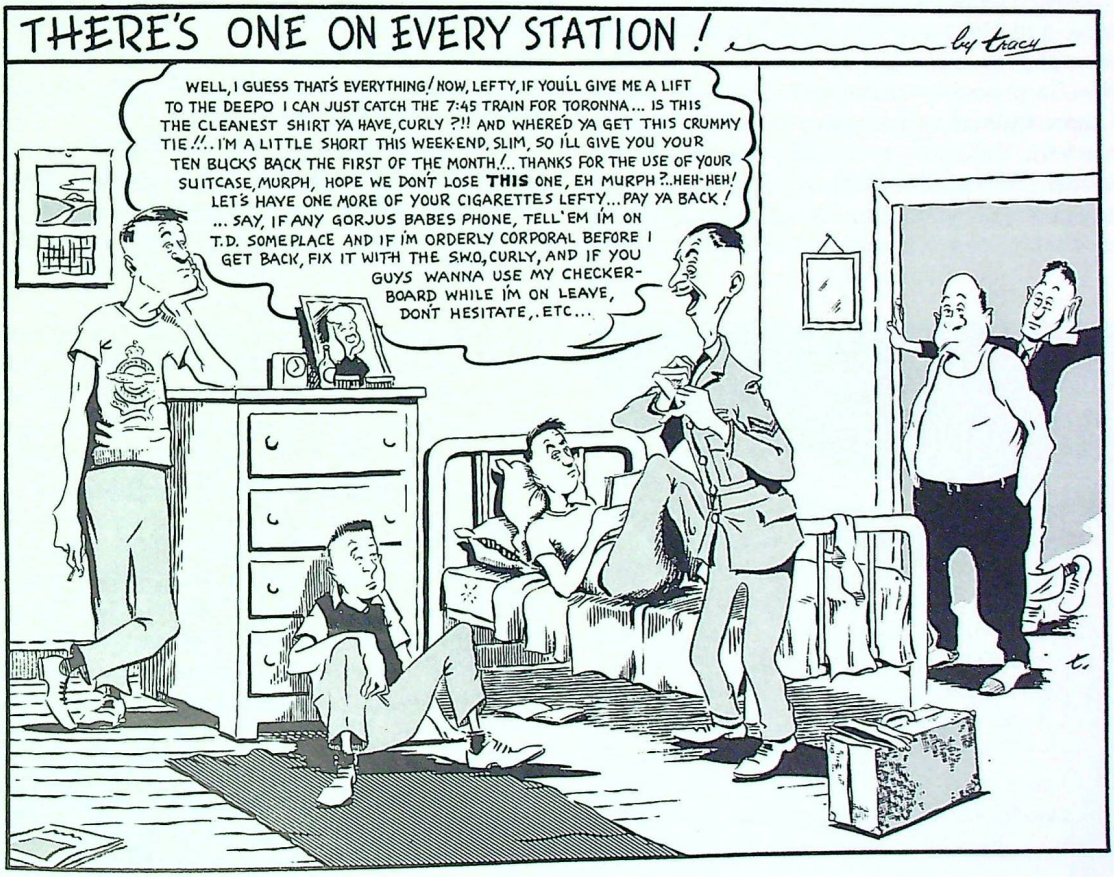
***Re-Heat:** This is an effective way of getting great increases in thrust in a jet engine for short periods during climb or combat. Neat fuel is injected into the hot gases as they travel at high speed towards the exit of the jet pipe, thus giving an extra burst of power. It is expensive in fuel.

*Usually referred to as "afterburning" on this side of the Atlantic.

Ram Jet: The ram jet is a simple "stove-pipe" type of engine (not a gas turbine). It is very expensive on fuel but gives great power at height and high speed. The air-flow produced by forward speed is rammed direct into a combustion chamber, and the hot gases rush out from the rear end as a high-speed jet.

Rocket Motor: The rocket motor (again not a gas turbine) will come into its own for flight very high up above the stratosphere, because it carries all the materials required for combustion inside itself and so can operate beyond the atmosphere. (The turbine and ram jet both rely on oxygen from the air to burn with their fuel.) The thrust comes from the rapidly expanding gases released by combustion.

(*"Joint Services Recognition Journal": U.K.*)



Letter from a Heretic

The letter which is (in part) printed below was shown to us by the officer to whom it was addressed. It was written by his son, a third-year Flight Cadet now on summer employment at an R.C.A.F. unit in one of our larger cities.

"Well, I'm back from the T.D. trip and once again settled down to the regular job. My work I like very much, but the city — well, I'm afraid that you and mother have been lamentably remiss in the matter of my education.

"You have never given me the chance to live in a place like this. I have not been allowed to fill my lungs daily with a health-giving gas compounded of hot air, moisture, and soot. I have not been taught to appreciate the noble symphony of sirens and horns, the growls of engines, the howls of humans, and the screaming of children who need space to play in . . .

"You have not shown me how to enjoy a picnic with thousands of other people in a litter-strewn park where the only animal life consists of an occasional depressed-looking squirrel and some not-too-clean pigeons. Nor have I been made to realize that money is the only worth-while objective in life, and that for its sake any degree of unpleasantness must be endured.

"I did not know until now that all wives must work even though their husbands may be making more than enough to enable them both to lead a happy life — happy, that is, in any terms save those of hysteria. I did not understand that the ideal life is one of rush and turmoil alternating with unintelligent inertia — a life of hurrying home by six-thirty, eating a meal that is never less than fifty-per-cent canned, then watching a television screen until it's cool enough to go to bed.

"Perhaps you have made me a bit of a heretic. Certain it is that I could never feel at home amid the frustration and the fear of the unknown that seem to motivate most of what I've observed of the city's life. Even now, as I'm finishing up this letter, I can hear a nearby clock striking midnight, and through the window I can see the harsh precise glare of the neon lights that still blaze on the unquiet faces of thousands of people whose very pleasures seem as feverish and meaningless as the day's work that preceded them.

"The moon is full, however, and I've just exchanged winks with the old humorist who lives in it. On the whole, I think I'll forgive you . . ."

★ ★ ★

A PARCEL FOR GREECE

In conformity with the N.A.T.O. mutual aid programme, Canada is making 164 Sabre fighters available to Greece and Turkey, together with spare engines and repair equipment. The more powerful Orenda-engined Sabres will replace them in Canadian squadrons. L.A.C. J. A. Levasseur, of No. 30 Air Materiel Base, England, is shown labelling the crates being sent to Greece.

The ROYAL CANADIAN AIR CADETS

By Arthur Macdonald, Air Cadet League of Canada

THE FOURTEENTH YEAR

This month marked the opening of the fourteenth training year in Air Cadet history. There is no doubt that it will be an important year for the Air Cadet movement in Canada, with new squadrons going into operation, cadet enrolments reaching a peace-time high, and policy changes coming into effect which should serve to raise the standard of training at every unit in the country.

One year ago there were 235 Air Cadet squadrons in Canada. Today there are 262 squadrons in operation and several more due to be opened in the next few months. The year of 1954 will therefore see more squadrons in action and more cadets under training than any year since 1944, when the Air Cadet League reached its war-time peak.

Two policy changes, to take effect with the current training year, will be warmly welcomed by the squadron authorities and also by the cadets themselves. The Government has announced that the annual capitation grant paid to all cadet units will be increased from one dollar per cadet to three dollars per cadet. It has also been decided to make shirts and shoes a free issue, so that in future the squadrons will not be required to purchase these items. Complete regulations governing these changes have not been announced at time of writing, but instructions will be sent to all squadrons, through Service channels, in the very near future.

The effect of the new regulations will be to ease the strain on sponsoring committees and to make it possible for them to provide increased amenities or "fringe benefits" to the cadets. Membership in an Air Cadet squadron will therefore be more attractive to young men than ever before, and squadrons should find it much less difficult to maintain cadet enrolments at a very high level.

"WHY I AM AN AIR CADET"

In previous issues of the "The Roundel", we have outlined in this section the advantages of Air Cadet training and why we believe it to be of benefit to young Canadians. Recently, however, we ran across an essay by Cadet Bernard Doughton, of Fort William, Ont., which tells the story in cadet language and should therefore be much more interesting to our readers. The following paragraphs are based upon Sgt. Doughton's essay entitled "Why I Am an Air Cadet."

* * *

Why am I an Air Cadet? Well, there is no short and simple answer to that question.

You see, I'm an Air Cadet for more than one reason. In the first place, I'm an Air Cadet because I think it is very beneficial to my future. As an Air Cadet I receive valuable training in leadership and good citizenship and learn a great deal about aviation. The aviation subjects taught to Air Cadets include airmanship, navigation, and meteorology, as well as aero-engines and other allied subjects. We learn how to drill in the approved Air Force manner, and this is very helpful in teaching us to appreciate the principles of discipline.

With the coming of summer, most Air Cadet squadrons suspend regular training operations,

No. 535 (Leamington) Squadron boasts two bands. The bands were equipped very largely through the generosity of No. 422 Wing of the R.C.A.F. Association, which, together with the Leamington District High School Board, sponsors the squadron.

Cadets of No. 562 (Cabot) Squadron, led by Flt. Lt. M. S. Killen, chat with Sqn. Ldr. Eric Smith, one of four jet pilots who put on a thrilling show at Sydney Airport.

but every cadet is able to look forward to summer camp. We travel by train to a camp operating at a regular Air Force station, and the train ride itself is a real thrill for most of the cadets. We usually have a whole railway car to ourselves and I am sure we eat better than most of the other passengers. When we get to camp we are supplied with cool summer uniforms and bedding. Our meals are the best; we have special cooks and a properly balanced diet; and full medical care is provided. Camp offers an enjoyable holiday as well as a chance to learn more about the business of flying. Every camp boasts a complete assortment of sports equipment which is available for our use during the generous amount of time set aside for organized games.

While at camp, all cadets are taken on familiarization flights in R.C.A.F. 'planes and are permitted to go "up front" with the pilot to see how the instruments and controls function in the air. This information is extremely useful to those of us who hope to win Air Cadet flying scholarships.

Air Cadet flying scholarships are awarded to senior Air Cadets who can pass the elementary written tests and who are physically fit according to R.C.A.F. air-crew standards. Two hundred and fifty cadets each year attend the four-week courses which are held at civilian flying clubs spaced across Canada. The course includes 30 hours' flying and sufficient ground school to enable the cadet to earn a private pilot's license as well as his flying badge.

Many of the cadets are interested in the Senior Leaders Course put on by the R.C.A.F. for seven weeks each summer. The cadets selected have all their expenses paid and also receive a bonus of one hundred dollars at the end of the course.

Academic scholarships granted by the Air Cadet League have provided a wonderful opportunity for many cadets to complete their education. The League has made it possible for graduate Air Cadets to attend the Canadian Services Colleges at R.M.C., Royal Roads, and St. Jean, P.Q. Other lads have been sent to the University of Toronto, where they are studying to become aeronautical engineers.

The luckiest Air Cadet of all is the one who is chosen for one of the exchange-visits trips. This boy may be sent on a tour of the United States, Great Britain, or even continental Europe. Each year 58 cadets are chosen for these overseas visits. The tour is entirely free to the cadets, although such a trip could not be bought by anyone else for less than two thousand dollars. In fact, even the wealthiest tourist could not buy the special privileges which are provided for Air Cadets on these tours.

Two Regina recruits, both of whom have just passed their 14th birthdays, report for their first parade.

The Hon. Ralph O. Campney, who was recently appointed as Minister of National Defence, presents Sgt. Henderson, of No. 135 (Vancouver) Squadron, with the "most efficient cadet" trophy. The new Minister was at one time chairman of the B.C. Committee of the Air Cadet League of Canada, of which he is also a former director.

Sgt. E. Camley, of No. 201 Squadron, receives the McBain Trophy from Air Vice-Marshal E. E. Middleton, C.B.E., after the Toronto cadets had won the team championship at the annual Air Cadet swimming meet in the municipal pool, Hamilton.

All the opportunities I have mentioned are made available at no charge to the cadets, although we must work hard if we are to win one of the special rewards. The Air Force supplies uniforms and training equipment, but no cadet is asked to join the R.C.A.F. after he has completed his term.

In closing, may I say that while Air Cadet training is very close to the Air Force pattern, its primary aim is to develop good Canadian citizens who can accept the responsibilities of citizenship in the future.

R.I.P.

An examiner discovered amongst the papers to be marked, one upon which a crude tombstone had been drawn, accompanied by the words: "Sacred to the memory which always deserts me on occasions like this."

("*The Forces Magazine*": *U.K.*)

Interlude in Bolzano

By A. M. Feast

(This is the fourth article written for us by Mr. Feast, who is a former Flight Lieutenant in the R.C.A.F. and a member of the R.C.A.F. Association. In the letter that accompanied his story, he has this to say about it: "When Italy collapsed on 8 September 1943, our P.O.W. camp at Chieti sat tight, waiting for the Allies to sweep past. The Allies, however, weren't sweeping much of anything at that point. The vacuum was finally filled by scattered units of Germans, as they headed southwards to shore up their thin defenses. Ultimately, the group of German paratroopers under Skorzeny, who liberated Mussolini from the Gran Sasso just north of Chieti, stumbled across our camp and took the works over in great good humour. We were then transported to another camp about 60 kilometres away, in the town of Sulmona, and finally put on board trains for shipment to Germany. We were a mixed bag of British 8th Army officers, American officers and men from the North African campaign, members of the R.A.F., R.C.A.F. and U.S.A.A.F. — and even Greek and Yugo-Slav civilians who had been held at Sulmona. The group who broke out at Bolzano were rounded up almost to a man by the Home Guard, the German guards, and the general soldiery — who were still loyal to Mussolini. Rogers and Chambers, both of them 8th Army types, were killed."— EDITOR.)

BOLZANO is located in the Province of Trentino near the entrance to the Brenner Pass. The town, a study in Tyrolese and Italianate architecture, lies in the shadow of the Rhaetian Alps and astride the railway line linking northern Italy with Austria.

At noon on October 4th, 1943, a freight train consisting of some twenty goods cars approached the town from the south. It slowed down as it crossed the bridge spanning the river Adige and entered the marshalling-yards just as the air raid sirens sounded. The train, which was travelling at about fifteen miles an hour, braked solidly, and the sound of the aircraft motors became audible.

Jerry Chambers, an English lieutenant, gripped me by the arm. "Listen," he said tensely, "isn't that the bloody guards taking off?"

The sound of pounding feet overhead told us that the German guards were leaving their positions on top of the cars. In the ensuing silence the beat of the motors grew louder. A single gun cracked from some location east of the town. It fired again, then was silent.

High overhead we heard a ripping noise accompanied by a sound as of giant carpets being shaken in the sky. The first stick of bombs struck directly behind the train, followed almost immediately by a second. The explosions teetered our car on the rails, and gravel and debris went whining past the car and spattered against its steel sides.

As the echoes of the bomb blasts died away, a second flight of bombers could be heard coming in. Thin pencils of sunlight suddenly streamed in through small holes near the roof of the car after

the second near-miss. I crawled from beneath several shaking bodies, my throat dry, and swallowing convulsively. A queer tremor in my left leg had set in and the blasts made my ears ache. Men were screaming, hammering on the walls and locked door. A dank smell of terror that mingled with the stench of seventy* men unwashed for days.

Two of the 8th Army officers broke their way through the *mêlée* to the far end of the car. One squatted down and began chipping at the floor with a knife. The other stripped off his jacket and shirt. The object of their attention was a ragged hole in the floor, a possible escape hatch that had been begun at Sulmona, immediately after the Germans had entrained us. We had toiled in shifts by the light of a crude candle made by embedding a shoe-lace in a tin of hair-dressing. The three-inch oak planking had been chipped away, sliver by sliver, using a single Italian dinner knife. At Bolzano the hole presented an irregular aperture approximately six inches by eight, still too small for exit. But now — when the next salvo of bombs might mean the end — the knife was flung aside.

The small captain, stripped to the waist, was jammed into the hole by a half-dozen eager helpers. Grimacing with pain, he was gradually forced through the hole. Then the thundering explosions hurled everyone to the floor again as the car rocked to the blasts in the yards. When we looked up the captain was gone, but a moment later the door was rattled vigorously, finally sliding back to reveal his triumphant face. Brilliant sunshine flooded the interior of the car for a brief instant before sixty-nine men all rushed to get out at once. I hit the gravel on both knees amid a welter of bodies, gained my feet, and started to run — without plan or direction, motivated solely by an overwhelming desire to get away before the 'planes came back.

Imploring cries arose from the other cars. Al Hanna, a young R.C.A.F. flying officer, who was pounding along beside me, turned and doubled back towards the train. A half-dozen guards, who had been crouching in a culvert at the edge of the yards, rose to meet us with levelled rifles. A bullet kicked at my feet as we ran towards them, but the puny report was drowned by the flapping gale of more falling bombs. Prisoners and guards alike sprawled on the ground just before they burst, slightly to our left and behind the stalled train. A long wavering cry from the train forced me to look back as I gained my feet. Hanna had reached the nearest car and released the lock on its door. The inmates poured out, then they in turn unlocked the next car, and the next, until within a matter of seconds nearly every car had been opened. A ragged crescent of men, totalling nearly a thousand, came rushing towards the town. The guards rose from their positions along the culvert, then stood as though transfixed by the spectacle. They made no attempt to use their arms as the horde crashed through and over them.

Well in advance of this baying humanity, three of us — Jerry Chambers, Rogers, and I — sprinted past the station house and into the town. Ahead of us a deserted street climbed a hill, flanked on either side by gabled shops and residences. Broken glass crunched beneath our boots. We ducked to the left off the main street and up a narrow alley. There we paused briefly to orientate ourselves. Only then did I become conscious of the rasping snores of our breathing.

Below us and to our right the bridge and adjacent yards were wreathed in smoke. A southbound train, caught by bombs as it was about to cross the bridge, lay burning furiously. All bombs appeared to have struck in a very narrow target area, bursting in and around the yards and bridge. None had struck the town.

We crept softly down the alley, passed a silent villa, and began to climb a stairway that hugged the courtyard wall. A small platform at the top gave entry into a shed loft. We stole into this retreat to plan the next move. While we were examining an escape handkerchief-map of northern Italy, four Americans from our car pushed into the loft. Sweating and flushed from their exertions, they squatted down on the straw-covered floor

*Seventy men was an abnormal load for the typical small European goods car, even during the war. Unfortunately, the occupants of the car next to us had been caught making a bid for freedom earlier in the trip and had been dumped in with us. We were unable to sit down except in turns. (Author's note.)

and proceeded to argue out their course of action. A further flight of bombers droned in, and the seven of us cowered on the floor as the bombs angled over the town and crashed in the rail area. I glanced up through a hole in the flimsy roof just in time to see what proved to be the last of the square-tailed B-24s sail over at medium height. I decided that the shed had nothing to recommend it as shelter.

The same thought was apparently uppermost in the minds of Chambers and Rogers. They nodded towards the door, and together we slipped out, leaving the American boys still planning. We peered over the wall and saw a wide tree-lined boulevard running north and south.

We hung by our hands from the wall, then dropped to the street and headed northwards at a half-lope. We hoped to clear the outskirts of town, hide, then head north-westwards to Switzerland after nightfall. The silence was uncanny. Nothing broke it but the thud of our thick boots and the occasional musical tinkle of glass shards dropping from shattered window panes on to the cobble-stones. A scant block lay behind us before we became increasingly conscious of townspeople popping up cautious heads all around us. They appeared from basements, doorways, and garden shelters. Then the sirens sounded the "All Clear" and citizens emerged on the street in numbers, milling around and talking excitedly.

Our pace slowed to a fast walk, and we tried to look as though three grimy men in khaki battle-dress, taking a stroll in an Italian town, was an everyday occurrence. I had a feeling that we were not being conspicuously successful. During the train-journey north, I had removed my Canada badges against the possibility of a breakout; but I now regretted my oversight in failing to remove my shoulder-tapes as well.

"Look at those ——" grunted Rogers, nodding in the direction of a number of townsmen wearing arm-bands and carrying long-barrelled rifles of ancient vintage. We looked, and realized with misgiving that they were taking more than a passing interest in us. As we approached an intersection, our eyes fell on several bicycles leaning against the wall of a modern-looking chemist's.

"Good show!" breathed Chambers softly. "Let's go!" With one accord we angled in the direction of the shop and, as we came abreast of it, jumped for the bicycles. My two companions were astride theirs and peddling down the broad street, leaving me tugging vainly at a wheel securely locked with a stout chain. I swore softly. Now I was for it. I spun around to face the growing clamour in the street.

The hoarse shouts and activity were being directed at the fleeing Rogers and Chambers. I saw a small group of armed militia or Home Guard running and brandishing their rifles. As the two bicyclists rounded a turn in the road, two of the Italians stopped, took careful aim, and fired. They fired again, and with the second shots Chambers slumped to the ground, tangled up grotesquely with his bicycle. Rogers nearly made it, but a further spattering of shots caught him and he too went down.

I stumbled across the intersection through the gathering throngs of people who were staring at the sprawled figures in the street. For the moment I was forgotten, and I gained a side-street unmolested. As I ran, I looked frantically to left and right for some hiding-place. I had to get off the streets, away from these muttering people, out of the brilliant sunshine that no longer brought warmth.

A line of high shrubbery paralleled the road, marking the grounds of a large villa set well back from the street. Coming opposite the driveway, I turned in and started to work towards the building, bent double and shielding myself as much as possible behind the numerous trees and shrubs.

I was within fifty yards of the villa and was cautiously skirting a large and luxuriant flower plot when I almost ran into him.

He stood stolidly, a tall swarthy-faced man in a close-fitting blue suit. In his left hand he held a cigarette, from his right hand dangled a Lüger revolver. While I stared, he took a final appreciative puff on the cigarette, flicked it away, then casually gestured towards the villa with the gun. Together we walked slowly across the lawn towards the doorway.

I had, it seemed, found my way unerringly to the local Gestapo Headquarters.

ROYAL CANADIAN AIR FORCE Association

NATIONAL PRESIDENT AT MALTA MEMORIAL

Air Vice-Marshal G. E. Brookes, C.B., O.B.E., represented the R.C.A.F. Association when Her Majesty The Queen unveiled the Commonwealth Air Force Memorial at Malta.

The memorial is dedicated to the 2301 air crew who lost their lives while operating from this area, and who have no known graves. Two hundred and eighty-six of the names inscribed on the bronze panels are those of Canadians.

The Royal Air Forces Association sponsored a pilgrimage to Malta. Some 14 Canadians joined the pilgrimage in the U.K. Air Vice-Marshal Brookes visited the pilgrim ship and met two mothers — Mrs. E. R. Sherer (of Kelowna, B.C.) and Mrs. M. A. Clarke (of Hamilton, Ontario) — who attended the ceremony to honour the memory of their sons.

The ceremony of unveiling was brief but impressive, and Her Majesty made an appropriate and moving address. On the completion of the ceremony, the National President, together with other pilgrims, placed their wreaths.

Left to right: Miss Patricia Lavoie, Cpl. F. L. Millar, Mrs. Annie Lavoie, L.A.C. B. F. Ramsay, Miss Madeleine Patenaude.

By attending such a ceremony as the unveiling of the Malta Memorial, said the Air Vice-Marshal, "we honour the memory of our fallen comrades and also we perpetuate the glorious traditions of the Royal Canadian Air Force."

WING RECRUITING RESULTS FOR JUNE

The R.C.A.F. Association recruiting for the month of June 1954 produced the following contacts and enrolments:

	Contacts	Enrolments
No. 309 (Drummondville) Wing	1	1
No. 416 (Kingston) Wing	21	6
No. 401 (Kirkland Lake) Wing	2	–
No. 402 (Sudbury) Wing	8	1
No. 703 (Red Deer) Wing	8	–
No. 802 (Vancouver) Wing	6	6
	46	14

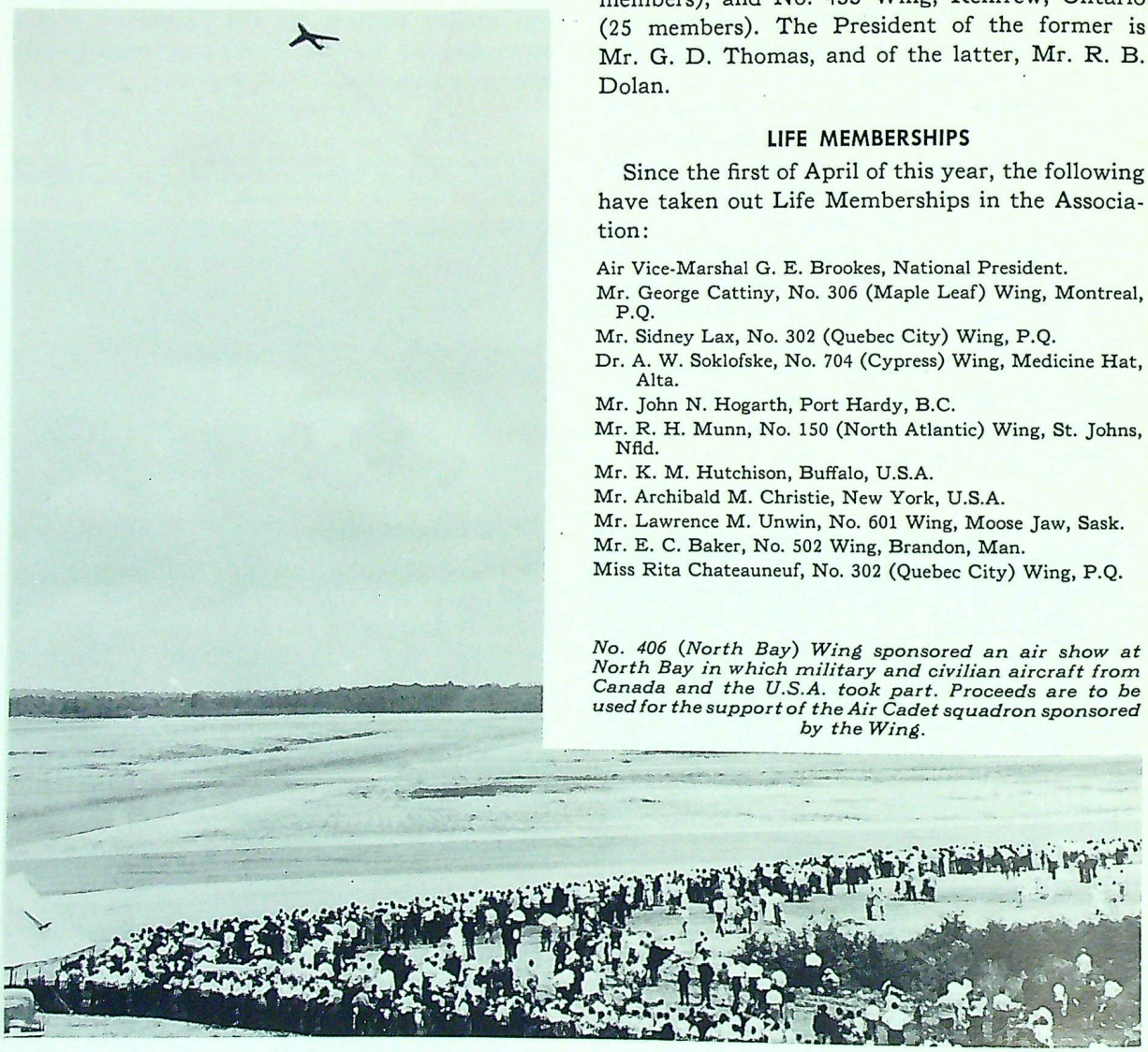
NEW WINGS

We are happy to welcome two new Wings to the fold: No. 225 Wing, Campbellton, N.B. (61 members), and No. 433 Wing, Renfrew, Ontario (25 members). The President of the former is Mr. G. D. Thomas, and of the latter, Mr. R. B. Dolan.

LIFE MEMBERSHIPS

Since the first of April of this year, the following have taken out Life Memberships in the Association:

Air Vice-Marshal G. E. Brookes, National President.
Mr. George Cattiny, No. 306 (Maple Leaf) Wing, Montreal, P.Q.
Mr. Sidney Lax, No. 302 (Quebec City) Wing, P.Q.
Dr. A. W. Soklofske, No. 704 (Cypress) Wing, Medicine Hat, Alta.
Mr. John N. Hogarth, Port Hardy, B.C.
Mr. R. H. Munn, No. 150 (North Atlantic) Wing, St. Johns, Nfld.
Mr. K. M. Hutchison, Buffalo, U.S.A.
Mr. Archibald M. Christie, New York, U.S.A.
Mr. Lawrence M. Unwin, No. 601 Wing, Moose Jaw, Sask.
Mr. E. C. Baker, No. 502 Wing, Brandon, Man.
Miss Rita Chateauneuf, No. 302 (Quebec City) Wing, P.Q.



No. 406 (North Bay) Wing sponsored an air show at North Bay in which military and civilian aircraft from Canada and the U.S.A. took part. Proceeds are to be used for the support of the Air Cadet squadron sponsored by the Wing.

No. 602 (Saskatoon) Wing's new executive officers. Front row (l. to r.): Miss Grace Tollefson, Miss Marion Graham, P. Ellison, Miss Betty Raeside, Miss Therese Roberge. Middle row (l. to r.): Rev. R. Manwaring, C. Jenkins, W. Laing, Rev. C. Dunn, C. Osborn. Back row (l. to r.): B. P. Boyce, D. McCullough, J. F. Hall, J. Nodder.

★ ★ ★

No. 306 (Maple Leaf) Wing's fifth annual Golf Tournament took place at St. Andrews Country Club, St. Andrews East, P.Q. Jim Hale, of No. 306, won the new Maple Leaf Trophy, and Flt. Lt. F. Mitchell, of No. 401 (Aux.) Squadron, won the non-members' prize. The major event of the day was the four-man-team tournament for the Lord Calvert Trophy, in which No. 306 (the defending champions) competed with the Pathfinders' Club of Montreal and No. 401 (Aux.) Squadron. The winning team is shown here being presented with the trophy. Left to right: Flt. Lt. T. Hale, Flying Officer R. Kay, Flt. Lt. F. Mitchell, "Pappy" Deeks (past president of No. 306), and Flying Officer K. Burnham.

★ ★ ★

No. 410 (Ottawa) Wing recently held the formal opening of its new club-rooms. Seen here on the occasion are (left to right): J. D. Kossatz; Air Vice-Marshal F. G. Wait, C.B.E., Air Member for Personnel; City Controller D. McCann; H. McGowan; Air Vice-Marshal G. E. Brookes, C.B., O.B.E.; and F. D. Dingwall.

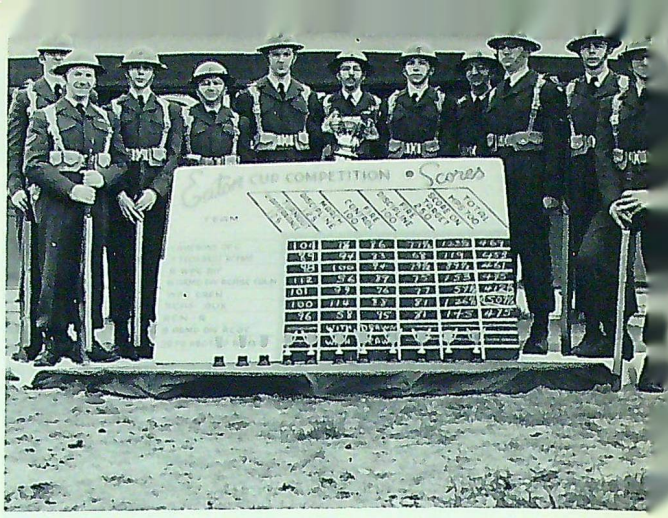
EATON TROPHY WINNERS

A team consisting of one officer and ten airmen from No. 17 (Aux.) Wing H.Q. won the Eaton Trophy at Winnipeg on May 30th. The Eaton Trophy is awarded for the best appearance, marching, discipline, and firing in the Reserve units in the area.

The R.C.A.F. Auxiliary team entered the competition for the first time this year against the Army and Navy, whose teams had all competed in previous years. Each team consisted of one officer, one senior N.C.O., and nine other ranks.

Scoring was based as follows

Turnout and appearance....	100 points
March discipline (en route)..	100 points
Fire control (by officer).....	75 points
Fire discipline.....	75 points
Score on target.....	250 points
TOTAL	600 points



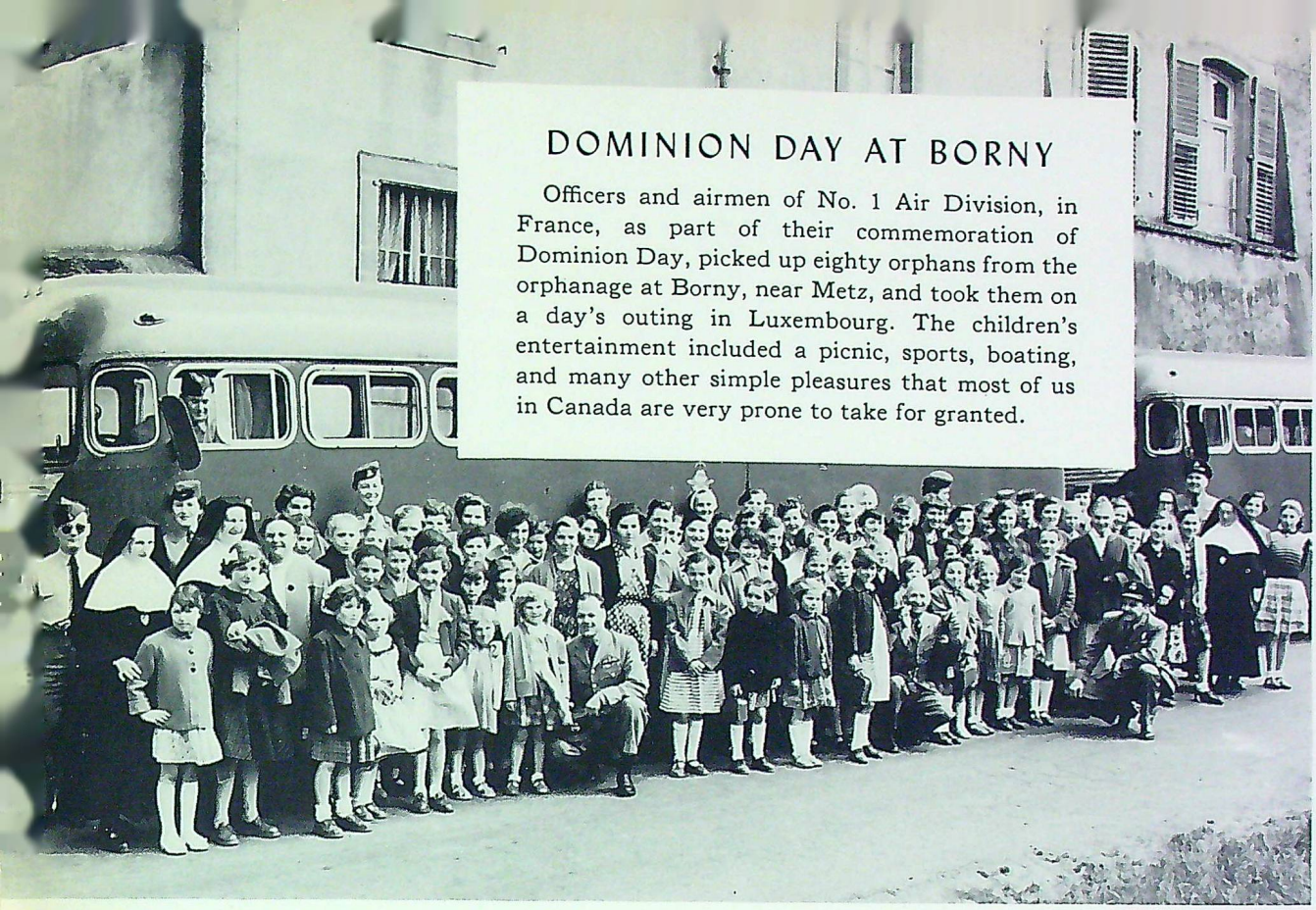
Shown standing behind the score-board are the members of the winning team. Left to right, they are: A.C.1 Runge, Cpl. Brown, L.A.C. Conly, Sgt. Waites, L.A.C. McCheyne, Flying Officer Rafter, L.A.C. Crealock, Cpl. Kennedy, L.A.C. Dyck, A.C.1 Van Wallingham, A.C.1 Miller.

Swedish Speed Record

On May 6th, a Royal Swedish Air Force Saab-29 (J-29) jet fighter, piloted by Captain Anders Westlund, set a new 500 km. (310 miles) closed circuit world speed record, averaging 977km./h. (607 m.p.h.), a record which has since been confirmed by the Fédération Aéronautique Internationale. Flying a fully-armed standard equipped aircraft, Capt. Westerlund exceeded the record established last summer in the United States by an F-86 Sabre, which averaged 950 km./h. (590 m.p.h.) over the same distance.

The record flight was not a record for its own sake. It was, in fact, the last in a series of tests carried out by the Air Force's Bombing and Gunnery School at Uppsala during this spring to explore the maximum tactical performance capabilities of the J-29. In an interview, Capt. Westerlund stated that, since he did not use the full power (except in take-off) of the aircraft's Svenska Flygmotor-built D.H. Ghost turbo-jet, he did not consider it impossible to repeat the record speed flight with at least a flight of four aircraft.

The Saab-29, which made its first flight as early as 1948 and recently passed its third year in Swedish Air Force service, is today the standard equipment of most Swedish fighter wings.



DOMINION DAY AT BORNY

Officers and airmen of No. 1 Air Division, in France, as part of their commemoration of Dominion Day, picked up eighty orphans from the orphanage at Borny, near Metz, and took them on a day's outing in Luxembourg. The children's entertainment included a picnic, sports, boating, and many other simple pleasures that most of us in Canada are very prone to take for granted.

ABBREVIATIONS

HAS anybody ever tried to calculate how many hours are lost in the Army through needless use of abbreviations?

Abbreviations are supposed to save time. The man who uses them, in a written document, may save two seconds of his own time and waste two hours of somebodys else's. For that matter, he may waste two days or two weeks of his own time if the recipient has to write back to him and ask what the abbreviations mean. It is foolish to contend that "everybody ought to know" the meaning of contractions. The Army has thousands upon thousands of abbreviations, and nobody can be expected to know more than a handful of them.

The unnecessary use of abbreviations denotes, not only laziness, but a parochial outlook. Because a Gunner has been talking about Ack IGs for years, he must not suppose that soldiers in all other arms know he means Assistant Instructors in Gunnery.

Use of abbreviations can also be a form of showing off, like referring to the great by their christian names (a widespread failing in the Army, too). "Blinding with initials" is as much an offence as "blinding with science".

People like window-cleaners and war correspondents, whose duties take them into Army headquarters, are often awed to note how Staff officers are able to talk among themselves almost exclusively in abbreviations. It may be that the use of abbreviations in these circumstances is not without its security value. Staff officers understand their own shorthand of speech and no confusion is caused. There must be common sense, of course, in this matter. It is not suggested that everyone should go round referring to NAAFI (frequently mis-rendered at NAFFI) as the Navy, Army and Air Force Institutes. Incidentally, how many people reading this page can say what the initials ENSA stood for?

(*"Soldier": quoted in "Canadian Military Journal"*).

Letter to the Editor ★ ★ ★

A BRICKBAT FOR SHATTERPROOF

Dear Sir:

Sgt. Shatterproof is confused. This, in itself, is not surprising and does not overly concern me; but he is in danger of confusing other R.C.A.F. personnel and possibly is guilty of spreading alarm and despondency to the detriment of active ground defence training. This, I know, is a harsh indictment. However, let me elucidate.

In the June issue the good Sergeant states, in part, "that to instruct men to hold a four-second grenade for seven seconds is not leadership of the highest quality", the inference clearly being that, four seconds after pulling the pin, the grenade explodes. This is very frightening to contemplate, but — it just is not so.

Now, as Director of Ground Defence, I am naturally reluctant to see a man standing around holding a grenade from which the pin has been removed; but, let's face it, it doesn't really matter how long he holds it! Seven seconds, seven minutes, or all through his annual leave — *just as long as he holds it*. The time to start counting off the seconds is, of course, *after* the grenade has been released and the striker lever has flown off.

Wing Cdr. A. L. Bocking, D.F.C.,
Director of Ground Defence.

■	L	A	N	C	S	■	W	A	S	P	S	■
F	■	G	O	A	T	■	A	T	O	M	■	O
E	M	■	A	V	E	N	G	E	R	■	S	F
R	I	C	H	■	L	E	E	■	T	H	A	T
R	T	O	■	S	O	O	R	G	■	E	S	E
Y	E	N	■	O	■	N	■	D	■	I	O	N
■	■	V	I	S	A	■	K	E	E	N	■	■
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R	O	I	■	C	T	E	L	O	■	E	V	E
B	U	R	N	■	A	D	E	■	C	L	A	P
I	T	■	A	E	R	O	N	C	A	■	N	O
T	■	S	T	E	N	■	D	A	P	C	■	T
■	T	O	O	L	S	■	S	P	E	E	D	■

THE PERENNIAL PILOT

I should like to mention something which I consider may act as a deterrent to the right type of young man coming forward to join the R.A.F. and become an officer. I refer to what I would call the unnecessary amount of muddled thinking and talk which goes on today about guided weapons. We hear talk to the effect that guided weapons will completely replace the piloted fighter. That, no doubt, will be so in due time, but I do not see the fighter force being done away with within a generation — if entirely by then. Nor do I see the striking power of the R.A.F., its capacity to carry on an air offensive, being done away with and replaced by guided missiles — within two or three generations. And I do not believe that long coastal reconnaissance or transport operations will ever be replaced by guided weapons. But I feel that the talk about these weapons may well deter the keen man, who wants to join the R.A.F., and to fly, from entering the Service. Therefore it is important that these things should be properly explained to him.

(*Lord Waleron, in the House of Lords.*)

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