

The **ROUNDDEL**

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ROYAL CANADIAN AIR FORCE



THE Roundel

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Christmas Greetings

THIS is the joyous season of the year when the light of love and peace shines brightly through life's dark clouds. This is the season, too, when we review the days gone by and look to the future.

The past twelve months have seen great progress in the strengthening of Canada's air defences. The mid-Canada early warning line nears completion, backed by fully operational and highly efficient squadrons—men and machines ever alert to the call to defend our precious heritage. To the air defences of Europe you have made the important contribution of a CF-100 all-weather fighter squadron, the first of four such squadrons to go overseas.

Aircrew, groundcrew, technicians, and administrative personnel, have well worked together at all levels to make 1956 an outstanding year for the R.C.A.F.

But you are not content to rest on past accomplishments, and you have planned well for the future,

ever striving for improved weapons and equipment and for greater efficiency. Canada may well be proud of your achievements.

At this time, when the value of peace and goodwill is foremost in our minds, I extend to all of you in the R.C.A.F., wherever you may be serving the cause of freedom at home or abroad, and to your families, my warmest greetings for Christmas and my very best wishes for a happy New Year.



(Nicholas Rossmo photo)

Ralph Campney

(Ralph Campney)
Minister of National Defence.



To all Air Force personnel and their families serving throughout the world, I extend best wishes for a happy Christmas season.

It is my sincere hope that 1957 will bring, together with peace and goodwill, continued health, happiness, and prosperity to each of you.

C. R. Slemon

(C. R. Slemon)
Air Marshal,
Chief of the Air Staff.



SGT. SHATTERPROOF

FORESEES NO GUIDE

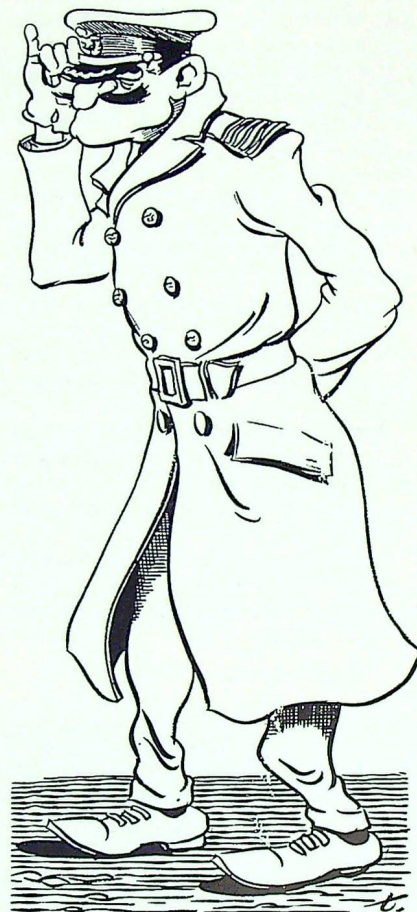
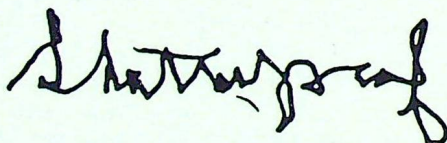
Sir:

The approach of Christmas traditionally inclines the manly heart to thoughts of wassail. Nor, unless the wassail be unbridled, will the loyal servant of Her Majesty raise the eyebrow of disapprobation. Nevertheless, let us bear in mind that Christmas is not only a time for conviviality. It is also a time when we should pause to assess ourselves. Is the goodwill we radiate across our pre-prandials indeed a part of our natures or is it merely a passing mood conjured up by the glow of Yuletide logs and the gastronome's anticipation of delights to come?

That Sir, is a question to which we will be wise to devote some thought. It may already be later than we realize — and few of us are likely to meet with such a guide as came at the eleventh hour to the late Group Captain Ghoul.

Doubtless the name strikes no responsive chord in the editorial breast. Many years have elapsed since the Group Captain took off from that aerodrome on which no man lands but the once, and his story is long since forgotten save by the handful of aging N.C.O.s who hold the lore of the Air Force in trust for future generations of boys in the field. Though I myself cannot claim membership in that august company of historians, many is the hour I have spent, as a young airman, spell-bound amid the circle of their listeners. Not all they uttered would have sounded well from the pulpit, but much of it contained a message no less inspired than that which stands revealed to us in the pages of Q. R. (Air).

I am therefore offering you the legend of Group Captain Ghoul. Feel free to print it, Sir, if you feel that some of your readers may profit from its reading. As nearly as possible, I repeat it as I myself heard it, on a bygone Christmas Eve, from the lips of Warrant Officer Mellowbrew, the Toynbee of Tor Bay.



THE LEGEND OF GROUP CAPTAIN GHOUL

IT WAS on such a night as this (began Warrant Officer Mellowbrew, lifting his gaze from the empty tankard in front of him and letting it rest hypnotically on one of the junior Sergeants) that the events occurred of which you are about to hear. The moon, brilliant

and just past its full, shone down upon a snow-covered world over whose face not a breath of wind stirred. High in the northern heavens, the draperies of the aurora borealis swayed and flickered as in some supernal Dance of the Seven Veils.

R.C.A.F. Station Moose Pelvis lay still as death in the moonlight. Though there lacked only a few minutes to Christmas Day, no

laughter or happy voices echoed through mess or canteen, no gaily lit trees shed their cheer outside the married quarters. But for a few lighted windows which gleamed furtively among the shadows, you would have said that the station was deserted. Nor would you have been far wrong. All except the skeleton staff had hurried away on forty-eights the night before. They had gone regardless of whether or

not they had anywhere to go to; for, at that time, R.C.A.F. Station Moose Pelvis groaned beneath the iron hand of Group Captain Ghoul.

(Here Warrant Officer Mellowbrew picked up his tankard and inclined his head gravely towards the junior Sergeant who had replenished it. Then, having quenched his thirst, he cast an encouraging glance in the direction of a newly transferred Flight Sergeant, and continued his tale.)

However, gentlemen, *de mortuis nil nisi bonum*, or, as we say in English, let sleeping dogs lie. Whatever else he may have been, Group Captain Ghoul was a dedicated officer.

At the moment when my story opens, he was sitting at his desk in the Administration Building. He was alone. The Assistant Adjutant, whom normally he would have coerced into sharing his labours, was more agreeably occupied. He was lying in the station hospital, carousing on his midnight tot of milk. For Flight Lieutenant Jellyboy had recently been relieved — like the Adjutant before him — not only of his ulcers, but also of the stomach which had housed them.

Group Captain Ghoul looked at his watch and silently cursed himself for a sentimental fool. What on earth had made him promise to help his wife wrap the children's Christmas presents? He raised his eyes to the photograph of his Air Officer Commanding, which hung on the wall in silent contemplation of the destinies of Group Captains. Then, snarling with renewed inspiration, he addressed himself once more to the letter he had been writing:

"... and therefore, in the best interests of the Service, I strongly recommend that prompt action be taken:

(a) to authorize the immediate transfer of Flight Lieutenant Jellyboy's bed, together with such transfusion-equipment and supplies as may be deemed necessary to maintain him at peak efficiency, from the hospital to the Adjutant's office,

(b) to amend K. R. (Air) so that gastric

disturbances may henceforth be classified as self-inflicted wounds, and

(c) to discontinue the practice of granting 48-hour passes at Christmas, and to substitute in their place a short rest-period—"

"Still radiating the old Christmas spirit, eh, Ghoul?"

The incredible words reached the Group Captain's ears just as the first stroke of midnight rang out across the parade-ground from the nearby village church. His countenance darkened. In those days Group Captains had considerably more in common with hens' teeth than they have now, and few indeed were the men who dared use their surnames unprefixing. Slowly he turned his head—then sat transfixed with horror as his eyes met those of the figure that stood in the doorway regarding him.

"Object!" he whispered hoarsely. "A. C. 2 Object!"

His visitor smiled gently. "No, Ghoul, not A. C. 2 Object. Air Commodore Object."

Speechless, Group Captain Ghoul stared at him. Sure enough, there on his sleeve was the broad stripe; there on his cap, coruscating with more than earthly brilliance, was the requisite footage of brass. Between the wings on his left breast there glowed a harp.

"But Object," croaked the Group Captain, "you're —"

The other lifted his hand; and when he spoke, his expression was touched with sternness.

"A small point of order, Ghoul — but we shall get on better if you remember our respective ranks. Now, as you were saying?"

"You're — you're DEAD!"

The Air Commodore moved forward into the room and seated himself on the edge of the desk. He smiled again, momentarily dimming the light of the 100-watt desk-lamp.

"Yes, Ghoul, I was — as we express it — struck off strength. That is why I am here. I have come to repay my debt."

For all his faults, Group Captain Ghoul was no coward; but now he shrank back in his chair. Well he remembered the young airman who had been frozen to death last Christmas Eve while doing extra guard-duty for having gone lame on pack-drill. The Air Commodore's next words, however, encouraged him.

"I owe you much, Ghoul. But for you, I might still be alive and serving under you. I have therefore come to try and save your worthless soul." His voice grew brisk. "On the double, Ghoul! We aren't like you fellows. We like to keep our Temporary Duty down to a minimum."

Group Captain Ghoul rose groggily to his feet and permitted himself to be led through the wall — which had somehow assumed the consistency of steam — into a peculiar conveyance that was waiting immediately beyond it. Unfortunately, he was unable subsequently to give a very coherent description of it, but it seemed to him to resemble nothing so much as two enormous dinner-plates, welded to-



gether around their edges, and with blisters on the top and bottom

(Warrant Officer Mellowbrew paused again while he drank to the health of the newly transferred Flight Sergeant. Then, seeing that all his listeners were either studying their nails or staring with deep concentration at the ceiling, he sighed deeply and signalled to the barman.)

They had been proceeding vertically upwards for some minutes (Warrant Officer Mellowbrew at last went on) before the Group Captain regained the use of his tongue.

"Pardon me, Abject — I mean — Sir," he said, "but I am greatly interested by your Service's career-planning. What happens to an officer who — er — is struck off strength as a Group Captain?"

His companion considered him with a mixture of hearty dislike and saintly tolerance. "Precisely the same thing as happens to an airman. He is processed by our Personnel Selection Unit. Then, if he makes the grade, he is immediately given the rank of Air Commodore. After that he is posted to one of our two Flying Training Schools — Transport or Bomber — and finally he goes on ops."

Group Captain Ghoul goggled. "You mean, you're *all* Air Commodores?"

"All — except, of course, the immediate staff of the C.A.S. Naturally, they go rather higher. There haven't been any vacancies on *that* establishment, though, since—well, since an unfortunate incident that occurred back in the very early days. But, my good Ghoul, don't start getting any wrong ideas. At the rate you've been going, it's quite doubtful if the Transport boys will even bother to pick you up."

"To pick me up?"

"Yes, when you're struck off strength."

The other paled. "But where on earth would I go if they didn't?"

Air Commodore Abject smiled grimly. "That, Ghoul, I propose to show you. It would not be on earth, however. But first —"

A light bump on the roof announced the arrival of the aircraft at its destination. A moment later a hatch opened above their heads, letting in a light so dazzling that Group Captain Ghoul was forced to bury his face in his arms.

"Abject, my dear fellow!" he heard a deep and hearty voice exclaim. "I was just locking up. I thought you were away on leave."

"No, Sir. Just a spot of T.D. A little pre-selection problem I offered to handle for Personnel."

"Oh? Is that the problem there?" A whispered conversation ensued. Then the deep voice — no longer hearty — said:

"I'm sorry, Abject, but it can't be done."

"Not even for five minutes, Sir? — under para. 666, Brands, Saving of, from the Burning?"

"Afraid not, Abject. The Security people would never forgive me. They've been pretty touchy about such things ever since that fellow Dante wrote us up. Well, I must get going. Good-night — and good luck!"

Group Captain Ghoul heard a retreating sound as of great keys jangling together on an iron ring. The hatch clicked back into place. He uncovered his face, to find the Air Commodore regarding him thoughtfully.

"Too bad, Ghoul," said that officer. "I did want you to have a quick glimpse of what you might miss if you don't change your ways. Never mind, though. The sight of what you might *not* miss may do the trick just as well. We'd better hurry. Hang on."

He touched a switch, and the Group Captain's head came in contact with the roof as the strange craft started a terminal-velocity let-down. When he had sunk back to the floor, he gasped:

"Where are we going now, Sir?"

"We are going, Ghoul," replied his companion, "to Hell."

The sweat started out on the other's forehead.

"N-not to drop me off, Sir?"

"No," said the Air Commodore slowly, in the tone of one sorely tempted to forget his responsibilities as an officer and gentleman of the Celestial Air Force, "that would be a bit outside my present terms of reference."

Presently he rose and beckoned. The Group Captain followed him down into the observation-blister in the aircraft's floor.

Some three thousand feet beneath him lay a vast and sunless plain bordered by an equally vast and sunless ocean. Low above both darted countless aircraft, all similar to the one in which he stood. To and fro across the land, tanks rolled and armies marched in every direction, while on the water innumerable ships of war went through complicated and apparently meaningless manoeuvres. And upon ships, men, and tanks alike, there fell from the aircraft a ceaseless rain of bombs.

The Group Captain turned a puzzled face to his companion.

"But — I thought you said 'Hell', Sir. This looks more like some sort of a war."

"All wars, Ghoul," said the Air Commodore, "are hell — but the one you're watching is the most infernal war of all. Look carefully, Ghoul. All the aircraft, you will note, are ours."

His interest temporarily overcoming his apprehension, the Group Captain studied the spectacle below him more closely. After some seconds:

"Don't they ever manage to shoot one down?" he asked.

"Never, Ghoul. Their ammunition is all blank."

"But who are they, Sir?"

"They, Ghoul, are the Combined Forces of the Damned."

"You mean — you mean, Sir, that Hell is reserved for the Navy and the Army?"

"Even in the Hereafter, Ghoul," said the Air Commodore with a wink, "it is as well to avoid unequivocal statements on matters of policy."

The other's eyes widened at the familiar phrase.

"Then sinners from the Air Force," he cried at last, his voice vibrant with hope, "—what happens to them?"

The reply, when it came, thundered in his ears like the crack of doom:

"Secondment, Ghoul! They are seconded indefinitely to the Army—"

With a shriek, Group Captain Ghoul fell senseless to the floor, and the rest of the Air Commodore's sentence was lost to him:

"—or, if they cannot swim, to the Navy!"

(Warrant Officer Mellowbrew coughed several times to clear his throat of an imagined hoarseness. Then, falling into a reverie, he turned his tankard bottom-up and began to move it absently in little circles on the bar in front of him. Nor did he appear to become aware of his surroundings again until

someone had tactfully disengaged his fingers from the handle and, after a brief transaction with the barman, bent them with care once more around it.)

When the Group Captain came to his senses (continued a refreshed Warrant Officer Mellowbrew) the last stroke of midnight was dying away. He was seated at his desk, his pen still poised above the word "rest-period".

He sat for some minutes staring straight ahead of him, a haunted look in his eyes. Then he laid down the pen, picked up the 'phone, and called the hospital. A sleepy nurse answered.

"This", he said, in a gentle tone, "is the Commanding Officer. Would you convey a message for me to Flight Lieutenant Jellyboy the first thing in the morning? Tell him I am putting in for three months' special leave for him, in recognition of his sterling services — and wish him a happy Christmas. I'll be over to see him later in the day. Yes, my dear, this is the C.O. Thank you, Sister, and the same to you!"

He took the letter from his blotter and tore it into small pieces, which he scattered into the air like confetti. This done, he jumped from his chair, grabbed his coat

and hat, switched off the light, and went dancing down the corridor into Christmas Day. . .

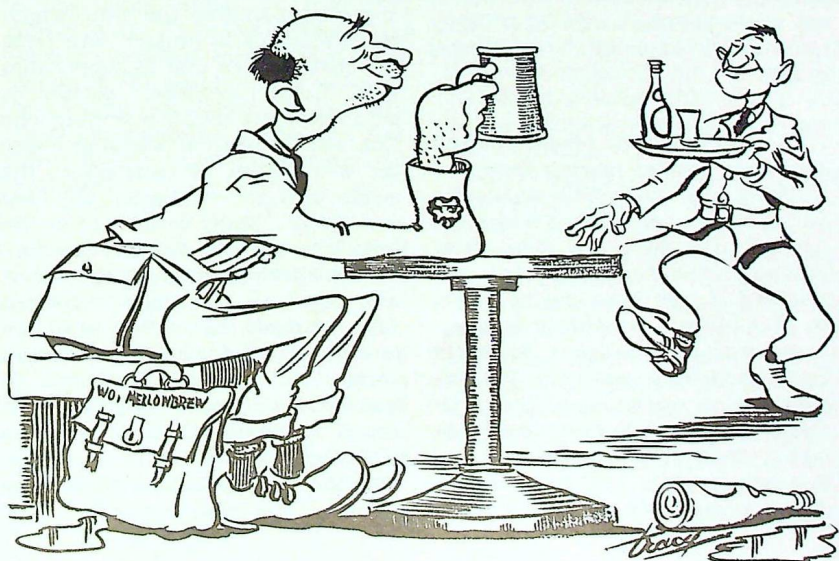
Eighteen months later, Group Captain Ghoul lay dying. One by one, after the M.O. — in a voice choked by emotion — had told them there was no longer any hope, the personnel of R.C.A.F. Station Moose Pelvis, together with their families and many of the villagers, left their vigil outside the hospital and crept home to mourn in private for the man they had grown to love. He had given his life for "his boys", as he called them. An obscure type of poisoning, brought on by his daily tasting of the food served in the airmen's mess, had struck him down in the prime of life.

About his bed, a grief-stricken group of those who were nearest and dearest to him stood watching him during his last moments. He was sinking fast. Suddenly, however, a strange thing happened. His breathing, which had been growing steadily more feeble, became deeper; and his dimmed eyes opened wide and seemed to stare fixedly at an object close in front of them. His lips moved, and the words they uttered rang loud and clear through the hushed room. If we may believe Flight Lieutenant Jellyboy, it was as though he was reading from some document that only he could see:

"... instructed to advise you that you have been promoted to the rank of Air Commodore, with seniority as of the present date. Moreover, in consideration of the outstanding manner in which you have performed your duties for the past year and a half, you may report direct to No. 1 (Bomber) F.T.S., without first proceeding to P.S.U. for indoctrination . . ."

Here Group Captain Ghoul's voice dropped to a whisper. A beatific smile of contentment illumined his face, and his eyelids slowly closed.

The Transport boys had picked him up.



INTERCONTINENTAL BOGEY-MAN

BY SQUADRON LEADER G. B. WATERMAN,
Deputy Chief of Quality Control.

*L*ONELY, quietly, majestically, the Machine waited for its destiny. Lonely — yet not alone, for over and about it swarmed many of the little ant-like creatures who had created it. Quietly — amid a vast commotion wherein there was no confusion, but only grim determination and great triumph. Majestic—a slender needle on tapered feet of strongest steel, pointing to the midnight sky. In the age of the machine, the Machine was about to come of age.

There is an old saying which asserts that “the bogey-man will get you if you don’t watch out”. This poor shattered world has seen many spectres and cringed from many bogeys in the past thousands of centuries, and it has survived attacks by many monsters, from Rex Tyrannosaurus down to Attila and Hitler. Terrors on terrors compounded have, so far, vanished one by one into the mists of history. It would appear now, however, that we have at last created a bogey-man from whom we may not be able to escape.

The spectre of the “ultimate weapon” has walked the world for many years, but the fact of its existence has (perhaps luckily) not been known to more than a few. War departments of every major nation have lived with this goblin peering over their shoulders, and government planners have shaped their policies accordingly; but Mr. Citizen, who can only get his frights from “what he reads in the papers”, was not properly aware of it until April of this year, when a blunt-spoken Russian warned the Western

nations that the U.S.S.R. has within its grasp both the hydrogen bomb and the world-covering missile.

Nikita Krushchev was highly annoyed, during his recent visit to Great Britain, because his hosts stubbornly refused to export to Russia so-called “strategic materials”. Pointing out that such safeguards were no better than locks on an empty stable, the Communist Party’s secretary said: “I am quite sure that we will soon have a guided missile with hydrogen bomb warhead that can fall anywhere in the world . . . So you think that we are behind you?”

His statement loosed the genie from the bottle. The next day newspapers advised the peoples of the world that they were no longer safe from attack. The following week, news magazines discussed the importance of this obviously unrehearsed and honest comment. The common man trembled. Overnight, the world became aware of a bogey from which no man or no nation is safe.

* * *

The machine was ready. It had swallowed tons of fuming fluid and its belly was full. The ants who had designed and built it had scuttled into the darkness. The giant girders which had supported and retained it had been moved aside, so that there was nothing now between it and the heavens. Its brain was functioning smoothly and rapidly as it ticked over the last-minute details. Nothing could be left to chance in this, its first and last opportunity for immortality. All parts appeared to be fully oper-

ative and working in perfect harmony.

The Machine gathered its muscles and prepared to leap.

Whence came this Frankenstein’s Monster? What strange and terrible thing is it? Is it indeed the ultimate weapon which will, like the universal solvent, destroy the world which contains it? Or is it another bogey which the world must suffer for a few tortured years before it, too, passes into limbo? It is obvious that we must become familiar with this thing now, for soon it may be too late.

Since the days of Neanderthal man, the world has lived with war, and the world’s history is replete with tales of “super-weapons” which have appeared from time to time to turn the tides of countless battles and to perpetuate man’s genius for killing man. The first super-weapon was the club, which was necessary to protect man from his environment and to supply him with food. Because, peculiarly, man’s greatest enemy was man, who was also capable of wielding clubs, he was forced to introduce the spear, and so, eventually, the bow and arrow. Many decades after the long-bow became a super-weapon, the musket appeared on the scene, and this was the most efficient form of mass destruction until the advent of the long rifle, which in turn gave way to the Lewis gun. It was not many years later that man found it convenient to drop bricks and then bombs on his enemies, and the super-weapon took to the air.

The Second World War saw the development of the long-range bomber and the consummation of the rocket artillery barrage. The logical combination of these two weapons was accomplished in a relatively short time. Hitler introduced England to his "vengeance weapons", and the world trembled at the buzz of the V-1 and reverberated to the earthquaking crump of the V-2. The horrors of artillery warfare, known for so many years to soldiers in the field, were now known to the man in the street, and the spectre of the ultimate weapon began to take shape.

Hitler was extremely confident of early success when he authorized the development of the A-10, the weapon which was to bring the war to the people of New York. This was to be a two-stage guided missile with wings, and it had a design thrust of 400,000 pounds. Fortunately for the Allies, it never flew off its drawing-board. The pattern, however, had been set; and the construction of an expendable intercontinental weapon would be just a matter of time.

Speaking on guided missiles in 1949, a British Army man, Major-General J. F. Butler, said: ". . . There will be a rapid evolution of the flying bomb in the next thirty years. It is self-evident that such a revolution carries with it the doom of the bomber as a piece of long-range artillery." To the military observer, the shape and features of the bogey-man were now defined.

* * *

The noise was that of a thousand cannons. The fire burst downwards and outwards, turning night into brightest day. The Machine trembled on its haunches, then slowly it rose, accelerating first gently and then terribly as it screamed towards the darkness of space. Suddenly it was free of earth and climbing bullet-like to meet its destiny. There was a faint clicking

noise inside its active brain, and the nose began to turn gently towards the west.

The name which has been given to the twentieth century's super-weapon is the Intercontinental Ballistics Missile, better known to its intimates as I.C.B.M. Its genealogical table shows that its father was a projectile and its mother an aircraft. It is partly a self-actuating bullet, and partly a winged bomb. It is a soulless calculating-machine born out of fear by necessity.

The intercontinental missile is at present evolving in two separate and distinct forms. One of them is that of an initially self-propelled warhead which travels a more or less ballistical path through space. The other resembles that of a self-propelled bomber flying a navigated path through the earth's atmosphere. The true ballistics missile is a space-traveller, since, like an artillery shell, it calls on altitude to give it distance. The winged bomb, or air-breathing missile, flies like an aeroplane and follows a flat flight-path to accomplish its mission. The latter type, while not a true I.C.B.M., is more easily designed and built, and so must be considered a potent factor in future missile plans. Because of its fantastic speed, the ballistics missile is the more logical choice of the two, and there is little doubt that it will be the ultimate weapon of the next two decades.

What will the I.C.B.M. do? It will traverse the Atlantic Ocean in thirty minutes, and reach targets in Europe or North America in less than 45 minutes. It will soar hundreds of miles into the stratosphere and coast to its destination so rapidly that there will be almost no chance of stopping it. It will carry a thermo-nuclear war-head capable of laying waste hundreds of square miles of territory and of creating conditions which will make all surrounding areas too dangerous for

human occupancy. It will, in effect, say the missile men, decide which country can write the peace terms for our time.

How true, or how practical, are the statements made in the preceding paragraph? There is no doubt that the guided missile is far more lethal than it was, say, in 1945, but is it really possible that the time of the intercontinental missile is upon us? Here are a few opinions.

Speaking to members of the press in Ottawa last May, Field Marshal Viscount Montgomery, Deputy Supreme Commander of N.A.T.O. forces in Europe, said: "Intercontinental ballistics missiles will be a reality in five years . . . They will exist in quantity in ten years." He went on to warn that the missile age would shorten the period of warning from hours to a few minutes, and that the defence against missiles would be "anti-missile missiles".

In February, in the United States, Democrat Senator Jackson warned, in a much-quoted speech, that the Soviet might well win the race for the intermediate-range 1500-mile missile (I.R.B.M.), the "closest thing to an ultimate weapon that has ever been projected", and that effective defence against its successor, the I.C.B.M. is as yet nowhere in sight. Finally, it might be mentioned that President Eisenhower "could see no reason to doubt" the statement made by Nikita Krushchev concerning the availability of the Russian thermo-nuclear missile.

None of the men quoted above are considered to be fanatics, and two of them are certainly experts in the field of modern warfare. There are many others who could be quoted as well, men prominent in government, industry, and military service. It would appear likely, then, that the world is indeed about to achieve the possibility of a push-button nuclear war of indefinite destruction, and that the impor-

tance of the I.C.B.M. cannot be overrated.

* * *

Far, far above the earth it winged its silent way. Miles below it, the now useless appendage which had created the flame and thrust of take-off drifted lifelessly down to atmosphere and white-hot destruction. Inside the Machine, life (of a sort) carried on. Following the brain's direction, the unwinking eye in the middle of the Machine's back studied the heavens unceasingly, while the memory recorded certain information for future use.

Just one thousand seconds ago the Machine had leaped from its haunches to begin its fantastic mission across the surface of the earth. In just over one thousand seconds more, its mission would be accomplished. Why the journey was essential was of no interest to the Machine. It was satisfied in knowing that it was not far off track and that it was faithfully performing the duties for which it had been created.

We have been told what the trans-oceanic missile will do, but it is hard for us at first to grasp fully the implications of missile warfare. Only one who has lived through the terror of the V-2 and has also surveyed the horror and wasteland that was Hiroshima in 1945 can envisage what such a war would be like. True, science-fiction writers have depicted many such scenes of devastation and death, but, since these are still only pictures painted with words, they fail to create the impact that they should.

It is easy to start a war, but quite another thing to stop it. The "push-button war" can be started in many ways, far too numerous to mention, but it can only have one outcome — the destruction of civilization as we know it to-day.

In a few years, all the major nations will have created squadrons (or batteries, if you are ground-minded) of I.C.B.M.s, and armed

services will be reduced drastically because the expense and striking-power of the missiles will make large armies impracticable. The defence of any country will be assigned to watchdogs of hardest metal surrounding all the large cities and industrial centres. Unsleeping radars will search the skies in the direction from which the ballistics missiles will arrive. Scattered more sparsely throughout each country will be the weapons of retaliation, themselves intercontinental missiles capable of reaching and destroying the vitals of countries considered as potential enemies. Deep in underground shelters, the technicians who handle these terrible monsters will keep twenty-four hour vigil with the radar, and the spectre will walk unhindered on the surface. At the first sign of attack indicated by the passage of unidentified objects across early-warning radar screens, or at the first indication of the destruction of a city or military area, the offensive missiles may be launched, and the last world war be under way.

There is a rather clever play which depicts the beginning and part of the finish of the third, or missile, war. It is not a play which will go down in history, because it can only become great if history is brought to an end. It is a short play, lasting only twenty or thirty minutes. Its characters are the crew of a missile battery guarding one of the larger cities of North America and controlling the retaliation missiles for certain important enemy cities. As I remember it, because of some failure of electronic gear, or because of actual damage by a meteorite, the map-board in the control room indicates that an American city has been attacked and destroyed. The war is irrevocably brought about by a "gun-happy" soldier who pushes a retaliation button, thus destroying the capital of an "enemy" state.

This enemy strikes blindly back and destroys London. The British release their first I.C.B.M., and another populated centre is forever destroyed. By the time the man who pushed the first button has realized that no enemy had attacked his country, it is far too late to stop the chain reaction. As the play reaches its conclusion, the audience watches lights on the map-board go out — lights that represent the major cities of the world. The play ends, of course, with the destruction of the control centre which started the whole thing.

The world of the play — a world of about 1980, I would guess — had lived with the bogey-man of unlimited war for many years. The spectre of the I.C.B.M. had stalked so constantly through the imagination of one man that he made a fatal mistake which destroyed the world. Unreal though it may sound to us in 1956, there is little doubt that such a world can be created on this globe — provided that technology still maintains superiority over humanity.

The time is rapidly approaching when science will have made available to man the weapon by which he can destroy himself — the thermo-nuclear guided missile. The bogey-man has stepped from the pages of science fiction to join the world of reality.

* * *

Fifty seconds to go. The Machine was re-entering atmosphere at 100,000 feet on a descent from 600 miles above earth's surface at a speed of approximately 10,000 m.p.h. The temperature inside the skin began to rise, and the Machine took corrective action designed to slow it to one fourth of its entry speed. The four movable tails twisted slightly in their mountings so that the course errors noted previously could be corrected. It was actually thirty miles off track, but a very slight correction was all that was necessary to perfect its heading.

Hostility could be expected now. The Machine was travelling far too rapidly to attempt evasive action (but not too quickly to be searched for) and still pin-point its target. It took no interest in a screaming silver body which leaped from the earth beneath it and tore past it at one thousand yards' distance on a curving path which headed for outer space.

The existence of the I.C.B.M. will pose new and difficult problems to many people. It will affect, or should affect, the thinking of statesmen, scientists, military experts, business men, clergymen, etc. No one, no matter how far removed from the realities of life, can afford to ignore the existence of the twentieth century's ultimate weapon. Poets, authors, playwrights, journalists, will reflect and propagate the influence of the intercontinental missile. Scientists, physicists, engineers, and construction hands will work to solve the problems caused by the presence of this all-persuasive thing.

Will there be a guided-missile war? Probably not, unless there is a terrible accident. There should be a gradual lessening of world tension as the implications of this frightful possibility are better understood. Russia announced after the twentieth Congress of the Party in February that she will seek closer co-operation with the Western Powers, and Russian leaders have stated on several occasions that a third world war is not inevitable. It is to be hoped that the Russians, like everyone else, can see bogey-men in the night and realize that thermo-nuclear explosions will destroy Communists as readily as American Imperialists. Russia will, of course, keep pushing local conflagrations to the limit, but she will be very careful, because it is possible that one of the local conflicts might be the spark which fires the world.

If the spectre of the I.C.B.M. grows dim, there is a chance that the missile may some day come into its own as a tool of peace. Enthusiasts have been talking for years about hypersonic mail and express carriers, robot aeroplanes which will span oceans and continents in minutes. Space research can be carried out with missiles if they are not all reserved for warlike purposes. The era of space travel may be just ahead of us; certainly peace-time development of the I.C.B.M. will bring us there more rapidly. It would not be impossible to put a rocket on the moon, and the scientific value of such a journey would be immeasurable. The U.S.A. are planning to put an artificial satellite into orbit around the earth in 1958. From the basketball-shaped satellite to a manned jumping-off station for Mars is just a matter of time and engineering. The engineering will be available if the I.C.B.M. allows us time.

The Intercontinental Ballistics Missile with thermo-nuclear war-head is at once the most dreadful weapon and the most powerful proponent of peace the world has ever known. It has created an international bogey-man which may frighten the children of our children for generations, but, like all bogey-men, it can exist only in a world populated by men of little faith and of irreligious nature. Science and hatred have created

this monster; only faith and humanity can remove it.

* * *

Twenty seconds from target. The brain of the Machine is very active now, as it scans the earth's surface so rapidly approaching. No more interceptors have appeared, and now it is too late for interdiction. The path of the missile is almost vertical, and its speed is 2,000 m.h.p.

The Machine will be two miles off target, an infinitesimal error in 5,000 miles. The war-head is capable of destroying everything within fifty miles, so that even larger errors would be allowable. As it passes through the 20,000-foot level, the Machine flicks a switch which fuses the war-head. Its operating life, which was less than 40 minutes, is now almost over.

The target is only a few thousand feet away. If the Machine had any feelings, it might be a little disappointed in the target, which is only a minute atoll in an uninhabited sea; but the Machine is, above all, a realist. It knows that, when accuracy is being proven, one target is as good as another.

Besides, its grandson, now under construction in a much more advanced form, may have a grander future. Already the humans who have designed it, and who will one day build it, are referring to it as "The Real Thing".

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.



A CHRISTMAS MESSAGE

At the close of another year in the history of the Royal Canadian Air Force Association, it is most encouraging to review our activities for that period and find that we have definitely progressed.

However, we must not rest on our laurels, and so I would ask all members to approach the New Year with renewed vigour and enthusiasm for the tasks that lie ahead.

On behalf of the Association, I extend our thanks to the Chief of the Air Staff and all R.C.A.F. unit commanders for the splendid assistance they have given us throughout the year.

In closing, I would like to express to every member of the Association and to their families my very best wishes for a Merry Christmas and a Happy and Prosperous New Year.

A handwritten signature in dark ink, appearing to read 'F. G. Wait'.

F. G. Wait,
Air Vice-Marshal,
National President.

NEW BRUNSWICK WINGS

No. 254 (Miramichi) Wing was host to other New Brunswick Wings at the fifth Annual Provincial Meeting at Chatham last month. Dr. C. H. Jarvis, vice-president, presided.

A very successful year was reported. All Wings now have their own quarters. Membership is increasing, and activity in connection with the Air Cadets, scholarships,



Eighth Charter Anniversary Dinner, No. 416 (Kingston) Wing. Left to right: Flying Officer K. Reid (No. 416's first president), D. W. Cain (Ontario Group president), Air Vice-Marshal F. G. Wait, and A. Hall (Wing president). (Charles photo.)

No. 406 (North Bay) Wing. D. Rumble, chairman of Air Cadet Committee, presents Westman Trophy to No. 547 Squadron, R.C.A.C. Left to right: Cadets J. Goodhand, W. Barker. Flt. Lt. F. Malone (C.O. of squadron), Cadets Dodgson, P. Gallardi, R. Gross, and Mr. Rumble.



and local welfare work is on the upgrade.

The Rev. H. Crawford Scott was the guest speaker at dinner, and dancing took place in the Wing's club-rooms later in the evening. The Ladies' Auxiliary entertained at an afternoon tea in honour of the wives and guests of visiting delegates.

On Sunday morning Group Captain M.E. Pollard, D.S.O., D.F.C., A.F.C., was host to the delegates on a tour of the R.C.A.F. base at Chatham.

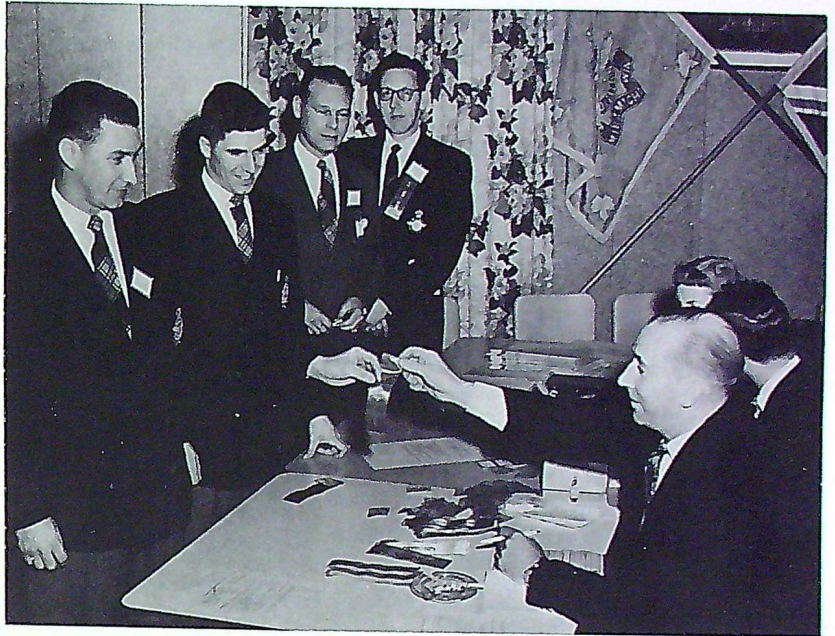
PRAIRIE TOUR

During a tour of the prairie provinces which lasted from 9 to 17 October, the National President, accompanied by Flight Lieutenant M. E. Ferguson, visited the following Wings: Nos. 501 (Lakehead), 500 (Winnipeg), 600 (Regina), 602 (Saskatoon), 700 (Edmonton), and 702 (Lethbridge). During his tour he also met representatives from Nos. 602 (Brandon) Wing, 601 (Moose Jaw), 704 (Medicine Hat), and the Wings at Red Deer and Rocky Mountain House.

The President stressed the important contributions that Wings and Groups are making towards the objectives of the Association, and he expressed himself as confident, from the enthusiasm shown at each meeting, that the objective of 10,000 members will be reached before the end of the year.

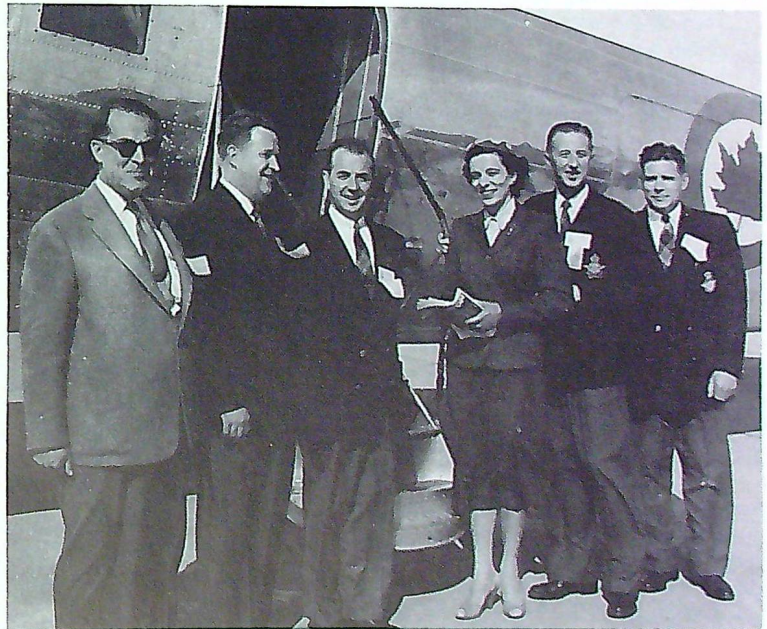


The fourth annual Air Force Bonspiel, sponsored by No. 702 Wing, will be held at Lethbridge on 22 and 23 March, 1957. For information, please write to Charles Linn, Hall Block, Lethbridge, Alta.



Delegates from No. 253 (Moncton) Wing registering at New Brunswick Annual Provincial Meeting. J. McElwain, president, receiving his badge from W. Gorman, treasurer of No. 254 Wing.

Quebec Group meeting at La Tuque. Left to right: G. Le Droit, L. Fulton, G. Ellis, Mrs. F. G. Wait, Air Vice-Marshal F. G. Wait, and W. H. Stroud. (Studio Genest photo).



What's the Score?

(The Air Historian sauntered into my office with a rather smug expression on his face. I eyed him with apprehension. It was the morning after the appearance of the November issue, and I knew full well what had brought him. "Only seven this month", he said. He dropped a copy of "The Roundel" on to my blotter, then turned with exaggerated casualness to study the map of the world which hangs on the wall. I opened the magazine. Sure enough, scattered here and there through its pages, were familiar red pencillings, each indicating some sort of error on my part. The Air Historian's voice broke in upon my brooding: "... you find them almost everywhere nowadays," he was saying in a reflective tone. I bridled. "Come, come, now! Seven isn't exactly 'everywhere'." "I was speaking", he went on, "of the boys in the field..." It was in the conversation which arose from his remarks that the following twenty questions had their origin. The correct answers are given on page 32.—Editor).

- The boy in the field who is familiar with the Sublime Porte:
 - Must be well acquainted with the product of Portugal's finest vineyards.
 - Probably accompanied No. 1 F.T. T.U. on its visit to Turkey last year.
 - Has presumably passed on — *summa cum laude*.
 - Has been to Haifa, in Palestine.
- The Cockpit of Europe, a name that has since been applied to several countries, was originally given to:
 - Belgium.
 - Birdcage Walk, in London, famous for its cock-fights until their abolition in 1849.
 - The Balkans.
 - Tuscany, where the Leghorn breed of domestic fowl was developed.
- Should the aesthetic Squadron Leader exhibit a photograph which he took of the Old Lady of Threadneedle Street, he will reveal a picture of:
 - The London Stock Exchange.
 - A famous retired ecadyst who formerly practised her art before many of the crowned heads of Europe.
 - The Bank of England.
 - Julia Howe, inventor of the sewing-machine.
- The Pillars of Hercules:
 - Are two shattered columns in a ruined temple in Palestine, said by Herodotus to be a sample of Hercules' work. Later archaeologists attribute their condition to Samson.
 - Is the name of a night-club in New Orleans.
 - Are ancient obelisks still used as channel-markers at the entrance to the harbour of Piraeus, near Athens.
 - Are twin rocks lying one on each side of the eastern end of the Straits of Gibraltar. Legend has it that Hercules created the Straits by tearing asunder a vast obstructing rock and so letting the Atlantic flow into the Mediterranean basin.
- When the devout Warrant Officer, serving on the Canadian Joint Staff, London, speaks of the Pilgrims' Way, he is most probably referring to:
 - A prehistoric track in south-east England, later used by the Romans.
 - The R.C.A.F.'s career plan for airmen.
 - The road followed by mediaeval pilgrims to the shrine of St. Thomas at Canterbury.
 - The shortest route from the office to his favourite hostelry.
- The Eternal City:
 - Is the popular name for Toronto among airmen who have no car.
 - Is the ancient name of Peiping.
 - May be found on the shores of the Dead Sea.
 - Is the largest city on the banks of the Tiber.
- If a career officer of the R.C.A.F. speaks nostalgically of the Garden of the Gods, the chances are that he:
 - Is thinking of a holiday he once spent in Tahiti.
 - Has served on exchange at Continental Air Defence Command, Colorado Springs.
 - Has accompanied a diplomatic mission to New Delhi.
 - Has taken tea with the beauty and chivalry of Ottawa at a Government House garden-party.
- Anyone who wishes to sample the cuisine of Hell's Kitchen must:
 - Visit New York's slums.
 - Proceed on T.D. to R.C.A.F. Station Moose Pelvis.
 - Marry a career girl.
 - Dine at any of the restaurants near the Khiamia Shaharel, in Cairo.
- The Pearl of the Adriatic:
 - Was discovered in the oyster-beds off Trieste.
 - May be seen in the dress-shirt of Marshal Tito on state occasions.
 - Is a name given to Venice.
 - Is a name given to Ragusa, where Diocletian died.
- Adventurous airmen who would like to be posted to the Forbidden City, will have to wait until the R.C.A.F. is represented in:
 - Lhasa, Tibet.
 - The Virgin Islands.
 - Oak Ridge, California.
 - Mecca.





11. Our Lady of the Snows is a name given by:
 - (a) Rider Haggard to Tibet.
 - (b) Ernest Hemingway to Mt. Killmanjaro.
 - (c) Father Breboeuf to Quebec City.
 - (d) Rudyard Kipling to Canada.
12. The Mad Men who are said to have built a wall round the cuckoo in order to secure eternal spring lived in:
 - (a) Bedlam, near C.J.S. London.
 - (b) Gotham, near the former No. 30 Air Materiel Base, Langar, Notts.
 - (c) Baden-Baden, Germany, near the base of No. 4 (Fighter) Wing.
 - (d) The building now occupied by No. 1 Air Division H.Q., Metz.
13. The many airmen who have stayed at Ebisu Camp, in Tokyo, can claim that they have seen the Land:
 - (a) Of the Rising Sun.
 - (b) That God Forgot.
 - (c) Below the Wind.
 - (d) Of Heart's Desire.
14. Syracuse, in which wives of A.F. H.Q. personnel not infrequently go to squander their husband's earnings, is situated in the:
 - (a) Peach State.
 - (b) Sunshine State.
 - (c) Potato State.
 - (d) Empire State.
15. The Abominable Snowman:
 - (a) Has been seen by N.C.O.s returning home from New Year's Eve parties at R.C.A.F. Station Goose Bay.
 - (b) Is a synonym for the Spectre of the Brocken, seen in the Hartz Mountains on Christmas Eve.
 - (c) Is now believed to be a large bear on Mt. Everest.
 - (d) Is reputed to haunt the summit of Mt. Fujiyama.
16. Auld Reekie is a name given to:
 - (a) A certain cigar-smoking senior officer in the R.C.A.F.
 - (b) Edinburgh.
 - (c) Cabbage Town, Toronto.
 - (d) Billingsgate fish-market, London.
17. The Windy City:
 - (a) Is situated on the shores of Lake Michigan.
 - (b) Stands on the south bank of the Ottawa River.
 - (c) Is in the Federal District of Columbia.
 - (d) Is the sailor's name for Buenos Aires.
18. To see the Birthplace of Confederation, one must visit:
 - (a) The plains of Abraham.
 - (b) Gettysburg.
 - (c) Prince Edward Island.
 - (d) Runnymede.
19. Canada is now taking an active part in assisting to ensure peace in:
 - (a) The Promised Land and the Land of Bondage.
 - (b) Ur of the Chaldees and the Garden of Eden.
 - (c) The Cradle of the Race and the Gate of Tears.
 - (d) The Land of the Rising Sun and the Sublime Porte.
20. The island of Crete, familiar to many Canadian aircrew, was once famous for its:
 - (a) Hanging Gardens.
 - (b) Colossal statue of Ozymandias.
 - (c) Leaning tower.
 - (d) Labyrinth.



ESSAY CONTEST

"WHAT N.A.T.O. MEANS TO CANADA" is the subject of the forthcoming essay competition to be conducted by the Bureau of Current Affairs. The prizes will be:

First prize: \$100

Second prize: \$50

Third prize: \$25

State, in not more than 500 words, why you, as a member of Canada's armed forces, think it necessary and desirable that Canada should be a member of N.A.T.O.; and explain the significance to Canada, as a growing nation, of its association with the other N.A.T.O. countries.

* * *

All men and women of the three Services up to and including Chief

Petty Officer and Warrant Officer (Regular Force) are eligible.

Put your name, rank, and Service number at the top of the page. Make your copy legible. It may be typewritten or written in ink. Your essay may be written in English or in French. Write on one side of the paper only. All entries become the property of the Crown. Judges' decision will be final. You accept these rules when you enter the contest.

The contest closes on 28 February 1957.

Send your essay to the nearest Current Affairs Adviser at one of the following addresses:

Headquarters, Quebec Command,
3530 Atwater Avenue,
Montreal, P.Q.

Headquarters, Central Command,
Ortona Barracks,
Oakville, Ontario.

Headquarters, Western Command,
Kingsway Avenue,
Edmonton, Alberta.

Headquarters, B.C. Area,
4050 West 4th Avenue,
Vancouver, B.C.

H.M.C.S. "Stadacona",
Halifax, N.S.

14 Group Headquarters,
R.C.A.F. Station Winnipeg,
Stevenson Field,
Winnipeg, Manitoba.

* * *

If you are serving in Europe, send your essay to Current Affairs Adviser, H.Q. 2 Cdn. Inf. Brigade Group, Soest, Westfalen, Germany, C.A.P.O. 5050. Personnel in other countries should send their essays direct to the Bureau of Current Affairs, N.D.H.Q., Ottawa, Canada.



Commended by the C.A.S.

The Chief of the Air Staff has sent a letter of commendation to **Corporal L.A.D. Woodward**, of R.C.A.F. Station Namao, for the courage and quick thinking displayed by him early this year at Cambridge Bay, N.W.T.

The exhaust muffler of a gasoline-driven pump, which he was using to refuel a *Dakota*, disintegrated and caused a fire when pieces of hot metal and carbon came in contact with gas that had been spilled on the wing of the aircraft. Despite the fact that his clothes were ignited by the flames, he removed the hose and funnel

and replaced the cap on the gas-tank. The aircraft, together with another which was parked immediately beside it, was thus saved from certain destruction.

"The Roundel" apologizes for the late insertion of this notice. Some delay was experienced in obtaining a photograph of Cpl. Woodward.—Editor.)

Cpl. L.A.D. Woodward.



The Suggestion Box

The Chief of the Air Staff has written a letter of thanks to the under-mentioned N.C.O. for a suggestion which has been officially adopted by the R.C.A.F.

Flt. Sgt. J. V. Jameson, of R.C.A.F. Station Uplands, proposed that a standard receiver headset be incorporated in jump-masters' helmets, thus enabling them to

maintain contact with the pilot, after changing from aircrew to pararescue helmets, until the moment when they leave the aircraft.

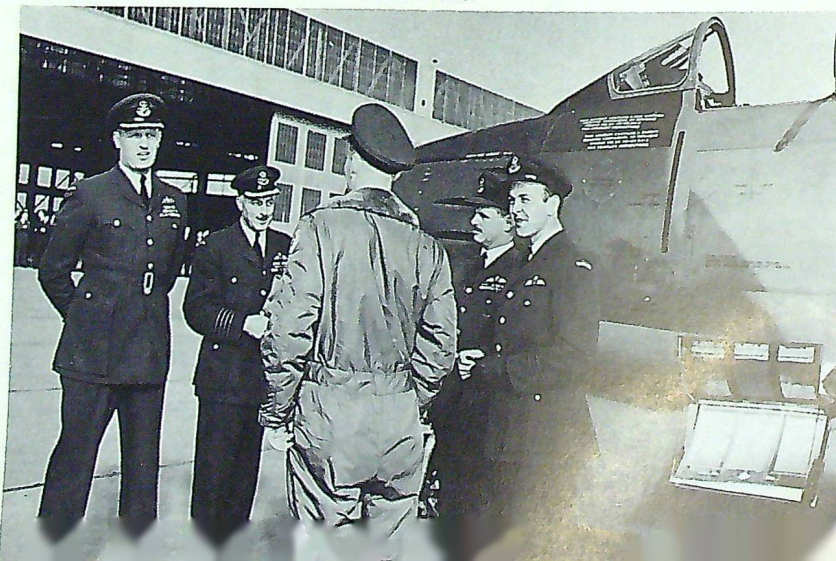
Flt. Sgt. J. V. Jameson.

SABRES for the AUXILIARY

At a formal acceptance ceremony on 22 October, Toronto's two auxiliary fighter squadrons, Nos. 400 (City of Toronto) and 411 (County of York), became the first R.C.A.F. auxiliary squadrons to be equipped with *Sabre* aircraft.

The *Sabre V* aircraft, which came to the squadrons via the Air Division on "Operation Random West", carried out a formation fly-past on their arrival.

Left to right: Group Captain A. C. Hull, D.F.C., Group Captain Z. L. Leigh, O.B.E., E.D., Flight Lieutenant H. J. Rowe, Squadron Leader W. D. Draper, D.F.C., and Sqn. Ldr. W. A. Curtis.



Pick A Number

BY FLYING OFFICER V. F. MULROY,
Directorate of Air Force Security, A.F.H.Q.

(Although only a relatively small percentage of our readers normally find themselves in charge of safes in which state secrets are safeguarded, all of us can profit from the implications contained between the lines of this little article. Its author, who served as a night-fighter navigator in the R.A.F. during the war, left that Service in 1946 and came to settle in Canada. After six years with the Toronto city police, during which period he was an active member of No. 2400 A.C. & W. Sqn. (Aux.), he joined the R.C.A.F. regular force in 1952.—Editor.)

THIS may come as a bit of a shock. However, unless you are one of a small majority, an enemy agent could probably open your safe in a very short time without resorting to violence or the use of special tools.

He can do this because he knows a great deal about the combination you are using. Sure, the combination was recently changed in accordance with C.A.P. 425, but he knows as much about the new combination as he did about the old one. What is more, unless you are among the clued-up types, he has a fair idea of what combinations you are likely to use in the future.

It's all very simple really. People who use dial safes fall into three main groups. Here they are:

The Young Fellow.

Never had a dial safe before and wants to set a really tricky combination. Decides upon the numbers 10, 20, 30. A really sharp type will vary this by using 30, 20, 10. When a compulsory change becomes due, he will spend a lot of time playing around with the little tumblers and that funny little key. When he gets through, he will have come up with something like 20, 30, 40 (or 40, 30, 20!).

Of course, the big advantage of these numbers is that they are so easy to remember. A really astute young fellow will be quite devilish about the whole thing and tune the lock in to a very crafty 15, 25, 35 — or 35, 25, 15. This is designed to foil the highly trained enemy agent who is determined to get into a safe without leaving evidence of having done so. Our young fellow begins to learn when he realizes that it is unwise always to end his combination numbers with the digits 5 or 0. Being a fairly bright lad, he realizes that it won't take an enemy agent very long to run through the various combinations of 10, 20, 30; 40, 50, 60; 25, 50, 75; and so on.

He also sees what he thinks is the perfect solution. If he was born on 29 November 1934, he will in all probability select the numbers 29, 11, 34. Or — and this is really fancy stuff — 34, 11, 29! Of course, he might just as well go home and leave the safe door swinging on its hinges as use a birthday combination, for the enemy agent is always on the look-out for biographical data.

Forgetting that the enemy agent has been trained on this sort of stuff for years, our young friend will next try a combination based on his home telephone number,

Central 8-9435. Thus:

- (a) 8-94-35 or 35-94-8
- (b) 89-4-35 or 35-4-89
- (c) 89-43-5 or 5-43-89

These are too clever for words, aren't they? Unfortunately, the enemy agent still knows more about opening safes than the young fellow does about securing them. We shall have to do better. Our friend will now try variations on the following:

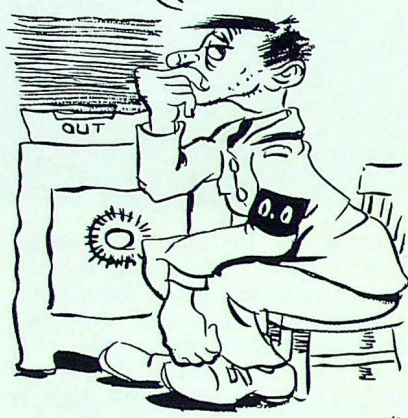
- His Service number.
- His automobile license number.
- The number of his driver's permit.
- The number of his liquor permit.
- Serially numbered membership cards.
- His office telephone number.
- Telephone numbers immediately above or below his own in the directory. (This one is very clever.)
- The first or last numbers in the telephone directory.
- If he has a wall-list of easy-reference telephone numbers, he may decide on any one of these.
- The maker's serial number of the office intercom system, or other equipment.

There are other sources of likely numbers to use. The catch is, of course, that the enemy agent thinks of them also. Once our young fellow understands this, he becomes:

A More Experienced Type.

This type dreams up a really tricky set of numbers — something like 23, 74, 19. Splendid! No fives, no zeros — not even his Service number reversed. In fact, this sequence is in no way associated with any number that the enemy agent can link up with him. Of course, it *could* mean that one night in 1923 he drank 74 bottles of beer and was sick for 19 days, but it would have

NOW LET'S SEE!... SUBTRACT TEN FROM THE EDMONTON SCORE AND ADD FIVE TO THE ALOUETTES!...



to be a very clever agent who would think of that.

Thus far, our friend is doing very well. Unfortunately, because he finds these numbers hard to remember, he decides to jot them down somewhere for easy reference. He knows that the enemy agent is clever, so he tries to outsmart him. On looking around his office, he sees lots of fine hiding-places — be-

hind pictures, under wall-charts, calendar-backs, inside desk drawers, the underside of his chair, or, if the writing is nice and small, on the wall itself.

Depending on his estimate of the enemy agent's intelligence, he may decide that none of these hiding-places is really safe. "Why not", he says to himself, "write the combination on a small piece of paper, then conceal this paper inside the unscrewable portion of that fine desk-set the boys gave me when I left Station Moose Pelvis?"

Or, if he has a calendar in his office, he feels that he is scaling the last lofty heights of trickery when he places small pin-pricks or pencil marks against those numerals which best remind him of his combination numbers. Of course, the complete and final ultimate in cunning comes when he scratches the combination on his desk in shorthand, or (get this!) in MORSE CODE!

And what is achieved by all this? We delay the enemy agent only long enough for him to find the clumsily hidden numbers. When, however, our friend finally understands that safe combinations must always be committed to memory, and must never be written down for

easy reference, he is well on his way to becoming:

A Clued-Up Type.

This type finds it all very simple and he never has any trouble. He always takes great care to select combination numbers that cannot be linked up with him in any way. Having made his selection, he commits the combination to memory, and confides it only to those who have an *actual need* to know — and he tries to keep the number of such people to an absolute minimum and cautions them strictly against writing anything down.

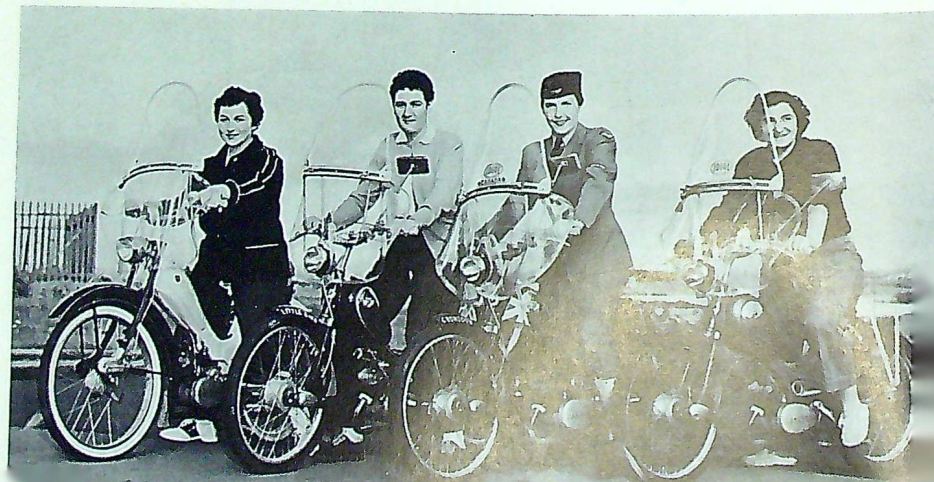
He changes the combination at least every six months, and more frequently if he has the slightest reason to believe his combination may have been compromised. When people who have had a need to know the combination leave the section, he changes it again. Whenever he opens his safe, or resets the combination, he makes sure that his actions are not observed.

This is a good type. He is conscious of the need for "Safe Security", for he knows that the enemy agent is a highly trained individual who is picked more for his brains than for his good looks.

Is your safe REALLY secure?

ZWEIBRÜCKEN ROAD-QUEENS

Poised for take-off from No. 3 (Fighter) Wing's base are (left to right) Leading Airwomen L. Bobinsky, J. Lyons, M. Hoselton, and Corporal E. Snippa. They are four of eight airwomen at Zweibrücken who have solved their transportation problems by buying lightweight motorcycles. The machines travel about 150 miles on one gallon of gasoline, and can maintain a steady 35 to 40 m.p.h.



Royal Canadian Air Cadets

BY A. MACDONALD,
Air Cadet League of Canada.

NO. 15 WING

A news item that seems particularly appropriate for this time of year has reached us from Calgary, where the youthful members of No. 15 Wing have "adopted" a 9-year-old Greek boy, Vassilios Rodakis. Since the unofficial adoption last spring, the aspiring "fathers" have contributed regularly to the upkeep of their protégé, sending food and clothing to him through a foster-parent organization. Young Vassilios' father died in the Second World War, leaving the family destitute. A lengthy illness has prevented Mrs. Rodakis from providing for the family, and Vassilios' sister is too young for the task.

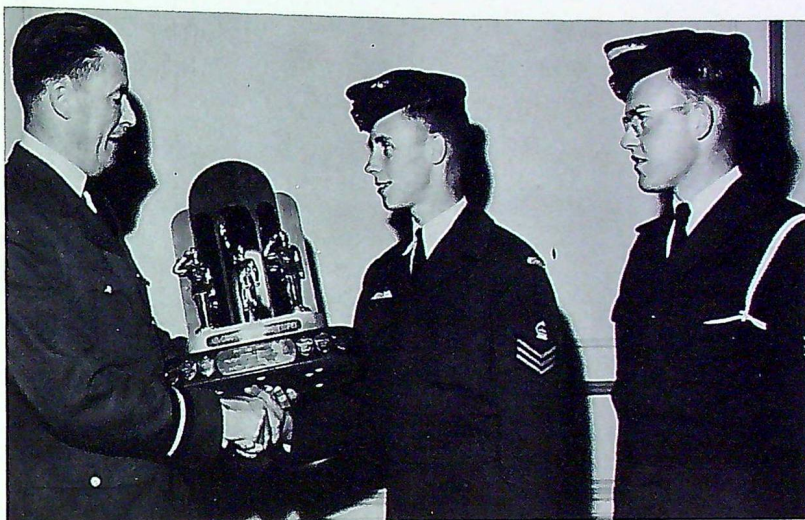
The cadets sent an early shipment of Christmas presents to the Rodakis family. Wool mitts, a scarf and a tuque, went to Vassilios; and the family as a whole will receive a parcel of food.

We believe that this is the first experiment in the field of foster-parenthood by any of Canada's Air Cadet units.

PROVINCIAL MEETINGS

As this is written, the Air Cadet League has just completed the annual series of meetings held each fall by the various provincial committees.

President Eric M. Duggan, of Edmonton, headed the League representation in the four Atlantic provinces this year as well as in Alberta and British Columbia. Elsewhere, he was ably represented by Vice-President J. G. LeDroit, of Mont-



Air Commodore M. Costello, C.B.E., presents the Group Captain Lewis Trophy for squadron efficiency to Cadet Flight Sergeant R. Pitcairn, of No. 60 (Charlottetown) Sqn. Right: Flt. Sgt. K. Costain.

The Saskatchewan chairman, C. C. Davis, presents Aid Cadet blazer crest to Larry Hanley for his remarkable record in bringing new boys into the movement.





Dr. G. W. Westman (centre) presents the Westmore Trophy to D. Rumble of No. 547 (North Bay) Squadron, named top squadron in Ontario for 1956. Right: Flight Lieutenant F. Malone.

the years, Derek Marshall, continues as provincial secretary.

Nova Scotia, which boasted thirty squadrons at the close of the last training season, has since added another one, which brings Air Cadet strength in the province to more than 2,700. Air Vice-Marshal A. L. Morfee, C.B., C.B.E., chairman for the past three years, was succeeded at this year's meeting by A. Courtney Tufts, for a long time the secretary-treasurer of the provincial committee and an active member of the League since his retirement from the R.C.A.F. in 1945. Mr. Tufts will have the assistance of a number of area chairmen as well as of a new committee secretary in the person of Ray Gabriel, of Halifax.

The two squadrons on P.E.I. continued to operate well in 1956, with a combined enrolment of 158 cadets. The provincial committee, sponsored by the R.C.A.F. Associa-

real. The number of active squadrons in Canada now exceeds 280, and cadet enrolments have gone well beyond the 21,000 mark. There seems little doubt that the maximum establishment of 22,500 cadets will be reached this season, and the national executive committee is giving serious thought to the matter of the League's future growth.

Atlantic Provinces.

In Newfoundland, provincial chairman Brian Higgins handed over to his successor an organization comprising 10 squadrons and 700 cadets, with the possibility of two new squadrons being opened in the coming year. The new chairman, W. J. House, has been active with the League in Newfoundland for a number of years. Another effective worker for Air Cadets over

Warrant Officer T. Cotton, No. 518 (Rosemont) Sqn., presents a trophy, donated by himself, to Flt. Sgt. W. Krasowski, the squadron's "outstanding N.C.O." for 1956.



tion in Summerside and Charlottetown, is financially sound and doing an excellent job of supporting the units. Chairman G. M. Mulholland, who has been named a member of the national executive committee of the League, was succeeded as provincial chairman by James H. Currie, of Charlottetown.

Walter H. Birchard, of Edmundston, continues as chairman in New Brunswick, where the movement has grown to 12 squadrons and more than 1,000 cadets.

Central Canada.

One of the most heartening developments of recent years has been the remarkable growth of the Air Cadet movement in the province of Quebec. Under the outstanding leadership of chairman J. G. LeDroit, the Quebec and Eastern Ontario region has now expanded to 37 squadrons, with close to 4,000 cadets on strength. A number of new and very promising units are already on the books for the ensuing months. Mr. LeDroit was succeeded as provincial chairman by Jean-Marie Lachance, also of Montreal.

Mr. James B. Smith, of St. Catharines, was re-elected as chairman for Ontario, which now has 54 squadrons and more than 5,000 cadets. The standard of training throughout Ontario is universally high, as evidenced by the winning of the R.C.A.F. Association Trophy for two successive years by Ontario squadrons. Congratulations are extended to the 1956 winner, No. 155 (Sault Ste. Marie) Squadron, rated as "the most proficient" Air Cadet squadron in Canada for its performance during the year. It is expected that several new squadrons will be opened in Ontario within the next few months.

A good year was enjoyed by the four squadrons under the jurisdiction of the North-Western Ontario Zone Committee. Total Air Cadet strength in the zone stands at more than 300 cadets. W. J. Griffis, of



James B. Smith, Ontario chairman (rt.), accepts a cheque for \$1,000.00 donated to the League by the three Toronto Wings of the R.C.A.F. Association. Presenting it is George Penfold, president of No. 437 Wing, R.C.A.F.A.

Port Arthur, a key man in the Zone Committee ever since its formation, was re-elected as chairman for the coming year. A. H. Dalzell will continue to serve as secretary.

Western Canada.

In the province of Manitoba, where there are 17 squadrons and 1,350 cadets, new squadrons are to be opened in the coming year. Chairman E. Vopni, who has been an outstanding provincial chairman for seven years, handed over to H. Brock Smith, of Winnipeg, who has also been prominent in League affairs throughout the province. Mr. Vopni will continue to serve Air Cadets as a member of the national executive committee.

Chairman C. C. Davis, of North Battleford, was re-elected to a second term as League chairman in Saskatchewan. He heads an organization (38 squadrons and more than 1,800 cadets) which has shown steady improvement over the course of the past several years. With two new squadrons opened last year, Saskatchewan is more than hold-

ing its own with the other provinces in the matter of growth.

Another province which gained strength during 1956 was Alberta, which closed out the year with more than 2,200 cadets on strength in no less than 47 squadrons.

Provincial Chairman A. R. Smith, of Calgary, now a member of the national executive committee, was succeeded by A. B. Evenson, of Edmonton.

At the close of 1956, Air Cadet strength in British Columbia hovered near the 2,000 mark, with 31 squadrons on the books. The leadership of the provincial committee changed hands at the annual meeting, when J. E. Basseur succeeded D. A. Inman as chairman.

The west coast province enjoyed a banner cadet year in 1956, and indications are that British Columbia squadrons will be hard to beat out for national honours in the coming year.

* * *

Our photographs show some of the presentations made at this year's provincial meetings.

Pin-Points In The Past

(This month's pin-point consists of a colourful little article written by an R.A.F. officer who was sent to Canada in February 1927 on a two-year exchange posting to the R.C.A.F. During those two years he was variously employed in forestry patrol and fire prevention for the Manitoba provincial government, in topographical survey, as a seaplane instructor at R.C.A.F. Station Vancouver, and in mail-flying. There is a lake named after him in western Manitoba. He retired from the R.A.F. as a Group Captain in 1942. We are printing his article exactly as it was originally written for readers in England.—Editor.)

FLYING FIREMEN

BY GROUP CAPTAIN JOHN A. SADLER

THERE may seem to be little in common between a garden bonfire and a forest fire in Canada. Nevertheless the scent of a country bonfire never fails to remind me nostalgically of my service in the Royal Canadian Air Force in Northern Manitoba in the late 1920s.

At that time the Canadian government was becoming acutely conscious of the necessity for preventing the enormous wastage of timber caused by forest fires. The system of watch-towers manned by fire-rangers had proved inadequate for safeguarding such vast stretches of timber as exist in the uninhabited areas of the provinces of Ontario, Manitoba, Quebec, and Saskatchewan; and the authorities decided to resort to air patrol. Detachments of the R.C.A.F. were lent to the provincial governments for civil air operations, which included forest-fire prevention and topographical survey. During the summer a chain of air bases was established in the bush, and, as soon as the snow and ice had disappeared, seaplanes were flown from Winnipeg to these bases, tents were erected, and camps established.

It should perhaps be explained that, to the north of civilization,

the Canadian provinces consist almost entirely of lakes, rivers, and forests. Apart from the Hudson's Bay Company's trading-posts, Indian settlements, lumber-camps, and scattered mining activities (and, of course, the ubiquitous "Mounties"), the only human beings are a few campers, prospectors, trappers, and fishermen.

Each air base had an allotted patrol area, several hundred miles square, which was covered regularly by "detection" aircraft. On sighting smoke, the pilot pin-pointed its position and radioed relevant information to fire-fighting headquarters. He then landed in a lake adjacent to a fire-fighting outpost, manned by a Canadian fire-ranger and a few Indians trained in the work; whereupon, if the fire was a small one, a party would set out in a canoe and try to extinguish or isolate it. If the fire had got a hold, a larger seaplane, known as a "suppression" aircraft, would load up with a crew of trained fire-fighters, together with camp-kit, an Evinrude motor water-pump, a thousand-foot length of hose, and a collapsible canoe. It would then take off from its base at flight headquarters and land in the lake nearest to the fire, disembarking the fire-fighting party to camp in the bush.

In a dry season, there might be

Jericho Beach, Vancouver.

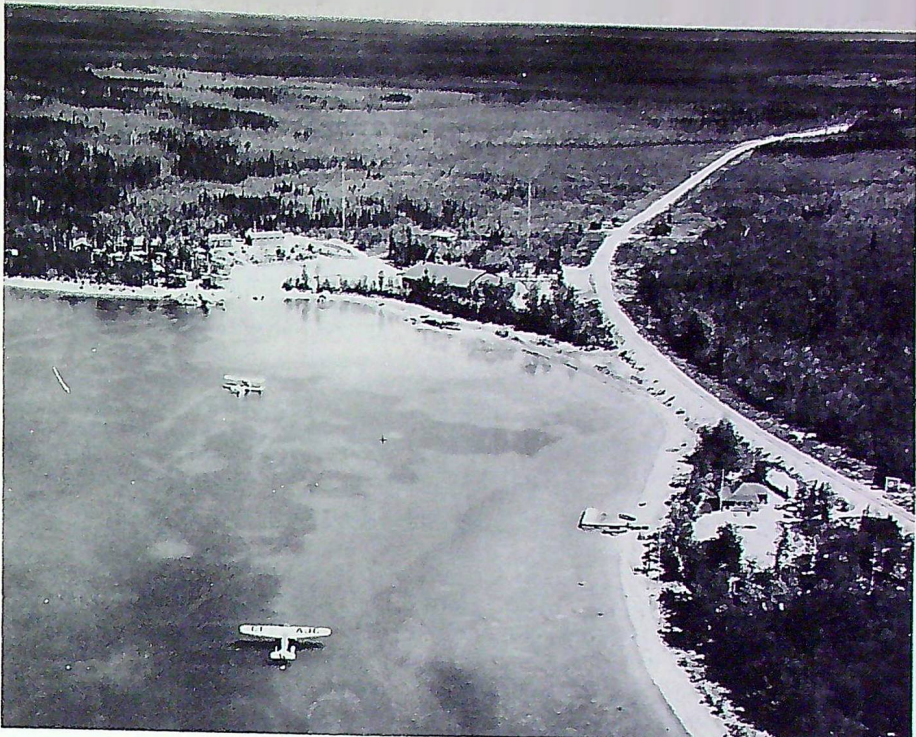


anything up to a dozen fires raging simultaneously in one patrol area, and a large fire might burn for weeks. Thus, an aircraft from base headquarters had to pay regular visits to each fire and keep the men supplied with food, tobacco, mail, etc. There are plenty of trout in the lakes, and game galore, so that an experienced woodsman need never starve in the bush. The scent of burning timber never failed to appeal to me, and towards sunset the reflection of flames and smoke mirrored in the lakes was a beautiful sight when viewed from the air.

Forest fires can be started in a variety of ways. The most common cause of them, however, is the failure of campers to douse their camp-fires efficiently. A smouldering match thrown away unthinkingly by a smoker is another frequent cause, and there is an unwritten law in the bush that used matches should be broken in two before being discarded. Again, the sun's rays concentrated on a piece of glass such as a broken bottle, may easily start a forest fire which will destroy thousands of acres of timber.

The camp where my flight had its headquarters was situated on the edge of a beautiful stretch of water called "Cormorant Lake", which owed its name to a pair of cormorants that used to nest on a small island in its centre. The nearest point of civilization was a small mining-village named The Pas, 42 miles to the south. At that time the Hudson Bay Railway was being built, and a single track had been laid from Winnipeg just about as far as Cormorant Lake. There were no stations, but a small settlement near by was known as "Mile 42".

When we wished to replenish our supplies, some could be transported by air, but other means had to be found for heavier stores. This dif-



Cormorant Lake.

ficulty was overcome by utilising a "gasoline track-car" on the Hudson Bay Railway line. It was a Heath Robinson contraption consisting of a two-stroke petrol engine mounted on a railway-truck chassis with belt drive to a pulley on the rear axle. A couple of old aeroplane seats provided seating accommodation, and, once way had been gathered, it was possible to reach a speed of sixty miles per hour. It was great sport shooting jumping deer, prairie chickens, and other game, *en route*.

There was one big snag, however, about this means of transportation. If, when travelling to or from The Pas, we met a train (known as "The Muskeg") carrying the railway construction gang, we either had to reverse to the nearest siding, which might be several miles away, or get out our portable turn-table and manhandle the track-car at right angles to the line on to a couple of tree trunks. Almost invariably the track-car slipped off the turn-table during this process, and that meant hours of sweated labour getting it back on to the line again when "The Muskeg" had passed. Nor was this job made any easier

by myriads of outsize mosquitoes, black flies, and other pests which attacked us incessantly.

During non-working hours, there was a variety of pastimes — excellent bathing in the lake, trout-fishing, moose- and deer-stalking, plenty of prairie chickens to be shot, and, in the fall, fine duck-shooting. In our spare time we built a log cabin, cutting down the trees ourselves, laying the trunks on top of each other and stuffing moss in the cracks. We even shingled the roof. It was a pleasant life, in a lovely environment. On summer evenings the aurora borealis would often light up the sky so brightly that one could read by it.

A constant source of amusement was provided by a birch-bark canoe fitted with an outboard motor. A rock placed in the bows counteracted one's weight in the stern, but great skill was required to avoid capsizing when pulling the cord wound round the fly-wheel to start the engine. The slightest lateral movement is enough to upset this type of canoe, but owing to its lightness it can be "portaged" (car-

ried by hand) from one lake to another without great difficulty.

Towards the end of September we commenced preparations for striking camp. The lakes start to freeze up early in October, and snow is on the way. I remember that, at the end of one season, my flying-boat (which was an open-cockpit two-seater "pusher") was completely coated with ice when I landed at Winnipeg on return from Cormorant Lake, and another aircraft

accompanying me had a forced landing because of a frozen carburettor. My mechanic's face was frozen by the intense cold of the slipstream. During the winter all forestry aircraft were completely overhauled, and drums of petrol and oil were transported by dog-teams and sleighs to convenient points in the bush, where they were cached ready for use the following summer.

During the winter months, when

the temperature drops to 40 degrees below zero and all rivers and lakes freeze, there are heavy snowfalls, and the crews who have been on flying operations, after taking a well-earned rest, fly aircraft fitted with skis. Then, when the spring returns, they once more wing their way northwards and pursue their calling as flying firemen.

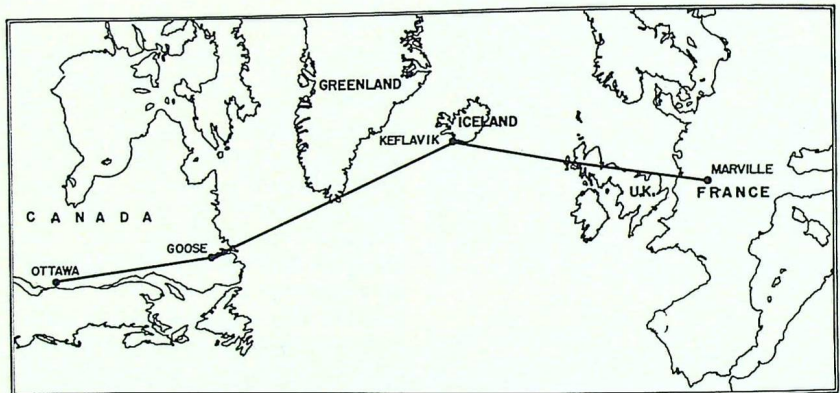


Nimble Bat

On 30 October, the first CF-100 squadron to be transferred overseas was given a ceremonial send-off from R.C.A.F. Station Uplands, Ottawa.

Two days later No. 445 Squadron left for Marville, France, via Goose Bay and Keflavik, in a move designated "Operation Nimble Bat". Three more squadrons are being sent to No. 1 Air Division as the direct result of requests from N.A.T.O. authorities.

One CF-100 squadron is to be located at each of the Air Division's four bases. Each CF-100 squadron will replace a *Sabre* squadron, which will be disbanded. As the squadrons leave their home bases in Canada, they will in turn be replaced by new CF-100 squadrons bearing the designations of the *Sabre* squadrons disbanded in Europe.



TWO REVIEWS

BY SQUADRON LEADER N. W. EMMOTT, D.F.C.

"Squadron Airborne".

There have been many tales told of men who stood in the breach, knowing that if they fell their world fell with them. The "few" who fought the Battle of Britain have caught the imagination, but there has been no spate of stories about them. "Squadron Airborne" is a novel which gives them an accolade they richly deserve.*

The author is Elleston Trevor, who wrote a novel about Dunkirk, "The Big Pick-Up", which received a good deal of critical acclaim, especially from the English public.

The book tells the story of a week in the life of a fighter squadron in southern England during the height of the German assault in the late summer of 1940. The book's characters are some of the men and women who fly and service the *Spitfires*. The central character is Pilot Officer Stuyckes (pronounced "Stikes"), who reports to the squadron and its hard-bitten O.C., Sqn. Ldr. Mason, wins his spurs by shooting down a number of German aircraft, and leaves the stage by reporting from a hospital bed after an all-but-fatal crash-landing.

Portraits are drawn briefly of White, the spiritualist, who has gone far enough past the breaking-point to be obsessed with the belief that he must fly until he is killed, and of a handful of the other squadron pilots. There are some excellent descriptions of air fighting and of the reactions of men in battle.

The real heroes of the book, however, are the groundcrew — Ken

Cornelius, the fitter; Corporal Newman, the pompous, dedicated busy-body; Sergeant Parkes, who stops sometimes to try to look at things from the pilot's eyes; "Chief", the flight-sergeant. All are faithfully painted and described with loving care. With his discerning ear for the way men talk, and his sympathy for the way men feel, the author has written far more authentically of the mechanics than of the pilots. His appreciation of the fact that aircrew and groundcrew live in different worlds, whose orbits intersect only occasionally, is best summarized in his own words:

"Newman shrugged amiably. 'It's not my worry. I'm not on the engine-change.' It was as far, or nearly as far, as Newman ever projected his thoughts on the subject of a crash. A crash, according to its severity, meant a prop-change or an engine-change, unless it was a complete write-off. It was, in most cases, a job; and he never thought far beyond the job. The pilot might have been careless or shot-up or drunk or dead scared or just clumsy. The only fact that remained to worry Corporal Newman was the job to be done.

"This feeling was common among pilots and groundcrews. All a pilot wanted to know was whether his machine was serviceable. All the fitter wanted to know was the extent and character of the damage. They had, in general, only the one common interest: the machine. It was a machine age and a machine war, and this was the natural working relationship."

There is a certain amount of love-interest dragged in by the heels, but, of the three or four love-affairs, the only one to seem authen-

tic is the half-motherly, half-admiring worship-from-afar of a W.A.A.F. flight mechanic for the pilot who flies the machine she helps to service.

The book contains writing that is often beautiful, and catches, sometimes poignantly, the atmosphere of a war-time fighter station. In particular, the descriptions of maintenance work on the aircraft are excellently done.

The story is spotty, but it is none the less a good story. It holds the reader's attention, slight though its plot may be, because the author has something to say and the ability to say it. Elleston Trevor has written a book that is well worth reading.

"Jump For It".

The Caterpillar Club is not particularly exclusive. Anybody at all can join it, provided he has made a parachute jump from an aircraft in order to save his life. On the other hand, nobody on earth who has not "jumped for it" can become a member, no matter how distinguished he may be otherwise. The R.C.A.F.'s highest-ranking member is Air Vice-Marshal L. E. Wray, who baled out of a burning *Halifax* bomber over the Ruhr.

The stories of a few of the people who have become involuntary members of the club are told in Gerald Bowman's book, "Jump For It."* The author, who served with the R.A.F. in the Second World War after learning to fly in 1918, is a successful British novelist and a London newspaperman.

* "Jump For It", by Gerald Bowman. Distributed in Canada by the British Book Service, 1068 Broadview Ave., Toronto 6, Ont. \$2.75.

* "Squadron Airborne", by Elleston Trevor. Distrib. in Canada by the British Book Service, 1068 Broadview Ave., Toronto 6, Ont. \$3.00.

The book tells of eighteen men who were forced to bale out. Most of the incidents occurred during the Second World War, but a few of them occurred between the wars, and one took place when two *Sabres* collided over England two or three years ago. There is also a chapter on the beginning of parachuting nearly two centuries ago, and on the institution of the Caterpillar Club, by Leslie Irvin, the American who founded the Irvin Chute Company.

Lindbergh's four bale-outs are related, as well as Air Chief Marshal Sir Basil Embry's journey through occupied France. With these exceptions, the others who form the cast of the book have escaped the public eye. They are all the ordinary men in uniform, who, in moments of desperate danger,

have behaved in the manner that has gained for the Air Force its reputation.

Flt. Sgt. R. H. Middleton, V.C., of the Royal Australian Air Force, who flew a *Stirling* from Italy to England with an eye shot out of his head, is here. So is Flt. Cadet Jack Bradley, who bunted a *Siskin* (the R.A.F.'s top fighter of 1932) and found out the hard way that the wings were not stressed for an outside loop. Flying Officer MacKenzie, Royal New Zealand Air Force, who disappeared into thin air in the North African desert, finds his place beside Sgt. McCandlish, a radio technician who, while testing a radio set in the air, mistook "All right!" for "Bale out!" The story is told of the man who wondered why his parachute did not open, and then realized that he was hold-

ing his parachute under his arm like a brief-case, and of the co-pilot whose parachute opened inside the aircraft. There is the tale of the rear-gunner whose life was saved because he had put his parachute on the wrong way round, and that of the fighter pilot who baled out into the path of a convoy, only to see the ships sail unheedingly past.

The book is well done. More a collection of anecdotes than a connected story, each chapter is complete in itself. Nevertheless, it is compact, well-written, and interesting. There are no heroics in it, but the incidents are absorbing, and the descriptions, the characters, and the conversations all ring true. It is recommended to those who are interested in a slice of authentic history of the world of the air.

SWEDISH DRAGON



THE Saab-35 (*Draken*), an aircraft capable of supersonic speed in level flight, has recently gone into quantity production for the Swedish Air Force.

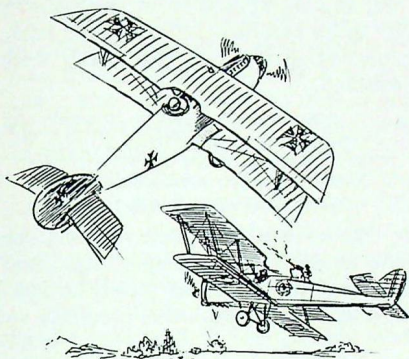
This highly advanced fighter, which was the first aircraft in the world to employ a double-Delta wing, has an all-up weight of eight to nine tons depending on the type of armament.

The *Draken* was designed to meet the Swedish Air Force's request for a fighter which could fly at high supersonic speed, climb quickly to very high altitude, have superior manoeuvrability, and be able to deal effectively with modern jet bombers. Further requirements were that the aircraft should be able to take off and land on relatively small airfields and also to fly and fight in all kinds of weather with a crew of only one man.

Worth-While TV Series

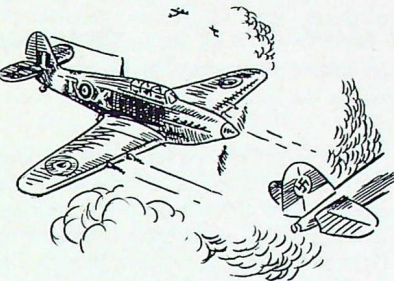
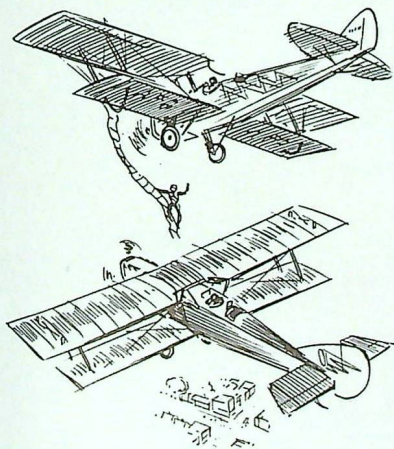
ON Sunday, 2 December, television-viewers in most Canadian cities were able to watch the first of 26 weekly half-hour programmes outlining the story of Air Power. These programmes form part of the already well-known series, "You Are There".

Included will be actual films of barn-stormers, wing-walkers, and various other "Flying Gypsies" that



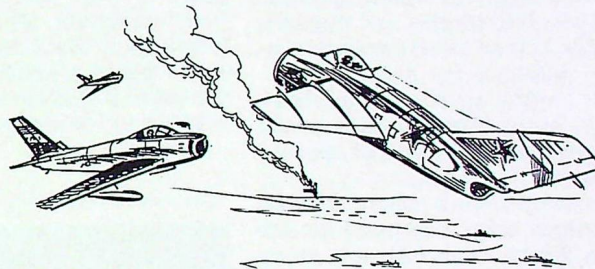
The First World War.

followed in the wake of the First World War. There are sequences made from captured German films showing the rise of the *Luftwaffe*,



The Battle of Britain.

Korea.



the fighting in Poland and the Low Countries, night attacks on Hamburg, and Russian bombing of Berlin. Excerpts from Japanese films show the approach to and the bombing of Pearl Harbour, the training of Japanese children as fighters, and the dropping of the first atomic bomb.

One programme tells the story of a single mission, the bombing of Schweinfurt. Another shows the murderous attacks on the oil-fields of Ploesti, Romania. Still another gives a picture of a typical "island-hopping" operation in the Pacific.

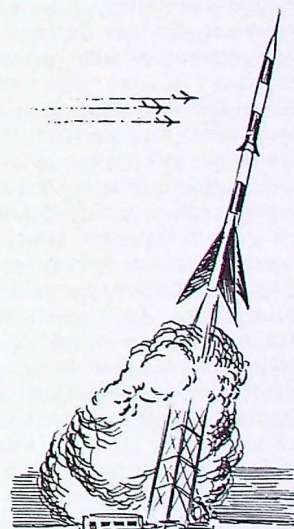
"Flying Gypsies".

Others will dramatize the fighting in Korea and the first air duels involving jet aircraft.

Sir Winston Churchill and Michael Redgrave tell the story of the Battle of Britain, and Captain Rickenbacker and General Doolittle narrate some of the other episodes.

The Air Power series is primarily the story of the 20th century. Its premise is that the sky reflects the ground below — that, through the aeroplane, the history of the 20th century can be shown.

In short, the aeroplane is the narrator, and the 20th century the subject, of Air Power.



Today.

BALE OUT – and LIVE

BY FLYING OFFICER R. J. CHILDERHOSE,
No. 1 Overseas Ferry Unit.

(We have published several articles, some of them serious and others in a light vein, about the work of the Survival School at Edmonton. In addition to the regular courses conducted at the School, shorter courses are carried out at individual units for small groups of aircrew engaged in some particular type of work. Flying Officer Childerhose here gives us a concise account of one such short course which was organized last winter for the pilots of No. 1 O.F.U., St. Hubert.—Editor.)

Said Squadron Leader R. G. Middlemiss, D.F.C., C.O. of No. 1 Overseas Ferry Unit:

"A Sabre pilot is a lone operator. If he gets into trouble and pulls the handles, he has to take care of himself. I want all my men to be familiar with survival conditions, aware of survival problems, and checked out on the use of survival equipment."

The news that a short survival course was being organized hit the O.F.U. Pilots' Room like a sonic boom. Wails of protest followed. Ideas on how to "sleaze out" of the course were freely discussed. The most constructive of them was that of a veteran of nine trans-Atlantic crossings in jets: "The night before we're due to go, I'll wrap myself in wet towels and sleep on the lawn." Since he was eventually subjected to the ordeal like the rest of us, one must assume that he failed to carry out his threat or that he didn't need a survival course anyway.

Our instructor was Flying Officer John Grant. Six-foot two in height and weighing a couple of hundred pounds, he is an ex-instructor from the R.C.A.F.'s Survival School at Edmonton. For three days, he told us, we were to be lectured, after which we were to be put out to pasture in the snow-bound woods for another three days. "We're going to

teach you," he said, "to exist while starving. In a real emergency you might have the wreckage of an aircraft to help you, sometimes just your parachute. You might be left with a punctured intestine, a fractured leg, or a crushed foot. It's a hard game. You survive or you die."

Survival, it seemed, was not all

cakes and ale; nor did we entirely cast off dull care when he reassured us that, of the 650 men who crashed in the Arctic during the Second World War, more than half lived to tell stories. It was from the records of those crashes that the four basic rules of survival in the North were evolved:

1. Administer first-aid to yourself and your fellow survivors.
2. If possible, build a fire.
3. Find or construct a shelter.
4. Sleep for twelve hours.

"There are two good reasons for the twelve hours sleep", explained our instructor. "First, you'll be suffering from shock, and secondly —

"The wan faces of his audience . . ."



THE Roundel

and more important — the Search and Rescue people need time to organize.”

Flt. Lt. I. H. Anderson, the aircrew medical officer at St. Hubert, lectured on the importance of immediate first aid. We were shown a technicolour film that left nothing to the imagination. Blood spurting from a severed artery caused three fighter pilots to leave the theatre.

“Quite good, actually,” said the M.O. (who was an Englishman). “If an artery is completely severed, it will tend to seal itself off once the blood flow has been restricted. If you find yourself in such a situation, you can check to see if it’s cut right through. If necessary, you can reach down and finish the job.”

The wan faces of his audience showed their appreciation of his suggestion, which was followed by a few encouraging remarks about snow-blindness.

“After the first symptoms of watering eyes and a feeling of sand

under the eyelids, your vision is affected by a reddish haze. This soon becomes a crimson wall which completely blanks out your sight. It’s extremely painful, and you’ll be quite helpless.”

A related phenomenon, and one that has mystified fliers who work in the north, is “white-out”. The pilot, flying on a snowy or hazy day, may suddenly lose his sense of balance. There is no horizon, no shadow, and no ground. The best thing he can do is start flying on his instruments, or, in the language of pilots, “jump on the gauges”.

White-out occurs, we were told, when the light reflected by the snow reaches the same intensity as that received from the sun. Many accidents have been attributed to it. Possibly the most fabulous prang was that of the bomber which mushed into a snow-drift so gently that none of the crew was aware of the landing until the pilot noticed that his indicated airspeed was 30 m.p.h.

“... the time came for us to board a Dakota ...”



“... our whirlybird ...”

Food is a major consideration in any survival situation. In the Arctic, starvation is more often the cause of death than cold. Low temperatures force the body to expend more energy in the production of heat; walking in deep snow or working in strong winds quickly exhausts the store of energy.

“Therefore”, said John Grant, “you must eat everything — bones, claws, and eyeballs. Meat is most plentiful along the coast or on the pack-ice. White men have trouble eating blubber, but force as much fat down as you can. Polar-bear meat is loaded with worms, so you must cook it. The liver of bear and seal will poison you—but drink the blood. Sea cucumbers are edible. Discard the insides, scrape off the slimy exterior, and fry or stew the remainder.”

As we sat there, mouths watering, he went on to describe how slow starvation had taken the lives of an entire B-17 crew that was forced down on the eastern coast of Labrador. A diary discovered with the bodies revealed that the survivors had watched herds of seals near by without making any attempt to catch some of them. Even worse, the men neglected to search the area. Had they done so, they’d have found an Eskimo village less than five miles away.

“So”, said John, “stay where you are, but explore the immediate area. Remember, too, that wet mitts and



"Four feet of it in the underbrush . . ."

socks may soon result in the loss of fingers and toes. And keep covered. A temperature of minus fifteen degrees, with a wind of thirty miles per hour, is equal to a still-air temperature of sixty below. Exposed flesh will freeze within one minute."

Should one of us ever flame-out over the Greenland ice-cap on our way to Europe, we must cut a six-foot "fighter-trench" in the snow and lean snow-blocks against one another to form the roof. Wrapped in our parachutes, our body-heat would keep the temperature just above freezing-point.

"I'd rather try to walk out," said someone.

"Don't. The last guys that tried had only twenty miles to walk to civilization. They were found frozen to death five miles from their aircraft. Don't travel unless it's absolutely necessary. If it is, leave a note for trackers at every one of your camps. Tell them your condition, progress, and intentions. You can further assist by blazing your trail in any way that suggests itself . . ."

So far, "Operation Freezer" had been pleasant enough — a cozy

class-room, full bellies, and warm feet. But at last the time came for us to board a *Dakota* and leave on the first leg of the flight to the survival site at Brodtkorb Lake, some 85 miles north of Ottawa. Each man wore flying-clothing and carried a duffel-bag containing the gear which is provided in the survival seat-pack normally fastened to the pilot's parachute. Also included was a discarded parachute. Each seat-pack holds a nylon sleeping-bag, a hand-axe, a "Hornet" collapsible rifle, a small radio for distress-signalling, food for five days, and a few other essentials.

"Grab your last cup of coffee when we stop at Ottawa", Grant directed.

Arriving at Rockliffe, the eight of us hurried to transfer our gear to two waiting Piasecki helicopters belonging to No. 108 Squadron; and presently we were off. That first ride in a helicopter was quite an experience. To jockeys accustomed to the smooth silence of high-speed flight in *Sabre* jets, the bobbing and weaving ascent in a "chopper" was frightening. The hammering roar of the engine was frightening. The

teeth-rattling vibration set up by the rotors was frightening.

Soon we were whirring over the Gatineau Mountains. The terrain below was rugged enough to rejoice the soul of the most sadistic survival instructor . . . low black mountains of jack-pine cluttered with deadfall, jagged stumps which could tear the heart out of our whirlybird if the fans were to stop, and, of course, plenty of nice, deep, unbroken snow.

"O.K., you guys. Start walking. Spread your camps out about a quarter of a mile apart."

In ten minutes everyone had scattered toward the shore of the lake. Twelve inches of loose snow underfoot made for heavy walking. Four feet of it in the underbrush beside the lake made progress impossible. Stopping to catch my whistling breath, I began to search for the "best" place in which to make camp.

I reached for the hand-axe and eyed the trees speculatively. Bits of the lecture on "Shelters" echoed through my mind:

"Find two trees fairly close together. Use parachute cord to lash a cross-pole between them. Then lean several smaller poles against this cross-bar. Weave a thatch of pine-boughs into these poles to form the roof of your lean-to . . ."

Two hours later I stood back to admire my new home. Pine-needles and twigs had scratched their way down into my flying suit, blood oozed out of barked knuckles, and I was hungry.

"Use small sprigs of pine to make a mattress. A layer at least one foot deep is necessary . . ."

That instructor! Another hour went by, spent in gathering and spreading. It was dusk by the time I began to scrape a hole in the snow for a camp-fire.

Shredded birch-bark and dead pine-twigs burned at the first try. Standing dead-wood provided logs for the night.



" . . . I came across an outhouse door . . . "

me. After first spreading the parachute silk on top of my mattress, I snuggled down into the sleeping-bag.

It was a long night. As the fire died to embers, cold began to seep through the bag. Black pine-trees stood ghostly in the filtered light of the moon above a thin overcast. The fitful wind moving through the trees on the ridge sounded like jet engines in the distance.

"Arctic wolves are fast and strong. They will attack humans if they are hungry enough . . ."

"Wolves never travel or hunt in packs, but they do keep together as a family. Of course, that may mean Mom and Dad and twenty-seven kids . . ."

I peered over the edge of my sleeping-bag. Not a wolf stirred. None the less, my slumber was fitful and unproductive of rest.

Grey morning found a thin covering of snow over my bed. The nylon flying-suit that I'd used for a pillow was frigid; the mukluks in

" . . . we exchanged stories as we waited . . . "

By now I had a roaring appetite — but much good it did me! The rule says that the survivor isn't to touch his single tin of AFFP1 rations for twenty-four hours. Mentally I ticked-off the enclosed goodies: four squares of shortbread, eight small packs of jelly candy, four envelopes of powdered coffee, and twelve Vitamin C tablets. It certainly wasn't much to keep a man going for five days. However, the Air Force assumes that you starve for the first day, so that you can just manage to stay alive for the remaining four days. (Since our course was to last for only three days, we were expected to consume no more than two days' rations.) Normally, a man needs 3000 calories per day to live and work in the Arctic: one shortbread and two packs of candy contain 900.

I sighed and pushed Satan behind



the corner were frozen stiff. It was impossible to tie the laces until I'd thawed them at a hastily built fire.

The lonely day passed quickly in a multitude of chores. More firewood, more thatch for the lean-to, more pine-sprigs for the mattress. I made a few improvements to the camp — a radiator of logs to reflect the heat, a drying-rack for clothes, a cooking-pole. I also set out some snares and built wings on to the shelter.

By mid-afternoon, driven by hunger-pains, I ate one of my shortbread squares, hoarding the two packages of candy for the evening feast. I also brewed some coffee. It was bitter. It was terrible stuff. I cut my lip on the edge of the can, then scalded my mouth with the boiling mixture of pine-needles and bits of charcoal.

I spent the evening in gazing morosely into the fire. I felt an intense sympathy for fighter pilots who were forced to sit in the snows of Brodtkorb Lake. Particularly for one of them.

* * *

"How did you hack the course?"

It was Flying Officer Ralph Metzler, who had camped half a mile down the lake. In celebration of our departure for civilization, he'd dropped in for breakfast on the way to the pick-up point. Weak coffee, shortbread, and frozen jelly candy were featured on the menu.

"You know," he said, reflectively munching his stale shortbread, "if I had to bale out and survive in this, I don't think I'd bale. I'd rather go in like a dart."

Later, as the whole group of us exchanged stories while we waited

for the helicopter, Flt. Lt. Don Enman remarked:

"I thought that I was the first white man ever to see this patch of country. Then I came across an out-house door, complete with a half-moon cut-out. I used it as a radiator for my fire . . ."

At Rockcliffe we were met by a *Canso* flying-boat. The pilot briefed us before taking-off for Montreal:

"If we should have to go down unexpectedly, just brace yourselves against the bulkhead. This thing forced-lands like a parachute."

* * *

For eight pilots of the Overseas Ferry Unit, "Operation Freezer" was ended. It is unlikely that any of us will have to use our training — but if the emergency should arise, we know roughly what to expect!



STATURE

Most jobs take on the stature of the men who fill them.

A big job rarely stays big under the thumb of a small man. And the woods are full of examples of little jobs whose stature grew to that of the man who occupied them. When a man pours himself out into a job, it is natural that the job should begin to look like the man.

Sometimes only separation of the man from the job reveals which it was that had the stature.

We know one executive whose magic touch put successively three public service organizations on the top rung of the importance ladder in the United States. Reflecting men of lesser vision, each job sank quickly to mediocrity when he

moved along to the next . . . We know another who chose a job which traditionally had consisted of successful putting together of routines. It had no prestige to convey. Two years later, it was the second most important job in the small organization of which it was a part.

Big men are rarely held back by little jobs. They have a way of going somewhere and dragging the job along with them. They seem never to be aware of limitations. Perhaps because they see so many opportunities.

The small man too often sees his job analysis sheet as an insulating shell, protecting him from added responsibilities or obligations.

He seeks inner security from an ever-present alibi for "keeping his nose out of other people's business." He wants to feel safe from having too much expected of him.

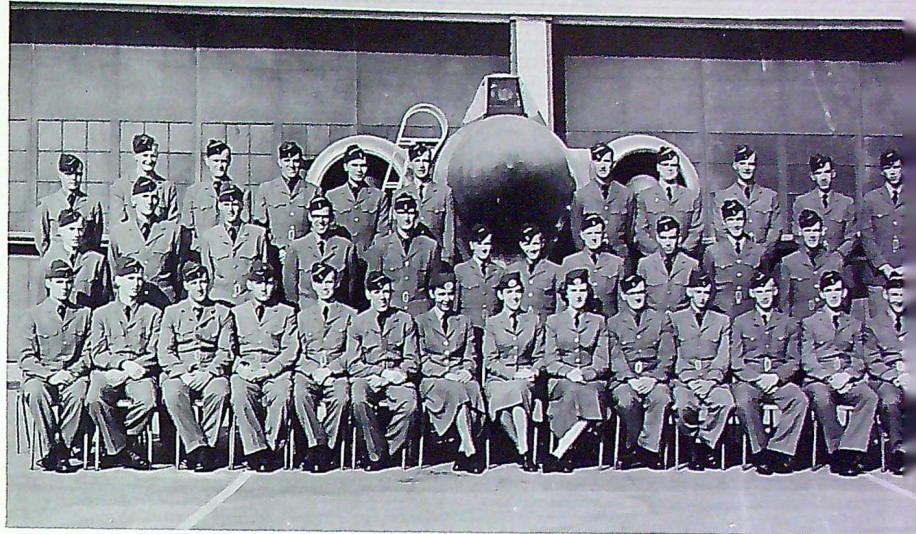
Some, in other words, see a job analysis as an instruction sheet; to others it is merely a carrier from which to take off. This latter group aims for the lasting inner security which is born of accomplishment — and needs no protective shell.

Whatever the individual's attitude toward his job, the job eventually tends to take on the stature of the man who holds it.

(Norman G. Shidle, in the "SAE Journal": U.S.A.)

AYLMER GRADUATES

Forty Flight Cadets graduated on 6 September from their specialized summer training at No. 1 Technical Training School, Aylmer. Many of them will, upon subsequent graduation from the several universities at which they are students, make careers for themselves in the R.C.A.F. as Aeronautical Engineering Officers, Supply Officers, or Accounts Officers.



Back row (l. to r.): J. F. Kennedy (A. E.), K. N. Dye, B. J. Cullen (Acc.), R. A. Brophy (Acc.), L. G. Brown (A. E.), D. E. Davis (A. E.), J. F. Hiltz (A. E.), B. H. Brown (Sup.), M. R. Overbury (A. E.), H. H. Sherrard (A. E.), W. W. Kirkpatrick (A. E.).
 Centre row (l. to r.): R. A. Jutras (A. E.), J. M. Colman (Acc.), J. W. McCready (Acc.), W. C. Gelling (A. E.), W. V. Simpkinson (A. E.), C. R. Grubb (A. E.), T. B. Boulanger (A. E.), M. A. Dennison (Acc.), J. J. E. Gosselin (Acc.), A. W. Dawson (A. E.), J. E. Berrigan (A. E.).
 Front row (l. to r.): A. C. Trupp (A. E.), J. P. Sutherland (A. E.), G. D. Murphy (Acc.), R. F. Drysdale (A. E.), W. A. Massey (Sup.), C. S. Albright (Sup.), V. L. Carter (Sup.), P. M. Duke (Sup.), J. V. Marshal (Sup.), G. M. Campbell (A. E.), D. E. Orr (Sup.), N. R. Gish (Sup.), M. C. Macdonald (Acc.), R. A. Feasel (Acc.).
 Missing from photograph: L. F. MacAlpine (Sup.), M. O. K. Rorke (Sup.), P. H. Roe (Sup.), J. C. R. Begin (Sup.).



FOCUS



Few personal disciplines are as rewarding as forcing ideas into focus. And few business habits contribute more to group results.

The ideas which keep us uncomfortable by day and tossing by night are almost always slightly out of focus. It is less wearing to face big problems which are clear, than to be plagued by small ones which aren't.

Only when we see a thing for *exactly* what it is can we readily decide what to do about it. As long as we permit its outlines to remain hazy, we are beset somewhat by man's innate fear of the unknown.

That's why the small, daily problems often bother us more than the big ones. We can't bring ourselves to do the *constant* work of focusing. We keep hoping we can get along with less than 20-20 vision on everyday matters . . . And we do — after a fashion.

Worry grows lushly in the soil of indecision. And indecision comes often from failure to bring the real problem into focus for facing.

We have all known someone of "the worrying kind"; someone constantly harried by what seem trifles to everyone else. . . And we have all joined in the general surprise

when the "worrier" met personal tragedy or a sudden great problem with dignity and power.

A Constant Focuser can be a great boon to an organization, provided he doesn't get doctrinaire about his speciality. He is a steady irritant to the comfort of most of us, until we learn for ourselves the greater comforts which constant focusing can bring. The Constant Focuser already enjoys the comparative comfort of a mental house dispossessed of all but tomorrow's undecided issues.

(Norman G. Shidle:
 "SAE Journal".)

VICTORY smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur. (Gen. Giulio Douhet.)

Letters To The Editor



NO. 6 S.F.T.S. REUNION

Dear Sir:

The eleventh annual reunion of former airmen and airwomen of No. 6 Service Flying Training School was held, as usual, at the Dunnville Golf and Country Club, Dunnville, Ont., on 22 September. It was the largest and most successful of our reunions to date, and, for the first time, one of our former C.O.s was in attendance—Wing Commander H. Bryant, who now commands R.C.A.F. Station Edgar.

The activities (sporting, festive, and conversational) of those who attended the reunion were too varied for description in a short letter, and no one (except the

ladies) knows what the ladies did and said while they were being entertained by Mrs. Mills. However, the enclosed photograph of a few of the diners at the head table may strike a chord in some of your readers' memories. The startled fawn on the left is the undersigned, and his three companions are (left to right): James A. Buchanan of Rockville, Maryland (chairman), Wing Cdr. Bryant, and W. C. B. Mills (vice-chairman).

Any former members of No. 6 S.F.T.S. who would like to attend the next of these stimulating affairs, are asked to write to me at the address given below.

Frank Scholfield,
Sec'y-treas., Reunion Committee,
Box 814, Dunnville, Ont.

NO. 417 SQN. REUNION

Dear Sir:

Many of your readers may be interested to learn that it is proposed to hold a reunion of former members of No. 417 (City of Windsor) Squadron some time during the Spring of 1957. The reunion will take place in Windsor, and all who would like to attend are asked to write to the address given below, stating the dates that would be most suitable for them.

B. J. Hayden,
Box 30, Parkside Drive,
R.R. 2,
Oakville, Ont.

INFORMATION WANTED

Dear Sir:

This is an appeal on behalf of the widow of R221156 L.A.C. Bruce G. Austin to find someone who served with her husband during the war, on the squadrons mentioned below.

Records show that, on 8 August 1944, he was posted to Topcliffe; on 24 September, to Worlie; and on 10 October, to No. 413 Squadron. On 1 December he was posted to the South-East Asia Command, and he remained there until 13 September 1945. He served with Nos. 413 and 435 Squadrons.

Should any ex-airman reading this letter recognize the name, number, and squadron, please do not hesitate to contact the writer immediately either by mail (66-80 Tecumseh Rd. E., Windsor, Ontario) or by "collect" phone (home: Clearwater 2-2498 — business: Clearwater 4-5171).

Jack C. Taylor (R.C.A.F.A.),
President, No. 412 Wing.



WHITEHORSE WEDDING

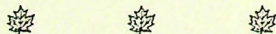
Bronze mums and lighted candles decorated the R.C.A.F. chapel at Station Whitehorse when, on 13 October, Flying Officer Beatrice Lillian Lilly became the bride of Leonard Patrick Stephenson. The bride was given in marriage by her Commanding Officer, Wing Commander F. H. Pearce, A.F.C. After the reception, the happy couple left by 'plane and train for a trip to Haines and Juneau.



THE wisest thing to do with a fool is to encourage him to hire a hall and discourse to his fellow-citizens. Nothing chills nonsense like exposure to the air. (*President Woodrow Wilson: 1908.*)

Answers to "What's the Score?"

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



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.

