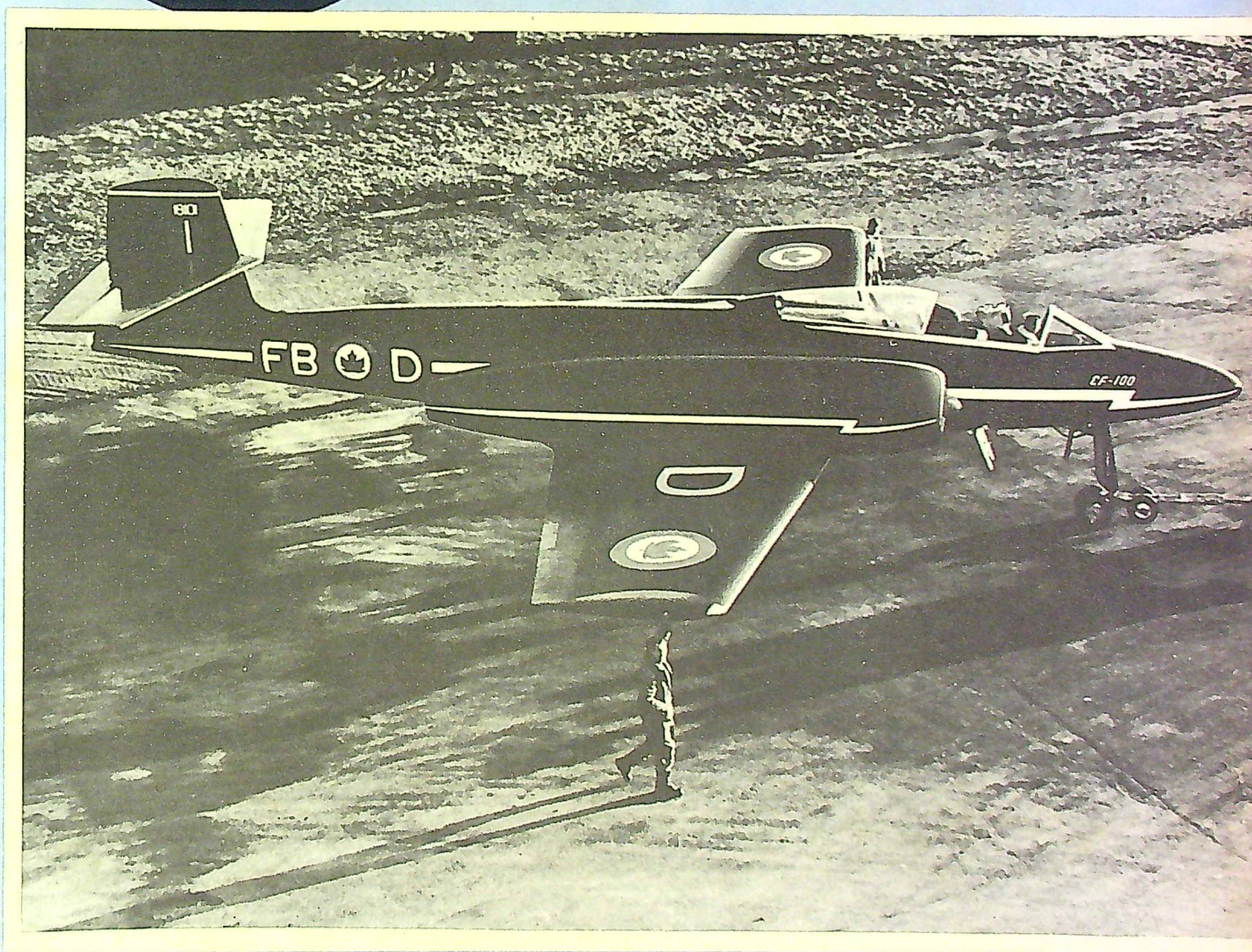


The **CROWNDDEL**

VOL. 2, No. 4
FEBRUARY 1950



ROYAL CANADIAN AIR FORCE



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

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This Month's Cover



The Avro Canada CF-100 represents the most important contribution that the R.C.A.F. has so far made to aircraft design. It has been built, under constant supervision from members of the Technical Branch, according to requirements originally laid down in 1945. More details on this aircraft will be given in the March issue.

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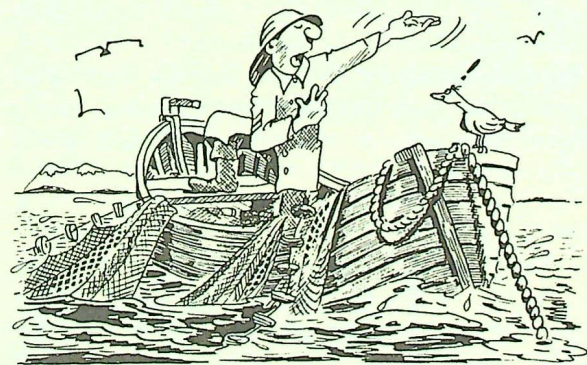
OUT OF THE NIGHT COMES SHATTERPROOF

Sir:

The poem which I enclose herewith was sent to me recently by my old friend Cpl. Clam, the Nootka Nightingale, who served with me on the West Coast during the War. In the letter that accompanied it he gave me full permission to do what I liked with it, so you are at liberty to include it in "The Roundel" if you wish. I am sure that Clam's loyalty to the Service will prove stronger than any indignation he may feel at seeing his work in such a publication.

It might be as well to preface the poem with a brief biographical note about the author.

After his discharge in 1946, Clam returned to B.C., where he took up his former profession of fishing. I might also mention that he is a keen member of the R.C.A.F. Association, and that he hopes to form a new Wing (the Sockeye Wing) as soon as he can get his engine running long enough to reach the mainland. At the present time he is hibernating on an island, listening to the rain and wooing the Muse.



Clam does not sing very often—nor, at least in that part of the world, does the bird for whom his admirers have named him. The climate does not encourage a light-hearted approach to life, either in fishermen or nightingales. Small though his output is, however, I imagine that many of your Western readers are already familiar with some of his better-known masterpieces, such as "Spawning-time at McGuire's Cannery", "Hand me my rubber trousers, pal", and, above all, that haunting idyll of the Coast which begins:

When the price of salmon's dropping
And the bilge is thick as soup,
When your underwear is sopping
And you're doubled up with croup . . . "

The verses you are about to read represent a radical departure from Clam's usual style and choice of subject. None the less, I think you will agree that in them his peculiar genius has reached its full maturity. He received the inspiration, he

tells me, while he was cleaning a halibut. Frankly, I do not see the connection between myself and a halibut, but who can follow the workings of a poet's mind?

"OUT OF THE NIGHT COMES SHATTERPROOF"

— 1 —

Before the pterodactyl flapped
Through prehistoric skies,
Before the archeopteryx
Was masticating flies,
Before the kindly trilobite
Was even there to spot 'em,
The first amoebas lived in gloom
Upon the ocean's bottom.

*And there in the depths sat Shatterproof,
A protoplasmic Shatterproof,
Biding his time sat Shatterproof
To take the thing in hand.*

— 2 —

For six or seven million years
He pondered without let-up
Until his protozoic brain
Perceived the simple set-up.
He waved a pseudopod aloft
In triumph pedagogic:
"If this the bottom is," he cried,
Then *there's* the top! That's logic."

*Then out of the depths rose Shatterproof,
A sediment'ry Shatterproof,
Up from the ooze crept Shatterproof
And took the thing in hand.*

— 3 —

The evolutionary trend
(Conservative in pace)
At last produced a scion
Fully worthy of his race,
Equipped with flippers like a seal's
As well as what you'd term a
Remarkable desire to take
A stroll on terra firma.

*So out of the sea slopped Shatterproof,
A bold amphibious Shatterproof,
On to the beach crawled Shatterproof
To take the thing in hand.*

— 4 —

Succeeding generations brought
A multitude of shapes
Ere Nature hit the jack-pot with
The anthropoidal apes.
And yet this great achievement left
Her discontented — mainly
Because their posture was, she felt,
Decidedly ungainly.

*Then out of the trees swung Shatterproof,
A somewhat hirsute Shatterproof,
Down to the ground dropped Shatterproof
And took the thing in hand.*



— 5 —

The ages passed, and Man appeared,
And empires had their day;
But still that breed of pioneers
Survived to lead the way.
So bear in mind, young airmen all
Whose spirits are repining,
That even thunderclouds of Brass
May have a silver lining . . .

*For out of the dark steps Shatterproof,
The stern relentless Shatterproof,
Out of the night comes Shatterproof
And takes the thing in hand!*

In conclusion, Sir, I would ask you to feel no alarm at the high opinion Clam entertains of my gift of leadership. A Shatterproof's head is not easily turned.

Yours,

Stalag Luft III: Part 4

by FLT. LT. JOHN E. MAHONEY

(Using the playwright's technique, Flt. Lt. Mahoney here gives us a telling picture of the monotony of the daily round of prison-life. The picture would be even more telling had it not seemed necessary, out of deference of our younger readers, to omit certain parts of the dialogue. Any normal adult imagination, however, will be able to restore all that has been deleted.—EDITOR)

CHAPTER FIVE

A Day Goes By

Scene: A room in one of the huts. Six stools are arranged around two tables placed together in the centre of the room. A long low cupboard extends beneath the large double window, and two lockers stand against the inner wall between the stove and the door. Two double bunks line the blank wall beside the door; the third is opposite them, by the stove. Tacked-up magazine illustrations (mostly of women) testify to the aesthetic discernment of the room's occupants. Snapshots from home are pasted on the walls near the head of each bunk.

Outside, the summer sun is already high.

Signs of life appear in one of the bunks. An arm reaches over its edge and knocks on the bunk adjoining it. Another day has begun.

Ivan: Hey! Its eight-thirty. Get up!

John: *(drowsily)*: O.K. *(Rolls over.)*

Ivan *(after a pause)*: Get up! It's eight thirty-five!

John *(still drowsy)*: Oh, O.K. . . .

Ivan *(after another pause)*: Come on, John. It's twenty to nine. The orderly's gone for the hot water. It's your day for stooging.

John: O.K. O.K. *(He rubs his eyes, rises, and slowly starts to dress; then goes to locker, grabs towel and soap, and departs to wash. Presently he returns and begins preparation of breakfast. He butters and spreads jam on twelve slices of bread, mixes glass of powdered milk and pours some in each of six cups, mixes coffee.)*

Clanging of jugs outside door, followed by knock. John goes to door, and returns with boiling water. He pours it into coffee-pot, stirs, then fills cups. He brings Ivan his coffee and bread.

John *(loudly)*: Breakfast! Breakfast! First awake, first served.

Frank opens eyes and looks expectantly.

John: Morning, Frank. *(He hands Frank his breakfast, then wakes the others one by one.)*

Bill *(sleepily)*: What time is it?

Ivan: Five after nine.

Bill: Huh! Late again!

John: Whadda ya mean—late? You're no faster yourself.

Ivan: Now, now, boys! So early in the morning—!

George: Say, did you put sugar in this coffee?

John: Sure. Want some more?

George: Aw, I guess it's just the coffee.

Ivan: Say, fellows, did you hear Frank talking in his sleep again last night?

George: No, but I heard John groaning.

John: Gee, I'm sorry, fellows! I can't help it. What's it like?

Curley: Like nothing on earth. *(Holding up a cigarette.)* Light, please. *John takes light round to those who want to smoke.*

Adjutant *(outside)*: On appelle! On appelle!

Nobody moves except Ivan, who rises. John collects cups and proceeds to wash up breakfast dishes.

John: Come on, you guys. It's nine-twenty.

Bill: No hurry. Guards aren't in yet. *(Bill has top bunk near window, giving view of camp gate.)*

George: Say, John, any hot water left for a shave?

John: Enough for one. We're a bit short this this morning.

The Roundel

Bill: When're you going to shave, John? Two weeks now, isn't it?

John (*feeling beard*): Once a week. Every Sunday. (*Glances at George.*) You growing a beard again, George?

George: No. Not till after summer.

Adjutant (*outside*): Hurry along, please! Hurry along!

The four who are still in bed rise and rapidly don their clothes. One by one they leave the room for a quick wash, allowing themselves about one minute to get out to the parade ground, 100 yards away.

Fifteen minutes later, John and Ivan enter. John grabs the broom and starts to sweep the floor.

John: Gee, the Winco was wild this morning!

Ivan: Sure was. Imagine dragging us out there fifteen minutes earlier if we're late again!

John: He's the boy that can do it.

Enter Bill.

Bill: What's cooking, fellows? Where's George?

John: George and Frank are doing a circuit.

Frank's got some chocolate.

Ivan: They certainly have a time over that chocolate.

Bill: I saw them wrestling for a bit of Frank's chocolate the other day. Frank was shouting, "Let me run away, George, and I'll let you catch me." Where's Curley?

John: He said he was going to Foodacco to change some tea for coffee.

Bill: That reminds me. I must go down and get some gramophone needles.

Ivan: Would you mind dropping in at the Library and leaving my book? You might pick me up another—a good one—if you have time.

Bill: O.K. (*Departs.*)

Ivan: I think I'll make another baking dish.

John: Oh, oh! More banging.

Ivan: I'll go outside. (*He gathers up seven "Klim" tins, wooden hammer, knife, and stool.*)

John: For gosh sake, try not to break the knife this time. We're down to four now.

George and Frank enter, hot and bothered.

George: Frank and I aren't speaking any more.

No, sir! He won't give me a share of his last piece of chocolate.

Frank: I've given him half a bar already, the greedy pig!

George: Mail's coming up any minute. Just saw Dougie going around with it.

John: I guess I've had it. I had three yesterday.

Frank: My turn to-day.

George (*derisively*): Ha! Ha! You've only had ten this week already.

Frank: I'm a popular guy, you know.

George: Yeah!



Dougie enters with handful of mail and begins slapping the letters down on the table. "Ivan, Ivan, Bill, Ivan, Ivan, Ivan. That's all." Frank and George utter exclamations of disgust.

John: Looks like Ivan's struck the jack-pot. Lucky dog!

George: Let's see the dates. March 18th, March 19th, March 16th, March 20th, February 8th. Not bad.

Frank: Bert had one April 4th, yesterday.

John: Huh! That guy gets so many he's always ahead. He got fifty-two last month.

Frank: Let's go outside.

George: Ivan's tin-bashing.

Frank: Never mind, we'll go round to the other side. (*George and Frank depart to sun-bathe.*)

Orderly enters, depositing two loaves of bread on the table.

Orderly (to John): That's all till Wednesday.

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John takes up one loaf and departs to next hut, where there is a communal bread slicer. He returns to find Curley and two friends—Jimmie and Ritchie.

John: Hi, Jim. Hi, Ritchie. (*Greetings returned.*) What's new?

Ritchie: Well, I had two letters this morning. Nothing much in 'em. One says there's a great rehabilitation plan being drawn up back home, but it doesn't give any details.

Curley: Boy! Just let me get out of here and I'll rehabilitate myself.

Jim: I hear the Russians have made another thirty-mile advance on a ninety-mile front.

Curley: Home by Christmas, folks!

Ritchie: D'you think they'll move us if the Russians get near here?

John: Shouldn't think so. I don't think the Goons would have the facilities.

Ritchie: Oh, I don't know. I think they'd just make us walk.

Jim: How long do you give the war, Curley?

Curley: Till about next Spring.

Jim: Gee, I hope not.

Pete, the Barrack Warden, enters.

Pete: Excuse me, folks. Cut for a new jug. Three for the block. (*Holds out pack of cards.*)

John: Lord, make it high! (*Cuts*)

Pete: Ten of hearts. Sorry, chum. There's an ace and two queens already. (*Departs.*)



Ritchie: Have you met any of the new kriegies?
Curley: Yes. They're telling some pretty gruesome tales about seeing their pals strung up.

Ritchie: So I've heard. I guess Goebbels wasn't fooling in that last speech he made about the "Terrorflieger".

John: Well, excuse me. I'm stooze today and I've got to get cracking on the lunch. (*Gets up and commences to butter twelve slices of bread. Puts cheese and liver paste on the table, cut into six equal portions. Lays table with knives, spoons and home-made tin plates and mugs.*)

Jim and Ritchie leave. Bill enters.

Bill: Water up yet?

John: Any minute now. The orderlies went ten minutes ago.

Bill: Where's Ivan? I got him this. (*Lays a "thriller" on the table. John throws it on Ivan's bunk.*)

Orderly arrives with hot water. John mixes and pours the coffee.

John (*calling outside*): Lunch up! Ivan! George! Frank!

Ivan, George and Frank enter.

Ivan: No barley goo to-day? Bad show.

John: Not to-day. That's the lot.

All sit down and begin eating.

Ivan (*who is in charge of the food*): I meant to say we should have Goon jam to-day instead of liver paste. We're getting low on that.

Bill: What parcels do we get this week?

Ivan: Three American and three Canadian.

Bill: What's for to-day?

Ivan: One Canadian.

John (*looking at roster on wall*): Bill's turn for chocolate.

Frank: Say, John, aren't you playing softball today?

John: Yes. Two o'clock. How's your game coming?

Frank (*who is on the beginners' team*): I made a terrific catch yesterday.

John (*skeptically*): How many did you miss?

Frank: That I decline to discuss.

Paddy, our newsboy enters, depositing "The Camp", "Der Adler", and two German newspapers on the table. "The Camp" is

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the English P.O.W. weekly, "Der Adler" a German propaganda picture weekly.

George takes "Der Adler" and begins to look it over.

George: I see we have the usual atrocity stories of the "Luftgangsters" and the "Terrorbombers".

Ivan, our German scholar, reaches for the newspapers.

Ivan: Good cartoon in this one. Look. "Tiefflieger gegen Frauen und Kindern"—"ground-strafting of women and children." (He holds up the paper, showing a picture of helpless women and children being shot-up by an allied fighter aircraft with "Murder, Inc." printed on its side. Above is a drawing of an allied leader, saying, "Forward, soldiers of Christ!")

George: Imagine anyone being influenced by that bunk!

Bill: Sure, but some of ours are just as bad.

John begins to wash up dishes.

John: Coming out to see the game to-day, Frank?

Frank: No, I'm going to make another percolator. The old one leaks badly.

John: Where are you getting the solder?

Frank: I went around to the rooms and collected a few corned beef tins. There's quite a lot on the bottoms of them.

John: With that new blow torch you made, it ought to be easy this time.

Bill: Say, fellows, there goes old "Pop" around the circuit again.

Curley: You have to hand it to him. The old boy's out there every day.

Bill: I heard he's over sixty. Is that true?

Curley: That's what I was told. He was a gunner in the last war, and joined up in this one. He was trained early in the war when gunners were very scarce. Then he volunteered for "ops" and was accepted.

Bill: He doesn't mind it here. He says it's peace and quiet compared with having his wife around.

John: Get a load of this baby in "Der Adler". She's do for a wife.

Frank: You should care. You've got one already.

John (reflectively): But they're all nice . . .

Ivan: Must we get back to that subject again?

John: You know of a better?

Voice in corridor: Come and get it! Come and get it!

General scraping of chairs as everyone makes for the corridor.

Newsreader (outside): Quiet please. This is the B.B.C. broadcast of Tuesday the 14th, 9 p.m.

Reading follows. When it is over, everyone files back into the room. Most of them make for the maps on the wall.

George: That Italy business gives me a pain in the neck. "The Allies advance one hundred yards to-day. Bitter fighting is in progress." Same thing every day.

Tommy, our next door neighbour, enters.

Tommy: Anybody here want to accept a challenge at volleyball? We've booked the court for one-thirty.

Ivan, Curley, George and Bill volunteer.

All leave for games except Frank, who settles down to work on his percolator.

The afternoon wears on.

Enter John. Lays places at table, goes through routine of preparing tea.

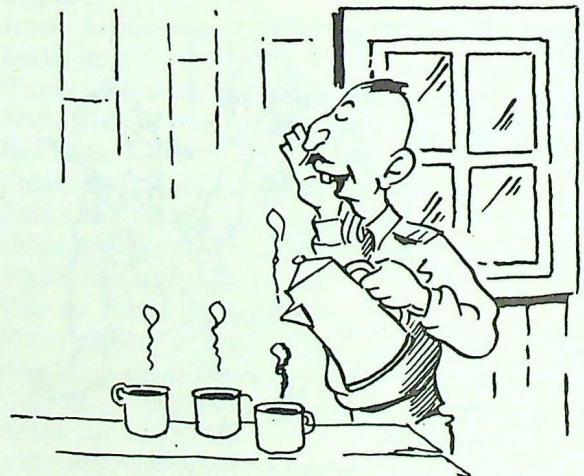
Frank: John, I hear they've made you officer in charge of orderlies.

John: Yes, I offered to take it over after I beefed about the water-carrying.

Frank: Ha! Ha! Now you've got the orderlies right where they want you.

The hot water arrives. John makes the tea.

John: Tea up!



The Roundel

The others come in.

Bill: Parcels arrived yet?

John: After appelle.

Frank: Bill's getting one to-morrow morning.
Lucky devil!

Curley: I haven't had one for five months now.
Can't figure out what's wrong.

John: Peeling the spuds for me to-day, Frank?

Frank: Well, I don't know. Every time my stooge
day comes around you have a choir practice or
something.

John: Tell you what. I'll do them lunch-time as
well to make up.

Frank: O.K. But I bet you don't.

John gets up and starts washing the dishes.

Voice from corridor: On appelle! On appelle!

No attention is paid.

Curley: Anybody going to the theatre tonight?

George: Yes, Frank and I are.

Curley: They say it's pretty good.

Bill: Well, fellows, who's coming on appelle?
(*They all wearily rise and amble off to the
parade ground.*)

John, Frank, George and Bill enter.

John: Whose turn to water the garden to-day?

Bill: Don't worry, we'll do it.

Frank: Say, those tomatoes are coming along
swell, aren't they?

John: Sure thing, and the radishes too.

Frank: It's a pity about the cucumbers and the
lettuce.

John: Yeah. Wonder what we did wrong.

Bill: Whadda ya mean—"we". You did a lot, I
must say!

*Pete, the Red Cross parcels officer, knocks,
and opens the door.*

Pete: One to fetch parcels!

John (*to the others*): O.K. Who's going?

Bill: Well, Frank and I have to water the garden.

George: I went last time.

John: O.K. I'll go. "Martyr John", they call me.

Bill: Don't give us that. You haven't gone for two
weeks.

John: Is that so?

Bill: Come on Frank. We might as well get
cracking on the garden.

Frank and Bill go out.

George: Guess I'll do a spot on the high bar.

John: You'll probably find Curley out there.
How's the "upstart" coming?

George: I made it twice this morning.

John: Did you? Swell. Pretty soon you'll be as
good as me. (*Exit John with George.*)

*Presently John returns, bearing one Red
Cross parcel. Opens it and sorts the contents,
putting the articles away in the cupboard. He
takes the chocolate and tosses it on Bill's
bed. This done, he selects a book from the
bookshelf and sits down to read. He has been
reading for about half an hour, when George
and Curley come in, hot and hearty after
their exercise.*

George: Come on, Curley, let's have a cold shower.

Curley: O.K. Last one in's a monkey's uncle!

*The two boys undress, grab soap and towels
from their lockers, and run down the corridor
in the nude to the washroom. They return
ten minutes later, just as Ivan enters, a note-
book under his arm.*

John: Where've you been?

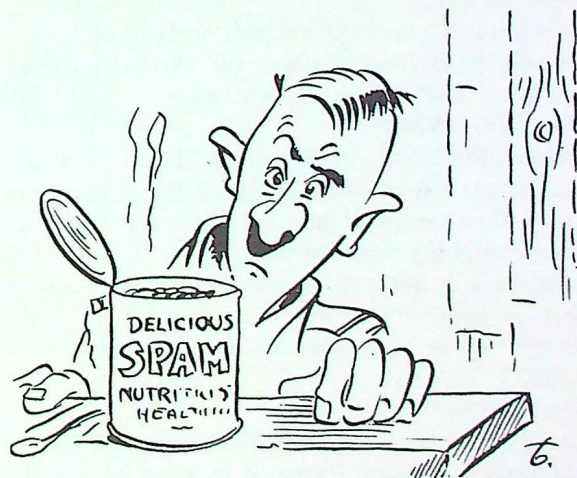
Ivan: Over at Dale's. We're working on another
play.

John: Any hopes of getting it produced?

Ivan: I don't know. They won't commit them-
selves. They say they can't tell till it's written.

John: What are we having for dinner to-night?

Ivan: Fried Spam and raisin pie.



The Roundel

John: Vegetables?

Ivan: Chipped potatoes and cabbage. Will you handle the cabbage?

John: O.K. By the way, you know George and Frank are going to the theatre tonight. They'll want to eat early.

Ivan: I think we'll manage. We come off the stove at five past seven, and the show doesn't start till seven thirty.

Bill enters with an armful of gramophone records, accompanied by Frank.

John: What did you get, Bill?

Bill: Communal dance records. No. 3 box. We haven't had them before.

John: Many good ones?

Bill: Sure, a few of Harry James' and Tommy Dorsey's.

Ivan (*to John*): Come on, you, or you won't have that cabbage ready.

Bill gets his gramophone out from under the bed and starts a predinner musical interlude.

John: All ready, Ivan?

Ivan: The food's O.K., but Room 18's late off the stove.

John: What, again? How long?

Ivan: Only five minutes. We can take the things down now. (*John and Ivan take the food to the Block kitchen.*)

John returns and begins to set the table for dinner.

John: Sorry, Bill, can you move over to the end of the table a bit?

Bill: Sure. I'll put the records on the bed.

George: Say, John, I was over at Bert's to-day and got a swell idea for a suitcase.

John: Yes? What?

George: Made out of Red Cross boxes. You get four boxes, punch holes all round the joins where you fit them together, and sew them together with wool. I'm going to make one.

John: Sounds like a good idea. Just what we need when we move from here.

Curley: What you want to do is make a pack frame.

John: A what?

Curley (*who is an ex-R.C.M.P.*): A pack frame. You make a wooden frame to fit your back, with

canvas stretched taut over the frame, and you can take a terrific load with no trouble at all. We used to use them a lot up north.

Ivan (*from kitchen*): J-O-H-N!

John (*grabbing a towel and tray*): Coming!

John and Ivan return from kitchen, bearing the dinner, Frank gives John a hand in dishing it out. All sit down in their usual places, their eyes glued to the steaming food.

George: Boy, that looks good!

John: Sure does. Thank God we have one decent meal a day!

Bill: Chips again! Why don't we have creamed potatoes more often?

Ivan: We will. We're running short of margarine.

John: Say, this is swell! Some cook we have, eh, boys?

Frank: Yeah, in spite of the stooge.

John: Oh yeah? You're a lot of help, you are!

The meal proceeds.

George: We'd better step on it Frank, it's seven-twenty.

Frank: We'll make it all right.

Ivan: How about a game of "Monopoly" tonight, fellows? Bill?

Bill: I want to play these records. Got to take 'em back to-morrow.

Ivan: I heard a good rumour to-day. Germany has asked for peace terms.

Bill: Now I'll tell one!

Ivan: Came from one of the "ferrets".

Curley: So what?

John: Forget it. When it comes over our own news, then it's time to believe it.

John clears away and begins to wash the dishes. Bill gets up on his bunk with his gramophone and records. Curley goes out to pay a visit. Ivan leaves to find a bridge pair. Five minutes later he returns.

Ivan: Pat and Junior are coming in. About eight-thirty.

He takes up a towel and begins to dry the dishes.

John: To-morrow's our dobie day, isn't it?

Ivan: Yes. Room 3 hands the bucket on to us this evening. George spoke for it for the morning.

John: Do you want to use it?

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Ivan: I'd like to at noon, if no one else wants it then.

John: You go ahead. I'll get some hot water as well, and use it after you.

Ivan: O.K. That'll leave the afternoon period for the others.

Bill: What's this I hear about washing out our rooms?

John: They told us at the block commanders' meeting last night. Floors must be scrubbed once a month during the summer.

Ivan: We're doing ours on Friday.

Bill: Anything else of importance?

John: Nothing much. There's an inspection by the Senior British Officer on Saturday morning. Everything'll have to be spic and span.

Bill: As usual!

The dishes finished, Ivan settles in the corner with his book on economics. John prepares a cocoa solution and butters biscuits for the evening brew, then retires to his bunk. Before he can achieve a satisfactory coma, however, Pat and Junior barge in.

Pat: Howdy, fellows!

Junior: Hello, John. Pit-bashing as usual, I see.

Bill: Some circuit-bashing is what he needs. How many have you done since you've been here, John? One, or is it two?

The four settle down to their bridge game, which continues for about an hour and a half, when Frank and George return from the theatre. Greetings are exchanged with the visitors, and the game continues.

Frank: Gee, that was a swell show!

George: I didn't think it was as good as the last one.

Frank: Say, I could almost have fallen for Bobby, dressed as a woman.

Enter Curley.

Curley: Just made it! They were just locking the hut as I came in. (Goes to his locker, gets out his note book and letter forms.) Guess I'll write some letters.

George: Good idea. I will too.

Frank: I think I'll make for bed.

Frank and George undress. Frank goes to bed with a book. George sits down to do some letter writing.

Voice from the corridor: Third brew up!

John: That's us. Sorry, fellows. Mind if we have a break while I get the brew? I'm stooze to-day.

John goes to kitchen with the jug of cocoa and returns with it full of boiling water.

John: What'll we have on the biscuits, Ivan?

Ivan: Oh, Goon jam, I guess.

John spreads jam on the biscuits, pours the cocoa, and brings it round to the various members of the room, then resumes the bridge game, which continues with unabated intensity while the players eat. Finally the game breaks up.

Junior: Thanks fellows. Good game.

Pat: We'll have to have our revenge some other evening.

John: We give lessons any time at very reasonable prices.

The guests leave, and Ivan prepares for bed. John washes up cups. Lights flick off, then on again.

George: Eleven forty-five, John. Better hurry up.
John: I've just finished.

Curley, George, Ivan, Frank and Bill depart one by one to their ablutions. John finishes tidying up, then follows them. Five minutes later, all are settled in bed except John. As the last one up, he has the duty of switching off the light and opening the black-out shutters.

John: O.K. fellows?

Bill (to his girl's picture on the wall): Hello, darlin'! Dammit, you're good lookin'!

John switches off the light, opens the shutters, and gets into bed. "Good-nights" echo round the room. The boys drop off into deep slumber.

Another day has passed.



Mobility

By AIR VICE-MARSHAL A. FERRIER, C.B., M.C.

(The following article, originally published in "The Defence Quarterly", was written by Air Vice-Marshal Ferrier in 1929 while he was still a Flight Lieutenant. It is, as far as we know, the first published article written by an R.C.A.F. officer on the possible conduct of future air warfare. The two critical letters here printed at the end of it were written, respectively, by Major-General J. A. Ferrier (the author's father) and Capt. B. H. Liddell Hart, the well-known authority on military matters who is referred to in the article itself. Air Vice-Marshal Ferrier left the R.C.A.F. in 1944 to become one of the first members of the newly formed Air Transport Board. He held this position until less than two months ago, when he was appointed Assistant Secretary-General of the Air Navigation Bureau, I.C.A.O.—EDITOR)

THE PREFACE to Captain Liddell Hart's book, "The Remaking of Modern Armies", opens thus:

"The keynote of this book is MOBILITY—of movement, action, organization, and, not least, of thought. For mobility of thought implies originality in conception and surprise in execution, two essential qualities which have been the hallmark of the Great Captains, distinguishing the artists from the artisans of warfare. As a motto for my theme therein I would take Napoleon's maxim: 'The strength of an army, like the quantity of motion in mechanics, is estimated by the mass multiplied by the velocity.' Armies to-day have become mass minus velocity—there is urgent need of research for the causes of this stagnant condition and for the speedy application of a remedy. Otherwise, the outbreak of another war will doom us to a repetition, but more complete, of the paralysis of the last war, ruinous alike to the human and economic strength of the nation.

"The pacifist might be disposed to welcome such a condition, holding that if armies are incapable of offensive action, offensive war is also impossible. He might thus argue for the maintenance of armies in this present state on the ground that, with their teeth drawn but their mass remaining, they ensure the defence of a country but cannot lend themselves to aggression against another country.

"In adopting this argument he would delude himself. Armies merely capable of defence are only a useless channel of expenditure when the power of offence is lost. For if an enemy realizes that land attack is powerless, he will concentrate all his efforts in a more hopeful channel, such as the air. Land defence presupposes land attack; the one is futile unless the other is possible."

In the book which inspired this article the proposed method whereby land warfare can be reinstated as an economically admissible instrument of policy is to redress the balance of offence by the mechanization of armies, endowing the soldier with greatly increased power of movement combined with protection, without which movement would be impossible, and with increased fire power. That the means proposed will produce a greater rapidity of motion within a prescribed radius of action is not open to question, but it seems reasonable to assume that the difficulties of supply will limit the mobility of mechanized armies to such a point that it will never be possible to evade the barriers interposed by the enemy between the attacking forces and their object. If the barriers cannot be evaded then they must be overcome, and it is the necessity for this operation which makes all land warfare such a ruinous process to victor and vanquished alike.



If then there can be admitted the existence of an element of doubt as to the efficacy of mechanization as a means for making land warfare more rapid, humane and economical, then, assuming that the use of force as an instrument of policy is still admitted as possible, it seems advisable to develop an entirely new theory of war, in which land armies are definitely relegated to a defensive rôle. Captain Liddell Hart hints at this idea in the preface of his book, and it is a pity that he has not expanded it. In what medium is the quality of Mobility so inherent as in that of the air, and what other medium offers such possibilities for Offensive and Surprise? Of these is the very essence of war.

Navies are more mobile than armies, yet it has been said that sea-power cannot of itself enforce a reasonably quick decision between opposing forces of similar strength. Navies are, in fact, worse off than armies because they are opposed by the impenetrable natural barrier of the coast line. Air power can be considered superior in this respect because virtually the only impenetrable barrier which can be interposed between it and its objective is that of distance, and the scale of this obstacle is rapidly being reduced.

How then can air power be applied towards the attainment of the ultimate object? The vital organisms of a modern state are complicated, interdependent, vulnerable, and they are nearly all exposed to air attack. It is not necessary to control them or possess them in order to paralyse the state and break the people's will to resist. Denial of their use is sufficient, and this may be effected at the worst by destruction, and at the best by a well supported threat thereof.

It is not reasonable to suppose that the enemy will not also be armed with air power. This, however, is not likely to retard too long the decision or create an impasse such as may occur on land and sea. It was the very magnitude of the land armies of 1914 and their consequent immobility which rendered a decision so difficult and costly, but what relation will the length of an air war bear to the size of the forces engaged? The probability is that the ratio will be inverse, for the greater the force the greater the number of vital targets that can be simultaneously engaged, and the more rapid and effective will be the dislocation of the national organisms. The impossibility of throwing up a continuous barrier precludes any serious consideration of the chances of husbanding resources and building up in security a reserve of power. The evacuation of territory in order to place distance between the attacking forces and their objective will serve merely as a very temporary expedient, and will only be admissible when the opposing forces are very nearly equal, and when it requires but a very short time in which to elevate an inferior force to a position of superiority. To achieve any effective delay, the amount of territory which must be evacuated will be so large as in itself to constitute, in any but a war à l'outrance, a compelling reason to sue for peace. In a war of unlimited object, therefore, everything must be staked on the initial throw. The war that is visualized may be likened to a hockey game, in which the opposing teams will concentrate on scoring goals as fast as possible, each goal being a destroyed freight yard, a ruined water supply or other vital utility. There will be no time limit. The defence will bear about the same numerical proportion to the offence as the goalkeeper does

to a hockey team, and it must suffer to some extent the disadvantages of dispersion, for the simple reason that the avenues of attack in the vast regions of the air are so wide and the targets on the ground so numerous.

Aircraft are essentially offensive instruments; nevertheless, a certain proportion of them will be designated to employ their offensive powers against enemy aircraft and assume a defensive strategic rôle. The maritime principle of a "fleet-in-being" cannot find its counterpart in air warfare, because the power of evasion inherent in aircraft is so great, and the speed of attack is so high as compared with the existing speed of intelligence, that a large number of alternative vulnerable and vital targets are constantly open to attack. An attack launched against a particular target can even be diverted to another equally important target right up to the very last moment. The stronger air power consequently will always have the choice of forcing a decision, and if the

weaker power endeavours too long to avoid it he will inevitably, in bridge parlance, "go to bed with an ace".

We need not necessarily contemplate a wholesale slaughter worse than any than has yet marred the history of the world. The losses in the fighting services will, of course, be severe, and the destruction of property will be immense, but this destruction will be highly selective and need not be accompanied by a large loss in civilian life. The humane properties of non-lethal gases can be exploited to the fullest extent for denying the free enjoyment of public facilities, and the total loss of man-power suffered by the nations involved will not be as great as in past wars because of the reduced period of interruption to normal existence.

If we must have war then let it be as short, sharp and merciful as possible. Mobility is the essential condition for this to be attained, and in the air Mobility is at its best. It is in the air, then that warring nations will to-morrow seek a decision.

Poynings,
Crowthorne
Berks.
24th Nov. 1929

My dear Alan:

I have read over your article, carefully, and agree with you so far as it goes. But I can only view it as a preface leading up to a study of imagination as to what the course of a war conducted in the air would be; taking into consideration climates, topographical conformation, and economic basis of existence.

The provision of aeroplanes argues an industrial development ad hoc. So the country with extensive industries would be able to overwhelm, in numbers of aircraft, the less amply equipped agricultural country provided with only a small equipment of aircraft.

If A can reach B, B can reach A. So what would be the military objective of A, and what reprisal could B make to restore the balance (supposing A to be the powerful industrialist and B the agriculturalist)?

Again, A is a flat country like France, B a mountainous country like Switzerland, Savoy and Lombardy combined. What did our aircraft succeed in doing in Waziristan? They had to call in the aid of ground troops in the end.

It is a fascinating study which I have no time to elaborate. I just give the lead in case you should think of pursuing the idea . . .

(J. A. Ferrier)

Army & Navy Club,
Pall Mall, S.W.I.
13. 11. 29

Dear Ferrier:

I have read your article with much interest—and entire agreement. My book, which was primarily for soldiers, aimed to give them a gentle hint. But if you had seen the "Daily Telegraph" for July 3rd, 1928, you would have seen that I used the Air Pageant as an occasion on which to drive home the big lesson to which your article calls attention.

All good wishes,

yours sincerely,
B. H. Liddell Hart

P.S.: In future, armies will pin and air forces hit. That is the grand strategical twin rôle, the army forming the defensive base from which the air force operates offensively. I use the terms defensive or offensive here, of course in a fundamental sense.



A Commonwealth Air Forces Journal

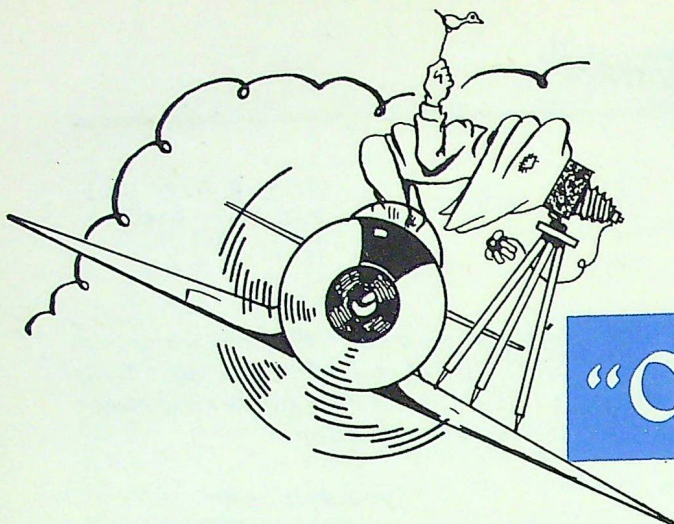
SIXTEEN COMPLIMENTARY COPIES of the July "Royal Air Force Quarterly" were sent by the publishers to R.C.A.F. Stations, and we hope that this may lead to an increase in the Canadian circulation of a very valuable periodical.

Its full title is "The Royal Air Force Quarterly and Commonwealth Air Forces Journal", and its Editor is anxious to give the latter half of that title even greater significance. Every member and ex-member of the R.C.A.F. should be aware of what is happening in the Air Forces of the other Commonwealth nations—and, in turn, contribute what he can towards their knowledge of his own Service and country. It is such things that help more than most of us realize to strengthen the bonds that hold that unique historical organization, the Commonwealth, together.

The "R.A.F. Quarterly" is no dry-as-dust organ of high-level thought. Its lay-out is of the highest quality and it is profusely illustrated. In it you will find, in addition to news of our sister Air Forces, articles of world-wide importance and interest that you will be able to read nowhere else. The October issue, for example, contains studies by such men as Air Chief Marshal Sir John Slessor and Air Marshal Sir Robert Saundby, as well as articles by other authoritative writers. Now that the War has been over for nearly five years, it is up to all of us to think about and plan how best we can avoid or be prepared against the possibility of another; and such publications as the "R.A.F. Quarterly" are invaluable in assisting towards those ends.

A one-year subscription to the "R.A.F. Quarterly" costs \$2.47. Subscriptions should be sent to:

Messrs. Gale & Polden Ltd.,
The Wellington Press,
Aldershot, Hants.,
England.



“Operation Photo”

A brief sketch of the R.C.A.F.'s photographic survey organization
By FLT. LT. W. H. CLEAVER

Introduction

SINCE THE CONCLUSION of the Second World War, the oldest and most extensive operation of the R.C.A.F. has again been given high priority. Just as most of our very senior officers have at some time in their careers been engaged in photographic survey work, so at the present time almost everyone in the Service is apt, sooner or later, to become involved in it. Although all photographic survey operations come within the terms of reference of Rockcliffe's No. 22 Photographic Wing* (which comprises Nos. 408, 413, and 414 Squadrons, No. 1 Photographic Establishment, and the School of Photography), the facilities of every Establishment in the Service may be used in one manner or another for planning, training, personnel, house-keeping, maintenance, and operation.

Other Federal Departments are interested—and play no small part—in the R.C.A.F.'s gigantic task of photographing Canada from the air. First on the list comes the Department of Mines and Resources, followed closely by the Army Survey Establishment, Royal Canadian Engineers.

Some idea of the importance and scope of the work may be obtained when it is realized that

upon such aerial survey (carried out in conjunction with the ground parties of Mines and Resources and of the Army) practically all our modern Canadian maps are based.

Planning and Control

The R.C.A.F. has a continuous commitment of photographic survey operations. To meet this commitment two permanent photographic squadrons have been established: No. 414 (Dakota) Squadron for vertical survey, and No. 408 (Lancaster) Squadron for both vertical and trimetrogon† survey. No. 413 Squadron is established and used as a supporting survey transport squadron. Its duties include flying geodetic survey parties into northern areas and in carrying supplies to field detachments of Nos. 408 and 414 Squadrons. For the former purpose it uses Canso and Norseman aircraft, for the latter, Dakotas.

Early each year A.F.H.Q. issues operation orders to Air Transport Command, stating the annual survey requirement. Air Transport Command delegates the work to No. 22 Photographic Wing, which in turn allots specific operations to each of the squadrons. There are many items requiring advance planning, and at each level (Command, Wing, and Squadron) co-ordinated effort ensures fulfilment of all details.

Each spring, after an intensive training period, the photographic survey squadrons move into

*At the time this issue goes to press certain changes are about to be made which will affect this organization. The changes, however, will be in nomenclature, not in function.

†Three cameras are used in the trimetrogon method. One of them takes a vertical photograph, while the other two take obliques which extend the picture from horizon to horizon.



No. 414's living-area. Sawmill Bay.

their operational bases. The squadrons are usually divided into detachments of two or three aircraft. Last season, for example, No. 414 Squadron's twelve Dakotas worked from four bases, and No. 408's six Lancasters from three. A field headquarters and a system of meteorological control for each squadron is established in a location central to the respective detachments. Detachments last year were located at Prince George, B.C.; Watson Lake and Whitehorse in the Yukon; Norman Wells, Coral Harbour, and Cambridge Bay in the North West Territories; and The Pas in Manitoba.

Field control is such that detachments work predominantly on pre-assigned areas, but when one detachment's operational area is unfit for flying and other areas are clear, that detachment works under the control of another detachment in one of the servicable areas.

One aircraft of each detachment is designated daily as a controller. It assigns to all other aircraft in its control area the flight lines to be flown. Daily returns on the progress made are sent by each detachment by signal to Operations Headquarters at Rockcliffe and to the Field Headquarters. Full statistical reports are submitted to A.F.H.Q. each fall by the Photographic Wing.

Operations

Operations in the field normally begin towards the end of April, and the dates are determined by

the suitability of weather conditions in the areas. Since most of the territory to be covered is in the arctic and sub-arctic, break-up and freeze-up dates, as well as snow conditions, are very important. Because of the famous six-month night in the arctic areas, the availability and duration of photographic light must be carefully computed; and tables made from such computations are firmly adhered to. Vital, too, is the preparation of the flight line maps, for crews are often flying on maps that are virtually blank sheets of paper.

Accurate and precise flying is a "must," and navigational difficulties are many. Modern photographic navigation, however, has been made considerably easier by the introduction of new flight instruments and compasses, and newer developments are promised for the near future. Vertical photographic survey navigation requires exacting maintenance of track, because an aircraft which is off track by even 500 yards will leave an uncovered area or gap that must be re-flown. It is extremely difficult to maintain this standard of navigation, even with the instruments provided—particularly over unmapped, mountainous terrain—and a considerable amount of pre-season intensive training is required.

In order to remain on track within the fine tolerance required (1°), drift must be checked constantly and accurately. The navigator must be able to map-read to a high degree of proficiency on 8-mile-to-the-inch flight line maps. "Wander" off course is also corrected for by "lining-up" on known pin-points ahead of the aircraft. Since most operations are required to be flown at heights of 20,000 feet above sea level, map-reading is difficult even in the perfect weather in which operations are carried out. Flight line maps are drawn with tracks either north-south or east-west, depending on which direction will give the best starting-points and pin-points.

The pilot, too, must fly accurately within 50 feet above or below the computed height at which the operation is to be flown. "George" (the automatic pilot) is a great help here, but he sometimes has failures which are almost human. Co-pilots are kept busy map-reading and maintaining a flight-instrument watch. Radio officers maintain constant contact with all other aircraft,



"The Casbah", Norman Wells. The hottest night club in the North.

and report position to the base ground stations at prescribed intervals. Maintenance of radio contact while on photographic operations is highly important, as it ensures that all aircraft are informed of photographic conditions in all areas where photography is possible. The control aircraft are thus enabled to direct others to an area where maximum photographic coverage can be obtained. A crewman is also carried as insurance against minor unserviceabilities in the air.

The most important technical member of the crew, however, is the camera operator.

Air Cameras

The cameras in use at the present time are the Williamson Ordnance Survey Camera, for vertical photography, and the Fairchild F-224 for trimetrogon.

Characteristics common to both are: 6-inch focal length, prints 9" x 9", and electrical operation including the timing between exposures. An O.S.C. film roll contains 500 exposures and weighs approximately 22 lbs. Needless to say, it is expensive!

Two different types of hand-held cameras are also carried in each aircraft. They are used to take scenic obliques—water falls, dams, city housing projects, as well as aesthetic landscapes of such summer resorts as Sawmill Bay and Norman Wells.

Both vertical and trimetrogon photography are flown at 20,000 feet (or higher) above sea level,

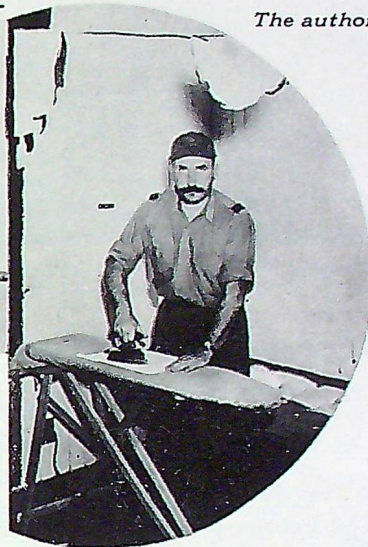
which necessitates the constant use of oxygen. Flight lines for vertical photography are spaced about 3½ miles apart, and for trimetrogon about 15 miles apart. Thus a photographic aircraft averaging 200 m.p.h. obtains 700 sq. mi. of vertical coverage or 3000 sq. mi. of trimetrogon. Obliques or scenic photographs are made at an altitude of 200 to 500 feet above the ground.

Personnel and Morale

In photographic survey work one meets a diversity of personnel that is, to say the least of it, refreshing. Such personnel (in the writer's very natural opinion) represent the best the R.C.A.F. has to offer. Highly qualified technical officers and airmen make up the establishment at the famous "White House" (No. 1 Photographic Establishment), which is a beehive of activity from one year's end to the other. Tour-expired photographic aircrew ably assist them in operations staff jobs. Wing Cdr. R. I. Thomas, A.F.C., commands No. 22 Photographic Wing, while Wing Cdr. H. Pearce, M.B.E., is in charge of No. 1 Photographic Establishment. The three squadrons are skippered



Uptown at Norman Wells.



The author—on ops.

Refuelling—the hard way. Coral Harbour.

by Wing Cdr. C. Olson, D.F.C. (No. 408), Wing Cdr. W. B. M. Millar (No. 414), and Wing Cdr. D. Jackson (No. 413). All are experienced wartime pilots—and (now) experienced photographic men. The aircrew on all squadrons are a mixture of ex-operational types, ex-instructors, and new graduates of the post-war training plan.

One cannot speak too highly of the ground crews. They work magnificently under the most trying conditions in the field, and very little photographic time is lost because of aircraft un-serviceability. Crew chief, technicians and cooks all work long and arduous hours, far away from solid comfort, but with unfailing cheerfulness and determination to get the job well finished. The aircrews take off their hats to them for their splendid efforts.

Morale in the "photo family" is extremely high. All personnel on detachment are isolated and away from their families during the five or six best months of the year, yet "moans" are few and always of the kind one expects from any Service man who is healthy and in his right mind.

But, though the boys themselves are doing a big job and doing it well, it should be recorded here that the real heroes of the operation are the wives, who have to contend with landlords, children, and the house while their menfolk are summering in those far away places.

Conclusion

It will be appreciated from the foregoing résumé that high-altitude photographic flying from remote bases provides excellent aircrew training, while

the groundcrew receive good experience in maintenance under adverse conditions. Our organization for logistic and signals support also profits by this field-work. In addition to its training value, such flying provides the R.C.A.F. with the very real satisfaction of realizing that the Service is invaluable to Canada in peace-time as well as in time of war.

To illustrate this last statement: trimetrogon photographic coverage of Canada is nearing completion and will provide the information for modern accurate aeronautical charts to meet the needs of commercial as well as military aviation. Vertical photographic coverage is also making steady progress. It provides the basis for the compilation of large topographic maps and is thus instrumental in the development of Canada. Hundreds of thousands of survey prints are closely studied by scientists and engineers each year. From these studies, discoveries and evaluations are made which may lead to new mining or oil development, water-power development, land settlement or reclamation, timber assessment or reforestation, routes for railways and power lines, flood control, and a host of other activities.

As this is being written all squadrons are in the midst of an arduous training programme in preparation for the coming season's "Operation Photo."

The ROYAL CANADIAN AIR CADETS



PROGRESS REPORT FROM PRINCETON

by A. R. EASCOTT, Chairman, No. 217
(Princeton) Squadron

One Year Later

The February issue of "The Roundel" in 1949 carried an article which told how the cadets of No. 217 (Princeton) Squadron had constructed their own training quarters. This "follow-up" report is to bring the story up to date; to outline briefly what has happened to the squadron in the past year.

The story of No. 217 is largely the story of getting things done by unconventional methods. It is a story of getting the best out of the boys themselves, of driving them hard, building up their self-reliance, making them realize that they are a part of the greatest youth movement of our time—and, incidentally, of getting rid of the dead wood ruthlessly. Not every squadron in Canada will agree with our methods but, in view of the results obtained, none can deny their effectiveness in Princeton.

You may be interested in a description of the squadron's headquarters. It consists of a cement basement, still somewhat damp, but adequately heated and lighted, containing the squadron's equipment, a few blackboards, a few benches, a good billiard table, a scrounged chesterfield of ancient vintage, and the nucleus of a canteen.

Recreational facilities are available to the cadets under an honour system whereby one of our four N.C.O.'s must be present whenever the boys make use of the hall. So far this system has worked out beautifully. It is felt that the possession of a clubroom where they can play billiards to the

tune of jive music from the radio without adult supervision is a sufficient privilege to be guarded jealously.

Marksmanship

In the fall of 1948 the boys were anxious to engage in rifle-practice, but this presented one more difficulty, since there was no indoor rifle range (nor were there any buildings suitable for one) in Princeton. It was finally discovered that the Community Hall at Allenby, five miles away, was of sufficient dimensions; so the chairman approached the Allenby Community League with some apprehension for permission to shoot in their hall. The apprehension was fully justified, as some opposition developed to having their fine hall shot full of holes! After making innumerable promises in regard to discipline and supervision, however, it was finally agreed that permission would be granted to use the hall on Tuesday nights at a rental of 10c. per boy per month.

By December the squadron was able to practice shooting but, as Tuesday night was also the regular parade night, it meant that the boys had to assemble at 1800 hrs., travel to Allenby for rifle practice and be back to Princeton at 1930 hrs. for a regular two-hour parade with dismissal at 2130 hrs. Transportation was provided by the two squadron officers and by members of the committee, with no compensation for gasoline or wear and tear on cars.

By mid-winter, revolver-shooting was combined with rifle-shooting, as a revolver-shooting group could be accommodated in the basement of the Allenby Community Hall while another group was engaged in rifle-shooting upstairs. The revolver-shooting was under the supervision of



A game of checkers in training headquarters, Princeton—a converted basement building belonging to a fraternal order.

Constable Neff of the B.C. Police—which, incidentally, meant that the police patrol wagon was available for transportation.

I am proud to say that, in spite of the fact that shooting was carried on under severe handicaps, the squadron took 17th place out of 84 squadrons entered in the Dominion Challenge Trophy Shoot. It also took 2nd place among the B.C. squadrons, being beaten only by No. 22 (Powell River). Powell River must be good!

Flying Training

By mid-winter, when the squadron was faced with the necessity of giving special instruction to those selected for flight training, it was found that without separate class-rooms and separate instructors it was impossible to give simultaneous instruction to 1st, 2nd, and 3rd year cadets. Meeting on separate nights of the week was considered inadvisable. It was finally put up to the boys themselves, and they agreed to a tough schedule. On parade nights, the rank and file were dismissed at 2130 hours, with the N.C.O.'s and flight training nominees remaining until midnight to study Airmanship, Meteorology and Navigation. When the flight training examination papers came through, all the N.C.O.'s were made to write the exam., and ranks were rearranged in accordance with the results.

One beneficial result of the lengthy parades has been the establishment of a make-shift canteen. It was impossible to ask the boys to take a five-hour parade without a break, so a canteen became a necessity. The canteen consists of hot plate, oversize coffee pot, and cups, with coffee, milk and sugar provided by the committee. The boys bring their own sandwiches.



Shooting in the Allenby Community Hall. Note butts constructed under stage.

The N.C.O. training parades soon turned into informal "bull sessions" between the squadron officers and N.C.O.'s. No pretense was made at giving lectures, sections being read out of the book and then discussed. The boys were encouraged to argue and even to dispute certain points. The sessions were enlightening for officers and boys alike.

Another interesting sidelight is that several L.A.C.'s requested permission to take part in these late sessions, and one of them quit the squadron when he met with refusal. In other words, a rivalry has developed among the boys for earning the right to belong to this group.

Drill

Drill gave the squadron a headache. Not being blessed with a hangar or armory, and the winters in Princeton being too severe to drill outdoors, drill had to go by the board all winter. It was April before it was possible to drill the boys outside. It was put up to them that there would be two and three parades a week from early April to the Annual Inspection in May. They took it on the chin and accepted as many as three drill parades a week when the weather permitted.

You will note from the foregoing that being a senior cadet in Princeton meant shooting at 1800 hrs., attending regular parade at 1930 hrs., and N.C.O. training-parade from 2130 hrs.—all on the same night. On top of this, two and three drill parades a week were held from April to May, and for good measure some work parades in constructing and improving their quarters.

How do we get the boys to accept such a programme? That's easy: we don't. A percentage of our annual intake drops out before the end of the



Group Capt. Z. L. Leigh, accompanied by Flying Officer Penty (C.O. of No. 217), making annual inspection in May 1949. Cpl. Vogl stands in front rank, on right.

cadet year. From a roll of 32 in January, the squadron dropped to 25 by May. However, those who stick are the ones who can take it, and who have made the squadron what it is—one of the smallest but also one of the keenest and most rugged squadrons in British Columbia. Nothing has been handed to it on a platter. Everything it has, it has provided for itself. I believe that the boys of No. 217 will be all the better citizens because of this training in self-sufficiency.

A year ago we promised that No. 217 would show some spit and polish in addition to its ability to mix concrete by hand. I am happy to report that the squadron has measured up. At its annual inspection the squadron received loud praise from the Inspecting Officer, Group Capt. Z. L. Leigh, O.B.E. In early 1948 it was certainly one of the raggedest squadrons in B.C. It was, in fact, definitely at the bottom of the heap. I note from the R.C.A.F. Bulletin of Sept. 12th that it now ranks in eighth place among the B.C. squad-

rons. So it has come along way since the dark days of 1947.

I would like at this time to congratulate No. 22 (Powell River) for having won the Guthrie Shield, but would remind them that No. 217 is not going to rest on its laurels. Next year, look out for Princeton!

LIGHTEN OUR DARKNESS

Another ray of hope has appeared (writes Sgt. Shatterproof in one of his more pessimistic memos. to "The Roundel") upon the rather dark literary horizon of our Cadet Squadrons. I refer to the production last October of the Hamilton Air Cadet Wing's new monthly paper, "Wings." I have not seen it yet—indeed, I know of its existence only through the columns of No. 200 (Sudbury) Squadron's "Gremlin Gen"—but I wish it health and long life.

Yet I am still far from content. Among all our hundred and seventy-odd Air Cadet Squadrons, does literary ambition fire the breasts of only two? Or are the others so lost to all sense of respon-

sibility that they are willing to leave Service art and culture in the hands of two Cadet Squadrons, a few R.C.A.F. Stations, and—alas!—"The Roundel"? It will not do, Sir, it will not do!

In a recent issue of "Gremlin Gen" I happened upon the following inspired words. I beg that you will quote them in full in the February issue of "The Roundel."

Come on, you other Squadrons! Get in the swim with your own paper. All you need is a good workhorse for an Editor and a few energetic Cadets to help him. The costs aren't too high. For example, this is how we operate:

Get some Stencils. You should be able to find some around school squadron premises, or get some businessman to donate them. We usually find some lying around gathering dust.

Get some news. It's a pretty dead Squadron that has nothing of interest going on in a whole month. Fill in with cartoons and jokes. Write about your various phases of training. This is easy and instructive to other Squadrons getting your paper.

Get some reporters—livewire cadets—or dopey ones, as long as they will write. Make them out assignments. Even write all the headings in order that they won't miss anything. Write them over again if necessary when they are handed in.

See a local printing firm—and ask for paper at rockbottom prices, giving them a sob-story on how you are operating on thin air (that's how we operate). Paper should cost you about \$2.50 for a 1000 sheets.

Look for a stapling machine—and a stencilling machine, and run off your own issues. Get the whole staff to help staple the paper together.

Make about 30 to 50 extra copies—for distribution to outside points and local persons who have helped you in any way.

How does a paper justify the effort expended on it? Well, here is what we find it does:

- It gives the Squadron personnel a clear idea of Cadet aims and objects.
- It increases esprit-de-corps.
- It offers a means of clearly stating any training programme or policies.
- It keeps the Squadron abreast of any news on Squadron personalities.
- It lets other Squadrons know what you are doing. You may have something new that they can use to advantage in their own training programme.
- It gives Command or League H.Q. a clear picture of your local activities without the exchange of reams of letters.
- It keeps ex-Squadron personnel in touch with you and with each other.
- It helps publicise your Squadron at home and abroad.

We find that it cost us about \$10.00 a month to operate and turn out 200 copies, and we feel that it is money well spent. But we are still in the dark about what goes on in other parts of the Command. We are doing our best to lighten the dark in the Frozen North. Let some light into your areas too!

A MESSAGE TO CADETS FROM AIR CDRE. AKERMAN, R.A.F.

(The following letter from Air Commodore W. J. M. Akerman, C.B.E., has reached us just in time for inclusion in the February issue.—Editor)

11th January, 1950

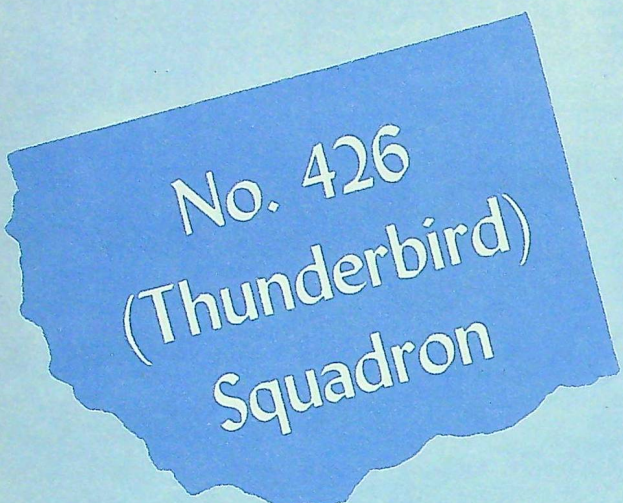
Sir:

Since the visit paid to this country by Royal Canadian Air Cadets last summer, I have received many letters and, during the Christmas and New Year period, many greeting cards from cadets whom I had the privilege of meeting when they came to the London area during their visit. Although I hope to answer them individually in due course, it must of necessity take me some time and I will be grateful if, through the medium of the Royal Canadian Air Force "Roundel", I can thank them all for their letters and for their kind thoughts at Christmas and the New Year, and wish them too all the best in 1950.

I hope that I shall have the opportunity and the privilege of meeting more cadets from Canada this year, and I can assure them of a very hearty welcome in England.

I shall be very grateful if you can publish this note in "The Roundel".

Yours faithfully
Walter Akerman



No. 426
(Thunderbird)
Squadron

Prepared by WING COMMANDER F. H. HITCHINS,
Air Historian

THE STORY of No 426 (Thunderbird) Squadron of the Royal Canadian Air Force begins on October 15th, 1942, when it was formed at Dishforth, Yorkshire, as the seventh Canadian bomber squadron overseas. It commenced operations with No. 6 (RCAF) Group of Bomber Command on January 14th, 1943, and for the next twenty-eight months the Thunderbird's Wellingtons, Lancasters and Halifaxes played their part in smashing the defences of Hitler's European fortress. When hostilities ended, the squadron assumed a new rôle as a transport unit, flying Liberators on the "trooping run" from Britain to India.

Disbanded in the United Kingdom on December 31st, 1945, No. 426 was reformed at Dartmouth, N.S., on August 1st, 1946, as a unit in No. 9 (Transport) Group. In the past two years its Dakotas and North Stars have shuttled across the Dominion from coast to coast, carrying personnel, supplies, and freight.

* * *

When the Thunderbirds began operations in January 1943, Bomber Command was assisting in the Battle of the Atlantic by pounding at the bases from which the U-boats operated. No. 426's first target was Lorient, an important base on the Bay of Biscay. Eight times within a period of five weeks the squadron's Wellingtons struck at the U-Boat pens in the port. Then the weight of attack shifted to targets in Germany and the bomber crews got their first taste of the flak defences guarding Happy Valley (the Ruhr). In addition to Duisburg, Essen, Bochum and other munitions centres in the Valley, the squadron also bombed Nazi ports and industrial cities in the Rhineland. Interspersed with the bombing raids were numerous mine-laying operations to disrupt German sea-borne traffic through the Frisian Island waterways and to other focal points such as Brest, Heligoland, Kiel and Karmoy (in Norway).

Wing Cdr. S. S. Blanchard, the Thunderbird's first C.O., was lost in a raid on Cologne in February 1943. He was succeeded by Wing Cdr. L. Crooks, D.F.C. (R.A.F.), who won the D.S.O. two months later on a sortie to Duisburg.

Operations on Wellingtons continued until June, when conversion to Lancasters began, and at the same time No. 426 moved to Linton-on-Ouse, where it remained until the end of the campaign in Europe. In five months the squadron's "Wimpies" made 447 sorties in the course of 36 bombing and 18 mining operations. Twenty aircraft were lost (11 of them over the Rhur), with personnel casualties of 94 killed or presumed dead and 10 prisoners or "safe".

After a period of training on the new 4-engined heavy bombers, the Thunderbirds returned to the battle on August 17th, 1943. The target was Peenemunde, the Nazi rocket and jet experimental station on the Baltic coast; and Bomber Command's assault that night dealt a serious blow to the enemy's projected V-1 campaign against Britain. But No. 426 Squadron lost two of its nine crews, including the one led by Wing Cdr. Crooks. Command of the Thunderbirds passed to Wing Cdr. W. H. Swetman, D.F.C., who had already completed one tour with No. 405 (R.C.A.F.) Squadron.



The new adjutant of the Thunderbirds, Flt. Lt. A. F. J. MacKell, receiving a "briefing" from other squadron members. Left to right: Wing Cdr. C. W. Burgess, Pilot Officer R. Galloway (R.A.F.), (seated) Flt. Lt. Mackell, and Flt. Lt. J. R. Wiebe.

Berlin came into the Thunderbirds' bomb sights for the first time on 23rd August, and in the next few weeks other new targets—Nuremberg, Munich, Hanover, Leipzig, etc.—were added to the list. In November the Squadron entered the Battle of Berlin, which raged for the next three months. In that period No. 426's Lancasters made 14 attacks on the Nazi capital, sending out 174 bombers, of which 14 were lost.

As winter passed, preparations for the invasion of Normandy increased in tempo. In March 1944, Bomber Command began an offensive against the enemy's lines of communication in Western Europe, and attacks on rail targets in France were interspersed with longer-range strategic blows at

the Reich. In April and May, tactical targets such as junctions, freight yards, and rocket sites, predominated, as the aerial preparation for the assault reached its peak. In the midst of this busy period the squadron shifted from Lancasters to Halifaxes, making the change virtually without breaking stride. During the 9½ months No. 426 operated on Lancasters it made 605 sorties on 57 bombing raids and one mine-laying expedition. Thirty-two aircraft were lost, with 173 officers and airmen killed or presumed dead, and 41 prisoners of war or "safe". Wing Cdr. Swetman left the Thunderbirds at this time, on completion of his second tour, and was decorated with the D.S.O. in tribute to "the fighting spirit" he had instilled in



his squadron. He was succeeded by Wing Cdr. E. C. Hamber.

On the night before D-Day the Thunderbirds silenced a heavy coastal battery at Houlgate on the eastern flank of the invasion area. For the next four months they continued their attack on tactical targets in support of the Allied forces in Normandy. Bridges, rail junctions and yards, and many V-1 installations were bombed, as well as enemy defences around Caen, Le Havre, Boulogne and Calais. Allied air superiority over Europe made it possible for the bombers to operate in broad daylight with negligible losses. In August the offensive rose to a climax, unequalled in the history of No. 6 Group if not of the whole of Bomber Command. No. 426 made 258 sorties on 18 attacks (of which 11 were by day). There were no losses.

Wing Cdr. Hamber left the squadron early in July on completion of a most successful tour which won him the D.F.C. He was succeeded as commanding officer by Wing Cdr. C. W. Burgess, who was likewise decorated for his brilliant leadership of the Thunderbirds.

As summer waned and the tide of battle flowed eastward, there was less need for tactical support from the heavy bombers, and the Command returned to its all-out strategic campaign against the crumbling economic structure of Hitler's empire. Through the autumn and winter the Thunderbirds helped to complete the destruction of the Ruhr's munitions centres and attacked many other targets, especially synthetic oil refineries upon which the German Army, Air Force and Navy depended for their life-blood. When Wing Cdr. Burgess was screened early in January 1945, on the completion of his tour, Wing Cdr. F. C. Carling-Kelly took over command of No. 426. His tenure was unfortunately very brief. In an attack on freight yards near Stuttgart, late in January, he was shot down by a night-fighter and captured with several of his crew. Wing Cdr. C. M. Black, who had just been awarded the D.F.C. for operations with the famous Moose Squadron, replaced him and led the Thunderbirds until the end of the European Campaign.

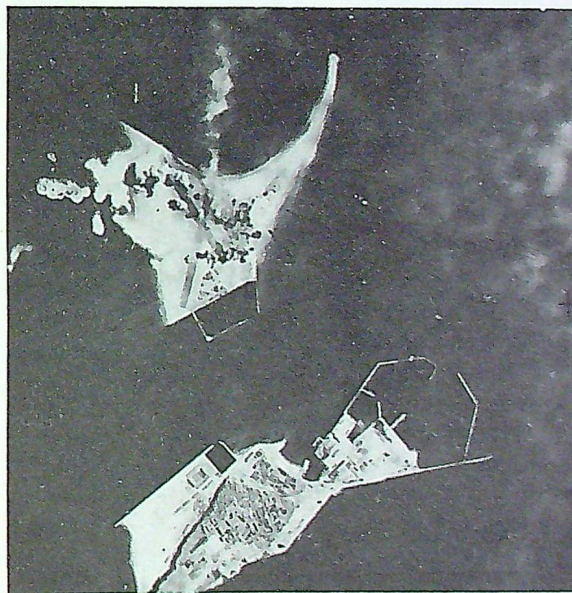
Winter weather naturally caused a decrease in the scale of operations through November,



No. 426 Squadron, April, 1945.

December and January, but in February the pace quickened as Bomber Command again poured the full weight of its destruction upon the diminishing enemy targets. The Thunderbirds made 12 attacks upon oil refineries and industrial centres, chiefly in the Ruhr, and went out twice in close support of Army operations along the lower Rhine. In the last fortnight of the month the heavy bombers resumed daylight sorties over the Reich. Only 12 of the last 31 raids carried out by No. 426 Squadron were made under cover of darkness.

In March, the long bomber offensive rose to a peak. The Thunderbirds recorded over 1409 flying hours, a total unequalled in their career as a bomber unit, while the number of sorties (231) was exceeded only by that for August 1944. March's operations were highlighted by the last blows at the ruins of the Ruhr (soon to be occupied by Allied forces), and by several attacks in preparation for and in support of the airborne crossing of the Rhine at Wesel. The month was further distinguished by an attack carried out on the 15th by 200 Canadian bombers, led by No. 426

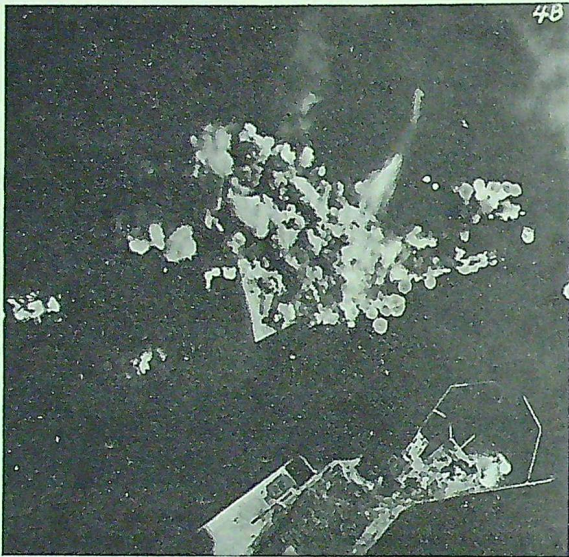


1400-bomber attack on Heligoland, 18 April, 1945. First bombs drop on nearby airfield at 1229 hrs. The next four photos show successive stages in bombing.

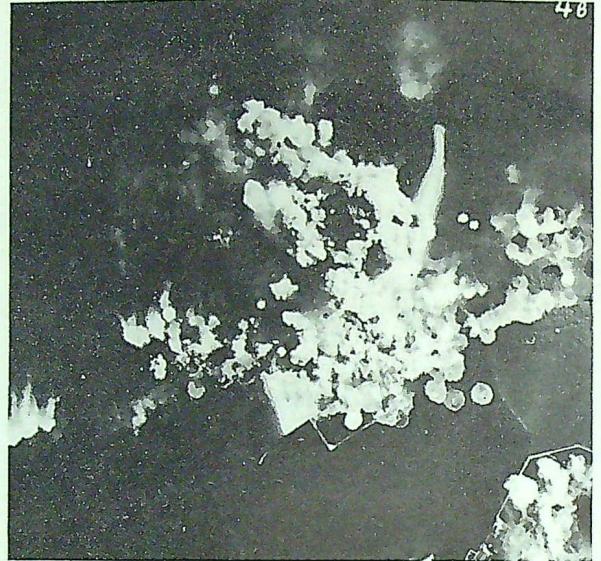
Squadron, on the oil refinery at Castrop-Rauxel. The timing-error on the target was only three seconds; and so amazingly accurate was the bombing that the target was completely destroyed in one minute.

Targets were now becoming fewer as the

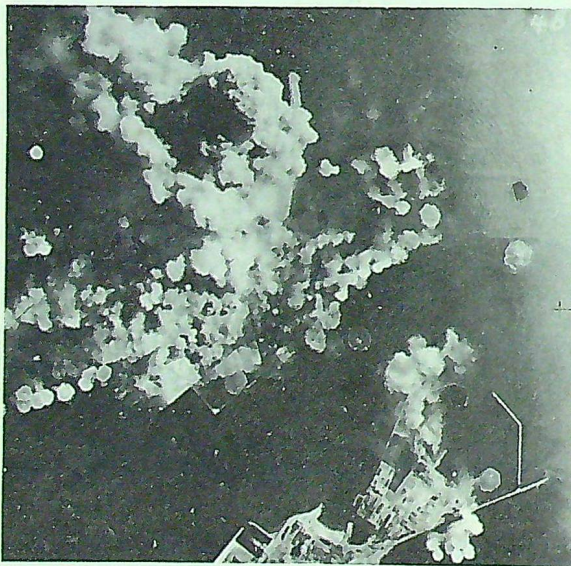
American, British, Canadian and Russian forces drove ever deeper into the Reich. In April the squadron made only eight attacks, one of which was wholly abortive due to unfavourable weather. On the 18th, the Thunderbirds shared in a very successful raid on Dune, close by Heligoland,



1230 hrs.



1231 hrs.



1232 hrs.



1237 hrs. The airfield obliterated, attack shifts to heavily fortified main island.

during which the island and its airfield were smothered under a torrent of explosives. A week later No. 426 made its last bombing attack in the war, when coastal defences on Wangerooge Island were covered by a pall of dust and smoke.

Since converting to Halifaxes a year previously, the squadron had made 149 bombing attacks for a total of 2161 sorties. Thirty-six aircraft were lost, with 158 of the crews reported killed, presumed dead or missing, and 82 prisoners or "safe". In all, between January 14th, 1943, and April 25th, 1945, the squadron sent out 3233 aircraft on 242 bomb raids, 19 sea-mining operations, and 7 sea searches. Losses totalled 88 aircraft, including 70 missing over enemy territory and 18 crashed in England. In personnel the Thunderbirds lost on operations 425 killed, presumed dead or missing, and 133 prisoners or "safe". Non-operational losses totalled 4 officers and airmen killed or died. The Squadron won over 175 decorations and honours.

Late in May, when most of the Squadrons in No. 6 Group were flying back to Canada to prepare for operations in the Pacific theatre, No. 426 was transferred to Transport Command and moved to Driffield for a short time before going to Tempsford in Bedfordshire. Wing Cdr. Black returned to Canada with many of the bomber crews, and new personnel were posted in to build up the new transport squadrons. Liberators replaced the Halifaxes, and on September 30th the Thunderbirds, now under the command of Wing Cdr. D. R. Miller, A.F.C., began "trooping to India". From bases in the United Kingdom and Belgium, troops were picked up and flown to Egypt and India. On the return trip repatriated soldiers were flown home.

In three months of this work the squadron made 120 round trips, carrying over 5,500 passengers and flying 987,240 transport miles without injury to one passenger and without accident more serious than a collapsed nose-wheel. This brilliant achievement, unequalled in Transport Command, won the Canadian air and ground crews congratulations from the Air Officer Commanding-in-Chief of the Command. On December 31st, 1945, No. 426 Squadron was disbanded at Tempsford.

Seven months later the squadron was re-formed at Dartmouth, N.S., under Wing Cdr. C. A. Willis,



Flt. Lt. R. E. Ratcliffe (left) with Wing Cdr. W. H. Swetman after a last flight in "A-Apple", the Lancaster in which they concluded their flying together.



Sqn. Ldr. J. May, one of the Thunderbirds' flight commanders overseas.



8,000-lb. bomb, backed by members of No. 426.

D.F.C., as one of the units in No. 9 (T) Group (now Air Transport Command). Equipped first with Dakotas and then, after a move to Dorval, with 4-engine North Stars, No. 426 has completed over three and a half years as one of the R.C.A.F.'s three transport squadrons. Although based in the East, its aircraft have covered the Dominion from coast to coast, carrying supplies, equipment and personnel. In June 1948 it began training flights across the Atlantic and in August of that year flew parties of British and Canadian Air Cadets to and from the United Kingdom.

When No. 426 moved to its present base at Dorval in March 1947, Wing Cdr. C. G. W. Chapman, D.S.O., succeeded Wing Cdr. Willis in command. The squadron is now led by Wing Cdr. C. H. Mussells, D.S.O., D.F.C., who took over from Wing Cdr. Chapman in February 1949 when the latter was posted to R.A.F. Staff College.

The squadron badge, approved by H.M. the King in October 1943, depicts a totem pole carved in the form of a thunderbird, the mythical creature whose name was used by certain Indians to describe the first aeroplanes they saw. The motto

"On Wings of Fire" refers to the squadron's work as a bomber unit.

The spirit of No. 426 Squadron may perhaps best be summed up by a recent entry in the



The crest of No. 426 Squadron.

squadron's daily diary, following a farewell party for one of its members:

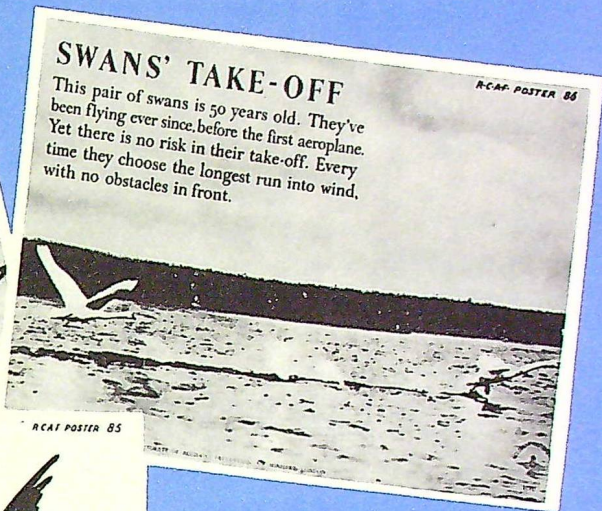
"We have yet to see a smile on the face of anyone posted away from this squadron."

Have You Seen these Posters?



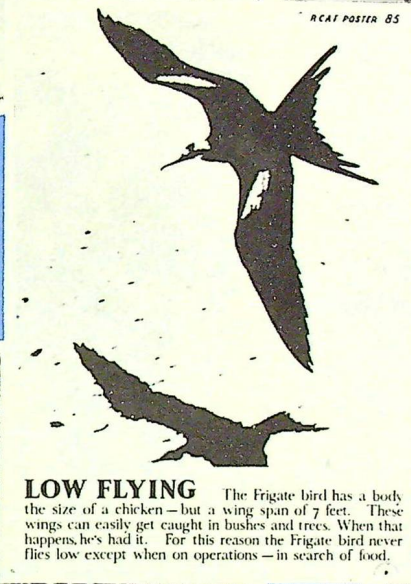
FORMATION FLYING

The wisdom and the rules of formation flying are intricate with the goose. Every evolution of joining, breaking up and changing position is done with rhythm and steadiness. No sudden action now. No individual capers. You haven't the instinct of a goose - or his margin of safety, but you can profit from his example.



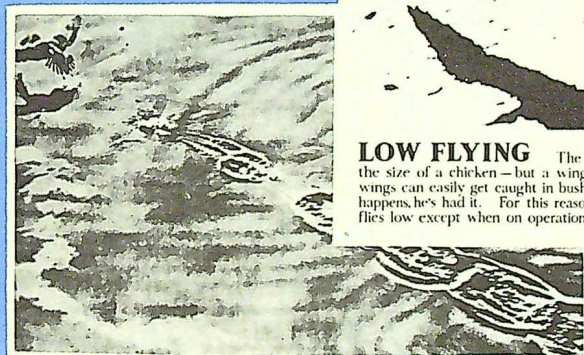
SWANS' TAKE-OFF

This pair of swans is 50 years old. They've been flying ever since, before the first aeroplane. Yet there is no risk in their take-off. Every time they choose the longest run into wind, with no obstacles in front.



LOW FLYING

The Frigate bird has a body the size of a chicken - but a wing span of 7 feet. These wings can easily get caught in bushes and trees. When that happens, he's had it. For this reason the Frigate bird never flies low except when on operations - in search of food.



TAKE-OFF WITH FISH

The additional weight means a longer run to get airborne. As the duck doesn't want to lose his dinner, he takes plenty of room and gains full flying speed before climbing.

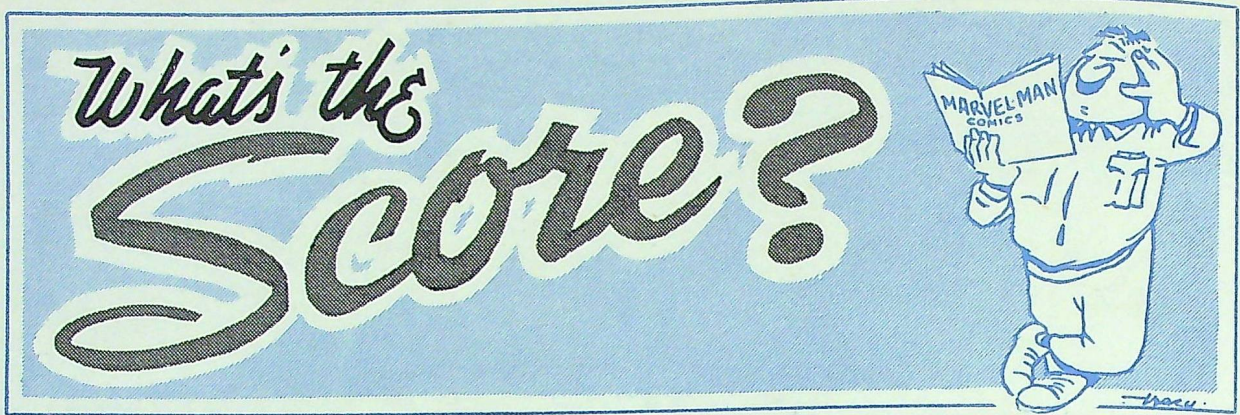


THE PARACHUTE IS IN THE WINGS

- no ripcord needed, and the harness is always in position. The Osprey can come in inches from the land like a feather. Remember pilots are not so well-equipped, and must fly accordingly.

- RCAF Poster No. 84: The Parachute is in the Wings
- RCAF Poster No. 85: Low Flying
- RCAF Poster No. 86: Swans' Take-off
- RCAF Poster No. 87: Take-off with Fish
- RCAF Poster No. 88: Formation Flying

ORDER WHAT YOU WANT FROM YOUR SUPPLY SECTION



Oddly enough, though this questionnaire contains only questions that every Canadian should know, a score of more than 14 seems to be above average. The correct answers are given on page 48.

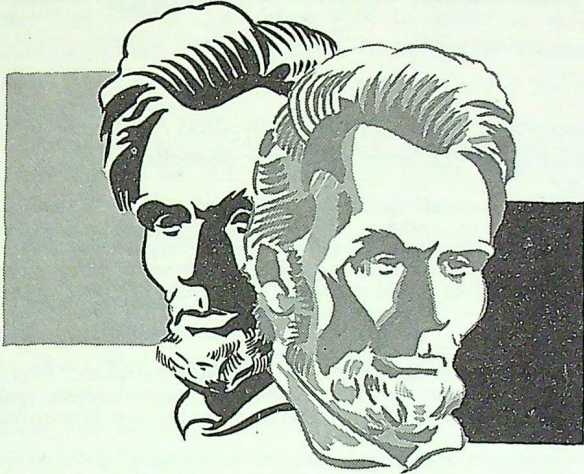
1. The western Canadian who won the welter-weight championship of the World in the early 1930's was:
 - (a) Gorgeous George
 - (b) Jimmy McLarnin
 - (c) Tommy Burns
 - (d) Johnny Greco
2. The world's largest nickel refinery is located at:
 - (a) Sudbury
 - (b) Port Colborne
 - (c) North Bay
 - (d) Arvida
3. North of the Arctic Circle you would go for a ride in a:
 - (a) Micmac
 - (b) Chinook
 - (c) Mukluk
 - (d) Komatik
4. The novel entitled "The Seats of the Mighty" was written by:
 - (a) Ralph Connor
 - (b) Hugh MacLennan
 - (c) Sir Gilbert Parker
 - (d) Gabrielle Roy
5. Onghiaras is the Indian name for what is now called:
 - (a) Niagara
 - (b) Ottawa
 - (c) Halifax
 - (d) Ontario
6. After ordering a *calèche* at the Chateau Frontenac in Quebec City, would you:
 - (a) Eat it?
 - (b) Bathe in it?
 - (c) Ride in it?
 - (d) Wear it?
7. Three of the following well-known Canadian families have two or more sons who played in the National Hockey League. The exception is:
 - (a) Boucher
 - (b) Lombardo
 - (c) Conacher
 - (d) Bentley



8. Which of the "Mackenzies" listed below was not a Cabinet Minister in the Dominion Government:
 - (a) William Lyon Mackenzie
 - (b) Alexander Mackenzie
 - (c) Ian Mackenaie
 - (d) Sir Mackenzie Bowell
9. The "Group of Seven" was the name given to:
 - (a) The first seven provinces to join Confederation
 - (b) An underground organization of rebels who plotted to overthrow the Family Compact in 1837
 - (c) Seven mountain peaks located in the Canadian Rockies
 - (d) Seven Canadian artists whose work stimulated interest in Canadian painting
10. The world's largest uranium mine is located on the shores of:
 - (a) Great Slave Lake
 - (b) Great Bear Lake
 - (c) Hudson Bay
 - (d) Ungava Bay

The Roundel

11. The Canadian-born actor whose portrayal of Abraham Lincoln materially added to his reputation is:
- (a) Gene Lockhart
 - (b) Walter Pidgeon
 - (c) Alan Young
 - (d) Raymond Massey



12. The "Northern Messenger" is the name given to:
- (a) A Hudson's Bay Company steamer which makes an annual voyage to the Eastern Arctic
 - (b) One of the aircraft flown by "Wop" May, famous bush-pilot
 - (c) A free public radio service carrying messages to the Far North
 - (d) A newspaper published in Whitehorse, Yukon Territories
13. Of the following Canadian heroines, the only fictional character is:
- (a) Laura Secord
 - (b) Marie Chapdelaine
 - (c) Marguerite Bourgeoys
 - (d) Madeleine de Verchères
14. "Dulse" is:
- (a) The name given to a hip-length coat, of blanket cloth
 - (b) A seal-skin boot worn in the Arctic
 - (c) An edible seaweed
 - (d) A variety of eating-apple developed in the Okanagan
15. "You can't get drown' on Lac St. Pierre
So long you stay on shore."—These lines were written by:
- (a) Robert W. Service
 - (b) Bliss Carman
 - (c) Dr. William Henry Drummond
 - (d) Sir Charles G. D. Roberts

16. Tom Thompson was:
- (a) The winner of the 100-metre dash in the Olympic games of 1928
 - (b) The winner of the Lady Byng Trophy
 - (c) The leader of the National Progressive Party
 - (d) A famous Canadian landscape painter
17. The several varieties of Canadian wheat do not include:
- (a) Marquis
 - (b) Fyfe
 - (c) Garnet
 - (d) Chippewa
18. A Doctor who did not gain his renown in the medical field was:
- (a) Frederick Banting
 - (b) Allan Roy Dafoe
 - (c) John W. Dafoe
 - (d) William Osler
19. Of the four undermentioned musicians, the the motorboat racing enthusiast is:
- (a) Guy Lombardo
 - (b) Bob Farnon
 - (c) Mart Kenny
 - (d) Sir Ernest MacMillan



20. The first trans-Canada railway was completed in:
- (a) 1870
 - (b) 1905
 - (c) 1885
 - (d) 1837

(The foregoing questionnaire was contributed by Miss M. C. McIvor, of "The Roundel's staff)

ROYAL CANADIAN AIR FORCE

Association



Dominion and Group Conventions

On December 1st, 1949, a full-dress Dominion Executive Council meeting was held in Ottawa. This was held primarily in order to bring the whole Executive up to date on progress and to fix dates for Group and Dominion Conventions. Group Conventions will be held between February 15th and March 15th, while the Dominion Convention will take place in Ottawa on May 12th and 13th, at which time our national policy for the forthcoming year will be decided and a new slate of officers elected.

Full details will be sent to all members by means of an individual bulletin.

Wing News

No. 100 (Bluenose) Wing, Halifax, N.S.

No. 100 (Bluenose) Wing has a new Executive consisting of:

President	— Miss Marjorie Davidson
Vice-President	— Miss Clara Webber
Secretary	— Miss Barbara Frey
Treasurer	— Miss Vivian Graves

To the retiring Executive we say "thank you" for a job well done. To the new Executive we offer our congratulations and wish the best of luck.

No. 250 (St. John) Wing, Saint John, N.B.

An oft-repeated cry, "How about quarters, and what are the Association and the Air Force going to do about them?", is forwarded to this headquarters. The answer lies in private initiative on the part of the Wing itself, and an example of this is contained in a report from the Secretary of No. 250 Wing, Saint John. Canada was made the

country she is to-day by individual enterprise, and we can do the same with our Association.

"Club rooms are now open and authority has been obtained to operate a canteen. The caretaker started his duties November 5th. The club rooms are open every evening and on Sunday afternoons. Approximately \$3,000-worth of furniture for the building has been ordered and will be delivered in one month's time. Supplies have been provided for the canteen and it is trusted that members will take full advantage of the canteen and club rooms from now on.

"Membership has grown to 124 paid members. Every member is asked to assist in obtaining new members, and membership blanks are available from the Canteen Steward or the Membership Committee.

"It will be appreciated that the operation of club rooms, canteen, etc., and the provision of proper facilities cost money, and, while it is anticipated that in time the Canteen will carry the greater part of the load, W. A. C. Gilbert, Chairman of the Ways and Means Committee, has organized a turkey raffle as a financial stop-gap. In addition, a special Committee headed by Dave Lunney has been set up to contact members of the Association (and anyone else interested) with a view to the loan of funds to get the organization away to a good start. A number of the members of the Association have made loans of \$5.00, \$10.00, and up. Moreover, the Wing has received donations from two organizations in the amount of \$100.00 and \$200.00, respectively."

No. 404 (Kitchener-Waterloo) Wing, Kitchener, Ont.

They're in the news again. We have just had a letter from the Secretary of this energetic Wing that they will shortly be moving into their own quarters.

No. 406 (North Bay and District) Wing, North Bay, Ont.

On November 16th, Air Marshal W. A. Curtis, C.B., C.B.E., D.S.C., E.D., Chief of the Air Staff, officially presented No. 406 Wing with its Charter at a banquet and dinner-dance held in the Empire Hotel. As a preface to the presentation, he gave an interesting talk.

The talk was strictly "Air Force" from beginning to end, and while he admitted it was war talk,

he maintained that to have a strong air force is the "surest way to discourage war." Should another war come, however, he felt that the R.C.A.F.'s rôle should be that of a fighter force.

Canada expects to produce shortly a new, long-range, all-weather fighter suited to this country's conditions, he went on. So far, neither England nor the U.S.A. had been able to come up with such a fighter. "We are also," he said, "developing one of the most powerful jet engines in the world at the moment."

He stated that proximity to the U.S.A. was the main factor in the decision to build F-86 U.S. fighters in preference to the British Vampire. Standardization of aircraft and their parts is absolutely necessary. "There is no reason why any type of aircraft should not be able to land anywhere on this continent and be serviced."

The Chief of the Air Staff further said that the hurried and almost 100 per cent demobilization after the Second World War had meant that the R.C.A.F. had had to launch a gradual programme of training and rebuilding. This began with ground crew, then spread into aerial photography, air search and rescue squadrons, and air transport. Millions of square miles of Canada's north have been mapped or photographed in the past three years. "We are concentrating now on the defence angle, the fighting arm, the striking force of the RCAF."

Air Marshal Curtis was introduced by Ralph Christie, former Wing Commander and first Canadian airman to win the D.S.O. in the Second World War.

The Air Marshal's talk was preceded by a brief speech by Air Chief Marshal L. S. Breadner, Dominion President of the R.C.A.F. Association, who stated that the Association, which now has 34 Wings across Canada and more in the process of formation, will serve to keep reminding the authorities of Canada's air needs. He said that Air Marshal Curtis has been giving the Association all the help and co-operation possible.

No. 408 (Toronto) Wing, Toronto, Ont.

It was fitting and proper that the main hall, R.C.A.F. Cawthra Square, should be the setting



Left to right: Air Chief Marshal L. S. Breadner, Mr. R. Lehman (Pres., 406 Wing), Air Marshal W. A. Curtis.

of the scene for the Charter presentation ceremony on Thursday, October 20th. In this hall, trod by so many Royal Canadian Air Force men in former days, memories were awakened for a number of those stepping once again upon its polished floor. Indeed, no less a person than the Chief of Air Staff spoke proudly of the days he spent in these quarters.

The evening at Cawthra Square was made the occasion for an "open house" for all ex-members of the R.C.A.F. and ex-members of H.M. Air Forces, that they might come to witness the presentation of the Dominion charter to what was formerly the Toronto Air Force Association. Thus a new unit of the Royal Canadian Air Force Association was born—now being officially known as No. 408 (Toronto) Wing.

No. 412 (Air Force Club of Windsor) Wing, Windsor, Ont.

On the night of November 4th, Air Vice Marshal G. E. Brookes, C.B., O.B.E., presented No. 412 Wing with its Charter. The event was coupled with the fourth annual re-union, sponsored by the Club, of ex-Air Force personnel of the district, and the hall was packed to capacity with delegates from as far away as London, Ont.

During the evening, Air Vice-Marshel Brookes had an opportunity to meet personnel who served under him during the Second World War. Among them was the Rev. M. C. Davies, M.P.P., Windsor-Walkerville, Speaker of the Ontario Legislature and war-time padre in the Air Force, holding the rank of Wing Commander.

Among the many present were Tommy Brannagan, one-time Commanding Officer of the Windsor Squadron, and Craig Ainslie of Comber. The latter instructed in Windsor at the Elementary Flying Training School until he was posted overseas and eventually to No. 420 Squadron.

It was one of the most successful get-togethers Air Force personnel in the area have so far experienced. Little groups knotted here and there to relive past days in England and Europe, and the relative merits of different marks of Spitfires were as earnestly weighed and discussed as they were six years and more ago.

No. 500 (City of Winnipeg) Wing, Winnipeg, Man.

At the time of writing, this energetic Wing has planned a Christmas dance which will be held in the United Services club at the Minto Armouries. This is for the personal enjoyment of the members.

The Wing is sharing the Christmas spirit with veterans and their families attending the University of Manitoba. Money is in short supply for some of them, so the Wing is putting on a Christmas dinner for them during the ebb period between Christmas and the New Year. Some 200 people are expected to be there and the University will do the catering right at home.

No. 501 (Lakehead) Wing, Port Arthur, Ont.: Sgt. Rissanen

Ex-Sgt. Leonard Rissanen, a former member of the now famous 413 Squadron (two aircraft of his squadron sighted the Japanese Invasion Force on its way to invade Ceylon in April 1942), has made the headlines again.

He is now a member of 501 Wing and is employed as a postman in the City of Port Arthur. He was recently awarded the gold life-saving medal of the St. John Ambulance Association—which, incidentally, is the first of its kind to be awarded

in Canada.

The citation for Sgt. Rissanen read as follows:

"For extraordinary bravery during the fire which followed the dust explosion in Elevator No. 5, Saskatchewan Pool Terminal Ltd., on August 7, 1945, when at great risk and with apparent disregard of his own life, he crossed a distance of approximately 35 feet by means of an insecure rope strung between a storage tank and the workhouse, 110 feet above the ground, to render first aid and assist in the rescue of five men who were trapped on the upper floors of the workhouse. Upon reaching the workhouse, Sergeant Rissanen, with a soldier and city fireman, who had also gained the top of the building by means of the rope, gave first aid to four more or less severely burned and frantic men, this splendid work being carried out within a few feet of the burning equipment and debris of the wrecked building.

"A bosun's chair was made and attached to the rope across which the rescuers had swung themselves to the burning building, and the injured men were conveyed by it to the storage tank and then to the ground level where ambulances and stretchers were ready.

"Sergeant Rissanen then climbed to the top floor of the workhouse, pulling himself up by broken timbers and twisted reinforcement metal, through the fire and terrific dust, and was able, with the assistance of one of the other men who crossed, to extricate an injured man buried deeply in grain and apply first aid and remove him by means of the bosun's chair to safety.

"Sergeant Rissanen continued his search in the upper part of the wrecked structure for some time, after the fifth man had been rescued in the face of imminent danger from new explosions and falling wreckage, for other possible victims."

No. 700 (City of Edmonton) Wing, Edmonton, Alta.

In November this Wing held a smoker which included Jack Jones as Master of Ceremonies, Pat James as soloist, Walter Howard as magician, Dorothy Black in an accomplished acrobat display, and George Hillaby as pianist. The programme was rounded out by an impromptu tap dance by one of the members and several glee club efforts. Many wartime favourites, including "North Atlantic Squadron" received lusty, if not harmonious, treatment.

A short business meeting, with "Tiny" Ferris in charge, preceded the entertainment and it was announced that the car raffle, now in progress, was going nicely.

It is expected that Air Vice Marshal C. R. Dunlap, C.B.E., will be guest speaker for the December meeting.

New Wings

No. 252 (Fredericton) Wing, Fredericton, N.B.

Due to a great deal of time and effort on the part of Mrs. Reta E. Sveinson, an ex-W.D.

residing in Fredericton, sixty-two ex-members of the R.C.A.F. met at the quarters of the Canadian Legion on November 28th and unanimously voted to form a Wing of the Association.

Mr. Charles Y. Swanton, President of the Saint John Wing, came up to assist in the organization of the new Wing.

The provisional officers elected at the first meeting were:

President	— Paul E. Burden, D.F.C.
Secretary	— Mrs. Reta E. Sveinson
Treasurer	— James G. Wigle, D.F.C.
Executive	— Clinton A. Ferguson
	— Harry B. Arnold

No. 416 (Kingston) Wing, Kingston, Ont.

Due to good preliminary work on the part of Mr. C. C. Wyatt and ex-Air Force padre Minto Swan, a Wing of the Association in Kingston is now a reality. In its organization stages the Executive Committee of the Albatross Club took on the duties of a provisional Executive for the new Wing. The members are:

President	— K. J. Reid
Vice-President	— D. Cain
Sec-Treasurer.	— J. F. Descent

On December 14th they held their first organized meeting, with Air Vice-Marshal G. V. Walsh, C.B., C.B.E., of Ottawa, as their guest speaker. Approximately 125 were in attendance.

No. 417 (Richmond Hill District) Wing, Richmond Hill, Ont.

To Mr. Harry Sayers goes the credit for forming No. 417 Wing in Richmond Hill. Their organization meeting was held in November 18th, with Air Vice-Marshal G. E. Brookes, C.B., O.B.E., as guest speaker. Also in attendance were Mr. P. C. Hill, the Reeve of Richmond Hill, Mr. J. E. Smith, M.P. for North York, and Lt. Col. F. J. Picking, managing editor of the local newspaper.

The Executive elected are as follows:

President	— Harry W. R. Sayers
Vice-President	— George R. Sweeney
Secretary	— Mrs. J. N. McCarthy
Treasurer	— Dr. W. Howe

No. 418 (Belleville) Wing, Belleville, Ont.

At an organization meeting held on November



Left to right: Mr. R. S. McCartney (Gen. Sec., R.C.A.F.A.), Air Chief Marshal L. S. Breadner, Air Marshal W. A. Curtis, Air Vice-Marshal G. E. Brookes, Mr. B. B. Ross (Pres., 408 Wing), Air Vice-Marshal C. R. Slemon, Controller A. Lamporte.

25th in the Belleville Armouries, No. 418 Wing was launched. While we have not, at the time of writing (Dec. 22nd), received their application for Charter, and consequently do not know the whole Executive, we do know that their President and Secretary are, respectively, L. W. Digby and J. D. Godwin.

Air Vice-Marshal Walsh addressed this meeting as guest speaker.

No. 419 (Oakville) Wing, Oakville, Ont.

Again we have not received an official application for certificate and cannot give you the names of this Wing's Executive. We do know they are formed, however, and 100 per cent of those attending the organization meeting joined. This gives them an initial membership of 37 members. A very good show.

No. 420 (City of Oshawa) Wing, Oshawa, Ont.

On November 25th, under the Chairmanship of Mr. Charles C. Moran, a Wing was formed in Oshawa. Air Vice-Marshal G. E. Brookes was again the guest speaker. This meeting was very

well attended, and the Executive elected are as follows:

President	— Charles C. Moran
1st Vice-President	— Stanley F. Fraser
2nd Vice-President	— George A. Slocombe
Secretary	— Edward C. Stewart
Treasurer	— C. H. Jenkins
Additional Members	— Pat Murphy
	— W. A. Hepburn
	— O. H. Dell

No. 421 (Newmarket) Wing, Newmarket, Ont.

On November 21st, under the Chairmanship of Mr. T. A. Sadeski, an organization meeting was held in Newmarket and a Wing formed. The Executive elected are as follows:

President	— J. W. Such
1st Vice-President	— Doug. Campbell
2nd Vice-President	— E. R. Apps
Secretary	— T. A. Sadeski
Treasurer	— D. Cooper
Additional Members	— Paul Tobey
	— Wes Tobey
	— T. Sturgemer
	— G. J. McNally
	— H. R. Fry

No. 502 (Brandon) Wing, Brandon, Man.

Largely through the efforts of Mr. E. R. McGill, Manager and C.F.I. of the Brandon Flying Club, an organization meeting was held in Brandon on the evening of December 13th. Group Captain W. F. Hanna, C.B., Manitoba Provincial President, addressed the meeting and has reported that it was a most enthusiastic gathering. The Executive elected are:

President	— Grant Sutherland, D.F.C.
Vice-President	— C. W. Buckingham
Sec.-Treasurer	— James Roney

No. 602 Wing Sponsors Cadets

The sponsorship of No. 107 (Saskatoon) Air Cadet Squadron by the 602 (Saskatoon) Wing of the R.C.A.F.A. was announced recently by Wing President Lindsay Cowan. A new Air Cadet

Committee, composed primarily of R.C.A.F.A. members, has been formed to guide the local squadron.

Close on the heels of this change in sponsorship, Alvin Hamilton, Committee Chairman, announced that a new approach to cadet flying scholarships would be introduced in Saskatoon. The R.C.A.F.A. committee would now guarantee successful graduates of the Air Cadet squadron that their flying scholarships would extend up to the point where a student received his private license. In the past the scholarship extended only to the point where a cadet soloed.

The decision to allow cadets to continue lessons until they received their private license was made because a majority of the cadets, after soloing, did not continue their training unless they had sufficient financial resources of their own. As one member commented, "the training received by cadets appeared to be wasted if the student did not eventually receive his license."

A new enrolment campaign under Enrolment Director Roy Burnham is expected to get under way soon. No difficulty is expected in attracting new boys of fourteen to eighteen years of age into the squadron under the new flying scholarship scheme.

Accommodation Director Peter Warkenton is hard at work renovating a former Air Force barracks into a self-contained building for the squadron. Cadets will receive all their lectures and practical work in this building. Squadron offices, motion picture equipment, a library and a canteen are also part of the cadets' surroundings. A rifle range is under construction for the same building.

Other members of the new Air Cadet Committee are R. McGregor, treasurer; Marion Graham, secretary; and Frank Lovell, public relations.

This is a very fine effort indeed on the part of No. 602 Wing.

TRACERS

George Pitchko and L.V.R. Brown are asked to get in touch with V. F. Genoud, Atmore, Alberta.

Topographical Models

By H. V. THOMPSON

(Mr. H. V. Thompson, who was formerly a Flight Lieutenant in the R.C.A.F. and is now a member of the R.C.A.F. Association, has been concerned since the war with the development and manufacture of topographical models for many purposes.—EDITOR)

Time: April 1st, 1943.

Place: Lower Foggington, Lincs., England.

SUMMONED BY THE WINCO, the Intelligence Officer came hurrying into the briefing-room of No. 777 Squadron. He approached the table with the air of a friendly undertaker, his eyes on the cloth which concealed its curiously lumpy-looking surface. Then, having adjusted his horn-rimmed spectacles, he glanced around at the circle of attentive faces, and proceeded with his phase of the briefing.

"Gentlemen, to-day we have been assigned a rather difficult operation—a low-level attack on the Himmlischruh armament factory at Weissnichtwo. From previous experience, you know that the target is heavily defended. Therefore, before we go on, let me impress on you that it's more than ever essential that you adhere rigidly to the prescribed track and height on your bombing-run."

After a brief pause to let his words sink in, he proceeded:

"Now, this time we've got a bit of a surprise for you. Air Ministry has had a topographical model

of the target area made in order to ensure that everyone is absolutely familiar with it beforehand. It's quite a remarkable effort, and I think it's going to make things a lot easier for you."

He reached out and twitched the cover off the table. There stood revealed what looked like a toy town in a semi-rural setting. The I.O. waited for the exclamations of amazement to subside before he leaned forward and began to point out various features of the model.

"The scale is about one inch to 250 feet. At 1630 hours you will rendezvous at 1500 feet over this hill here, which bears 000° from the target. As you can see, it's about 500 feet high, and it's the only hill in the area with radio towers on it. You'll then turn on to a track of 180° and descend to 500 feet. Then you will pass over the refinery—here—and the Cathedral—here. There, by the way, near those woods, is a very clever bit of ack-ack camouflaging. Watch for it."

The I.O. went on with his briefing, pointing out the exact size, shape, and location of every hazard and identifying feature as he mentioned it. When he had finished, the crews gathered round the



Muskoka area, Ont. Size (approx.) 27" x 27". Scale: 1" = 250' (Photographic Survey Co., Ltd.)

table and silently memorized all details of the scene which before long they would actually be seeing from their aircraft . . .

Some few hours later, when they had returned and interrogations had been completed, the I.O. concluded his report and leaned back in his chair, reflecting over his tea. It had been the squadron's most successful raid to-date.

* * *

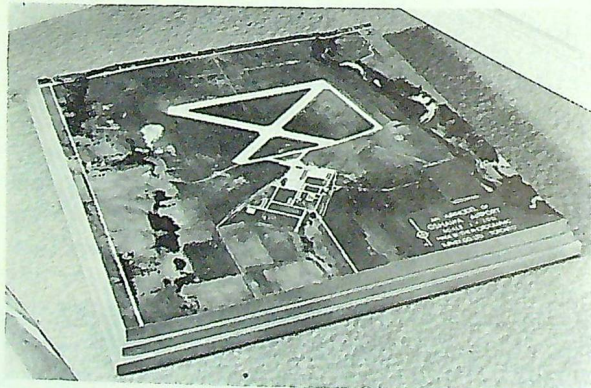
Although topographical models were used before the war, the difficulty and high cost of construction severely restricted their application. Topographical models were often inaccurate and had no consistent scale. These two factors limited their use to exhibition and display of a general nature. However, advances in air photography, photogrammetry and model-making methods during the war made possible the construction of accurate models, and brought them into wide use. Such models are, in fact, a co-ordination of all the known information in an area, in a form that is complete and easily read and memorized by those not entirely familiar with air photographs and map-reading.

A brief history of the part played by model-making during the war years will give eloquent proof of their importance. In 1940 a demand originated from the air forces for models in connection with the briefing of air crews on special

operations, where complete memorizing of the target in advance was essential. This applied particularly to low-level attacks. Models were constructed for all the commando landing operations and proved invaluable for planning and briefing.

Accordingly, a section in the R.A.F. was set up to produce models from information supplied by air photographs. Such work demanded absolute accuracy and speed of construction. At that time there were no methods existing which could fulfil these requirements satisfactorily, but later on the availability of good quality air photographs and the accuracy of the information obtained from them by photogrammetric means made possible the development of entirely new techniques of construction.

Contours produced photogrammetrically, or map contours rectified by enlarged air photographs, provided a basic land-form built in steps. Modelling between contours in a plaster mixture completed the general shape. A rectified enlargement of the original vertical photograph, when mounted on the surface, produced a three-dimensional photograph. Any discrepancy between the planned position as shown by the mounted enlargement and the land-form underneath could, by stereoscopic inspection, be seen immediately. On completion, the resulting model was an enlarged air photograph fitting perfectly over accurately modelled land-form. Superficial details, trees, buildings, etc., heighted photogrammetrically,



Oshawa Airport. Size: 36" x 36". Scale: 1" = 200' (Photographic Survey Co., Ltd.)



Kingston area, Ont. Made for Dept. of National Defence. Size 8' x 9'. Scale: 1" = 300' (Photographic Survey Co., Ltd.)

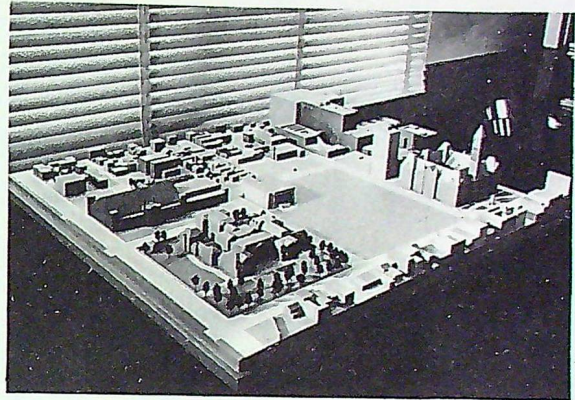
were added to produce a reliable detailed scale model of the particular area.

Such a model could reproduce accurately any area covered by vertical air photographs. It had the advantage, too, of being able to co-ordinate and show without confusion many different types of information in a form easily and quickly appreciated. This type of model was used extensively by all three services, and a process was perfected by which they could be reproduced in quantity. By the end of the war, 1300 original models had been constructed by a British-American unit, mainly for the North African, Sicilian, Italian and European operations. For instance, 369 models were made for the Normandy operation alone—and, in some cases, up to 20 copies of each.

The demand for models was always far greater than could be met with the resources available, and a rigid supervision of priorities had to be introduced. It is of interest, however, that the airborne operations received highest priority, since they found adequate briefing very difficult without models. This is understandable in view of the short period between drop and action, as no time is available for reconnaissance, and complete familiarity with the topography is an essential prerequisite of success.

The largest market for models exists in those fields where air photographs are already in use. A model can present information provided by these photographs in the clearest and most understandable form, entirely suitable for group discussion and planning.

In peace-time training operations, topographical models are extremely useful for training airborne troops, for familiarization with unknown landing



Proposed Civic Square area, Toronto. Size (approx.): 5' x 5'. Scale: 1" = 40'. All information as to heights of buildings was obtained from air photographs. (Photographic Survey Co., Ltd.)

strips and aerodromes, and for complete and rapid reconnaissance of areas for search and location of radar and aerodrome sites.

In forestry, cutting operations may be planned ahead on a simple model showing exactly the terrain and the grades to be encountered—an important point where cutting and hauling are done mechanically.

Models for mining purposes co-ordinate geological information with existing land-form for a better appreciation of areas to be developed.

Contour models for engineering projects, dam sites, and generating stations can be of definite value in early planning work. Likewise, detailed methods for large-scale city and community planning can not only help the architect and engineer, but can explain the project completely to the public or those whose complete understanding of the scheme is essential.

Finally, it should be borne in mind that, though military requirements in peace-time are limited to training models, an organization must exist which can be expanded in the event of an emergency.

War Without End

(One of the students attending the Air Command and Staff School Course at Maxwell Field from July to December, 1948, was Lt. Col. Kenneth E. Marts, of the U.S.A.F. During what we can only refer to as lulls in the hostilities, he produced a very amusing 78-page book of cartoons entitled "The War between the Students and the Instructors," a copy of which has been given to us by one of Lt. Col. Marts' fellow-students from the R.C.A.F. A selection of the drawings contained in it is reproduced here, by kind permission of the artist-author, in the hope that it may provide valuable guidance for our own Staff College candidates.—Editor).

PREFACE

EVERYBODY DOODLES. SOME PEOPLE DO DOODLES IN PHONE BOOTHS OTHERS DOODLE IN BOOKS AND ON SCRATCH PAPER. SOME PEOPLES DOODLES MAKE SENSE AND SOME DON'T. THESE ARE MINE — AND YOU CAN JUDGE FOR YOURSELF.

KENNETH E. MARTS
LT COLONEL USAF
R-155 CLASS 48A.



INTRODUCTION



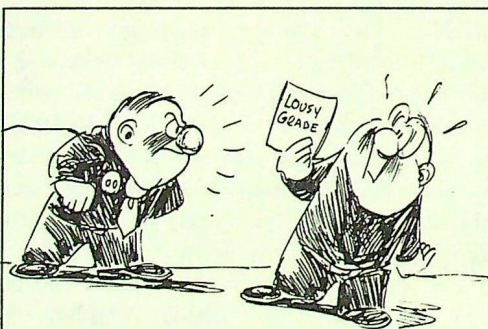
AN INSTRUCTOR

A STUDENT

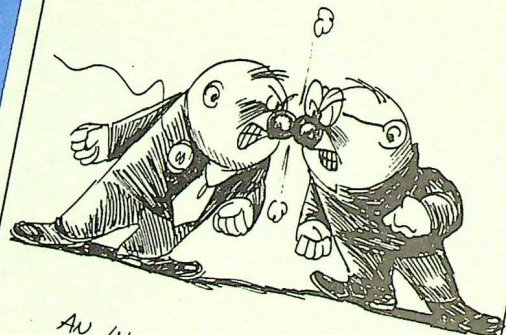
IN THE IMPENDING WAR BETWEEN THE STUDENTS AND THE INSTRUCTORS YOU MUST BE ABLE TO IDENTIFY THE BELLIGERENTS. IT IS VERY SIMPLE:

- INSTRUCTORS WEAR TIES AND MIKE BUTTONS.
- STUDENTS HAVE TO WEAR GLASSES.

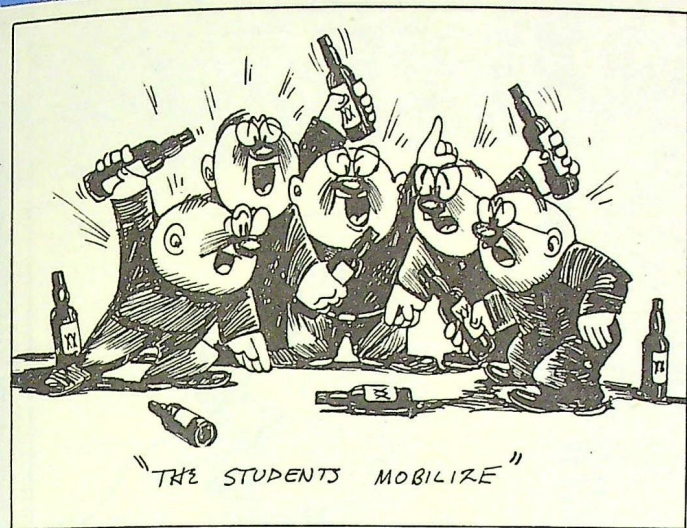
(WE'RE ALL A BUNCH OF FAT HEADS)



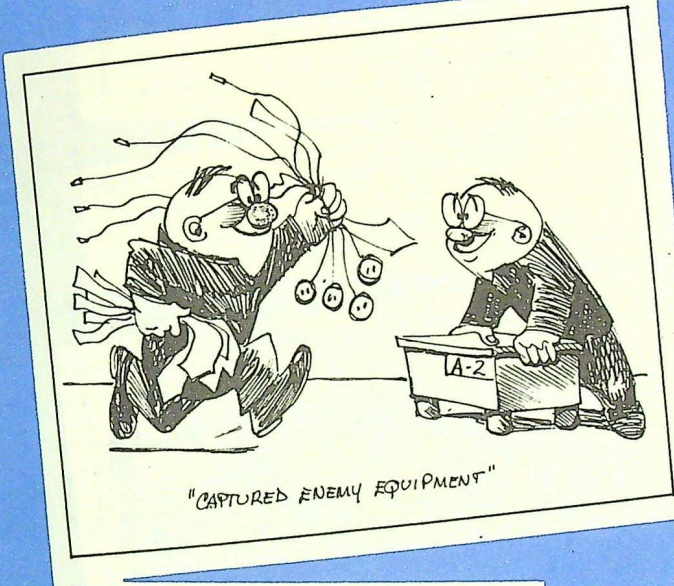
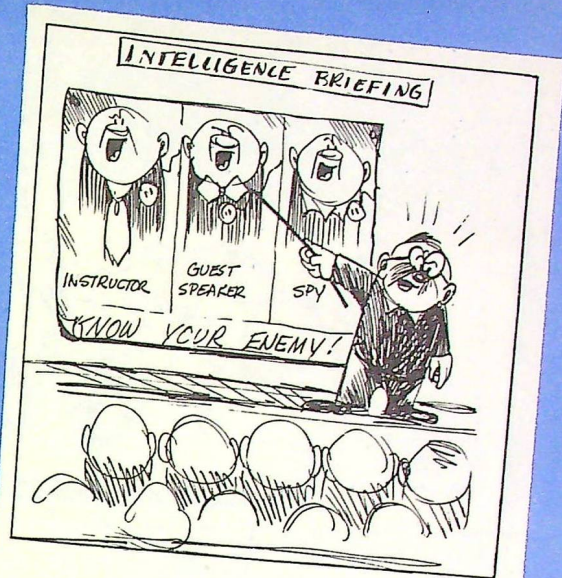
THINGS ALL STARTED
HERE ONE DAY AFTER PRELIMINARY TEST.



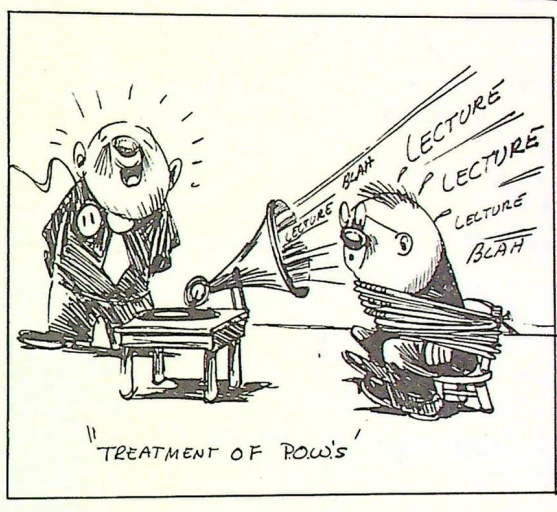
AN INSTRUCTOR AND STUDENT
JUST BEFORE OUT BREAK OF
HOSTILITIES



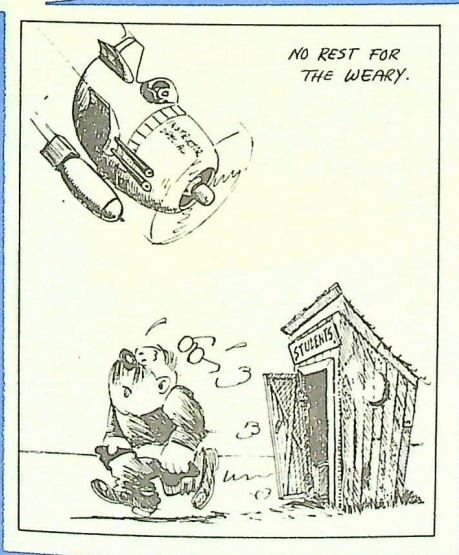
"THE STUDENTS MOBILIZE"



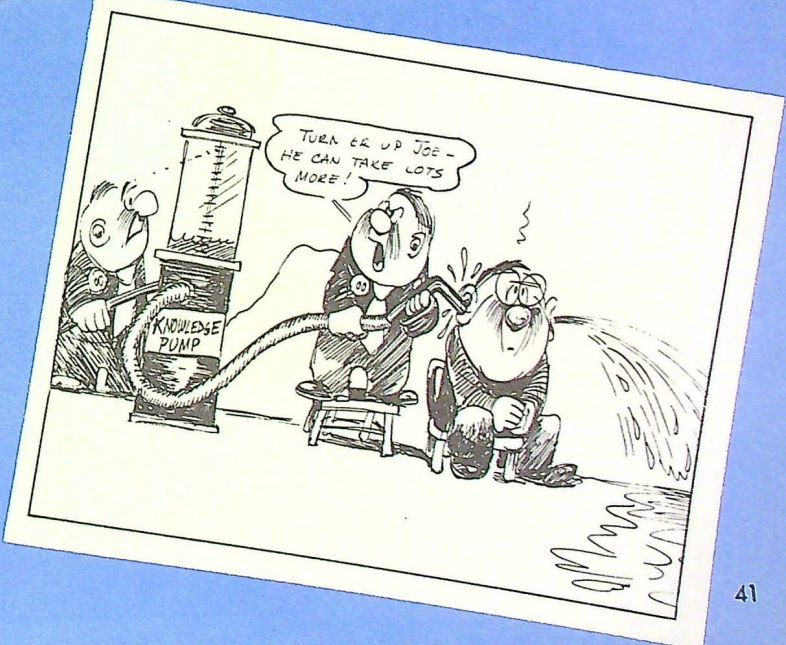
"CAPTURED ENEMY EQUIPMENT"



"TREATMENT OF POW'S"



NO REST FOR THE WEARY.

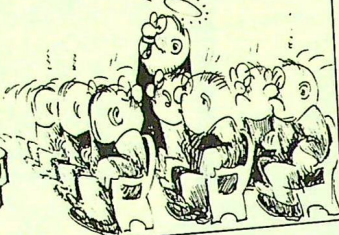


THE TRAITOR

SCHOOL SOLUTION:
BLAH
BLAH
ETC.



I AGREE, I DO!

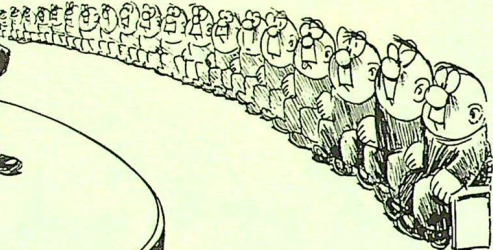


"AS YOU ALL KNOW —
 $\frac{W_S}{X} \geq \left(\frac{L}{D}\right) \left(\frac{W_S}{W_P}\right) !!$ "



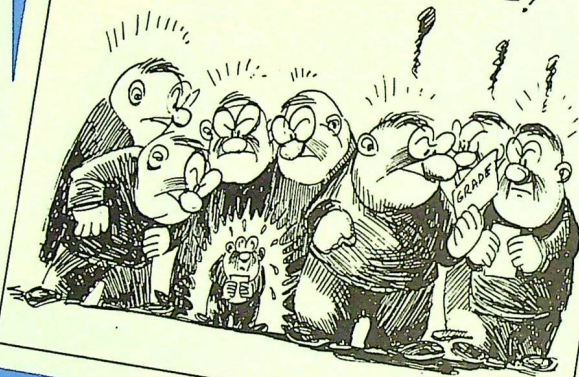
GUEST LECTURER

IT IS INDEED A PLEASURE TO
SPEAK TO SUCH A-AN- INTELLIGENT
GROUP OF PEOPLE.



GUEST SPEAKER

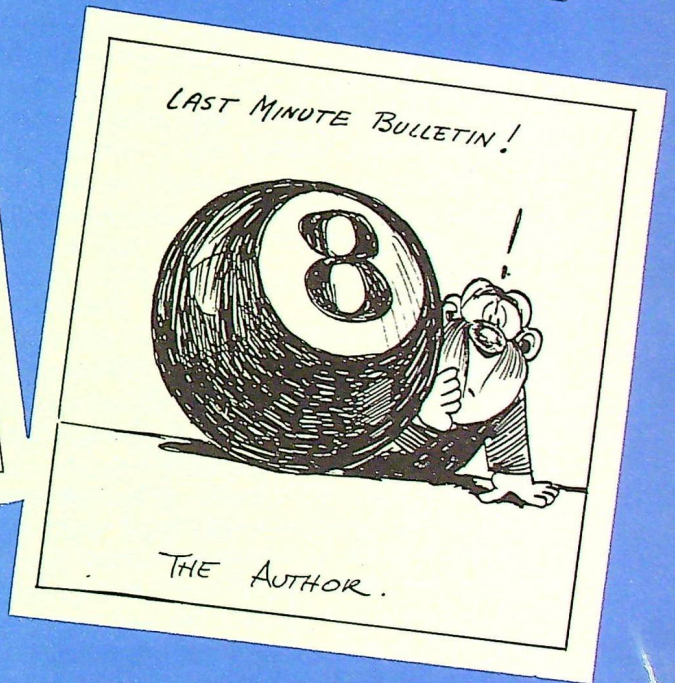
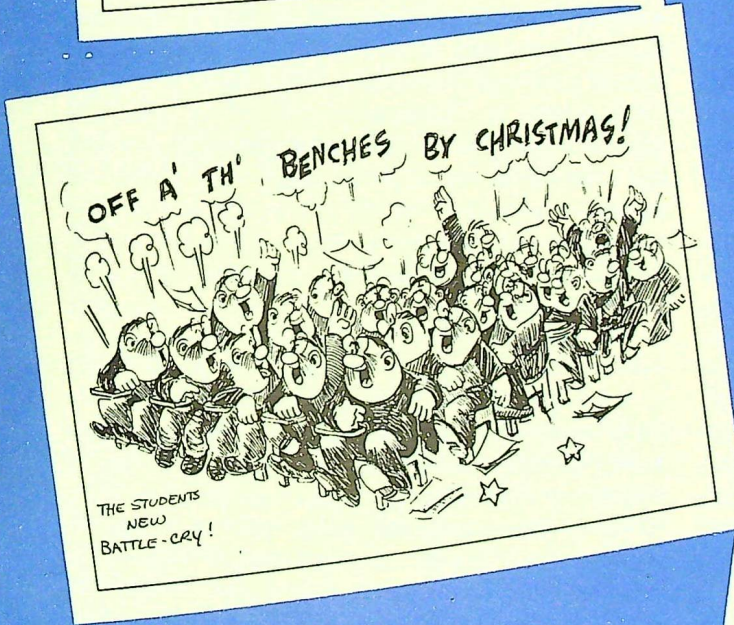
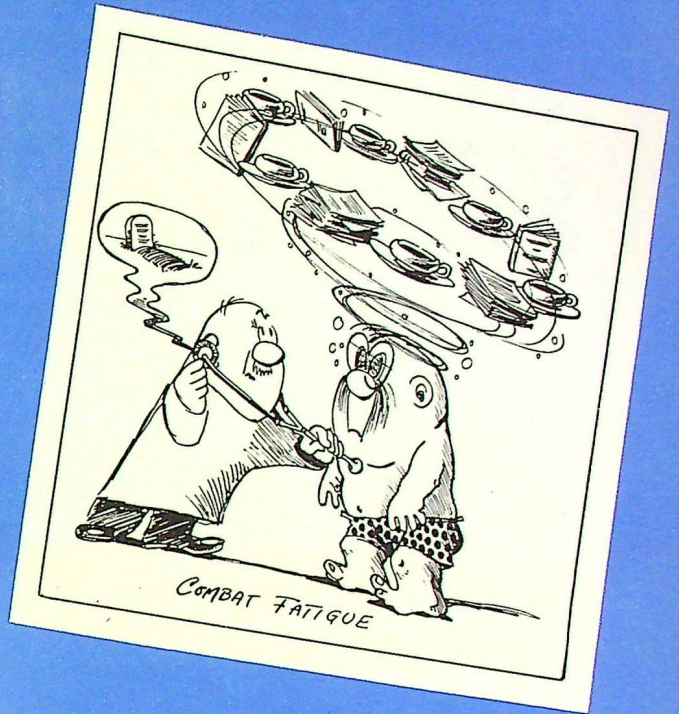
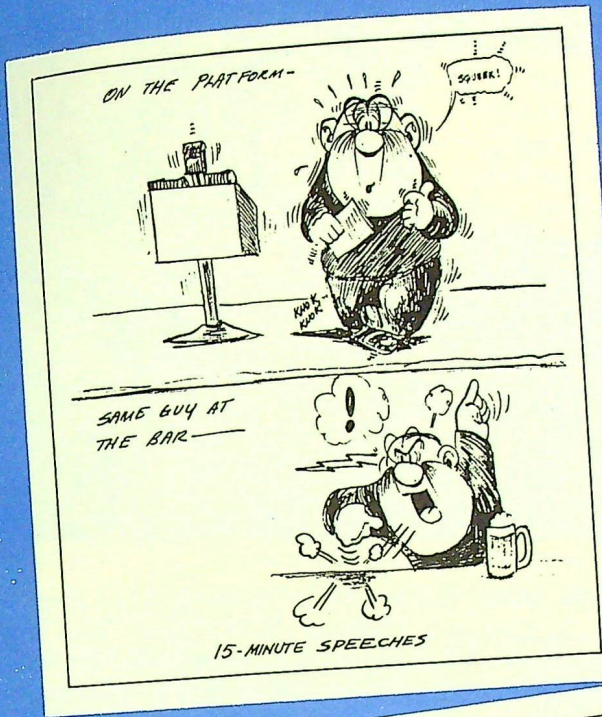
SOMEBODY MADE TOP GRADE!



OLD CLAP-HAPPY.
WHO STARTS ALL THE
UNNECESSARY CLAPPING
IN CLASS.

I KNOW HE'S BITTER
BUT I THINK HE GOES
TOO FAR!





Building a

Balanced

Air Force

by GENERAL HOYT S. VANDENBERG

Chief of Staff, United States Air Force

(Reprinted by courtesy of "The Army Information Digest," United States Army.)

(Based on addresses by General Vandenberg at Dallas and Indianapolis, February and May 1949.)

AS A NATION, our resources in men and material are great, but they are not limitless. We face a mighty and growing challenge. Unless we act wisely, unless we plan well, we must face the possibility of ultimate defeat. It is no longer adequate merely to say we shall have as many cannon as possible, as many skills as possible, as many ships or as many aeroplanes as possible. It is no longer adequate even to plan for as many soldiers, sailors, and airmen or as many workers as possible. So total are the demands of modern war that each of these categories of products or of people must be subtracted from the others. We must plan for the most effective distribution of all that we can spare for our defense.

Such planning has recently been called "balancing" our forces. Anything, to be "balanced", must be balanced with or against something else. A well-balanced team, for instance, is not one in which all players are of equal size or weight, or are evenly spaced on the playing field. A well-balanced team is one which is organized and trained in such a manner as to be able to counter an opposing team's strength and take full advantage of an opposing team's weaknesses. This is the kind of balance we want in the forces that defend our Nation.

The proper balance of our forces depends upon the circumstances that face us. A military force is not properly balanced against itself. It should be weighted against the enemy. It should be designed and proportioned to evade an enemy's strength and to exploit his weakness. Our Air Force must be planned or balanced to defeat a potential enemy, while protecting, as completely as possible, our Nation and its allies. Only the defeat or decisive damaging of an attacking enemy can guarantee our own safety. This is the mission for which our Air Force must be planned and equipped—the mission it must be prepared to accomplish.

No one of the services can do the job alone. Whether the Air Force strikes back at the heart and the internal strength of an attacking enemy from bases on our own continent—with long-range heavy bombers, with medium bombers refueled in the air, or with medium bombers operating from forward bases overseas (any or all of which methods we could employ today)—we must depend upon the coordinated effort of all our armed services to achieve the ultimate aim.

There are many balances which we must achieve within the Air Force itself. We must balance our investment against the possibilities of war today and the possibilities of war five or ten years from today. We must not fatally weaken ourselves today in order to be strong tomorrow. On the

other hand, we must not mortgage our future by neglecting research and development in order to gain the temporary advantage of a great number of today's weapons. Our long-range weapons, such as the great B-36 now in production, take much longer to develop and produce than our short-range and defensive weapons. This must be taken into account in our planning.

From time to time, various phases of our operations and various types of our aircraft have been the object of unusual emphasis in the public mind, to the seeming exclusion of interest in the overall development of our strength. Within the past year or so, public focus has ranged from interest in jet fighters and bombers through our adventures in the penetration of the sonic barrier and the development of very heavy bombers. Each of these aircraft has a definite place in our broad, long-range planning. No one of them is the criterion of our aerial strength.

The Air Force has been careful to reiterate that there is no defense that is a complete defense today. This is unfortunately true even of air defense by high-performance fighters. In a heavy, determined attack, some planes will probably get through. This is a fact which must be faced. We do not, for example, refer to our radar net as a "fence". For there are no fences against airplanes. Nor are our air defenders trying to build a Maginot Line out of radar beams, airplanes, or anything else.

The best defense, in fact, is an active defense in depth and a powerful strategic offense in depth. This is true for our entire land, sea, and air team—a team in which each member performs that portion of the task for which it is best fitted.

The Air Force, as part of that team, wields the weapon of strategic air power. In the hands of the United States, strategic air power is primarily a deterrent to war. It is a means of quick retaliation against any aggressor. A strategic Air Force is designed to destroy an enemy's means of making and supporting an attack against ourselves.

We believe strongly in the effectiveness of long-range strategic bombing and have done so since this effectiveness was established between 1942 and 1945. If conflict were forced upon us, our



(U.S.A.F. Photo)

strategic force would pass from the role of deterrent to that of heavy retaliation. Our insurance against defeat and our hope of future victory would depend, in large measure, upon the effectiveness of this attack. This is the reason for the recent improvements in our strategic weapons. These weapons are not only the B-36, but also the B-50, the B-29, and other types and modifications now being developed. Of the fourteen Air Force groups equipped primarily for strategic bombardment, only four are being equipped with the B-36. For while the B-36 is a capable performer, the Air Force has never held that any one type of plane, any more than one type of combat operation, is the solution of our security problems.

Strategic attack against an enemy's vulnerable interior is only one phase of the Air Force job. The Air Force also is responsible for the air defense of the United States and for air support of land and sea operations. Thirty-four of our forty-eight groups are equipped primarily for these tasks. These groups include troop carrier, transport, reconnaissance, light bombardment, and similar types of employment.

The development of aircraft for tactical and transport operations is not being relegated to some obscure limbo, discarded and forgotten. More

than two-thirds of the Regular Air Force groups are trained and equipped primarily for air defense and for the support of land and sea operations. In addition, the Air National Guard consists entirely of fighter and light bomber groups. This adds up to more than four-fifths of the Air Force designed for purposes other than strategic bombardment.

As for our transport operations—their flexibility and their effectiveness—the Berlin Airlift, the greatest effort of its kind in history, has become a commonplace. Operation Vittles has become an unobtrusive triumph of skill and organization. And, in our own country, we witnessed the stirring performance of Operation Haylift.

Air power, alone and unassisted, is scarcely capable of winning a complete victory. Any future war, I am convinced, will be fought and won by land, sea, and air. Such being the case, it is not likely that I would be a party to any Air Force programme which would neglect the area of tactical support. When the day comes that the men of our ground forces need the utmost in tactical air backing, it will be immediately and overpoweringly forthcoming.

Maintaining a balanced Air Force involves more than a carefully adjusted relationship between planes for offense and defense, between planes for tactical support and strategic counteroffensive. We also must plan for the effective utilization of our reserve strength in machines and men.

For air power today includes everything that flies. It includes everything that an air force uses in support of its operations. It includes every factory and every man that produces anything necessary for that support. In a sense, it even includes the raw material for the bases, the transportation, the fuel, and all the gadgets that are required to keep airplanes in the air. To maintain this backing of reserve strength, we must spend some of our limited funds to maintain planes in readiness, to provide stockpiles of materials, and

to keep plants in stand-by status.

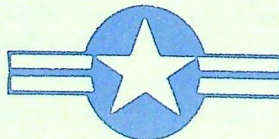
Also, we must maintain a carefully calculated proportion between our regular and reserve strength in manpower and skills. Despite the increasingly sudden nature of modern war, we cannot attempt to keep on active duty all the trained airmen who would be needed immediately if war should begin. The reserve forces available to us, therefore, must be brought to peak efficiency, in readiness for mobilization assignments.

The basic plan for a strong and adequate Air Force with proper recognition of reserve elements, was endorsed by the President's Air Policy Commission and the Congressional Aviation Policy Board, in their reports published in 1948. Under Lieutenant General Elwood R. Quesada, my Special Assistant for Reserve Forces, intensive studies have been made, and plans have been developed for the efficient use of Regular facilities in training our Air Reserve.

As part of its mission, the Regular Air Force must be ready at all times to deliver an immediate and powerful strategic counteroffensive against the sources of any enemy's potential war-making capacity. The reserve forces, for their part, must be prepared to play an important role in the defense of our own territory. They likewise must be prepared to furnish personnel to augment the Regular establishment in an emergency.

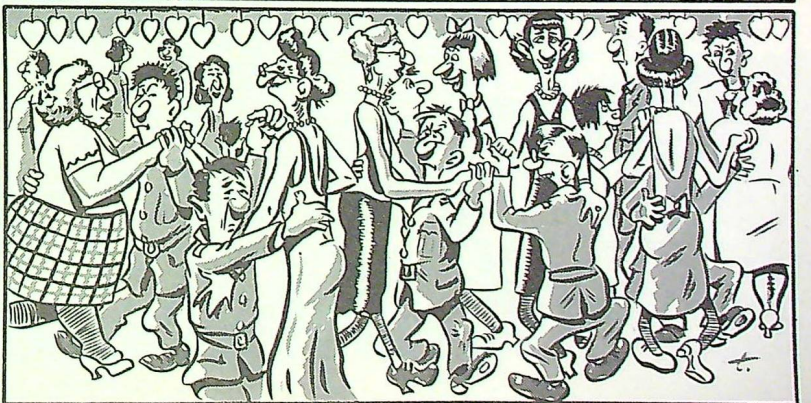
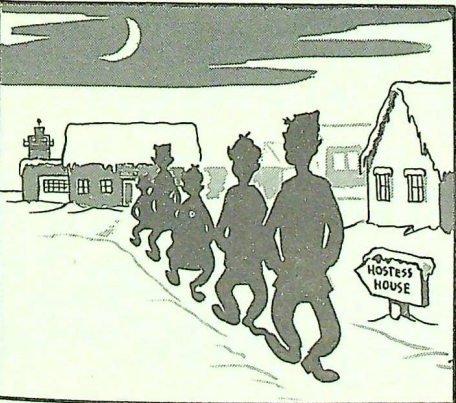
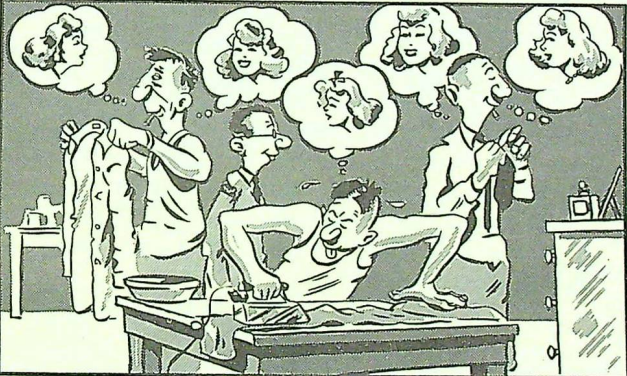
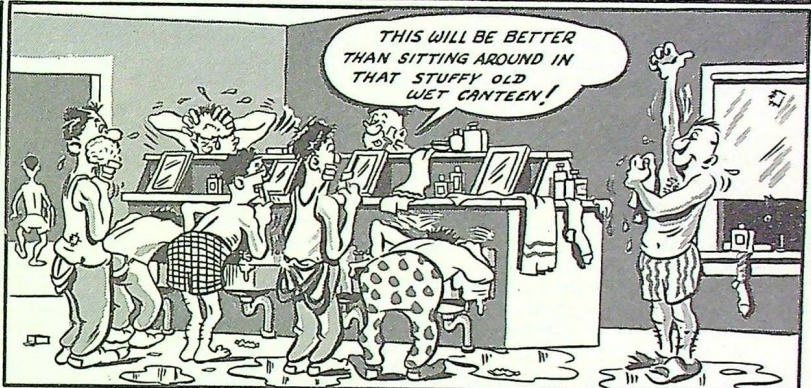
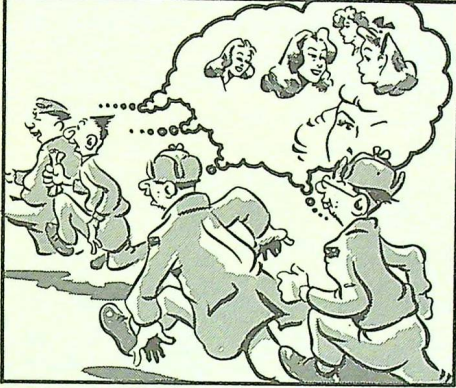
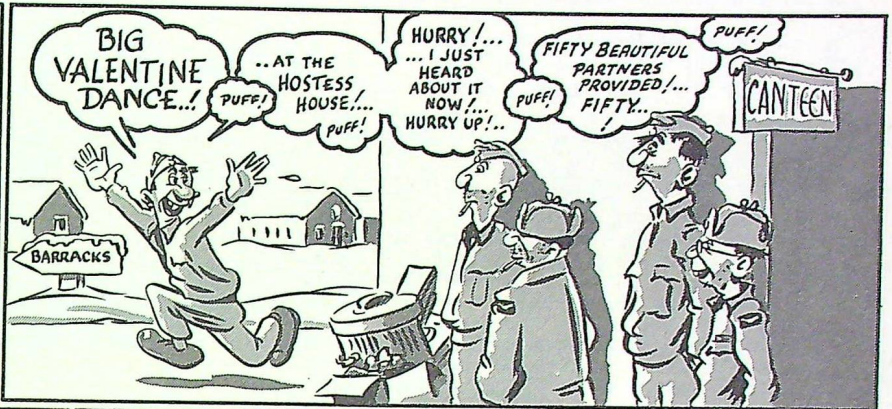
The Nation's security is a common responsibility. The Army, the Navy, the Air Force are equally involved. All veterans of past service and all citizens of the United States have an equal stake in our safety. This safety probably cannot be completely guaranteed for a long time to come. It will not be easily achieved. Some sacrifice by all of us may be necessary, even through years of peace.

Any realistic plan for our own security which can be drawn up today requires the complete participation of all members of our national security team.



THE DIMMER VIEW

by ray tracy



LETTERS to the EDITOR

C.M.U.'S.

Dear Editor:

I see you are going to run an article on the doings of the C.M.U.'s and am looking forward to reading it. Don't hesitate to let me know if you need any gen on them. I was connected with the operation and maintenance of power and heating plants on a few Stations on the East Coast, including Gander—which is a story in itself. The size of that Station and the huge number of personnel stationed there required light, heat and power plants that would make civilian factories look very small by comparison.

Albert Globe

(Many thanks for the Christmas card and good wishes. Several other readers have also welcomed the idea of a story on C.M.U.'s. It will appear in due course.—Editor)

BALM FOR SHATTERPROOF

Dear Sir:

Your "Tenth Anniversary Issue" (Dec. '49) has us all green with envy and buoyant with pride. Your painstaking research, choice of articles, layout, and general all-round efficiency have brought forth an issue which to our minds is a milestone in Service publications.

Since its inception, "The Roundel" has shown a constant, if gradual, improvement with each issue. Perhaps the finest compliment we can pay you is to say that it is being read.

"The Rocket",

R.C.A.F. Station, Rockcliffe

(Many thanks for the kind remarks. The old wardog, however, is still dubious about our whole set-up.—Editor)

DEPT. OF ROMANCE

Dear Sir:

While glancing through the "Illustrated Weekly of India" last week, I came across a photograph of Pandit Nehru walking past some R.C.A.F. boys; and I thought I would try to get a pen-friend among them. Would you please ask one of them to write to me. I am in my 18th year.

(Miss) Claire Brown,
Bungalow No. 166,
Abu-Road,
Rajputana, India.

(Sgt. Shatterproof says he'll leave the field open to you younger men.—Editor)

1913 RECORD

(We have just received a copy of a letter written by Air Marshal Sir Charles Longcroft, R.A.F., to Mr. S. T. Sunter, who formerly had a hand in the initial design and production of the Beaufighter and the Hurricane and is now living in Calgary. It is dated July 1942. The following extract from it will be of interest to the historically-minded.—Editor)

... Very shortly afterwards I did a record non-stop from Montrose to Southampton (about 430 miles) on the same machine, which was a De Havilland-built B.E. biplane with a 70 h.p. Renault 8-cylinder air-cooled engine and was fitted, as you say, with a four-bladed propeller. As far as I remember, it was about June 1913. Long distance records go a bit further nowadays, and machines have altered a bit...

Air Force Jargon

SOME OF THE MEANINGS of words found in Webster's dictionary have become so distorted in the Service as to represent virtually the opposite of their original intent, and the average civilian hearing these words would be hopelessly bewildered. The following are a few examples (by wire from Sgt. Shatterproof).

Nomenclature—The hard way of saying it. Example: Coats, great, warm, blue, buttons brass and collars, shawl with; airmen, for the use of.

2. Scale of issue—Also about 50 per cent of requirements. Example: You require a pair of gloves. Scale of issue—one mitt.

3. Action—This is your old friend, "passing the buck." Just initial it and put in the 'out' basket.

4. Extra messing—Four-syllable way of saying 'catsup'.

5. Inventory—An accounts officer's list of articles that you don't have, never had, and don't believe ever existed.


6. Advance—What you wait at the paymaster's door for eight hours to receive, and finally retire without, chewing your nails, with the phrase "pay day is on the fifteenth" ringing in your ears.

7. Voucher again—Anything that is filed in Sgt. Kelly's basket.

(“Wings Over Greenwood”)

Answers to "What's the Score?"

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



Distribution of "The Roundel"

THIS IS THE SIXTEENTH ISSUE of "The Roundel." Distribution requirements have been analyzed as carefully as is possible at the point of production in Air Force Headquarters, and we have done our best to ensure that enough copies are sent to each Station to enable all Service personnel to see "The Roundel" each month.

Shipments are, in the ordinary course of events, made only to R.C.A.F. postal addresses as shown in C.A.P. 179, List of R.C.A.F. Units. We depend on each Station Headquarters to see to it that an appropriate number of copies is forwarded to all Units or Detachments for which that Station is responsible.

None the less, we are still receiving letters from R.C.A.F. personnel of all ranks advising us that they frequently find it impossible to get hold of copies of "The Roundel". The letter printed below is typical:

Dear Sir:

Last summer I spent a great deal of time on outstations in Northern Manitoba as a

Shoran technician. During the whole time I did not even get a peek at a copy of "The Roundel."

Requisition for copies through the Section did not produce any results. Therefore I would like, if possible, to get a personal copy, which I would pass on to my associates.

The magazine is tops with me, and contains gen that no airman should be without.

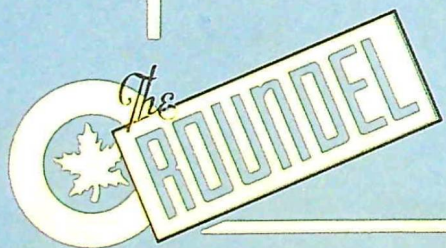
Yours truly,

H. H. Splett (AC 1)

We are of course, unable to mail individual copies to every member of the Service. Nor do we feel that there would be any need to do so were a careful examination into requirements made by each Station Headquarters and requests for increases or decreases in distribution sent to this office.

It is asked that the utmost care be taken in re-distribution of "The Roundel" to Units and Detachments which have no individual postal address.

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