

The **ROUNDDEL**



Vol. 8, No. 5
JUNE 1956



ROYAL CANADIAN AIR FORCE

KIRK WOOD

THE Roundel

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

Vol. 8, No. 5

JUNE 1956

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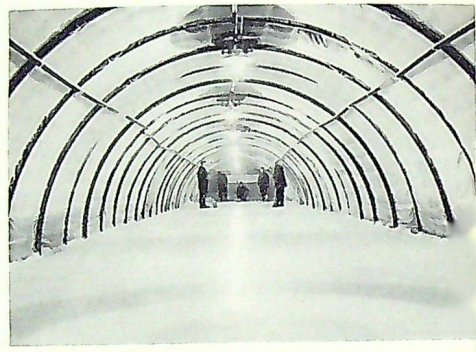
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This Month's Cover



The rink of the world's northernmost curling club.
(See story on page 19.)

EDITORIAL OFFICES:
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SGT. SHATTERPROOF

DOES NOT LEAVE OFF

A vague restlessness troubled the editorial spirit. In vain I tried to concentrate upon the manuscript before me — a thoughtful little piece by Wing Commander Pentode, entitled "The Effect of Cosmic Rays upon the Fertility of All-weather Aircrew". In the normal course of events I would have been spell-bound by it; but not today. The sunshine, streaming in through the open window, filled my mind with visions of broad highways, sparkling waters, and well-stocked bathing-beaches. The summer had arrived; and the natural increase of all-weather aircrew, vital though it might be to the safety of democracy, somehow failed to arouse in me any passionate concern.

Voices from outside broke in upon my reverie. The speakers were standing just out of sight, but there was no mistaking the gravel-grinding accents of Claudette, our messenger-girl, and the subterranean rumbling of Sgt. Shatterproof.

"Gee, but you sure gotta nerve, big boy! If my boy-friend was to hear ya—"

A deep chuckle answered her.

"That, young woman, is precisely what Nell Gwyn remarked to Sir Loverboy Shatterproof when he found her sun-bathing without King Charles in the centre of the Hampton Court maze."

"I dunno wotcha talking about. But say, muscle-bound, how long ya gonna be around?"

"That," came the reply, "depends. . ."

The sudden clatter of a typewriter, as Hildegard awoke from

her siesta in the adjoining office, drowned out the last part of his sentence. Claudette's next words, however, afforded me some clue.

"Oh, him?" She sighed. "Pore man, he don't seem to have no heart in him today. Just sat staring at me when I took 'im in 'is cup-pertea. Quite cross-eyed he looked. —Well, I gotta be going. See ya in the canteen at arparsfour."

They parted — Claudette to cross the eyes of other pore men with her summer-time transparencies, and Sgt. Shatterproof to make his way round to my door.

When he appeared, I eyed him sternly.

"Shatterproof," I said, "though it is not yet arparsfour or anywhere near it, your time is already your own as far as I am concerned. 'The Roundel', I feel, can wallow on for yet another month without your masterly touch upon its helm. You would, perhaps, be more profitably employed in pursuing that young lady and taking up where Sir Loverboy left off."

The old wardog drew himself up. "Sir Loverboy, Sir, did not leave off."

While I was digesting the several possibilities suggested by his remark, he excavated a match from his pocket and mutely requested my permission to light his pipe. I nodded; and, knowing the futility of resistance, indicated a chair.

He lowered his bulk into it and fixed the editorial bald spot with a diagnostic gaze.

"We are overwrought, Sir, I perceive. The mating-season no lon-

ger fills us with the frolicsome confidence of youth. We find ourself left to gambol alone amid the but-tercups and wild thyme. In a word, the wine of life is become vinegar to our palate." He leaned forward earnestly. "Tell me, Sir, do we catch ourself creeping into corners and assuming the foetal position?"

"My dear Shatterproof," I said, a little testily, "control yourself. Wild thyme, to me, is no more than something that goes into an omelette, and I have certainly not assumed the foetal position since before the date mentioned on my birth certificate. I may be a little liverish, but I am a prey to no complex. You make it sound as though I were bushed."

"Ah," he interrupted, stabbing the air with his pipe-stem, "you have solved your own problem, Sir! The April issue of 'The Roundel' more



than confirms your analysis. It contains a forest of misprints at which even Paul Bunyan's eyes would bulge in their sockets — and, significantly enough, they are thickest in the article entitled 'They Took to the Woods'."

"The odd slip," I admitted reluctantly, "may have occurred. I must say, though, that I detected only two or three myself."

He nodded.

"That, Sir, is self-evident. For my own part, I detected more than a score before I was forced to lay my copy down and steady myself with a pre-prandial. We can only pray, Sir, that some of them never come to the attention of those dedicated persons who devote their lives to the eradication of pornography from our news-stands."

I started.

"Pornography! For Heaven's sake, what do you mean? Show me these misprints—"

He raised a soothing hand.

"Let us calm ourself, Sir. It is unlikely that they will be noticed by the world at large. Only a mind of exceptional purity, such as my own, could succeed in extracting anything unsavoury from them. You need fear the tar-pots of our reformers far less than the retribution of our airwomen."

"Our airwomen!" I exclaimed, more shaken than ever. "What on earth have I ever done to them?"

"It is not so much a question of what you *have* done as of what you have *not* done."

He paused; then, apparently misconstruing my expression, continued in a harsher voice:

"A glance in the mirror, Sir, will speedily convince us that we are no Adonis for whose attentions the Sex either sighs or clamours. I refer simply to our all-too-obvious discrimination against our female contributors."

"But this is absurd, Shatterproof! The shoe is on the other foot. It is the Sex that has neglected 'The



Roundel', not 'The Roundel' the Sex."

He puffed away reflectively for a few moments.

"Since," he said at last, "'Feminine Gen' first made its appearance in 'The Roundel's' pages, many of the rarest spirits among our airwomen have sacrificed their youth and health to its success. Night after night, seated at rickety tables in dank barrack-blocks, they have laboured by the light of smoky lamps to bring a few crumbs of hope and comfort to their fellow airwomen on other stations. And what, Sir, has been the reward of their devotion? Not even the sight of their own names in bold-face or capital letters! While the identity of our male contributors, clear and conspicuous beneath the titles of their brain-children, proclaims itself throughout a breathless Christendom, the reader must yawn his way through several lines of preliminary prattle and flighty comment before he can ascertain to whom he is indebted for the intel-

lectual banquet set forth for him in 'Feminine Gen'. We are, Sir, faced with a situation."

It was a somewhat involved speech, even for Shatterproof, and I did not answer immediately. While I was pondering his words, the air was rent by a sound not unlike that of a young cement-mixer calling amorously to a Bucyrus-Erie steam-shovel. It came, I thought, from the general direction of the canteen. Glancing at my watch, I saw that it was nearly arparsfour.

Sgt. Shatterproof surged to his feet with the suddenness of an elephant that feels the goad. Picking up his Q.R. (Air) from the corner of my desk, he gave a hurried salute and turned to go. In the doorway he turned, and I could have sworn that the granite of his face cracked momentarily into a smile.

"It is a situation, Sir, that is fraught with possibilities."

I brooded awhile over that one too.



The Party Line

MEDICAL SERVICES IN THE R.C.A.F.

BY SQUADRON LEADER T.M. FRASER
Directorate of Medical Services, A.F.H.Q.

(The author of this article qualified for his Medical Degree at Edinburgh in 1944. From 1944 to 1947 he served with the R.A.F., two of these years being spent in the Far East. Returning to Edinburgh for a year's post-graduate study, on its completion he spent four years in general practice in London. He joined the R.C.A.F. in October 1952.—Editor.)

THERE is something about the term "Medical Services" that seems to hint of bureaucracy and impersonal officialdom, something which, albeit traditional in a military organization, quite fails to convey the vitality and enthusiasm of the R.C.A.F.'s Medical Branch. Admittedly, the purpose of the Medical Branch is to render medical service to the personnel of the R.C.A.F. and, in the final analysis, to ensure that aircrew are medically fit to fly aircraft; but it is the vital and enthusiastic approach to this service that has lent inspiration to the whole policy of the Branch and created its positive attitude towards the promotion and maintenance of health.

High-sounding words? Idealistic, perhaps? An approach impracticable in so vast an organization as the R.C.A.F.? Doubts of this nature are certainly likely to be expressed. The fact remains, however, that such is the attitude of the Branch, and with it a determination to make the Air Force's Medical Services the finest available. Nor, because the promotion and maintenance of health is paramount, must it be assumed that treatment services are in any way neglected. On the contrary, the treatment facilities and skill of the

R.C.A.F.'s and D.V.A.'s medical officers, specialists, and consultants, are certainly second to none in Canada.

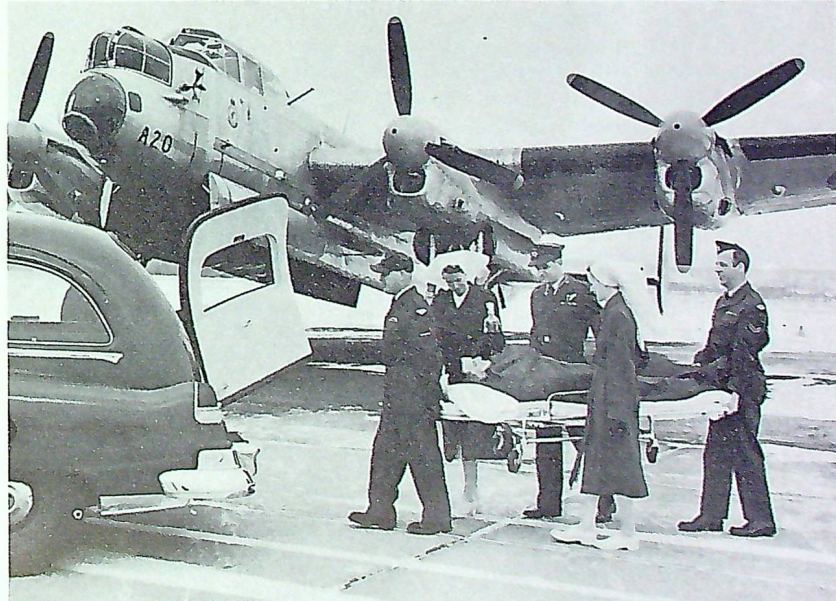
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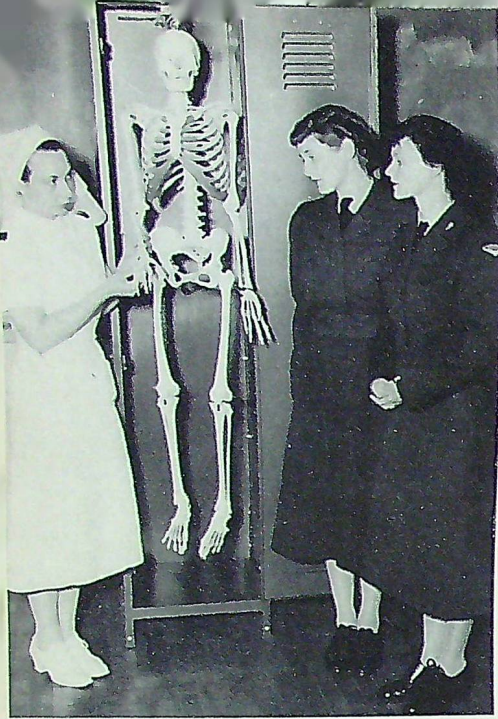
Now, what do the R.C.A.F.'s Medical Services embrace?

Briefly, they cover the broad aspect of the field of civilian medi-

cine with, in addition, those specialized applications of medicine common to all military forces, as well as several other applications peculiar to air forces. In this article we need not concern ourselves with civilian medical practice, which, in one way or another, is more or less familiar to all of us; but there are quite a lot of things we should say about the field of R.C.A.F. medicine. Some of them are interesting, some rather dull, and some merely explanatory, and they touch upon everything from the droning routine of common

Transferring a patient from aircraft to ambulance at R.C.A.F. Station Greenwood, N.S., during a mercy mission.





Flying Officer V. E. Geer and two students at Aylmer's Med.A. School.

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colds and monthly returns to the dramatic excitement of supersonic medical research.

There's routine, all right. So much of it! The illness that may be a highlight (or lowlight) of the patient's life is often just part of the daily work of the doctor, the nurse, and the medical assistant. The jab of the needle that withdraws the blood merely starts the day for the laboratory technician, and the science-fiction paraphernalia of the X-ray room is nothing more than the daily environment of the radiographer. The routine of sick parades, the routine of form-filling, of memo-writing, of typing; the routine of the medical assistant who sits through a long night of duty, waiting for something to happen and perhaps fearful that it may — all of it adds up to routine.

What, then, is the attraction? What is it that brings into the Service many doctors who, in civilian office and hospital, can earn at least twice as much and be responsible to no authority but their own consciences? That is a question which can be answered in detail only by each individual medical

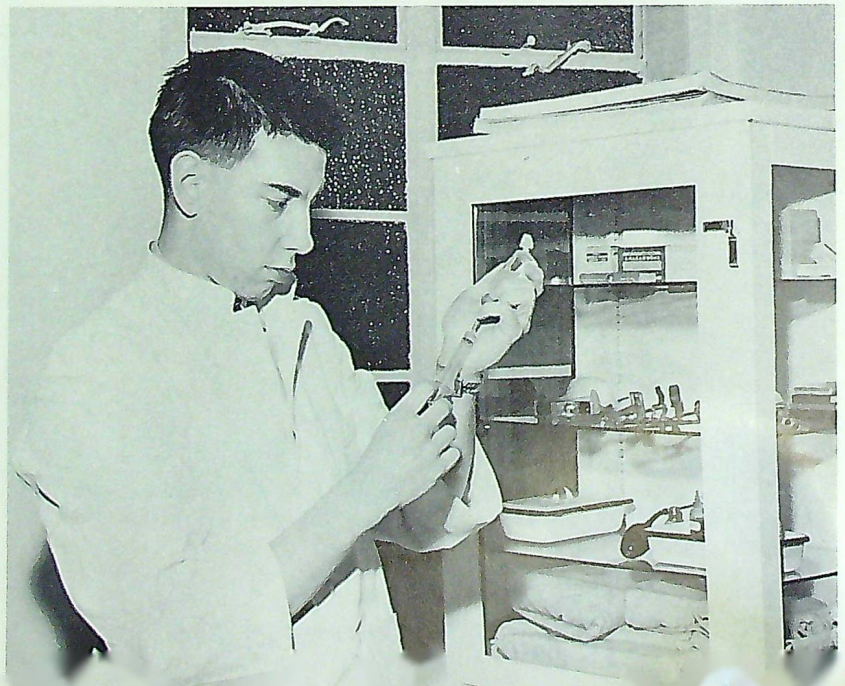
officer, and each may well have a different answer. Part of the broader answer, though, lies in the fact that the Service provides a type of medical practice that is different from civilian practice, with a different emphasis. In the Service, of course, the emphasis is more on prevention than on cure. While facilities for treatment are not only available but frequently better than those found in general practice, the method of attack is different. Gone is the "house call", gone the pressure of the daily round that precludes completely satisfactory work. Gone, too, the necessity to weigh the economic status of the patient to determine whether his family will starve if he stops work to undergo elective surgery; gone the difficulties of trying to treat a sick patient at home with no adequate nursing facilities. Instead, the Station Medical Officer completes his daily work in a hospital that is efficiently run, equipped, and staffed. He has access to any further service he requires; and time, staff, and facilities are available to permit him to give individual attention to his patients and to afford him op-

portunity for the development of further talents.

There are other factors which make their various degrees of appeal to different individuals, whether those individuals be doctors, nurses, associates, technicians, or medical assistants. Such factors include the unique interest held by the subject of aviation medicine; the fascination of aircraft themselves; the satisfaction that comes with the development and running of a smooth administration; the opportunities for further education, for travel, for different types of work; and the conscious or unconscious desire, common to all Servicemen, to satisfy the "gypsy in them" and to escape the humdrum monotony of civilian life. Finally, of course, somewhere in the background, there is the thought of an early pensionable retirement.

Thus, within the Service you will find doctors who desire to pursue the clinical side of medical practice and at the same time to develop certain other sides. This is a situation which results in no little benefit to the Service. It may be mentioned here, by the way, that the

Cpl. B. C. Stevenson, a medical assistant at the Station Hospital of No. 30 Air Materiel Base, Langar, England.



gratification of their desire will be very materially assisted by the construction of a proposed 350-bed general hospital which will be staffed largely by R.C.A.F. personnel and will be at least on a par with any hospital in the land.

There is one motive which serves to unify members of this Branch. This is the feeling that is always present in the practice of medicine, the feeling that one is not merely working with machines, tools, or files, but with people. One is working, not for officers or N.C.O.s or airmen, but for patients who depend upon one for their well-being, and sometimes for their lives. Even the stenographer who sits in the corner of the hospital orderly room typing reports and returns has something of this feeling, and has a more personal interest in what he or she is doing. This is the basic reason why each station hospital, and indeed, the entire Branch, has developed within itself such a strong *esprit de corps*.

This unity of purpose within the Medical Branch of the Service, this continual desire to improve, and the *esprit de corps* of the personnel, are the more remarkable in view of the Branch's comparatively short history. It has been in existence as an entity for only 16 years. There was, of course, a medical service before 1940, but it was a service supplied by the Army; and, no matter how good an Army service might be, no branch that was not within the Air Force structure could be fully imbued with the Air Force spirit or have intimate knowledge of Air Force problems.

With the rising tide of war, the Army Medical Service could no longer cope with the medical problems associated with the huge expansion of the R.C.A.F.; and so, in September 1940, the R.C.A.F. Medical Branch was born. Some two months later, Private became Aircraftman, Captain became Flight

Lieutenant, and what had been an R.C.A.M.C. commitment was taken over by Group Captain R. W. Ryan, who had been borrowed from the R.A.F. to serve as the R.C.A.F.'s first Director of Medical Services. He guided the ever-growing Branch through the early years of the war, and in 1943 turned over the control to the first Canadian Director, Air Commodore J. W. Tice. For the past ten years the Branch has been headed by the present Director General, Air Commodore A. A. G. Corbet, who is responsible to the Air Member for Personnel, A.F.H.Q.

The policies decided upon in the Directorate at A.F.H.Q. are put in action, through the various Commands and Groups, by all the units in the R.C.A.F. They may be tiny units such as Resolute Bay, where a solitary — but very experienced — medical assistant serves Eskimos and Servicemen alike, or they may be great complexes such as Station Rockcliffe, with its general hospital, its specialist and non-specialist doctors, its matron and nurses, medical associates, laboratory technicians, radiographers, medical assistants, and numerous ancillary personnel. In between the two types of units just mentioned are the units with dispensaries for outpatient treatment only, and those with infirmaries for casual in-patient care. These smaller units too, however, have the services of specialists available at short notice; for in the background lies the vast organization of D.V.A., whose major hospitals are always ready to provide advice and treatment for any R.C.A.F. patient referred to them. And should D.V.A. skills and facilities be insufficient, there remain still other specialists — selected consultants of perhaps international renown — waiting to give the benefit of their knowledge.

But, as has been said, the R.C.A.F.'s Medical Services do not stop — or even start — with treat-

ment. The necessity for treatment is, in the final summation, a confession of failure. The promotion of health and the prevention of illness are the primary considerations, and to achieve these ends it is necessary to invade the field of preventive medicine. In its broadest aspect, this includes the med-

Flt. Sgt. H. Lafortune, laboratory technician, and A.C.I. René Lahaye at Rockcliffe's Station Hospital.



ical screening of recruits and potential aircrew, the regular examination of serving personnel, preventive inoculations and vaccinations, the maintenance of high standards of living- and working-conditions, and the preparation of statistics on which to base future plans. Though this field is probably the least dramatic aspect of medicine, it is nevertheless one of the most important.

A great part of the Medical Branch's work can be successfully carried out only after long and arduous training, some of it outside the Service and much, of course, within. The doctors and nurses, the pathologists and pharmacists, in fact, all those who belong to the "Professions", receive their initial training outside the Service at medical schools and universities (al-

though, even there, many of them take advantage of the various Service plans which subsidize their last year or so of education). Upon graduation, they are directly commissioned into the Service and appointed to a unit after a short period of indoctrination. Others, too, such as sanitary inspectors and radiographers, may be directly enrolled at a certain trade-group level and promoted to a suitable rank.

In volume, however, most of the training takes place within the Service. The first part of it is given at R.C.A.F. Station Aylmer, Ont., amid the tobacco-growing country near the shores of Lake Erie. Aylmer's Med. A. (Medical Associate) School is a general hospital in miniature. In addition to classrooms and offices, it has wards and beds, hospital utility room, laboratory, sterilizing room, and all the equipment which a Med. A. might ever be called upon to use, from oxygen tents to bed-pans. There the staff of nurses and senior medical assistants perform a remarkable task. Into recruits from every conceivable walk of life, who have been sent to them from Manning Depot, they instill in twelve short weeks not only the principles and practices of elementary nursing, but also something of the spirit and ethics of the whole practice of medicine. Some of the recruits fall by the wayside, but some — often, oddly enough, those in whom it is least expected — have the indefinable combination of sympathy, understanding, and practicality that go to make a born nurse.

But training doesn't stop there. That is only the beginning. Having successfully passed through Med. A. School, the student receives two further months of practical training in the Station Hospitals at either Rockcliffe or Trenton before a fully-fledged Group I Med. A. is finally posted to a unit—where, incidentally, he or she has still to find out that mere proficiency does not

necessarily make a good nurse. Later, further courses at Aylmer may follow; until, dignified by stripes and perhaps a crown as well, a Med. A. may undertake training as one of the vital specialists of the medical trade, such as Laboratory Technician, Radiographer, Operating Room Assistant, or Technical Assistant (Medical).

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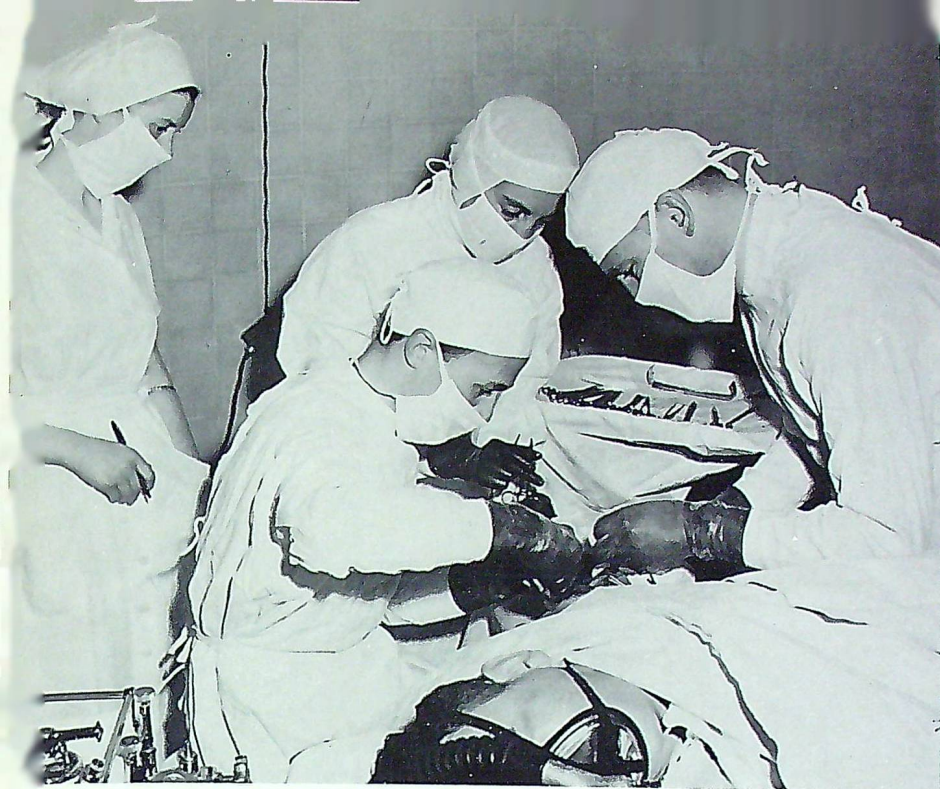
And what of the more glamorous side of the work of the Medical Branch — aviation medicine, research, rescue, and air evacuation? Within the walls of the Institute of Aviation Medicine and the Defence Research Medical Laboratory at Toronto are the "back-room boys" of the Air Force's Medical Branch and of associated civilian organizations — the "boffins" who speculate, devise, experiment, and evaluate with the dispassionate enthusiasm of the scientist. A host of problems occupy them, problems ranging from the effects of lowered blood-sugar on the pilot of a CF-100 to the most suitable lighting of an altimeter in some aircraft that is not yet off the secret list. With each advance in high-speed, high-altitude flight, through the "sound barrier" and the "heat barrier", new problems arise, are solved, and are superseded by others. It is in the solving of such problems that the I.A.M. has made itself internationally famous.

As one moves around its passages and rooms one can only marvel at the complexities of the equipment . . . the giant centrifuge that can subject a human guinea-pig to many times the force of gravity, twirling him around at the end of a monstrous arm while it measures and records the electrical impulses from his heart and his brain and calmly focuses a television camera on his changing facial expressions . . . the "cold room", in which can be simulated all the bitterness of the Arctic . . . the sound-proof room, where the eerie claustrophobia is enough to break a man's

spirit . . . the acoustic room, where sound frequencies can be produced that would delight the heart of the "hi-fi" fanatic. These, though, are merely a few of the highlights; they give no hint of the plodding patience of the medical officers and other scientists who work there, seldom spectacularly but always towards the end of scientific advancement.

The medical investigation and assessment of aircrew is another of I.A.M.'s functions, and it is performed by the Central Medical Establishment with its team of general medical officers and specialists. Among the various duties of this group is the checking of the medical condition both of aircrew before their conversion from piston-engined to jet aircraft and also of actual jet aircrew concerning whose medical fitness some doubt may exist. At I.A.M., too, is the Bureau of Medical Statistics, which, by means of electronic machines that can screen 10,000 cards and produce in a moment the few that may be required, serves as the memory of the Medical Branch.

While research, as we have implied above, is not the entire work of I.A.M., neither is the practice of aviation medicine to be found only there. Scattered throughout the Air Force's flying stations are the decompression chambers, with their attendant Technical Assistants (Medical), supervised by a medical officer who has been trained in aviation medicine and who may be a member of the special Flying Personnel Medical Officer branch. The F.P.M.O.'s primary purpose is to treat and advise aircrew and to ensure that they are aware of and can cope with the hazards and complexities of jet-flying. He is a doctor who has become familiar with the problems of aircrew by taking part in their everyday activities and, as much as possible, by generally living their sort of life.



Operation at Station Trenton's hospital. Seated: Sqn. Ldr. K. M. Douglas. Standing (l. to r.): Flt. Lt. H. C. Bowman (anaesthetist), Flying Officer E. R. Kelly (nurse), Sqn. Ldr. K. H. Running.

been built up to operate in conjunction with the Military Air Transport Service of the U.S.A.F. Canadian flight nurses, trained in the U.S.A. along with their American counterparts, are posted to units across Canada and overseas, where they carry out the day-to-day work of R.C.A.F. nurses but are also ready at any time to take over the medical supervision of patients and to transport them in specially equipped aircraft to places that may lie half-way around the world. They are, furthermore, expected to pass on their specialized knowledge to the medical assistants with whom they work, so that an additional reserve of trained personnel may be created against time of need.

* * *

As regards the future, there is only one thing that can be said. In research (both in pure medicine and in aviation medicine), in the application of new medical principles, in the development of treatment services and facilities, and in the expansion of present facilities, the R.C.A.F.'s Medical Services cannot possibly retrogress. The trend of our civilization and the very character of our age make it inevitable that they can only advance.



To an onlooker, possibly the most dramatic of all the tasks of the R.C.A.F.'s Medical Branch are those associated with search and rescue. There are at present, stationed at numerous units across Canada, doctors, nurses, and medical assistants who are trained and ready at a moment's notice to climb into their special equipment and to drop by parachute wherever their services are needed, no matter how inaccessible the terrain or how dense the

bush from which they may have to fight their way out.

Air evacuation, though not necessarily as exciting as some of the rescue work, is still apt to be more colourful than the work of the Medical Inspection Room. The main flow of medical evacuation by air comes from the Division overseas, from isolated units in the bush, or from lonely arctic settlements; and, to take care of it, an organization and a pool of flight nurses has

SMALL FROGS

Our galaxy, the Milky Way, consists of a broad flat pinwheel of stars about 100,000 light years across. It is some 5,000 light years thick on the arms, with a 25,000-light-year clump of stars at the centre. Our solar system occupies a position about two-thirds of the way out from the centre of our galaxy. The weight of our own galaxy is estimated to total 200,000,000,000 times the weight of our sun.

The number of galaxies in the universe is not known. Within the scan of the 200-inch Hale telescope are a billion. More, many more may lie beyond.

It can be demonstrated mathematically that with such a vast number of galaxies, each composed of hundreds of billions of objects like our sun, it is impossible that the conditions under which life developed on earth should not have

been duplicated elsewhere in our galaxy and in other galaxies.

From this consideration, Dr. Harlow Shapley, Harvard astronomer, has estimated that there may be millions of earths, each populated as our earth is. So far this finding, which has humbled scientists who appreciate it, has done little to remove the arrogance from the human race. (R. K. Plumb, in "The New York Times")

Feminine Gen

(Castigated as we have been by the old wardog on page 2, we are publishing Cpl. Rayner's article without either "prefatory prattle or flighty comment".—Editor.)

TRENTON SNAPSHOTS

BY CORPORAL E. J. RAYNER

WITH close to one hundred airwomen on Command and Station strength, it is impossible to include each and every one in this epic, nor is it possible to go on writing indefinitely of airwomen's activities. We have, however, a few personalities who ought to be mentioned, and some of our "goings-on", I feel, should be immortalized in print for the sake of posterity.

First of all let me make affectionate mention of Sgt. E. V. Bowlby, who hails from Wolfville, N.S. "Sarge" joined the Air Force in July 1951, having been a staff Sergeant in the C.W.A.C. during the last war.

Mug Party for A. W. Marie Vukson (left) and L.A.W. Edie Lilly. The former is transferred to France, the latter released at the end of her engagement.



She has been at Trenton for more than four years, and during that time her enthusiasm and endless efforts on behalf of the airwomen's activities and welfare have endeared her to us all. She is, in fact, our friend, mother, and let-me-cry-on-your-shoulder buddy.

Another Easterner, L.A.W. M.A.C. MacMillan, comes from Charlottetown, P.E.I. She enlisted in May 1952. After being trained as a Clerk Typist, she served at Summerside until, in October 1953, she met with the reward of most outstanding airwomen and was transferred to Training Command Headquarters. Mac is a determined sports enthusiast, and she has sparked the basketball team in its victorious progress through seasons past and present. Though basketball is her favourite sport, her interests in athletics embraces all our other games too. A great cheerleader, she has spurred our teams on to very creditable heights.

Slightly less sure than the progress of Sarge and Mac, have been the recent movements of Cpl. M. R. Richards. A transfer to Gimli — cancellation — transfer to Clinton — cancellation — re-transfer to Gimli — cancellation — and finally a transfer to France. Mary, however, who served in the Air Force during the war, hardly batted an eyelash. She has been working here as a stenographer on the hospital staff. Many of us envy her — and all of us will miss her.

Last, but not least, on our Personality Parade, we have our jolly Discip., Cpl. V. Bergman. Try as I may, I just cannot get her to reveal what the "V" stands for; she is known as "Bergie" to all her companions. Since July 1951, when she came into the Service, Bergie has spent her time at St. Johns, London, Aylmer, and now Trenton. A Vancouverite by origin, she has brought with her a jovial laugh and sparkling personality — and, for those of us who are West Coasters, a spot of that sunshine which Easterners don't seem to believe we ever get.

* * *

Did you ever hear of "a green thumb"? Quite a few of our girls now have green hands, for garden-chairs and tables are being lovingly painted in preparation for the summer. Lawns will soon be mowed by experts, and flowers planted. When all work is completed, our garden will equal any sidewalk-café from Paris to Rome.

Strangers roaming within shouting-distance of the Airwomen's Lounge on Friday nights are apt to stop and cock their ears at the sounds of laughter and music borne to them on the evening breeze. A Platter Dance is in session, and all fun-lovers are gathered together. Platter Dances are held twice a month, with the main object of getting the airmen and airwomen together. Our lounge boasts an excellent selection of records, plus one of the best record-players money can buy, and the polkas trip and the waltzes swing without giving you time even to catch your breath. Once in a while we hold a Hard-Times Dance, when the plaid shirt and the burlap bag come into their own.

Another event that takes place in the Lounge is the presentation of silver mugs to those of us who are being transferred or released. These impromptu Mug Parties are highlights in our lives, even though it



"Green hands . . ."



Platter Dance in the Lounge.

saddens us to see the girls leave. All the airwomen gather in the Games Room for a sing-song and general confab before the presentations begin. After a farewell speech, and the gentle dropping of a few tears, toasts are given to wish our friends farewell and the best of luck in their future lives, whether on Civvy Street or at a new unit.

With sports facilities second to none, our basketball and softball players, badminton enthusiasts, bowlers, and swimmers, find themselves in a sportsman's paradise. Although labouring under the normal Service handicap of transfer of players, the basketball team has demonstrated its superiority over all comers during the past season. Of course, we did lose two games — but there *must* be a legitimate excuse somewhere! Now that Spring is raising her head, preparations are in full swing for softball. Very soon cries of "Play ball!" and "Pass the liniment!" will be heard on every hand. A volleyball tournament is being fought out at present, with six teams of airwomen participating. These strenuous evenings are taxing both the brawn and brains of our competitors. Volleyball-players are easily recognized by the limply-hanging right hand, badly bruised,



Left to right: Cpl. Bergman, L.A.W. Mac Millan, Sgt. Bowlby and Cpl. Richards.

but still in working order. However, exercise keeps the figure trim — or so they tell me.

* * *

All I have tried to do in this little story is to present its readers with a few snapshots of the airwomen and their doings at Trenton. It would take a more gifted pencil and more tireless hand than mine to write about all the aspects of their busy lives; but I feel safe in

saying that, for the extrovert or the introvert, for the quiet girl or for "the life of the party", the Trenton airwoman's lot, unlike the policeman's, is a happy one. And I would like to add a final word of thanks, on behalf of all of us, to Flt. Lt. D. L. Pope, of T.C.H.Q., and to Flying Officer M. O. Priest, of Station Trenton, for their untiring efforts to ensure that such is indeed the case.

NIGHT STRIKE

BY A. M. FEAST

(This is the fifth article written for "The Roundel" by Mr. Feast. In his fourth, the author — who was a Flight Lieutenant in the R.C.A.F. during the war — described an attempt at escape made by himself and several fellow-prisoners while they were being moved from an Italian to a German prison-camp in October 1943. The present story tells how he became a prisoner in the first place.—Editor.)

ON THE night of 12 March 1943, *Beaufort "N"* of No. 39 Squadron was flying just below a low overcast, circling a position roughly ten miles off Sicily's Cape San Vito. Intermittent rain smeared the perspex, and low cloud-scud heralded a deterioration of the weather that was already shrouding an enemy convoy somewhere in the area.

We had been airborne for some three and a half hours, and the strain of low-flying on instruments was manifesting itself by the usual ache between my shoulder blades and by a slight touch of vertigo. High over us, hidden in the muck, an A.S.V.* *Wellington* was orbiting, its insistent morse-beat rustling in the intercommunication 'phones. It had located the convoy shortly after the latter left the harbour of Palermo, and its W/T call had summoned us from an offensive patrol off Tunisia. Now we were on the scene looking for an opening to attack.

We altered course eastward and flew towards the coast. At a point which we believed to be well inside the target's reported course, I swung back on a reciprocal course and nosed the machine down, levelling out only when a deepening of the gloom below indicated the sea.

* "Air Surface Vessel" aircraft, equipped with radar, were used for striking at shipping.

Then it happened. The overcast to the west broke slightly to disclose a watery half-moon. Its pallid light revealed the vague outlines of two tankers in line astern, ahead and to starboard. The escort vessels, four in number, were well separated and steaming off the bow and stern quarters of their charges. It was strictly "picture-book" — a page right out of the tactics manual. Our position at that moment was down-moon from the quarry, roughly five miles away from the leading tanker. A gentle turn to the right, and the *Beaufort* angled 45 degrees to the vessel's bow on a line that would cut between the two destroyers on the port flank. I flipped the arming-switch in the cockpit, yanked the mixture control into full rich, and moved the propellers into fine pitch. The navigator came scrambling back out of his nose compartment. "Torpedo armed, old boy", he said.

Four miles, three and half, three — then they spotted us. The first ranging-burst came arcing out lazily from the stern escort vessel, the tracer flashing well behind us. A moment later all the vessels opened fire, and the cockpit was lit up by the long ropes of glowing flak that streamed above and about us.

We were flying at an ideal drop-height of about 60 feet, but I now

eased the 'plane lower and tried to hold a steady course. We crossed the "T" of the destroyer's course and dropped our height again. For one dreadful second, as the wings seemed literally to brush the waves, I thought that we were going to hit the water. At a mile and a half the tanker was taking on a firm silhouette, but I dared not climb, for the tracer was like a blanket overhead. It almost seemed as though the enemy's gunners could not comprehend that an aircraft could fly so low. At half a mile we were still brushing the water and in the drop-zone, jinking slightly, but too low to drop. The navigator had his hand on the jettison switch in case the electrical circuit failed. With one of the tankers looming only a few hundred yards away, it was almost too late for us to use the torpedo, which would require at least that distance to smooth out its porpoise pattern and to run at its setting of 9 feet below the surface. Nevertheless I eased gently back on the column with one hand, aimed at the bow with nil deflection, and pressed the release button. The aircraft bumped as the eighteen-inch seventeen-hundred-pound "fish" dropped away, but I held the nose down and we skidded and slipped around the ship's bow. The twin *Wasps* howled as we sunfished, climbed, dived, and skidded our way out. Our relief was tempered by the knowledge that it had been a poor drop — and also by the realization that we weren't out of the woods yet. We jinked out to sea, climbing slightly at over 200 knots, and the gunfire from behind slowly slackened.

I pulled out on a level keel, at the same time flicking on the cockpit

light to examine the engine instruments more closely. The tail-gunner's voice came over the intercom: "It's a hit, skipper!" — then, in sudden alarm — "Put out that damned light!" More flak came flicking up from an extreme range and again the throttles were banged open as we hauled away in corkscrew turns.

The navigator slipped back into his office and gave the course home. The *Beaufort* swung on to a southerly heading that would skirt the Sicilian coast and bring us into the Sicilian Narrows on the homeward leg. A wide swing out to sea would have been preferable, but our acute fuel position dictated the shortest route. Two minutes passed, and I was settling back comfortably behind the wheel, fumbling in my pockets for a cigarette, when, quite by accident, I caught sight of a slender black shadow in the sea below. Even as I looked, it erupted into fire. I threw the machine around wildly on a reverse course, cursing our oversight, and went into evasive action. This vessel had obviously been doing a protective sweep miles ahead of the main convoy, and we had blundered right on to it.

The long flames from the short-stacked exhausts of the *Wasps* made a superb target for the gunners. The tracers bracketed us as I made a diving turn back, striving to mask the tell-tale flames against the water. We pulled out low over the sea, paralleling our previous course and well to starboard of our latest trouble. I glanced out over the port wing. The destroyer still bulked alarmingly large in the window. In my anxiety about our fuel situation and in my desire to get back on course, I had stupidly cut the turn too short. The gunfire increased in volume as we drew abreast, and three distinct lines of fire seemed to hang on the *Beaufort's* blunt nose.

Instinctively I pushed the control

column forward in order to pass the 'plane beneath them. In the same moment the wheel kicked convulsively in my hands. The *Beaufort* hit the water in flying position, bounced prodigiously, then slammed into the sea at high speed.

I dimly recollect a great wall of black water geysering up, blotting out everything except the rending and racking sounds of the disintegrating machine. I seemed to sit impassively for an eternity, feeling all this, yet oddly detached from it. After the terrifying din that had gone before, all was now weirdly silent. A soft little whistle started, the subdued sound of wind passing through the broken perspex. I looked around in a daze, shaking my head to clear it. I was still strapped in the seat, my hands gripping the wheel; and water was beginning to swirl up around my knees.

It was the chill of the rising water that snapped me out of my trance. I unstrapped the Sutton harness, reached upward, and pulled the handle of the escape-hatch located in the roof of the cockpit. It fell inwards, and I clambered up on top of the fuselage. Light rain was falling, and choppy waves were already breaking over the wreckage. The fuselage aft of the rear turret, and the tail assembly, were gone. The wings were bent and twisted, and the starboard motor had been ripped from its nacelle.

The wireless operator appeared from the rear hatch, blood running down his face. He looked at me uncomprehendingly for a moment, then reached down and gripped the dinghy release-cord located at the port wing-root. The dinghy ballooned out of the shattered wing with a hiss and floated on the heaving water. He climbed slowly into it, holding a pocket-knife in his hand.

"Where's Pete?" I shouted at him. I had to repeat the question before

he mumbled: "He's gone. The whole floor's gone. Gone." I swung back into the cockpit and groped in the water that now filled the navigator's compartment. My hand encountered nothing but debris. I jumped back on to the wing and into the dinghy, which the wireless operator cut loose from the sinking 'plane. As we drifted away, *Beaufort* "N" sank lower and lower in the water, and slipped beneath the surface about twenty seconds later. She had been due for a major overhaul, and it was to have been our pleasant job to fly her to southern Egypt on the 14th of March and then go off on leave.

The dinghy bobbed in the waves and the wind was cold. I shivered steadily, and a ridiculous phrase kept passing through my mind: "Who said the sunny Med.? Who said the sunny Med.?" I looked around the tossing expanse of black waves and could just espy from time to time the outline of the destroyer circling in the distance. I weighed the chances of our remaining undetected, making the coast and so escaping. A quick examination of the interior of the dinghy, however, disclosed nothing except a bundle of distress flares. Some hungry mechanic had probably removed the emergency food supplies months ago before the siege of Malta had been lifted.

The navigator hailed us feebly from some distance away, and, as we paddled awkwardly towards him, using the flares as paddles, he struggled in our direction. He was a pitiful sight, with his Mae West and most of his clothes torn from him, semi-conscious and bleeding from numerous cuts. The impact of the crash had pitched him right through the nose of the *Beaufort*, through metal frames, perspex, twin nose-guns, and heaven knows what else. His condition demanded immediate aid.

The wireless operator ripped the igniter on the first flare, and the

five coloured balls sailed upwards into the night. The destroyer reacted immediately, and after a very few minutes came backing down on us. A heavily accented voice boomed over the loud-hailer: "How many are you?"

"Three," I shouted back, throwing papers, money, and revolver overboard. The low fan-tail with its churning screws gave us an uneasy moment before we were alongside. Many hands hauled us aboard, then up came the dinghy to be flopped on deck. We were led below, supporting the navigator who was now barely conscious. A deft surgeon, speaking flawless English, went to work immediately in the wardroom.

Later, when the navigator had been treated and wrapped in a blanket, and when our own superficial head-cuts had been bandaged and a few fingers of cognac were sending a glow through frames still shaking with reaction, I formally thanked the surgeon for his kindness.

"It is nothing," he said, white teeth gleaming briefly in a smile. "The fortunes of war. Possibly your side will do the same for us some day. And now," he went on, gesturing towards the door, "I am sorry, but we will have to move you from here. We have more wounded coming aboard."

I turned and assisted in carrying the navigator down a narrow passageway that led forward until we came to a small cubicle which appeared to serve as a machine-shop. The grated door swung behind us and was locked. We lay on the floor, the navigator between us, listening to the sounds of the ship and the water rushing by the thin hull. The destroyer was moving at a smart pace, and the vibration throbbed through the steel plates of our cell. Italian crew-members, bulky in their oil-skins and life-jackets, passed to and fro outside our door, from time to time

pausing to stare at us through the grating and jabbering excitedly the while.

Later, a short cheery-looking individual unlocked the door and indicated in pantomime that we should give him our battle-dress blouses to be dried. The wireless operator and myself shrugged out of them and handed them over. The man departed with a happy smile, leaving with us a package of cigarettes and two oranges sent by the surgeon.

We were puffing steadily on our third cigarette when we heard the first sound of aircraft motors that sent the raucous horn for "Action Stations" reverberating through the ship. The dim lights in the passageway went out and we were in total darkness. Feet pounded on the plating overhead, the vibration increased to a steady pounding as the destroyer gathered speed. The deck beneath us heeled with each turn of the boat.

"Wonder what that's all about," said the wireless operator uneasily. "I thought this bloody show was all over."

My thoughts went back to the afternoon's briefing at the underground operations room at Luqa aerodrome. "That, I'm afraid," I said, "is the Fleet Air Arm boys coming to pay their respects."

The first guns went off and further speech became impossible for the moment. The noise in that enclosed place was deafening. The beat of screws seemed to be at maximum, and the ship was behaving like a live thing. We clung to one another as the floor tilted sharply with each full-rudder turn. I heard the sound of a motor somewhere close at hand in the night outside, but it was drowned out by the hysterical gunfire from the upper decks. I tried to shut out the scene from my mind's eye — the twisting and turning *Albacore* above us, the drop, the torpedo's wake. My whole body tensed as I

counted the seconds. Another wrenching jar as the destroyer heeled. The seconds passed, the firing diminished in volume, and I breathed again. The din had roused the navigator from his torpor, and he began to shiver and groan. We pressed our bodies against him in an effort to keep him warm, but we could muster only a few words of comfort. A torpedo-hit on this slender craft would break its back like a stick and we would go down locked in our tomb.

Once more the ship heeled on a turn to port. Again the guns worked up to a crescendo, the water boiled along the hull below the locked port hole. My stomach muscles knotted, and again I began to count. When I reached twenty, a sigh of relief broke from me that lasted until the next attack.

It seemed to go on for hours — the continuous clamour of gunfire, the shuddering of the vessel, the impenetrable darkness that pressed down upon us in our cell. In actual fact, the attacks (I estimated six) were probably over in thirty minutes. We offered up prayers at each one — prayers that it would miss!

It ended with a final staccato pow-pow-pow-pow-pow from a single Bofors gun above. Then we felt the ship decrease her speed. The horn hooted a short "All Clear" and we could hear feet tramping down the passageway. The lights went on. The door opened to frame our former visitor, carrying our dried clothes. He waved an expressive arm, and, grinning happily, said: "Finito!" My battledress looked in much the same category: a large hole had been burned in the back, and the shoulder-tapes and wings had been removed by some souvenir-hunter.

Another crew-member pushed slowly into our cell and stood awkwardly, first on one foot then another. He grimaced for a moment as though cudgelling his brains, then blurted out: "Me, I speak &



little English." His comrade gazed at him admiringly as he continued hesitantly: "Your planes are—gone. We go now to Trapani. You leave there."

* * *

Three weeks later as we crossed the Straits of Messina in the crowded ferry, we met three other members of our squadron being escorted by German guards. In quick aside, and despite the scowls of

the guards, we learned their story and the sequel to our own. They had been shot down off the east coast of Sicily by a Me. 210 during a day-strike a week later. The final chapter to our own strike had been written by photo reconnaissance. Both tankers had been towed back to Palermo harbour in a sinking condition and there beached. Another of No. 38 Squadron's machines went missing on the night of our disaster. Neither the

young English sergeant-pilot nor any of his crew were saved.

Two months later the Italian authorities formally advised me of the burial of Flt. Sgt. Peter Exton, whose body had been washed ashore on the west coast of Sicily. The navigator and I were by that time in P.G. 21, a prisoner-of-war camp at Chieti, Italy. The wireless operator was in Sulmona, some 65 kilometres away. He escaped about five months later.

Reunion of the "Originals"



When the R.C.A.F. was reorganized on 1 April 1924, commissions were granted to 62 officers in the permanent component, and to 4 in the non-permanent. Subsequently 6 more non-permanent commissions were granted, dated back to April 1st. The great majority of these officers had already served in the Canadian Air Force.

We quote below from the form-letter which is now being sent to the "survivors" of the above 72 officers by Air Commodore A. H. Hull (retired), who is chairman of the special committee set up by the Air Force Officers' Association of Vancouver to lay plans for a reunion.

"The Air Force Officers' Association of Vancouver, British Columbia, was organ-

ized immediately after the end of the First World War, and at the present time has a membership of more than 250 officers who have served in the Allied Air Forces — chiefly in the R.N.A.S., R.F.C., R.A.F., and R.C.A.F.

"This association celebrates annually two main functions: the Dawn Patrol and Amalgamation Day (the latter commemorating the merging of the R.N.A.S. and the R.F.C. into the R.A.F., on 1 April 1918).

"Amalgamation Day will be celebrated by members of the Air Force Officers' Association on Monday, 1 April 1957, and it is the wish of the Executive that this day be made a truly historic occasion. With this object in view, it has been proposed that all of the approximately 45 surviving original officers of the R.C.A.F. be invited to attend our Amalgamation Day celebration on 1 April 1957, as special guests.

"I have been appointed Chairman of a special committee to organize this get-together, and the purpose of this letter is to obtain your reaction to the idea. I am sure you will agree that it would be a unique occasion, as I feel sure that it would be the first time that all of the 'Originals' had ever been together at the same time.

"Present plans are that the evening entertainment will take the form of a 'Mess Dinner', with the Air Force Officers' As-

sociation of Vancouver making all the arrangements. Unfortunately, the Association is not in a position to assume any of the expenses of those attending. Traveling- and living-expenses, plus a charge for the evening's entertainment, will have to be borne by the officers attending. Hotel reservations will be made by the committee. Senior serving officers of the R.C.A.F. as well as distinguished civilians will be invited.

"When the committee is assured that a sufficient number of the 'Originals' will attend, attention will be given to making arrangements for economical transportation for those who will have to travel long distances."

Air Cdre. Hull asks us to publish an enquiry as to the present addresses of the undermentioned ex-officers:

C. H. Dickins. B. N. Harrop.
G. K. Trim. G. J. Blackmore.
F. B. Gillespie.



SLOGANS

Slogans are both exciting and comforting, but they are also powerful opiates for the conscience. Some of mankind's most terrible misdeeds have been committed under the spell of certain magic words or phrases. (James Conant.)

VAPOUR TRAILS: 4

BY FLYING OFFICER D. G. TURNER

(The third instalment of Flying Officer Turner's reminiscences left him in the early days of his flying training at No. 1 F.T.S., R.C.A.F. Station Centralia.—Editor.)

FOR eight weeks I continued to reduce Centralia's runways to rubble beneath the wheels of my porpoising Harvard, drawing thirty pieces of silver per month as "flying pay". Then one day my instructor gave out with the glad tidings that I was ready to solo. His announcement came as something of a shock, and, despite an attempt to greet it with a delighted smile and an "Oh-isn't-that-wonderful!", my bulging eyes and open mouth seemed to give him the impression I was about to be sick. Despite its achievements, modern science has still not been able to devise a method of withdrawing the instructor from the aircraft little by little until the student is ultimately left entirely on his own. Thus, the break from dual to solo is as brutal a business as when a mother eagle kicks her offspring from the nest at the first sign of a pin-feather.

"Don't be nervous", went on my instructor, fixing me with his cool gaze. "Just a short check-ride with the Chief Flying Instructor — and you're away." He then playfully pulled a few hairs from my scalp, which was an odd trick of his when he wished to encourage anyone. (By the time I graduated, I looked pretty gruesome.)

With eyes like Flanders poppies and a nasty dry taste in my mouth, I waddled to the Harvard where the C.F.I. sat waiting for me in the back cockpit. He crooned at me, as though coaxing a bashful beagle:

"Come along . . . come along, then. Nothing to worry about. Nothing at all. Just a quick circuit."

I wasn't worried about the quick circuit, but I was worried about him. I had never flown with a Squadron Leader before, and, given the choice, I would have sooner taken a moonlight drive with Typhoid Mary.

"Jump in" he called heartily, as if the front cockpit had the dimensions of Carnegie Hall. As every Harvard pilot knows, by the time you have forced yourself, your flying-suit, and a parachute into the opening, you are not so much sitting in the aircraft as wearing it.

"Very nice take-off", conceded the C.F.I., when we were airborne. "You flew that like a veteran."

I was about to remark that I'd never flown a veteran, when the engine sneezed violently and stopped. My consternation was greeted by peals of happy laughter from the rear.

"I've cut the engine," he chortled, as if this were a remarkable feat. "Now what will you do?" I refrained from telling him what I'd like to do. Instead, I set his mind at rest by rattling off the checks for a forced landing.

"Good, good, good!" he carolled. "Now take me back and show me a landing."

I showed him one. When he had recovered from it, he leaped from the aircraft with unbecoming haste, and mumbled: "You can take it away first thing this afternoon." In an undertone he added something else which I interpreted as "And may God go with it!"

After a light lunch that seemed to be transmuted to lead in my

stomach, I returned to the flight line for my first solo performance.

An airwoman, freshly washed and curry-combed for the occasion, gave me a form F-17 to sign, in which I acknowledged the order to fly, alone, once around the airfield.

Wishing me good luck, and pulling out another handful of my hair, my instructor took off for the control tower like a guided missile to get a good seat for the show. It did little for my confidence that a fire-engine and an ambulance had also arrived to witness the festivities, as well as the O.C. flying, with his adjutant a few paces in front of him, rather like a pilot fish before a shark.

Having started the engine and made ready to cast off, I called the tower for taxi clearance. Your controller is a creature of caprice, and, if he thinks you shouldn't taxi, his snarls of "Hold your position!" leave you with the feeling that you've just been talking to Jack the Ripper. On the other hand, if your voice doesn't appeal to him, he pretends that he doesn't hear it, and he won't answer at all.

Trying to sound confident and experienced, I called sternly for permission to taxi. No reply. Twice more I called him, and by the time he gave his O.K. my voice had taken on the shrill note of a snared rabbit's. At last, however, I was on the runway and opening up the throttle. While I did so, I offered up a prayer that I wouldn't ground-loop and thereby expose myself to the gentle raillery of the whole station. Nor, I hoped, would I do anything for which the controller would violate me. ("Violate", I should explain for the benefit of the suspicious, means merely "turn in an adverse report".)

Accompanied by a horrendous roar and a slight smell of burning, my machine hurtled down the runway and began to climb into the air and haul me around the circuit. I looked down at the control tower. It no longer looked like the Bank of Commerce in Toronto, but had shrunk to the proportions of a Good Humour ice-cream stand. This sudden proof that I was high up in the air — and what was more, alone in it — stimulated my imagination somewhat disturbingly. I visualized my classmates casting lots for my garments while my instructor composed a comforting letter to my next-of-kin.

Strangely enough, though, all went well. My circuit was nearly completed, and there only remained the job of landing the aircraft

without breaking its legs and my own. To my astonishment, I did it; and then sat perspiring in the aircraft, waiting for the same sort of cheering crowds that had once greeted the "Spirit of St. Louis". They failed to show up. An airman asked rather nastily if I intended staying there, or could he get on with the job of refuelling, please?

I dismounted and returned to the flight room, to learn from the airwoman that the finale of my maiden voyage, the climax of my grand solo performance, had been played to an audience of one—my instructor. My classmates, apparently, had considered coffee more interesting.

"Well", said my instructor, "how does it feel?" Without waiting for an answer, he went on to describe how *he* felt after *his* first solo back

in '09 or whenever it was. Nothing is further from my mind than to suggest that my instructor's stories of those early days and his war experiences were exaggerated, but it does seem odd that, with him on our side, the war lasted as long as it did.

Seven months later I was presented with wings by an Admiral who said ours was the finest course he'd seen. What those other courses must have been like, I can't imagine; but if I ever achieve equivalent stature in the Air Force, I must return the Admiral's kindness by going to Halifax and presenting the graduating sailors with their pins or whatever it is that sailors get.

(To be continued)

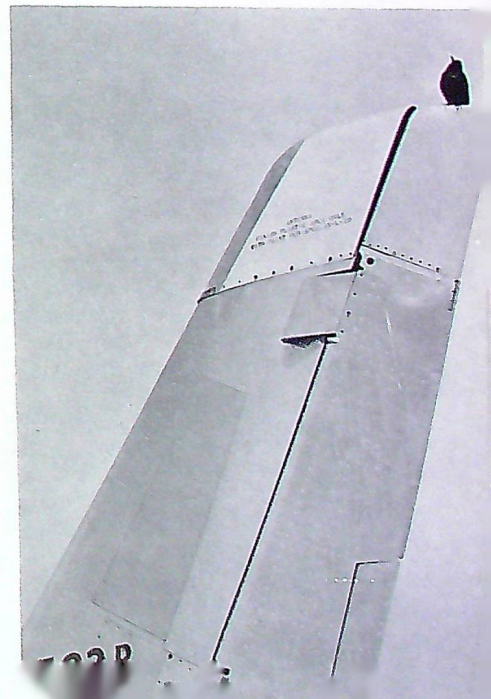


Emergency Landing

"Not long ago", writes Sqn. Ldr. R. Wood, Staff Officer Public Relations at Training Command, "while engaged on a photographic project at R.C.A.F. Station St. Johns, we were interrupted by a sudden light flurry of snow. Also interrupted in his work was a fledgeling starling who, while making a short familiarization flight, was forced down by the weather on to the tail of a *Sabre*. Since the aircraft was on

display outside the Personnel Selection Unit, it occurred to us that he might have become discouraged and be considering the possibilities of a ground trade. After a few minutes, however, he apparently pulled himself together and decided to persevere in his flying career. When we last saw him, he was headed north, well on the way to earning his wings."

*The starling, though he's full of fun,
Is not a welcome neighbour—
But, if the farmer's got a gun,
This starling has a Sabre!*



THE SERVICE TRIANGLE

A Review-article

BY WING COMMANDER F. H. HITCHINS,
Air Historian

WHEN the British Army first began to use aircraft, the new weapon was often referred to as "the fifth arm". Within a few years the flying corps gained its independence and became "the third Service", alongside the Navy and the Army. Today the adjective "third" is generally accepted as indicating only the relative seniority, in years, of the Air Force which has become the first line of defence. This evolution from fifth rank to first has occurred within less than fifty years — within the lifetime of men who have observed the complete course and have themselves participated in and contributed to it. One of those who can say "omnia vidi, pars fui" has now given us his view of the development of Britain's air service in a volume that makes interesting and often picturesque reading.*

Air Chief Marshal Joubert, whose Service career spanned the whole story, has not attempted to add just another history of the R.A.F. to the many that have already appeared; rather he has set out to tell "the story behind the Royal Air Force", the story of its struggle through more than forty years to gain and retain independence. He presents his book to the public "as a study of inter-Service jealousies and the perils they incur, and as a

warning to the British people of the risks that are involved in allowing these jealousies to obscure sound judgment."

As a serious "study", the book falls rather short of the mark. It is more of a commentary, suggesting rather than spelling out. Although Sir Philip has lifted a corner here and there to illuminate some episode, much still remains unrevealed. Nevertheless there is a great deal of colour in his pages, particularly the thumbnail sketches of many of the personalities involved in the struggle for independence, and the author's comments on policy and the development of aircraft and weapons.

The Royal Navy, in Air Chief Marshal Joubert's thesis, has been the major villain of the piece — "infallible", "an imperium in imperio . . . more powerful even than the Government itself". It began when the Royal Flying Corps was established by Royal Warrant in 1912 as one corps, consisting of naval and military wings and a central flying school. Although for the next six years the Army scrupulously observed the official title Royal Flying Corps (Military Wing), for the Admiralty a unified R.F.C. was merely "a paper gesture", and in lieu of Royal Flying Corps (Naval Wing), as the King had decreed, it set up its own Royal Naval Air Service.

The Army, however, is not free of criticism. Despite the great expansion of the Military Wing of the R.F.C. between 1914 and 1918, it tended to break up into penny

packets as "each corps commander began to think in terms of his own private air force". This mentality, violating the principle of war of concentration at the decisive point and time, meant all too often that the R.F.C. was strong nowhere and weak almost everywhere. The author also criticizes the lack of "proper strategic planning" in the First World War that led to a dispersion of Britain's effort in "eccentric campaigns" that could not produce a final decision in the struggle. "The Royal Flying Corps, tied to the Army chariot, had no choice but to follow where it led."

In the last months of the war a unified Royal Air Force was established, but no sooner had the fighting stopped that another battle began in Whitehall to divide the R.A.F. once more, and the Services "fought with tigerish intensity to obtain the largest share of the Treasury dole." The issue was fought too in the Staff Colleges where Air Chief Marshal Joubert was himself involved in the verbal fray. (He notes that, among the students, the bitterness decreased as mutual understanding increased.) Through a decade of furor, "Boom" Trenchard, as Chief of the Air Staff, rebuilt the R.A.F. from its very foundations, preserved it intact against the assaults of Admiralty and War Office, and made it "a happy and efficient Service."

After Trenchard's retirement, however, other Chiefs, "brought up in the Navy and Army and obsessed with the idea that there was no really independent rôle open to the

*Air Chief Marshal Sir Phillip Joubert de la Ferté, K.C.B., C.M.G., D.S.O.: "The Third Service — The Story behind the Royal Air Force". Pub'd by Thames and Hudson, London, England; 1955. Pp. xii 274; illustrated; index. Distributed in Canada by Longmans, Green & Co., 20 Cranfield Rd., Toronto 16, Ont. \$4.25.

air", were not always as successful, with the result that the Navy won a partial victory when it regained its Fleet Air Arm. Changes of government and ministers, the general atmosphere of disarmament, and "fear of the Treasury lash", caused long delays in getting new aircraft and equipment, until the challenge of German rearmament in 1935 finally stirred action to recoup the years lost to "the locusts of economy and procrastination."

In writing his account of the Second World War, the author, after sketching the air officers in charge of the several Commands, devotes most of his space to Coastal Command, which had to contend not only with the "jealousy" of the Navy, but also with the demands of the other R.A.F. Commands, Bomber in particular. Coastal was usually "at the end of the queue" for new aircraft and equipment. Air Chief Marshal Joubert directed Coastal Command for a year and a half (June 1941 to February 1943), until he became "exceedingly unpopular" with the "infallible" Navy and had to go — just why is not clear.

In other theatres of the war — North Africa, Italy, and South-East Asia — the major rôle of the air forces was that of close support, a development which the author regarded as "a menace for the future of the R.A.F. as an independent Service." Although in Britain the idea of the strategical use of air power was firmly maintained,

even there the pull of the invasion in 1944 caused a diversion for some months. "So, in another theatre, the use of the aeroplane as a mobile long-range gun was accepted by the air forces as an unfortunate necessity and by the land forces with whole-hearted enthusiasm."

From his survey of the storms and stresses of the past, Sir Philip turns to look at the present and glance into the future. The present situation he finds far from reassuring, for, despite the great progress that Britain has made in aircraft engine development, "today, ten years after the war, the Royal Air Force is largely unbalanced and in the main equipped with obsolete aircraft." Furthermore, the "Battle of Whitehall" has flared up once more, sparked by retired admirals. The Navy and Army are again whittling away at the R.A.F., which, far from being secure in its integrity, is in a "more than critical" position. The Navy "is clamouring for the return to it of Coastal Command", while the Army "virtually controls its tactical air forces and now it is to have its own transport command. Waste and duplication of effort once more confront us."

Examining present and future problems of defence, Sir Philip suggests that, to make Great Britain less vulnerable, it may be necessary to redistribute the population throughout the Commonwealth, limit towns in the United Kingdom to 40-50,000 (as General Worthington recently suggested should be

done in this country), and put vital military and political targets underground. "It is also conceivable that Canada could so develop her resources and her industry that she would become the new heart of the Empire . . . But on the whole it must be realized that these drastic measures are unlikely to be put into execution."

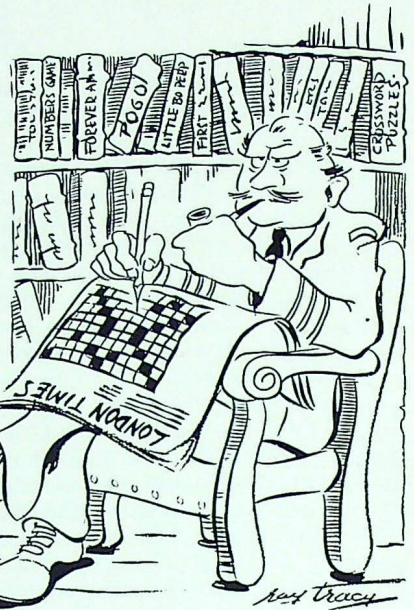
After considering possible future developments in the Navy, Army and Air Force, the author concludes that "the advent of the atomic age has produced no fundamental alteration in the rôle of the armed forces. New weapons and new methods there will be, but the effect of the bomb goes no deeper than that. Only in the political and economic sphere does the threat of the bomb postulate deep and fundamental changes." Finally, there is "the unanswerable argument that, before long, conventional methods of warfare on land and sea must be reduced to the level of police measures only. Great wars such as we have seen in the past cannot occur, because war on an international scale will, if it happens at all, be carried out with weapons of mass destruction. It is unlikely, when both sides possess the 'Great Deterrent', that such wars will take place. The consequences would be too frightful. Even if they do, neither army nor navy can intervene effectively. So the air remains in unchallenged superiority, both as a deterrent and as the only possible solution to the problem."

WAR AND PEACE

The world cannot continue to wage war like physical giants and to seek peace like intellectual pygmies. (Basil O'Connor.)

What's the score?

(This month's questionnaire was prepared by Wing Cdr. F. H. Hitchins, the R.C.A.F.'s Air Historian. It is exactly the sort of thing one would expect from a man whose lunch-hour pastime is the solving of the London "Times" crossword puzzles. He writes, "In each of the twenty simple questions that follow, three of the clues should suggest a well-known word, phrase, or title which incorporates the given cardinal or ordinal number. The fourth clue is incorrect." The answers, which appear on page 32, refer to the fourth — that is, the irrelevant — clues.—Editor.)



1. The cardinal 1 is associated with:

- (a) Anything poorly equipped — especially, perhaps, a stable.
- (b) The square root of 2.
- (c) Metz.
- (d) A.

2. The cardinal 2 is associated with:

- (a) An aircraft built in Canada, bearing the name of the Red Rose duke, but more frequently seen over his rival's territory.
- (b) Birds uncaught.
- (c) Sydney Carton.
- (d) Janus.

3. The cardinal 3 is associated with:

- (a) R.
- (b) Out.
- (c) Melchior, Gaspar, and Balthazar.
- (d) R.C.A.F. squadron in the Battle of Britain.

4. The cardinal 4 is associated with:

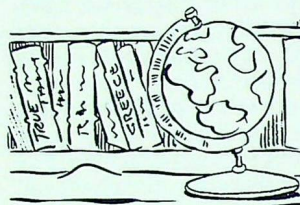
- (a) A bluffer.
- (b) A type of cravat.
- (c) Candlemas or "Groundhog Day".
- (d) A large curtained bedstead.

5. The cardinal 5 or ordinal 5th is associated with:

- (a) Superfluity.
- (b) Subversive activities.
- (c) Gunpowder, treason, and plot.
- (d) C.A.P. designation of Sgt. Shatterproof's "bible".

6. The cardinal 6 is associated with:

- (a) Horse operas.
- (b) Private chapel in the Vatican, famed for its paintings.
- (c) Confederation of Indian tribes, including the Tuscaroras.
- (d) 408, 415, 419, 420, 424, 426, 427, 428, 429, 431, 432, 433, and 434.



7. The cardinal 7 is associated with:

- (a) Site of the Eternal City.
- (b) Pen-name of S. L. Clemens.
- (c) Title of a book by T. E. Lawrence.
- (d) Group of men who elected the Holy Roman Emperor.

8. The cardinal 8 is associated with:

- (a) V.
- (b) D-Day.
- (c) The Spanish Main.
- (d) 0400 on the nautical clock.

9. The cardinal 9 is associated with:

- (a) Feline luck.
- (d) Feline punishment.
- (c) Clio and her colleagues.
- (d) Total of Canadian air V.C.s.

10. The cardinal 10 is associated with:

- (a) A strike.
- (b) Mount Sinai.
- (c) Total of F-86 squadrons in R.C.A.F. Air Division.
- (d) Prime Minister Eden.

11. The cardinal 11 or ordinal 11th is associated with:

- (a) Two minutes' silence.
- (b) English cricket and American football.
- (c) Maximum number of days' leave allowed for travelling-time.
- (d) In the nick of time.

12. The cardinal 12 or ordinal 12th is associated with:

- (a) Epiphany.
- (b) Herculean labours.
- (c) A baker's dozen.
- (d) Qualification for C. D.

13. The cardinal 1 is associated with:

- (a) Partial.
- (b) Jolly coin often heard of in wartime (and present-day) messes.
- (c) Traffic signs.
- (d) Golfer's aspiration.

14. The cardinal 2 is associated with:

- (a) Noah's Ark.
- (b) A double-dealer.
- (c) More than company.
- (d) Half a home-run.

15. The cardinal 3 is associated with:

- (a) Caesar's Gaul.
- (b) The R.C.A.F. at Two Bridges in Germany.
- (c) Euphrosyne and her beautiful sisters.
- (d) A threat of retaliation.

16. The cardinal 4 is associated with:

- (a) Golfer's warning.
- (b) The Apocalypse.
- (c) Taking a walk.
- (d) Lack of equivocation.



17. The ordinal 3rd is associated with:

- (a) Used before.
- (b) Der Fuehrer.
- (c) The commons.
- (d) Gestapo methods.

18. The ordinal 8th is associated with:

- (a) Windsor.
- (b) "Desert Rats".
- (c) Relaxation at national sport.
- (d) Catherine, Anne, Jane, Anne, Catherine, and Catherine.



19. The ordinal 4th is associated with:

- (a) Length, breadth, depth, and —
- (b) The press.
- (c) Fireworks and oratory.
- (d) Joint rulers of England.

20. The word "hundred" is associated with :

- (a) The Elite.
- (b) Twin Orendas.
- (c) Arabian nights.
- (d) Unreasonable obedience to orders.

World's Northernmost Curling Club



From Cpl. Darrell Eagles, of Air Transport Command H.Q., whose excellent photographic work has more than once appeared in "The Roundel", we have received an account of the R.C.A.F. curling club at Resolute Bay, nearly 600 miles north of the Arctic Circle.

While many Canadian sportsmen are enjoying a summer of swimming and basketball, the airmen of Resolute will be plying their besoms on the world's most northerly rink. For them, the curling season lasts about nine months. The rink is situated in an unheated Quonset hut, where the temperature is sometimes as low as 46° below zero during a game.

Play takes place every night during the "season", and a bonspiel is held each month. Only once has a game been cancelled, and that was because weather conditions made it too dangerous to try to find the rink, although the latter is merely 250 feet from the main building. An 85-mile-an-hour wind and driving snow had reduced visibility to zero, and the men responsible for checking the power and heating plants could only venture out when guided by hand-lines.

The club was formed last December, under the guidance of the only two experienced curlers on the station, Cpl. D. Brien and Cpl. B. Mc Quarrie; and Cpl. J. Arsenault and

L.A.C. P. Sullivan, both of whom are fire-fighters, patiently sprayed the gravel floor of the hut until a perfect surface was built up. The rink is 18 feet shorter than the official regulations of the game require.

The club has a mascot, but he is barred from the rink. When play is in progress he climbs on to a huge snowbank outside and jumps on to the roof of the hut, howling piteously the while. This seemingly heartless treatment of a beloved mascot, however, becomes understandable when it is explained that Pogo is a large, healthy, and very normal husky pup. . .

MOTTO FOR A P.R.O.

Every noble deed dies, if suppressed in silence. (Pindar: 5th cent. B.C.)

THE AIR-BASE PROBLEM

BREAKING THE CONCRETE CURSE

BY GROUP CAPTAIN H. R. FOOTITT
Director of Aircraft Engineering, A.F.H.Q.

(Group Captain Footitt has written several extremely interesting and provocative articles for "The Roundel" in the past. Among the themes he has chosen have been the development of military aircraft, air strategy, and the establishment of a yard-stick for the evaluation of weapons. Here he concerns himself with the problem of making air forces as mobile on the ground as they are in the air.—Editor.)

"Strange as it may seem, the Air Force, except in the air, is the least mobile of all the Services." (Sir Winston Churchill: "Their Finest Hour".)

A PROBLEM ARISES

THE sun had barely lifted above the horizon when the train shuddered to a stop. In a second Captain Imboden leapt from one of the cars and raced along the roadbed, revolver in hand. This was no time for delay. He was already shouting as he swung into the cab of the locomotive. Whether the crew liked it or not, the train was going on. For a few moments heated words echoed through the cool morning air. But the menacing revolver had the final say. Reluctantly the fireman kicked open the door of the firebox as the engineer opened the throttle. The big drivers inched the creaking troop-train forward. The Confederate raiding-party was under way again.

This incident took place on the morning of April 18th, 1861. It heralded the dawn of a new type of warfare—war by rail. Captain Imboden's raid on the Federal Arsenal at Harper's Ferry, during the early

days of the U.S. Civil War, was one of the first times that railways had been used for the movement of war-time troops. It was the railways that gave the Confederate and Federal armies "the tactical use of a machine which was to work a greater change in warfare and its methods than had been wrought by any other instrument since the invention of gunpowder."* And part of this change in the pattern of war centred around the new necessity for the building, capture, or obliteration of railheads, stations, and junctions.

THE CONCRETE CURSE

As the Civil War armies soon discovered, tactical mobility by rail hinges heavily on such key points in the system. Eighty years later the military forces were relearning the same lesson. But now it was air power. Instead of railway yards, junctions, and stations, success in the Second World War was to see-saw over the construction, capture, or destruction of air bases. Without these bases, air power was non-existent. In post-war years the

spotlight of powerful atomic and hydrogen bombs has thrown into even sharper relief the air-base problem: how can we get rid of these combat air bases that are hard to defend, yet are the very life-blood of our air power?

As the aeronautical nations of the world have probed this problem, the keystone to the solution has seemingly emerged — the runways. Get rid of these runways. Remove this curse of concrete and we can remove a large element of the vulnerability of the air base. Remove the runways and we can give the air force more mobility, and more flexibility of operation.

Reason has been stacked on reason to prove that the runways must go. As a result, the technologists have been steadily pressing forward with new aircraft and new devices that threaten to make runways a thing of the past. Of course, the helicopter does just that, but it has inherent limitations of speed and basic configuration which preclude its providing the universal answer to the runway problem for combat aircraft. Consequently, technology has been tackling the task along three main avenues of approach:

- Aircraft capable of short take-offs and landings that cut down on the length of concrete required, or, preferably, aircraft which can take off and land on very short dirt fields.
- Launchers that fire the aircraft into the air like a missile, and recovery devices that cut down the landing-area necessary.
- Aeroplanes that can land and take off vertically.

*G. E. Turner: "Victory Rode the Rails".



The Baroudeur.

An example of the first type is the French tactical fighter-bomber, the *Baroudeur*. This is an interesting aircraft that was designed by W. J. Jakimiuk, who spent a number of years with De Havilland Aircraft of Canada, and is the recognized designer of the Canadian *Chimpunk* trainer and the *Beaver* transport. The *Baroudeur*, which grosses some 15,000 lbs., has a trolley for an undercarriage, which it drops on take-off. The trolley is especially designed with low-pressure tires that do not bog down even in soft ground. The take-off distance, according to the press reports, is about 2,000 feet. This can be further reduced by adding four rockets for extra take-off thrust.

The landing-gear consists of three retractable skids. The landing-run on average ground is about 1,800 feet. This, too, can be cut down with braking-claws that clutch the ground, or a tail parachute. The *Baroudeur* can be winched back on to its trolley in two minutes by a jeep, and it is then ready for normal taxiing or another take-off. The French, always conscious of the real-estate problem involved with 10,000-foot concrete runways, have thus come up with their answer for the fighter with short take-off and landing.

Another unusual example of the short-take-off aircraft was demonstrated recently by Dr. J. G.

Winans of the University of Wisconsin. Dr. Winans' scheme was rigged up on a light 'plane — the *Ercoupe*. While the take-off area was small, it actually allowed an infinite take-off run; for the Doctor merely tied the aircraft to a centre-post with 400 feet of nylon cable, just like a tethered model aeroplane. With the centre-post firmly embedded in the ice of Lake Mendota, the Doctor then opened up the throttle and whirled round and round in a circular take-off path until he rose into the air. At the right height he unhooked the quick-release catch on the lower side of the fuselage, and the cable dropped clear. The *Ercoupe* was away.

Although Dr. Winans has not tried out a similar scheme for landing, there is a wide variety of stopping-devices being used or tested. Hooks and cables, similar to those used on the Navy's aircraft and carriers, are one solution. A runway barrier, similar to the one recently tested by the R.C.A.F. with a CF-100 fighter at Uplands, is another.

These two examples of aircraft with short take-off and landing both use "devices" to resolve different facets of the runway problem. In the case of the *Baroudeur*, which is designed mainly to get rid of concrete, the device is a trolley; in the case of Dr. Winans' special *Ercoupe*, which is designed mainly

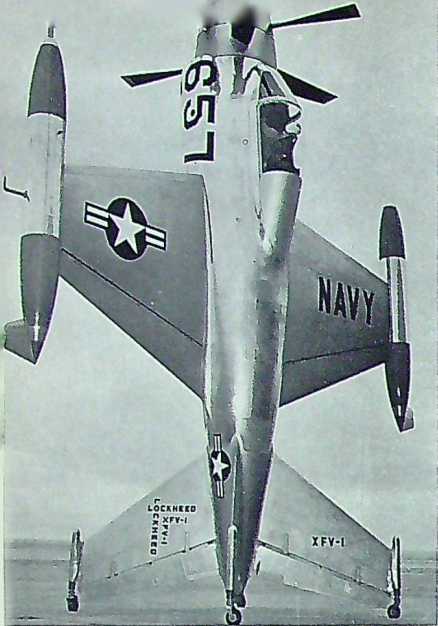
to reduce the length of the runway, the device is a centre-post and cable. But the science of aerodynamics is slowly advancing the low-speed state of the art that has been neglected for so long. Triple and quadruple slotted flaps, and similar schemes, are now in the wind-tunnels. These will reduce runway lengths. Aerodynamic boundary-layer control, which will allow astonishing lift at low speed, is actually being tested. These "steep gradient" aircraft, as Dr. T. P. Wright called them at a Canadian Aeronautical Institute meeting last year, are almost around the corner.

LAUNCHERS

We shall now leave aircraft with short take-off and landing in order to consider the other device that technology is developing to solve the air-base problem—the ground-based launcher. This mechanism can fire a standard aircraft into the air like a guided missile. Like so many of our post-war ideas, the launcher had its birth in war-torn Germany.

By 1944 the Germans were short of fuel and their fighter air-bases were being pounded continually by Allied bombers. As a result, *Lancasters*, *Liberators*, and *Flying Fortresses* were getting through to other vital Nazi targets. But the Germans came up with a solution — a vertical take-off aircraft. This, they hoped, would get their fighter force off the battered bases and on to small camouflaged areas close to the targets that were suffering under the rain of Allied bombs and block-busters.

Two contracts were let for such aeroplanes. The only one that came to the prototype stage, before the conquering armies swept over the country, was the *Bachem Natter*. This tiny (13-foot wing-span) interceptor was designed to be fired from a vertical launching-ramp. Its initial rate of climb, 36,000 feet a minute, was deemed sufficient to



The Lockheed XFV-1. (Official United States Navy photo.)

project it rapidly into the middle of the Allied bomber sweeps. Once there, the pilot fired off 33 rockets which were housed in the nose of the fuselage behind a frangible shell. With the armament under way, the aircraft became extremely tail-heavy and uncontrollable. The pilot promptly took to his parachute. The rear fuselage was also lowered to earth by a large chute. Several prototype models were successfully launched without a pilot. But the only piloted model that was fired off nose-dived into the ground and exploded into a thousand pieces.

A similar launched take-off has recently been tried by the U.S.A.F., using a Republic F-84G *Thunderjet* fighter, at Edwards Air Force Base. In this case, the aeroplane was fired from a modified "zero length" launcher that is used for the Martin B-61 *Matador* guided missile. With booster rockets the aircraft was airborne with a reported force on the pilot of around 4 g. Further results of these trials, and any landing-mechanism tests, have not been announced. But it is readily apparent that the launching scheme so unsuccessfully pioneered by the Germans is still under active interest some 10 years after their ill-fated *Natter* experiment.



VERTICAL TAKE-OFF

The last broad category of technical development that is attempting to defeat the curse of concrete is the true vertical take-off and landing (V.T.O.L.) aeroplane. In this case, the technical principle is simple: provide an excess of thrust over weight and the aeroplane will be able to rise vertically and descend in a similar manner.

There are a number of ways of accomplishing this in these days of high-powered aero-engines. The first V.T.O.L.s to hit the headlines in recent years have been the two U.S. Navy "tail-sitters," the Lockheed XFV-1 and the Convair XFY-1. In both designs a relatively normal aeroplane stands upright on a four-wheeled landing-gear attached to the aft end. In the nose of the fuselage is a single Allison T-40 turbo-prop engine, which delivers 5,500 equivalent shaft horsepower to a pair of contra-rotating propellers. The pilot sits in these single-seaters with his back parallel to the ground. A push on the throttle and the thrust of the engine exceeds the weight of the aircraft; he is airborne without a take-off run. The opposite procedure, of course, applies for landing.

Early last year the Bell Aircraft Corporation tackled vertical flight in another manner. Using a fuselage from an old glider, a landing-gear from a helicopter, and a wing from a light aircraft, they lashed up a V.T.O.L. aircraft by adding two Fairchild J-44 jet engines under the wing. These engines could be rotated to any position between straight up and straight forward. With the engines up, the aircraft took off and landed vertically. However, by gradually rotating the engines to the horizontal position, a slow transition from vertical to forward flight could be made. Bell's pilots have made a number of flights with this arrangement, and are apparently satisfied with the results.

Other aeroplanes capable of vertical take-off and landing are either flying or on the drawing boards: Rolls-Royce's famous "Flying Bedstead"; Ryan's new jet-engined vertical riser that is just ready for flight-testing; Hiller's "Flying Platform"; the Fairey "Gyrodyne", which is a mixture of helicopter and aircraft; and several convertiplanes that take the helicopter's rotor and swing it around to act as a propeller for forward flight. The one that is of the most interest to Canada, however, is the Avro Aircraft Company's "Project Y". This aircraft is being studied at the company's Malton, Ont., plant for the U.S. Air Force.

The basic idea of the aircraft was conceived by J. C. M. Frost, the Avro designer who was responsible for the detail design of the CF-100. According to U.S.A.F. Secretary Donald A. Quarles, this contract "could result in a disc-shaped aircraft somewhat similar to the popular concept of a flying-saucer."

Frost's "saucer" has one thing in common with most other aircraft in the three categories previously mentioned — aircraft with short take-off and landing, the launcher types, and the vertical risers. All are carefully cloaked, for security reasons; the air-base problem that precipitated their design is a military problem. And it sprouted from the vulnerability of the combat air-base and the possibility of getting rid of concrete runways. Although there is no question about the fact that launching and recovery mechanisms, and true vertical-rising aeroplanes, will have special uses (the helicopter was irreplaceable in the Korean conflict), the question we must ask ourselves is: must we reduce the runway to zero for all combat aircraft, or can we be satisfied with aircraft capable of short take-off and landing?

THE FUTURE

To try to answer the above ques-

tion, we must look at the general characteristics of the air vehicle, and the air base it uses. In aircraft design there is always the eternal compromise to be made; for, to get everything we want into the aeroplane, we must add weight, and added weight cuts down the performance. Thus, any aircraft that adds extra engine-weight to achieve V.T.O.L. characteristics pays a penalty in performance, as compared to the standard aeroplane.

Ground-based launching and recovery mechanisms get over this by leaving the mechanisms on the ground when the vehicle is airborne. However, the ground-handling of such aeroplanes as all-weather fighters (weighing between 15 and 20 tons or more) that might be designed to use the *Baroudeur* type of trolley, presents obvious difficulties. Moreover, many launching and recovery schemes tend to be fixed installations that reduce the flexibility of the vehicle for short-time operations at other bases.

Any scheme that inhibits movement of an aeroplane on the ground is open to question. If we manage to get 30 flying-hours a month from a combat aircraft, this means that it spends 96% of its life on the ground. Easy ground-movement, then, facilitates maintenance, dispersal, and operations. Unfortunately, the shape and light construction of modern aircraft makes them difficult to move over long distances on the ground, as compared to other vehicles.

The light construction, which is essential to combat efficiency, has other implications. It spells a lack of ruggedness in the airframe, engine, and equipment; and the net results are more routine maintenance, more repairs, and more inspections. All this takes more time on the ground and larger maintenance crews.

For these reasons the vehicle that

we now use to fight our air wars automatically tends to get itself tied up to a large air base. This base, even if it had no runways, would still have hangars, aprons, stores buildings, living facilities, and all the extensive construction that naturally goes with a mechanism that lives mainly on the ground and is comparatively difficult to maintain, or even to move except in the air.

Although the rapid pace of modern technology will undoubtedly produce a combat aircraft that requires no runway, it does not seem possible within the foreseeable future to expect that such an aeroplane will be able to operate without a base — and one of considerable dimensions. However, with aeroplanes as we know them today, the vertical riser will lose out in combat efficiency on account of the extra weight of the engine. This condition may change with future super-fast aeroplanes that require the power anyway for high-speed flight.

But regardless of this, our probing of the air-base problem opens up other prime problems. For example, since we have to accept a large air base, then why not accept short runways as well for the aeroplanes with short take-off and landing that we will soon develop? If we do this, should we not concentrate our technological task-forces



The Convair XFY-1. (Official United States Navy photo.)

on developing strong and easily built runways like the landing-mats of the Second World War? If ground movement of present aircraft is a problem, why don't we work on developing an air-lift device so that we can get our grounded aircraft dispersed or moved quickly? Are we dissipating our technical efforts by concentrating too much on runways and their elimination?

These, and many others, are the question marks in the air-base problem. And until the advocates of air power can answer them, the air force will remain, as Churchill said, "the least mobile of all the Services."

FREEDOM

Freedom is an indivisible word. If we want to enjoy it, and fight for it, we must be prepared to extend it to everyone, whether they agree with us or not, no matter what their race or the colour of their skin. (Wendell Willkie.)

PIN-POINTS



IN THE PAST

This month's pin-point is the first of all pin-points in the history of military aeronautics in Canada. We are indebted for it to Brigadier P. W. L. Broke-Smith, C.I.E., D.S.O., O.B.E., of Lindfield, Sussex, England. The photograph, the first aerial picture taken in Canada, shows the Glacis (or North) Bar-

racks area of the citadel at Halifax, as seen by a camera suspended below a captive balloon. The photograph was taken in August 1883 by Capt. H. Elsdale, R.E., while on duty with the Imperial garrison at Halifax.

Brigadier Broke-Smith has kindly supplied the following historical note on Capt. Elsdale and his work:

"Between spells of service with the original British Army ballooning establishment at Woolwich (the 'Balloon Equipment Store' of 1878-1882), and later with the School of Ballooning at Chatham, Captain H. Elsdale, R.E., was stationed at Halifax, Nova Scotia, from 1882 to

1884. While he was there, he pursued his experiments in air photography with the help of the Royal Engineers of the garrison.

"Air photography had been essayed for some years in France, and photographs were taken during the American Civil War from balloons with the Federal Army before Richmond in 1862. The British Governments of the day had not thought military aeronautics worth while until 1878, despite persistent efforts to arouse their interest which various R. E. officers had made for many years previously; and the few civilian aeronauts in Britain had not interested themselves in photography. The art of air photography was still in its infancy, and Elsdale was one of its pioneers.

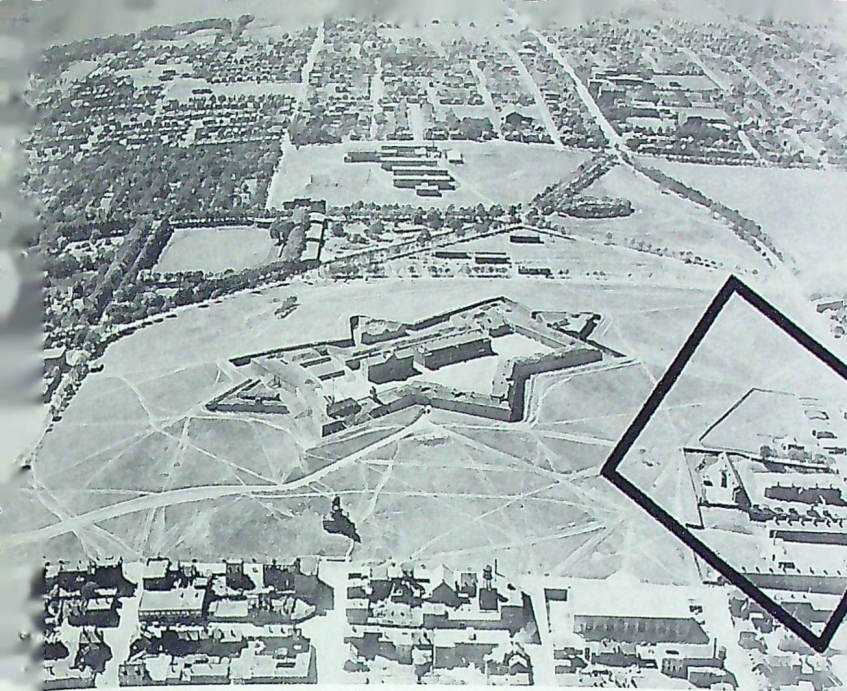
"Captain Elsdale conducted his experiments at Halifax at his own expense. He used a small balloon, of about 1000 cubic feet capacity, which carried a plate camera fitted with an automatic shutter-release operated by clockwork. In those days one of the uses advocated for military balloons was to make free runs over besieged places or across enemy salients, when observations could be made or bombs dropped. Elsdale had a scheme for using small unmanned free balloons to take photographs in this way, fitted with a device which would let out the gas at a rate calculated to bring the balloon down on the other side of the besieged fortress or city, where it would be retrieved. But he was unable to try this method at Halifax, and his balloon was therefore captive, let up by a cord from a portable windlass.

"The accompanying photograph is a copy of one of those achieved in this manner at Halifax in 1883. It was taken from a height of about 1450 feet, over the barracks in the vicinity of the citadel, in August of that year. Others were taken, from heights up to 3,000 feet, but copies of them are not extant.

"Captain Elsdale, who was a keen

Capt. Elsdale's photograph: 1883.





Photograph taken in 1923. Area covered by earlier photograph is outlined in black.

military balloonist, envisaged, like other enthusiasts, the development of navigable aircraft, originally in the form of power-driven dirigible balloons, the first practical example of which was Captain Renard's electrically propelled French airship of 1884. Later, when the internal combustion engine had been invented, he was one of those who prophesied the early introduction of flying machines proper, which the Wright brothers achieved in 1903; and he anticipated the importance which air photography would eventually assume. He particularly studied the aspect of survey, which has led to the widespread use of air photography for mapping.

"On the reverse of the original copy of the photograph, Captain Elsdale wrote the following note:—

" '1883. Plan of the Barracks etc. near the citadel, Halifax. We made a plan from an enlargement of this negative (originally only 5 in. square) which was accurately tested by careful chaining on the ground. The result was extraordinarily good. A small element of error was introduced into the plan by the great difference of level of the ground, which is sloping down from the glacis of the citadel. But the plan as it stands with this error is as good and accurate as could fairly be expected from a survey made by an R. E. officer with theodolite and chain. At higher elevations of the balloon, the error caused by the ground not being a flat plane would of course be reduced in proportion to the elevation.—H.E.'"

"On returning to England, Elsdale continued his experiments,

with full-sized and small balloons, until he left the ballooning establishment in 1888; but no serious action, accompanied by the provision of the necessary funds, was taken by the War Office to develop the equipment, then or for many years to come.

"Elsdale's successors in military aeronautics pursued the practice of air photography for many years, with captive and free balloons, and later from airships and the early aeroplanes; a chapter on balloon photography was included in the Manual of Military Ballooning of 1896. Little progress, however, could be made until the great advances in the science of photography and the stimulus of the 1914-18 War made the taking and reproduction of air photographs a reliable proposition."

Brigadier Broke-Smith was himself one of Britain's pioneers in the use of military balloons and man-lifting kites. In 1905 he made a world record kite-ascent of 3,300 feet at Aldershot, England. After serving for a time as instructor in the Balloon School, he became adjutant of the Air Battalion of the Royal Engineers upon its formation in April 1911. From balloons and airships he turned to aeroplanes, obtained his pilot's certificate in April 1912, and, when the Central Flying School of the Royal Flying Corps was opened at Upavon in August 1912, he was one of the original group of instructors.

Views expressed in "The Roundel" upon controversial subjects are the views of the writers expressing them. They do not necessarily reflect the official opinions of the Royal Canadian Air Force.

Royal Canadian Air Cadets

BY ARTHUR MACDONALD,
Air Cadet League of Canada.

NO. 562 SQUADRON

FROM time to time we have been able to publish fairly lengthy reports on specific squadrons which have developed ideas that might be useful to other units across the country. One of such units is No. 562 (Cabot) Sqn., North Sydney, N.S.

Formed in December 1952, the squadron is sponsored by Branch No. 19 of the Canadian Legion. In the squadron's early days, cadets were enrolled from the entire North Side of Sydney Harbour, but when strength reached the 200 mark, the Canadian Legion branches in Sydney Mines and Florence (and later Whitney Pier) were persuaded to form their own Air Cadet units. At present all three North Side squad-

rons are flourishing, with a total strength of over 300. The idea has spread to Legion branches in other areas, and a new squadron is about to be formed at Cheticamp on the west coast of Cape Breton Island, while another is being contemplated at Baddeck.

One of the first rules passed, when No. 562 Squadron was formed, was that all officers, civilian committee-men, and, as far as possible, all civilian instructors must be Legion members. This rule has proved very successful and has led to a close liaison between the sponsoring body, the civilian committee, and the squadron personnel.

The Commanding Officer of the squadron is Sqn. Ldr. M. S. Killen, who served with the R.C.A.F. during the Second World War as a radar officer in North Africa and Italy. The civilian committee consists of nine members, with the chairmanship rotating each year. The town of North Sydney has been most helpful in every way; the new Thompson High School has been placed at the disposal of the squadron, and the basement of another school released for use as an indoor range.

Shortly after the squadron was formed, the sponsoring committee, with the assistance of the Cana-

No. 562's trumpet band. Behind the band are two cadets from each of the squadrons attending summer camp at Greenwood last summer. The photograph was taken during the bi-centennial celebrations at Yarmouth, in July. (Atlantic Photo Service.)



dian Legion membership, organized a successful ice carnival in the local forum and used the \$600 profit to form a squadron trumpet-band. The band has proved its worth in many ways, and is frequently called upon to play at functions in different parts of industrial Cape Breton. In conjunction with a well-trained firing party, the band attends Service funerals, and for the past three years these groups have functioned exceedingly well at the North Sydney and Sydney Mines Armistice Day services.

Approximately one year after its formation, the squadron was honoured by having the Air Cadet Ensign presented to it by His Excellency the Rt. Hon. Vincent Massey, Governor-General of Canada. At this ceremony—and at all succeeding squadron functions—a 16 mm. movie was filmed; and now more than 1,000 feet of film, covering the entire history of the squadron, are available for circulation among other Cape Breton and P.E.I. squadrons.

The squadron has always made a speciality of drill, and this has paid off in many ways. In 1954, W.O.1 Phillip Murray of No. 562 Squadron captained the Eastern Canadian team that won the Marsh Trophy and later led Canada's International Drill team at Minneapolis. Last year two of the squadron's cadets (one of whom had just moved to Dartmouth) attended the Drill Instructors' Course at Abbotsford, and both were selected for the Beau Trophy competition.

One of the biggest and most successful projects of the sponsoring committee was the construction of an indoor rifle-range in a school basement. Six cadets can be accommodated on the firing-mounts at one time, and the targets are power-driven so that the cadets may remain at the firing-point while the used targets are brought back from the butts by electrically controlled conveyors.



No. 562 Squadron at R.C.A.F. Station Greenwood during summer camp.

Summer camps at R.C.A.F. Station Greenwood have been a great incentive to the cadets. No 562's allotment has been 40 cadets each year, and for the past two years they have won the camp sports trophy. Last year no fewer than four trophies came their way.

In May 1955 the sponsoring committee organized a competition between No. 562's drill team and one from Charlottetown, P.E.I. It was a most successful event, and well supported by the public. A more ambitious contest is now being planned which will embrace the nine Cape Breton and P.E.I. squadrons, with a perpetual trophy being presented by the Town Mayor of North Sydney.

Last year the squadron formed a girl-cadet flight, with astounding results. When the chief instructor (who is deputy principal of the high school) announced the plan, no fewer than 175 applications were received. As it was intended to keep the flight to a maximum of 30, the school principals made the selections, using academic standing and personal appearance as a guide. The resulting flight is one of very high standard and, if anything, surpasses the boys in smartness on parade. Uniform material for the girls was obtained from a Montreal firm at less than \$5.00 a

yard. With the girls themselves bearing part of the cost, the sponsoring committee was able to finance the project without difficulty.

The top Air Cadet event of the year in North Sydney is the public demonstration which follows the annual inspection. The squadron first marches through the town, and the inspecting officer takes the salute at the entrance to the school auditorium. A two-hour programme follows, consisting of precision drill, radio and first aid demonstrations, as well as gymnastic displays and band selections. Last year, an aircraft-plotting course was conducted by the Commanding Officer; and by the use of telephone and radio equipment, with a full-sized plotting table, a mock interception of enemy aircraft by a CF-100 night-fighter was carried out. This aircraft-plotting course is one of the main studies for the girls, who also are being taught first aid, range practice, citizenship, meteorology, and hygiene.

The present strength of the squadron is 148, with about twenty outstanding applications. There are nine civilian instructors, one of whom is an ex-army sergeant-major and another a coal-mine manager who happens to be one of the province's top St. John's Ambulance instructors.

The squadron has filled a definite need in the life of this community.

Apart from \$100 given by the sponsoring body to get the squadron under way in December 1952, and the assistance in forming the band, the squadron has been self-supporting. Funds are raised by means of the annual tag-day and the distribution of sale-sheets for Eaton's; and, of course, contingency grants are paid. The sale-sheets are distributed by the cadets who are paid one cent per sheet, while the squadron receives a like amount. Squadron income from this source amounts to about \$150 annually.

The officers and committee members would like to place on record their appreciation of the very fine manner in which R.C.A.F. Station Summerside has handled supply



Group Capt. W. H. Swetman, D.S.O., D.F.C., presents Cadet Flt. Sgt. G. Jesty with the Herald Print Perpetual Trophy for the top all-round cadet for the current year.

and other liaison work with the squadron. The officers at Summerside and the Air Cadet liaison staff

at Maritime Air Command have shown nothing but the keenest interest in the squadron's welfare.



Commended by the C.A.S.

Cpl. A. Roeser.



The Chief of the Air Staff has sent a personal letter of commendation to Cpl. A. Roeser, of R.C.A.F. Station Greenwood.

On the occasion of a Maritime Air Command special flight to Resolute Bay on 26 June 1955, Cpl. Roeser displayed courage and initiative in assisting a trapped crew member from the aircraft when the danger of fire or explosion was present after a crash-landing, and was instrumental to a large degree in saving a valuable *Neptune* aircraft from serious damage.

Although Cpl. Roeser suffered a sprained ankle during the accident, he re-entered the aircraft after the

crash and helped the second navigator to escape when it was discovered that he was trapped in the nose observer compartment. As a mercy flight was expected at Resolute Bay within a few hours, it was necessary to undertake immediate emergency salvage action to remove the aircraft from the runway. The untiring efforts and ingenuity Cpl. Roeser exhibited throughout the course of the salvage operation, despite the fact that he worked with a badly sprained ankle, coupled with his thorough knowledge of the aircraft and the operation of a Loraine crane, were of inestimable value in successfully accomplishing this difficult task.



INSPECTION AT FROBISHER



Our photograph shows the Minister of National Defence inspecting a group of Canadian Rangers during a recent visit to Frobisher Bay, Baffin Island. Seen between Mr. Campney and the escorting sergeant is Mr. C. E. Wilson, U.S. Secretary of Defence, who accompanied him on his northern trip. The Canadian Rangers, unpaid volunteers constituting a component of the Army's Reserve Militia, are recruited from among the local inhabitants (white, Indian, or Eskimo) around various installations in the Far North. They are employed in such activities as coast-watching, searching for crashed aircraft, assisting the R.C.M.P., etc. They also make reports to the Army on any local matters that may be of significance from the viewpoint of defence, and they serve as guides when so required.

A.D.C. HOCKEY CHAMPIONS



The St. Hubert Flyers. Seated (l. to r.): L.A.C.s Dumain, Sleigh, Tardif, Dewey, Group Capt. Jardine (C.O. of Station), Cpl. Bernier, L.A.C. Parker. Standing (l. to r.): Cpl. Beaverstock, Flt. Lt. Mayer, L.A.C.s Black, Rainboth, Flt. Lt. Quickfall, Flying Officer Beauparlant, L.A.C.s Trahan, Holland, Lebreque.

Last season's winners of the Air Defence Command Cup were the St. Hubert Flyers. In the final game, they beat the Cold Lake team by a score of 6 to 5 after two periods of overtime. On their way to the top, before the play-offs with Cold Lake, they defeated R.C.A.F. Stations Lac St. Denis, St. Sylvestre, Beaverbank, and Uplands.

During the 1955-56 season the Flyers also competed successfully with the Montreal Navy team and with Station Lachine to carry off the Montreal and District Tri-Service laurels.



R.C.A.F. Association



NATIONAL PRESIDENT'S VISITS

The National President, Air Vice Marshal K. M. Guthrie, C.B., C.B.E., has been very busy during the past year. He has visited practically every Wing in the Association. A few of his more recent visits are listed below.

- 17 April. No. 424 (Cornwall) Wing.
- 18 April. No. 426 (Brockville) Wing.
- 19 April. No. 433 (Renfrew) Wing.
- 20 April. Guest of honour at the Annual Blue ball sponsored by No. 430 (Warsaw) Wing, Toronto.
- 21 April. Charter presentation to Mr. Frank Lynch, President of the newly organized No. 438 (Aigonquin) Wing at Pembroke.
- 23 April. Visit to Toronto to attend a meeting of veterans' organizations in Canada that are affiliated with the World Veterans Federation. The Association's application for membership in the W.V.F. will come up for ratification at a meeting of the General Assembly of the

W.V.F. to be held in Brussels during May.

- 30 April. No. 428 (Peterborough) Wing.
- 1 May. No. 420 (Oshawa) Wing.

Scheduled at time of writing are visits to:

- Toronto. Joint meeting of Nos. 430, 408, 437, and 417 Wings.
- Hamilton. Nos. 431 (Krakow) and 435 (Tiger Cat) Wings, on 8 May.
- Sarnia. May 10th.
- London. No. 427 Wing, on 11 May.
- New York. Annual meeting of the New York Wing on 12 May.

MEMBERSHIP CAMPAIGN

The 1955-56 Membership Campaign came to a close on 31 March 1956. Returns have been verified,

Presentation of Colours to No. 121 (Guelph) Squadron, R.C.A.C., by W. Statter (left) and G. Stacey, of No. 400 (Guelph) Wing.



Members and guests at the Air Force Night Meeting of No. 306 (Maple Leaf) Wing, Montreal. Seated (l. to r.): R. Garriock, Mrs. A. R. MacKenzie, Sqn. Ldr. A. R. MacKenzie, D.F.C., G. Ellis. Standing (l. to r.): A. Campbell, Flt. Lt. G. A. McInnes, Flt. Lt. H. N. Astroj, R. G. McLarnon, Sqn. Ldr. K. A. McCoy, A. Clibbon, Flt. Lt. D. Harvey, D.F.C., Miss A. Black, W. Nobes, S. Shernojsky, G. Harrison, A. Cooper. (Kalb photo).



and the following is the standing of the top ten Wings:

1. No. 700 (Edmonton) Wing, which won the first prize of a Union Jack and the Association ensign.
2. No. 250 (Saint John) Wing, which won the second prize of \$50.00.
3. No. 253 (Moncton) Wing.
4. No. 306 (Maple Leaf) Wing, Montreal.
5. No. 103 (Cabot) Wing, Sydney.
6. No. 600 (Regina) Wing.
7. No. 702 (Lethbridge) Wing.
8. No. 500 (Winnipeg) Wing.
9. No. 256 (Chaleur) Wing, Bathurst.
10. No. 437 (York) Wing, Toronto.

The Alberta Group was the leading Group and has been adjudged "Group of the Year". It will be awarded a suitably inscribed gavel.

BUCK FELDMAN MEMORIAL TROPHY

No. 306 (Maple Leaf) Wing, Montreal, will provide a trophy in memory of the late Harold Feldman, who served as President of the Wing a few years ago. It will be awarded to the squadron at Le Collège Militaire Royal de Saint Jean which accumulates the highest number of points in athletic competition, and it will be the senior athletic trophy at the Collège. The members of No. 306 have agreed to



Sponsoring committee of No. 575 (Portage Terrier) Squadron, R.C.A.C. The committee is composed entirely of members-at-large of the R.C.A.F. Association. Seated (l. to r.): B. Rowley, H. A. Carmichael, W. C. Short, G. L. N. Guichon. Standing: C. P. Moran, J. F. Garland, K. Lyon, A. T. Christianson, A. Webster. (Maxwell Studios photo.)

call the trophy the "R.C.A.F. Association Buck Feldman Memorial Trophy".

No. 400 (Guelph) Wing's new executive. Standing (l. to r.): D. Sanson, treas.; W. Slatter, past-pres.; C. Roe, sec'y. Seated (l. to r.): W. Tobey, 2nd. vice-pres.; G. Stacey, pres.; T. Brown, 1st. vice-pres.



Letter to the Editor

TOWARDS THE OOZE

Dear Sir:

Unless I am strangely in error, "The Roundel" has committed yet another "fox-paw".

I refer to the caption of the picture on page 28 of the March issue. Either our uniform has undergone some pretty sudden changes of which the Service as a whole is still unaware, or else the caption should read "An R.C.M.P. pilot", etc.

Sgt. H. J. Hamnett,
R.C.A.F. Station Portage la Prairie.

"It is significant", writes Sgt. Shatterproof, commenting on the above, "that this month's only Letter to the Editor is one of weary reproof. The boys in the field, Sir, are exhausted by the unequal struggle. For seven and a half years they have been fighting for greater accuracy and a more manly approach to the subject of cheese-cake; for seven and a half years they have been left to wallow in a slough of misprints and puritanism. Sgt. Hamnett is to be commended for his courtesy and

moderation. Others, however, will be less tolerant. "What", they will ask, "is Flight Lieutenant Oglbody's hunting-born, to which page 1 of the April issue makes reference? Who is the versatile young officer who appears as Flt.-Lt. Stockdale on page 13 and as Flying Officer Stockdale on two pages later? Does this imply still another turn of the screw by those who dictate our promotion policies? What, furthermore, is a Flt.-Lt.? Can it be that the intrusive hyphen — which also appears in the titles of Flt.-Lt. R. J. Palmer on page 24 and Flt.-Lt. C. J. Foote on page 48—denotes yet one more rung in the endless ladder up which the aspiring A.C.2 must climb on his arduous way to the stars? If so, in what stratum of the Service hierarchy does the Flight-Lieutenant have his being? Does he move with stately gait above the Flight Lieutenant's level, or does he creep about his business by more humble paths? If the Brass will not tell us, we must learn for ourselves! Let the tocsin sound! On to Ottawa! When Victoria Island has been stamped down into the primordial ooze of the Ottawa River, let it be remembered that Shatterproof did his best to forestall those avenging feet . . . Gad! — Editor.)

AYLMER GRADUATES

Nineteen of the young officers here pictured have recently been posted to fifteen different stations in Canada and one in Europe. They are this year's first graduates of the courses for Technical Aeronautical Engineers and Supply Officers, respectively, which ended in April at No. 1 Technical Training School, R.C.A.F. Station Aylmer.

Left to right (back row): Flying Officers I. F. Fleming (Tech. A. E.), D. W. Eggins (Tech. A.E.), Tsugio Tanaka (Sup.), Pilot Officer W. Keith Jackson (Sup.), Flying Officers H. L. McCormick (Sup.), M. B. Hope (Sup.). Middle row (l. to r.): Flying Officers W. J. Forbes (Sup.), J. Mitchell (Tech. A.E.), F. Barclay (Tech. A.E.), W. G. Archibald (Sup.), Pilot Officer J. H. Martin (Sup.), Flying Officer J. Night (Tech. A.E.), Pilot Officer R. P. Cowie (Tech. A.E.). Front row (l. to r.): Flying Officers F. W. Cable (Sup.), R. Illing (Tech. A.E.), T. Austin (Tech. A.E.), Sqn. Ldr. W. J. McIndoo (O.C. Tech. A.E. School), Flying Officers B. D. Wyatt (Sup.), E. A. Waters (Tech. A.E.), D. H. Harley (Tech. A.E.).



"FLIGHT FLY-PAST"

A portfolio of 24 photographs of aircraft has recently been published in England for "Flight", one of the world's foremost aviation magazines. The photographs, 10¾ in. x 12½ in. in size, were taken by John Yoxall and L. W. McLaren, whose work is well-known to all "aero-philes". The 22 types of aircraft portrayed are:

Avro Shackelton
Avro Vulcan
Avro CF-100
Boulton Paul P.111A
Bristol Britannia
De Havilland Comet
De Havilland Vampire
English Electric Canberra
Fairley F.D.2
Folland Gnat
Folland Midge
Gloster Meteor
Gloster Javelin
Hawker Hunter
Hawker Sea Hawk
Hunting Percival Jet Provost
Hunting Percival Provost
Napier Eland-Varsity
Short Seamew
Short Sherpa
Westland Whirlwind
Westland Wyvern.

Messrs Yoxall and McLaren have succeeded in combining detail with artistry in a way that will delight the hearts of all who are interested in building up a library of aircraft photographs. Many of the plates are well worth framing as pictures.

"Flight Fly-Past" is obtainable from Iliffe and Sons Ltd., Dorset House, Stamford St., London S.E.1, England. Price (post paid): 8s 4d (\$1.17).

Answers to "What's the Score?"

- | | | | |
|---------|---------|---------|---------|
| 1: (b) | 2: (a) | 3: (d) | 4: (c) |
| 5: (d) | 6: (b) | 7: (b) | 8: (b) |
| 9: (d) | 10: (c) | 11: (c) | 12: (c) |
| 13: (b) | 14: (c) | 15: (d) | 16: (a) |
| 17: (a) | 18: (c) | 19: (d) | 20: (c) |

THE R.C.A.F. BENEVOLENT FUND

The Royal Canadian Air Force Benevolent Fund was established in order to assist serving and former members of the R.C.A.F. and their dependents in time of financial distress.

SERVING PERSONNEL can obtain full information from their units' Orderly Rooms.
FORMER MEMBERS can obtain it from:

- The local Benevolent Fund Committee.*
- Any Wing of the R.C.A.F. Association.*
- Any District Office of D.V.A.
- Royal Canadian Air Force Benevolent Fund (Inc.), 424 Metcalfe St., Ottawa, Ont.

*This address is obtainable from any of the other three sources.

