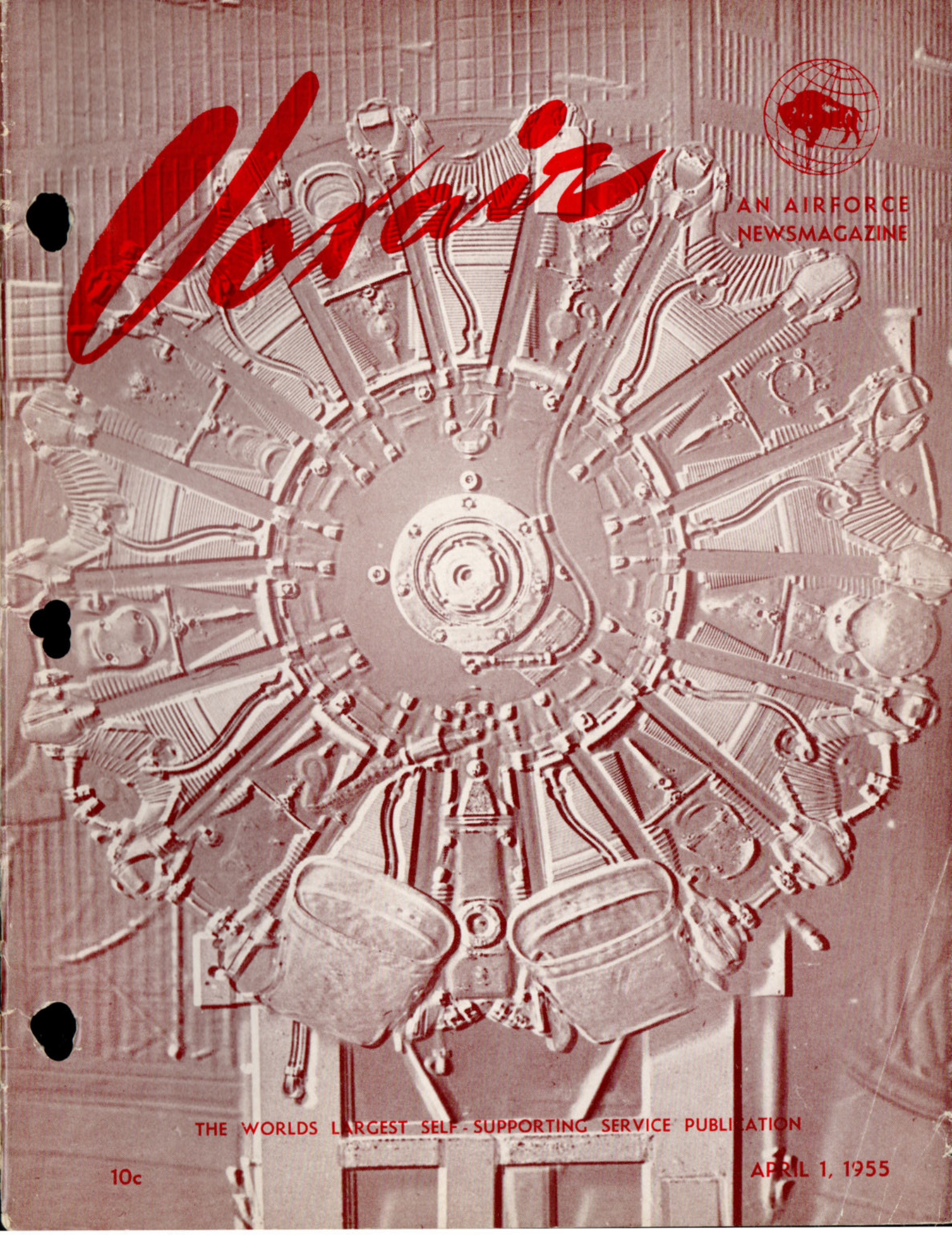


PLANE FACTS
See Page 36



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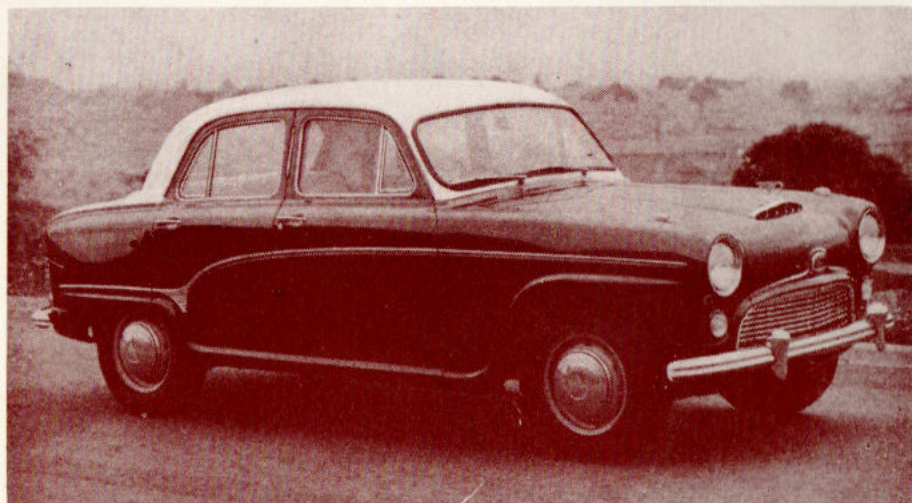


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Honorary Editor-in-Chief..W/C F. GAFFNEY
Production DirectorS/L J. HUDSON

EDITOR

F/O ROBERT GENNO

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ASSOCIATE EDITORS:

F/L R. W. Gellard, F/L C. Cheshire, Cpl. H. O'Byrne, Cpl. Bonnie Wade, N/S Dorothy White, F/O E. P. McLoughlin.

ART DIRECTOR: F/O W. W. FREDERICKSON.
SUBSCRIPTION MANAGER: F/O W. TOWNS

BUSINESS MANAGER: F/O M. LIGHTSTONE.
ADVERTISING MANAGER: F/O I. SCOTT.

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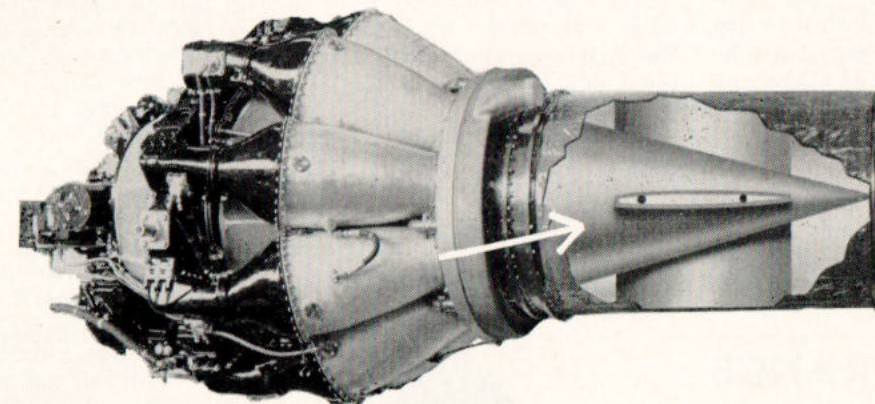
CONTRIBUTING EDITORS:

F/O Harry O'Hara, Lt. K. R. Cryderman, Dr. L. A. Glinz, Art Gauthier, F/O H. N. McMillan, LAC Jack Pyke.

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"DISPATCH — Armstrong here."

Those of you who have had occasion to call M.E. to enquire about transport will recognize those words—usually delivered in a voice suggesting both defiance and frustration. To the uninitiated the speaker is LAC Phil Armstrong who in his own words is "dispatcher, off and on, for the past two years."

Personality

An Easterner by birth and a Winnipegger by absorption, Phil was born in Stratton, Ont., some 36 years back. As he grew older he developed the character and good taste that prompted him to move towards the "Golden West." He didn't quite make it first try, however, and settled for a while in Fort Frances, where he decided to seek life's riches through the lumber business. His career in this business ended rather abruptly in 1940 when, being the good type he is, he volunteered for military service. The Field Artillery snapped him up, and after doing whatever it is that artillery men do in Winnipeg and Shilo, he was transferred to Borden in England. This was in December, 1940. The next definite date in Phil's military career was D Day—three and a half years later. Naturally he claims that he worked hard and served well, but by dint of crafty, skillful questioning, we gather that he had a pretty soft time. It seems at one time he was driver for groups of stage and

movie stars engaged in conducting tours of military establishments. With due and becoming modesty he claims friendship with practically everybody of importance in the entertainment world from Donald Duck to Betty Grable.



LAC PHIL
ARMSTRONG

Came D-Day. One hour after the first wave went in Phil landed in France and went on to chalk up an impressive record of action from France into Belgium, Holland and Germany. After VE Day he spent a few months in Holland before returning to Canada by way of England.

By "New Years" 1946, Phil was back in "civvy street" trying to work service life out of his system. After working on the railroad and a fling as an independent trucker he gave up the struggle and enlisted in the RCAF in 1949 and was posted as a driver to—Winnipeg!

Phil has not wasted the 5½ years in Winnipeg. He met and married the lovely Evelyn and has three fine children, who, unless a transfer comes off, will grow up thinking the world is flat.

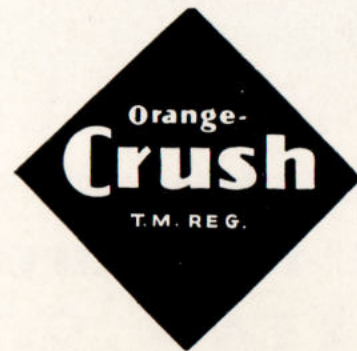
When he is not giving out good reasons why transport may not be had, Phil divides his time between curling, TV, the book-of-the-month club and the church committee.

This then, is LAC Armstrong, one of the remaining few who can with justification claim to have known Station Winnipeg when it was a pup.

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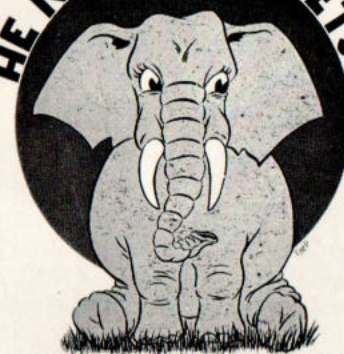
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Chaplain's Page

TRUE PATRIOTISM

PATRIOTISM IS THE WELL-ORDERED LOVE OF ONE'S OWN COUNTRY AND FELLOW CITIZENS. ONE OF THE GREAT EVILS, ONE OF THE DANGEROUS EVILS OF OUR DAY HAS BEEN THE TENDENCY TO DISCREDIT THE VIRTUE OF PATRIOTISM. INDEED, THERE HAS FREQUENTLY BEEN AN EFFORT, IT WOULD SEEM, TO REPRESENT PATRIOTISM AS A VICE AND ITS ABSENCE AS SOMEHOW VIRTUOUS, "PROGRESSIVE" AND PRAISEWORTHY.

THIS TENDENCY HAS OCCASIONALLY BEEN DEFENDED ON THE BASIS THAT PATRIOTISM HAS BEEN ABUSED AND DISTORTED BY PEOPLE WHO USED IT TO CLOAK CRUEL AGGRESSION OR EMPTY VANITY. IT WOULD BE AS LOGICAL TO ATTACK THE IDEA OF PIETY BECAUSE HYPOCRITES SOMETIMES PRETEND TO POSSESS IT OR PARADE IT FOR EVIL REASONS OF THEIR OWN.

IT IS TIMELY, THEREFORE, TO EXAMINE BRIEFLY THE CHARACTERISTICS OF TRUE PATRIOTISM IN ORDER THE BETTER TO PROMOTE ITS DEVELOPMENT AMONG OUR CITIZENRY, AND TO PRAISE THOSE WHO HAVE STRIVEN TO EXEMPLIFY IT.

FIRST of all, true patriotism does not label itself or pay tribute to itself. Like true piety, it reveals itself in works not words, in deeds, not mere declarations.

Seeks Common Good

True patriotism includes in its devotion a desire for the preservation and defense of the fatherland's total heritage, moral as well as material, spiritual as well as temporal. Such patriotism worries as much about the evils which strike at the nation's spiritual integrity as it does about those which strike at its physical body.

True patriotism is always concerned more with the things that we all share than with what anyone of us has singly. It seeks the "common good" rather than individual advantage, the progress of the many rather than the privileges of the few.

The true patriot loves his country and prefers it to any other, but he loves it, partly at least, because of the service it is able and willing to render to the rest of mankind. He is proud of the resources of his

people and grateful for them to God himself, but he rejoices the more when such resources, even of a human kind, are dedicated to the service of other peoples as well as his own.

He wants his country to play its part in the economic, social, spiritual and political improvement of the race, and he expects his country to accomplish its full share in collective security against whatever would hurt mankind as a whole or any part thereof. Wherefore the true patriot doesn't loudly

Edited by



F/L PAUL GORIEU

denounce international communism at luncheon meetings only to shrill in protest when he or other able-bodied citizens are asked to take up arms against unprovoked aggression in any part of the world where the violent may wage war against humanity.

In Peace and War

True patriotism reveals itself on the battlefield and in military service. But it is not less active in days of peace and at home in the peaceful local community. The true patriot does not cease to be such when he puts aside his weapons and dons civilian attire. The same patriotism with which he once defended the common good now prompts him to enlarge and promote that good by the honest ballot in support of competent public officials and constructive legislative programs.

The true patriot is ready to suffer any violence, and even to inflict legitimate violence on the foe if the defense of his country requires that he do so. But he prefers the rule of law and the orderly settlement by

legal means of such conflicts as may admit of peaceful settlement. He is prepared to be patient and abide by the results of arbitration, due process of law and even diplomacy so long as these effectively prevent injustices which otherwise demand more forceful action.

True patriotism impels a man to give as much of himself as he can possibly dedicate to community affairs and to the service of the common good. The true patriot is never content to be a grandstand quarterback. He agrees with the bishop who recently told a group of men: "You have often been advised to keep out of politics because it is corrupt. It is corrupt because men who have had the advantage that you have had failed in their civic duty. If you find politics corrupt, go in and clean it up. Give freely of your time and talents from the precinct up to national levels . . . at least get into the scrimmage."

The true patriot seeks to foster patriotism in others in as many ways as possible. He is proud of his own personal or professional contributions to the national good, its development and defense, but he applauds the contributions of others who serve in different ways but with equal patriotism. If he is a priest, he appreciates the contribution of the soldier and begs God's blessing on it. If he is a soldier, he understands the importance of the scholar's contribution to the national good. If wealth, inheritance or privileged opportunity give him a place on the side of management or ownership, he is not blind to the part of labor but realizes its dignity and patriotic contribution. If he be a worker, he does not permit preoccupation with his own noble place in the national life to make him indifferent to or contemptuous of the part of others who may seem more fortunate.

And just as he delights in whatever is good and conducive to national stability, no matter who does it, so he is disgusted by evil and denounces whatever hurts his nation, no matter who is its author. He does not allow considerations of social class, school tie, political party or friendship to silence his scorn or pervert his judgment

when it is time to speak out against evil-doing. He will not turn his back on friends who need his help, but neither will he close his eyes to evil done by friends when this evil cries out for repudiation in the interest of national security and the common good of his fatherland.

Forgive the Penitent

Finally, the true patriot seeks the reconciliation of all those who should share the common good and contribute to it. For this reason, though the first to denounce the disloyal of his people against them, the true patriot is also the first to extend a forgiving hand to those who honorably acknowledge error and loyally return to their nation's service.

Wherefore, the true patriot is ready resolutely to expose and prosecute the disloyal, but he is even more willing to welcome back to the fellowship of patriotic cooperation any who have been misled. In this connection it seems to me that enlightened patriots in the present crisis of our country should seek by all possible means the early and easy return to their proper places in the community of those who have been duped into communism or like disloyalties by naive idealism, faulty education or pressures which they themselves now fully understand and are prepared to repudiate.

I often wonder how many people who are involved in the international conspiracy of communism remain in it still because of fear, including fear of what would happen if, responding to the voice of reason and the dictates of conscience, they quit the evil and returned to the ranks of the loyal. There must be many—as a matter of fact some of us know of not a few—who are completely disenchanted with the communist pretensions. They are revolted, intellectually and morally disgusted, by the crimes of communism against humanity and the threat of communism to everything they really hold dear. The chains of the oppressed in eastern Europe, the tears and torments of the refugees in Vietnam, Korea or Asia, bitterly afflict their hearts, trouble their

consciences and throw them into shamed confusion. They are looking for a way out of the communist apparatus in which they once became involved through ignorance, innocence or even misdirected idealism. They fear reprisal from the communists if they quit. The true patriot will not wish to increase their fears. He will be prepared to welcome them back to the community which needs their intelligence and their idealism and which, tardily, perhaps, but sincerely, they may still seek to serve.

The communist is guilty of grave crimes against patriotism. But so is the blind patriot who makes the return of the prodigal difficult or impossible. There is a great chance at the moment for enlightened patriotism to manifest itself by the provision it makes for the return to the ranks of loyalty of men and women who have honestly repudiated the Red conspiracy as the disloyal, inhuman and detestable thing they have finally discovered, through bitter personal experience that it is.

We have learned in time of war to distinguish between hatred of hostility and love even for the foe. We have fought to bring back into friendship men estranged from us as military enemies. Now in the uneasy peace of our day we have another but similar duty: to resist, to expose, to expel communism from our blessed land—but to keep alive our charity for its victims, the victims of its ideas as well as the victims of its violence. Hate the error, but cherish the erring. Fight the evil, but convert the evil-doer.

Editor's Note: This article, which appeared in a recent issue of "Our Sunday Visitor," deals clearly and extensively with an important subject, showing how patriotism is a virtue, which has its roots in religion. This article fulfills a twofold objective: that of clearly defining true patriotism and of shedding true light on the falseness of many modern "isms." The author is a great American leader and churchman, Richard J. Cushing, Archbishop of Boston.

CURRENT AFFAIRS

Edited by DR. L. A. GLINZ
Current Affairs Adviser—
Joint Services



PROFESSOR QUESTIONS AC2 CLUELESS

Professor Kernafares has been attempting to discover AC2 Clueless' Current Affairs IQ. He reports that he is amazed. Here are some sample questions and answers:

- Q. What is the name of a bombardment missile capable of carrying an atomic warhead for more than 75 miles and used against troops?
- A. The Sergeant-Major (Correct answer: U.S. Army guided missile, the "Corporal").
- Q. What prominent British statesman visited China in 1954?
- A. Att Lee.
- Q. Should airwomen be trained as pilots in the RCAF?
- A. Yes, Jacqueline Auriol of France and Jackie Cochrane of the United States have broken the sound barrier. Any woman can break the sound barrier.

- Q. The RCAF in 1954 added 10 Sikorski's to their strength. What are they?
- A. A family of ex-Russian communists added to the intelligence branch. They are relatives of the Piasecki's.
- Q. A U.S. Air Force F-84-F Thunderstreak jet recently flew from Los Angeles to New York (2,445 miles) in three hours, 46 minutes. Clocks in Los Angeles and New York showed the time taken as nearly seven hours. Explain.
- A. This is due to Einstein's theory of relativity which you wouldn't understand.

SELF-RATING SCALE

The Professor is working on a new rating scale to show knowledge of affairs. A rough idea of the scale is given below. Category "A" is for rating others; "B" and "C" are for self-rating.

- A. **Sub-normal**
Moronic, semi-ignorant, benighted, empty-headed, bewildered, unconscious, a d d l e-h e a d e d, dense, simple, idiotic, dull.
- B. **Normal**
Intelligent, well-informed.
- C. **Abnormal**
Brilliant, erudite, scholarly, egg-headed, exceptional, encyclopedic, masterly, super-cerebral.

Note: The questions and answers just given were in lighter vein. The questions which follow are a more serious test of your knowledge of what's going on. Answers are on Page 36.

Part A:

True or False?

- Oil direct from some Manitoba oil wells can be satisfactorily used as fuel in your car.
- Manitoba's oil wells now produce approximately 9,000 barrels a day.
- Made-in-Japan cigarette lighters that look and work like Ronsons are selling in Canada at 98 cents. (Is this good or bad?)

- In the important Indian state of Andhra, despite Nehru's personal campaigning, the Communists won a sweeping election victory.
- France's new Premier, Faure, has broken completely with the foreign, colonial and economic policies of his predecessor, Mendes-France.
- The riot in Montreal (17th March, 1955) was caused by the firing of a "Rocket."
- Sir Douglas Copland, Australian High Commissioner in Canada: "Australia has over 125 million sheep."
- Canada's population is over 16 million; Australia's over 12 million.
- The British Government and the Australian Government operate jointly a guided missile range at Woomera.
- The A.F.L. (American Federation of Labor—10 million members) and the C.I.O. (Congress of Industrial Organizations—5 million members) plan to form one big labor union in the U.S.

President Eisenhower has refused to give France assurance that U.S. forces would stay in Europe as long as a threat to that area exists.

- South Viet Nam's premier, Ngo Dinh Diem, is strongly pro-French.
- Communist North Viet Nam is critically in need of South Viet Nam's surplus rice.
- It is reported that Mr. C. M. Drury, very able Deputy Minister of National Defence, will soon resign his \$20,000-a-year job to take over a family-owned business.
- Canada will complete this spring a \$50 million transcontinental chain of microwave relay towers to link Canada's 25 TV stations.
- Canada's newest and greatest uranium field is in the Algoma country, near Sudbury, Ontario. A British company has put up over \$50 million for the Algoma Uranium Mines, Ltd.
- The French Ministry of Education is re-writing history books for schools to eliminate anti-German references.

- The U.S.S.R. has offered to give an international atomic energy organization 200 pounds of atomic materials for the peaceful uses of atomic energy.
- Gerry James, of the Winnipeg Blue Bombers, received \$1,000, a trophy, and a diamond tie bar as Canada's most outstanding football player for 1954.
- TCA has been authorized to operate a trans-Arctic service between Vancouver and Amsterdam.
- Matsu and Quemoy are part of the Pescadores islands near Formosa and their unconditional defence by the U.S. has been promised.
- Prof. Bruno Pontecorvo, Italian-born British scientist, who went over to the Russian side, has recently praised the opportunities for scientific research he has been given in the U.S.A.
- The U.N. Secretary-General who recently visited Communist China is Dag Hammarskjold.
- Cape Breton Island has been joined to the Nova Scotia mainland by a causeway.

Part B: Find the False Statement

In each of the following items there is one false statement. See if you can locate it.

- In Egypt
(a) General Naguib who was going to end the military

dictatorship has been replaced by Colonel Nasser, who will delay the return to democracy.

- Britain has agreed, with certain provisos, to turn over the Suez Canal to Egypt.
 - To promote Egyptian-Israeli peace the U.S. has refused to make loans for the purchase of military equipment and for economic development.
- In Japan
(a) Yoshida, who has headed the government since the war, was defeated in the recent elections by Hatoyama of the "Liberal" party.
(b) The Communists won only 2 seats.
(c) All parties favoured the resumption of diplomatic and commercial relations with China.
(d) The new government favors conscription to provide adequate defence forces.

3. In Britain

The Labour Party's chances of winning an election, perhaps this autumn, have been made very doubtful by the split between Mr. Attlee, ex-Prime Minister, and Mr. Bevan, fire-brand of Labour.

(Continued on page 32)

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CUCKOO IN KENT

By ERIC NICOL

(From "Twice Over Lightly"—courtesy Ryerson Press)

A CUCKOO cooed. I looked out my window across the lovely fields of Kent bright with morning, and plucked my shaving brush nervously.

The Colonel and his wife, ardent supporters of the white man's burden, had invited me down for the weekend. I knew their niece and they wanted to know how well. The Colonel had put me in a room full of bullets and relics of battle. I had slept restlessly and been awakened by a strange old woman bearing tea whom I assumed to be either "Nanny" or one of Macbeth's witches.

Now I stood in my dressing-gown listening for some sound of other people getting up.

I wasn't sure what time English gentry rose on Sunday morning. I didn't want to barge off to the bathroom ahead of cue. I coughed and listened for an answering cough. Silence.

Putting a towel around my neck I tiptoed to my door and opened it very carefully. I put my head out the door and looked straight into the eyes of the Colonel. His head

was just far enough out his door for me to see that he had a towel around his neck.

"Well, so you're up at last," he said hoarsely.

"Yes, sir." I had been up for a little over an hour, or long enough to have a bellyful of cuckoo.

There followed the verbal pas de deux of Waving the Other Chap Through to the Bathroom—"You go ahead," "No, no, you," "No, I'll wait," etc.—a ritual as classic as the mating dance of the whooping crane.

I went in first. I was no sooner hacking away at the stubble than I saw the doorknob turning. Perspiring slightly, I hacked faster and was soon searching shelves for a styptic pencil. The doorknob resumed its revolutions, with a definite effort being made to pull the door off the bolt. I wondered whether Emily Post had covered this particular situation, whether the incumbent should release the bolt, throwing the exterior party off balance, or merely shout some word of encouragement, or sit tight and trust the hinges.

Having hurriedly brushed the four teeth that showed, I darted back to my room and closed the door, panting.

"Coo-coo!" cooed the cuckoo.

Dressed, I went downstairs to wait for the others. I was idling in the hall when I happened to glance into the dining-room. The others were all there, waiting.

They were sitting around the table in pyjamas and dressing-gowns, unwashed, unshaved, but obviously disgruntled because they hadn't been able to get into the bathroom at all.

My impulse was to run upstairs and put my pyjamas back on. A creaking stair gave me away, however, and I was called into the dining-room. I felt awfully small, but they could still see me. They could see I was overdressed for an English Sunday breakfast. My four brushed teeth shone blatantly. In a glade beside my ear a merry brook of blood showed I'd shaved. I couldn't have felt more colonial if I had been wearing ostrich feathers and a bone through my nose.

"Sit down, Canada," said the Colonel, secretly pleased, I thought, with this evidence that the Dominion was not ready for self-government. To demonstrate how cold the toast had become, he took a piece from the rack and broke it. It went off like a pistol shot.

"How did you sleep?" asked the Colonel's wife, leaning forward so that her negligee made me fumble the bran flakes.

"On my stomach," I said. I was flustered.

After that conversation languished while everybody but me read the Sunday papers. I just bled quietly.

And a cuckoo in Kent cooed "Coo-coo!"

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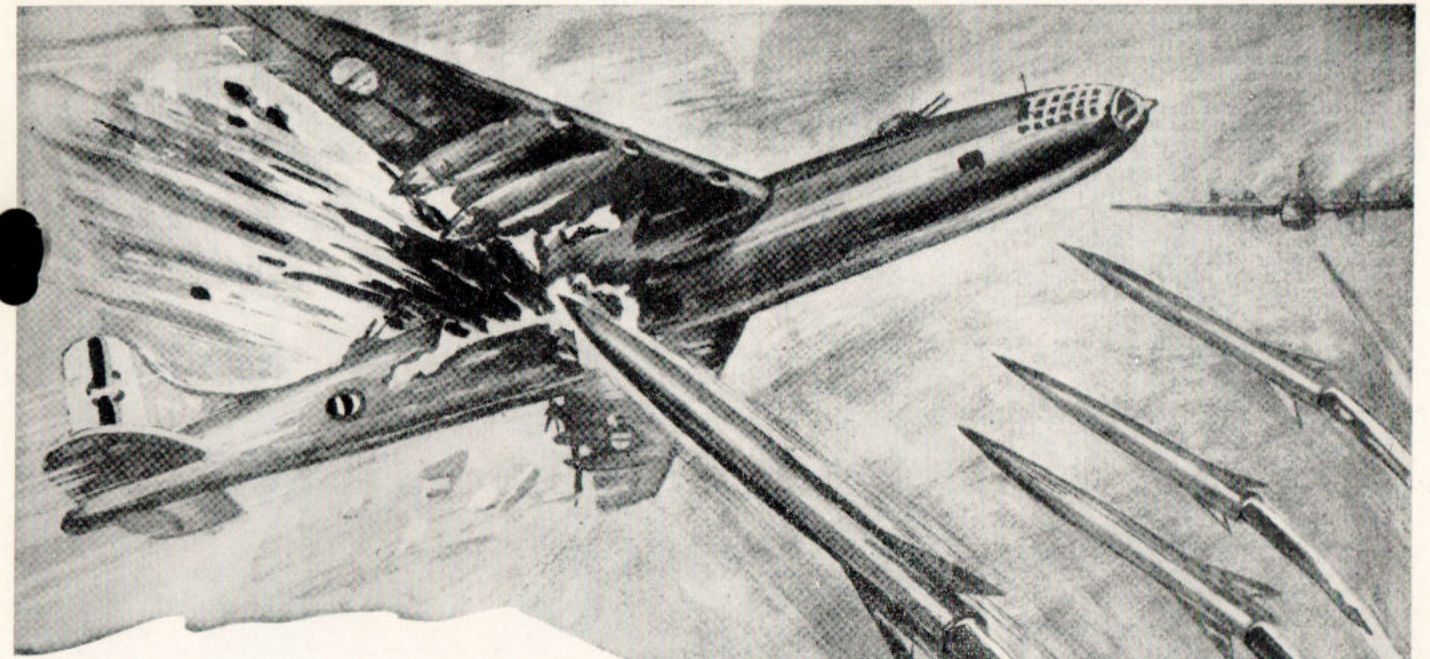
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Canada's Secret Research On GUIDED MISSILES

By ROBERT TAYLOR

Canada is on the path to tomorrow's warfare as she develops a delicate but deadly 'black box' that may make warfare unthinkable

THE fighter pilot, most glamorous of modern warriors, may be on his way out, to be replaced by a superhuman small "black box" that is the heart of guided missiles.

And if it comes about, Canadian research men working on the Canadian guided missiles program will have contributed in some degree to this military revolution that is now in the making. Such things have happened before. The archer made the knight in armor a military has-been and was, in turn, outmoded by the man with the gun.

Nearly five years ago Canada started work on guided missiles. Tighter security rules have been maintained on this work than any ever before employed in Canada on a military program. Even the nickname of the "bird" they have developed is a secret.

But now, for the first time, the RCAF and the defence research board have granted a joint interview to tell Canadians the why, how, when and where of the multi-million-dollar program.

The "bird" is nearing the end of the development stage. So far it isn't in production and no decision has been made to produce it, though it was designed to add the Sunday punch to Canada's great fighters, the CF-100 and the Sabre.

The first official, full-scale flight tests will be made this winter at Cold Lake, the great

new weapons range on the Alberta-Saskatchewan boundary. The tests, according to A/C J. A. Easton, chief of the RCAF armament division, will be the fully operational missile, guided to its target by computing mechanisms.

After these tests, it will be up to the national defence department to report on it to the cabinet, and the cabinet then will decide whether the Canadian-designed bird or some of the U.S. or British missiles will be mass-produced in Canada.

It may be that later on Canada will be producing other varieties of guided missiles, such as ground-to-air, air-to-ground and ground-to-ground missiles. As Rt. Hon. C. D. Howe, minister of defence production, explains: "For the present, our attention is restricted to missiles of the air-to-air variety, but we expect to produce these devices in any form, when acceptable types are available and when our requirements reach a level at which production in Canada becomes economically sound."

Progress is recent.

HOWEVER, even if the Canadian missile is passed over—and there is no indication yet that it isn't the best of its kind in the world—the money, time and military and

(Continued on next page)

Courtesy The Star Weekly and Star Newspaper Service

(Continued from previous page)

civilian brains employed on the project will not have been wasted.

Here, to tell the story of the Canadian guided missile program and the tremendous values already obtained from it, are Dr. J. J. Green, brilliant division chief of the defence research board, and W/C C. F. Phripp, armament evaluation expert of the RCAF.

"All military thinkers after World War II realized the potentials of guided missiles in war," said W/C Phripp. "In 1950, the RCAF decided to draw up requirements of guided missiles that would extend the capabilities of the interceptor force then being initiated."

As Lord Tedder, marshal of the RAF, points out, postwar developments "have tended to aid the bombers as against the defence."

Modern jet bombers fly 600 to 700 mph at 40,000 feet and are more heavily armed defensively than in World War II. "Even in that war, for a fighter to approach within effective range of the rear of a bomber or bomber formation was an invitation to sudden death," said Dr. Green.

"Since the war, the great progress in aircraft development has not been matched by a similar record of improvement in (conventional) aircraft armament. In fact, only within the past year or so has there been any progress at all," Dr. Green said. As well, he added, "It is now possible for modern long-range bombing aircraft to reach any important area of Canada from a potential enemy country."

The RCAF knew it would have to defend Canada in all weather, day and night, against high-speed bombers. They knew the weaknesses of planes with conventional armament; they had to be at comparatively short range to aim accurately enough to get a kill. The danger of being shot down or of colliding with the enemy craft was great.

In World War II in Britain the shooting down of 10 of 100 attacking planes represented a defensive victory. In these days of the atom and hydrogen bomb, one bomber getting through to a vital target is clearly one too many. The modern requirement for a defensive victory is a 100 per cent. knock-down.

The guided missile and new fighter aircraft seemed to many in the RCAF the probable answer. There was much to recommend the guided missile, explained W/C Phripp. "It can be used in all weather, day or night. It has greater range and there is less need of accuracy in aiming it."

Device Equal to Battalion.

SO the RCAF came to the defence research board. "They felt that Canada must get a stake and a start in the future of guided missile department," said Dr. Green. "After consultation with the U.S. and the U.K., Canada reached the decision, supported by the U.S. and the U.K., that we would contribute to the knowledge of guided missiles by developing an air-to-air missile that would supplement or possibly replace the conventional gun armament."

At the same time, the U.S. proceeded with their guided missile developments, all of which are monitored closely by both DRB and the RCAF.

The British developed air-to-air guided rockets and two surface-to-air missiles, one guided by radar and one a "homing" device. "When the RCAF came to DRB in early 1950, we foresaw this would involve a lot of work by various organizations, such as the National Research Council, and later on by industry," Dr. Green said. "We concluded the only place with a nucleus of know-how was the Canadian armament research and development establishment (CARDE) at Quebec.

"The first thing was to develop a mock-up and test it in the NBC wind tunnel, and to begin the system design. There is, at CARDE, an electronic analogue computer that was used. This device was equal to the employment of a battalion of calculators, for it showed the project engineers what would happen to the missile with changes in the characteristics of the components being tested.

"We decided to get industry into the program as soon as possible to assist with the design and to make components. It is a great thing that Canada is getting industry integrated into this vital new field. Canadaair was brought in and we were soon ready to make the first firings of a test vehicle. By the end of 1951 we first fired the carcass (the model without the necessary internal components) for the first measurements of the aerodynamic characteristics.

"This flight was plotted with kinetheodolites to get the path. Gradually, as the components were developed, they were put in and the carcass got more complicated as we proceeded," Dr. Green said.

"At this stage," W/C Phripp said, "the RCAF became a very active participant in the development. A B-25 Mitchell was fitted up to carry the missile guidance system and flights were made at CARDE to see if the guidance mechanism (within the device) was telling the device to do the right thing, and if the control mechanism was obeying these instructions.

"These air tests were done in the spring of 1953 and development of the 'bird' is proceeding satisfactorily," W/C Phripp added.

"It has been extremely helpful that production people from industry came into the problem at an early stage in Canada," Dr. Green said. While the scientists and technicians were learning how to make it work, industry was learning how to make it.

As missiles are likely to be required in large quantities, the design must be watched closely at all stages to ensure ultimate mass production. By having industry in from the first, Canada has made sure that the final design will be one that can be mass-produced.

"The importance of all this work is that the techniques for an air-to-air missile are very similar to those for a surface-to-air missile," Dr. Green explained.

"Some time in the dim and distant future it may well be that a surface-to-air missile will supplement or perhaps even supplant the manned interceptor fighter, and if this is so it is most important that our own industry should have the necessary kind of know-how in this field."

(Hon. Brooke Claxton, then minister of defence, told military men in the west last spring that the successors to the CF-100 and F-86E would be planes with pilots, but perhaps the successors to these planes would not carry pilots.)

"Black Box" Does Job.

"BECAUSE Canada is doing this air-to-air missile development we are getting U.S. and U.K. assistance," Dr. Green said.

"The activity we have been in since 1950 in this program will stand us in good stead in the guided missile field in the future. The team we have built up by working on this project is a valuable asset for future defence.

"The intimate role that industry has played in this whole project assures that there will be a smooth path to production if we decide to produce this missile. Constant testing of components is going on all the time and the things we discover have to be reflected in redesign of the missile."

While Canada is sharing her new techniques and discoveries with her partners, the U.S. and the U.K., it is not disclosing anything to anyone else, especially how the guidance equipment within the missile directs the weapon toward the attacking bomber that is its target.

The Japanese used human pilots to direct their planes on a suicide course. In the Canadian bird it is a little "black box," as it is sometimes called, that does the job.

If the enemy bomber manoeuvres, this information may be transmitted to the rocket-power missile by a variety of systems, including visual guidance by line of sight, guidance in a radar beam, guidance by instruction passed to the missile by a command link system or the missile's own target-seeking device. The heat of the enemy bomber's engine might guide it as a moth flies to a candle.

Canada isn't saying how her bird works, for if a potential enemy knew, he could start immediately preparing a method to interfere with it and misdirect these deadly,

delicate killers as they speed towards enemy bombers.

This guidance equipment, which must give accurate, unambiguous information to the control system, is one of the most difficult problems of guided missile development. The equipment must be highly miniaturized, robust, reliable, relatively cheap and capable of reliable operation after prolonged storage and under adverse conditions of acceleration and vibration.

It passes on its guidance to a servo mechanism which handles the mechanical movement of the controls, changing the course of the missile as it speeds towards its enemy oncoming bomber.

The Canadian missile won't replace the fighter pilot. It is designed to make him, perhaps, twice as tough a bomber-killer and to more than double his chances of getting away from such a kill unscathed.

But many air experts, like Dr. L. W. J. Newman, formerly in charge of Britain's rocket development, think guided missiles will "finally displace the interceptor fighter completely." Dr. Newman goes on to say, "The guided weapon effort is costly, but the ultimate prize is great, namely, an increasing degree of immunity from air attack which may result in making air aggression unprofitable."

One of Canada's best-known physicists, Prof. G. M. Shrum of the University of British Columbia, goes a little further. He thinks that when they reach their ultimate form as intercontinental guided missiles with atomic warheads they will ensure permanent world peace. His idea is that with such weapons the certainty of instant and massive retaliation would make aggression unthinkable.

In any case, after nearly five years of effort, Canada is well along the path to the warfare of tomorrow through her guided missile research and development program.

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ADVERTISERS

BOY SCOUTS
51st (RCAF) WINNIPEG SCOUTS
AND CUBS

are holding a
THEATRE NIGHT

7.30 p.m., Tuesday, April 12th
Clifton Webb in

"THE SCOUTMASTER"

The purpose of the "Theatre Night" is to raise funds to send a leader and two scouts to the World Jamboree at Niagara-on-the-Lake in July, and to send boys from the group to Summer Camp.

Tickets will be on sale on the station from March 31st onwards — in canteens, hangars, at pay parades, and by scouts in uniform in various buildings — price 50¢ each.

ADDED ATTRACTIONS
● Fashion Show by leaders of the St. James Group.
● Skit by members of the 51st Group.

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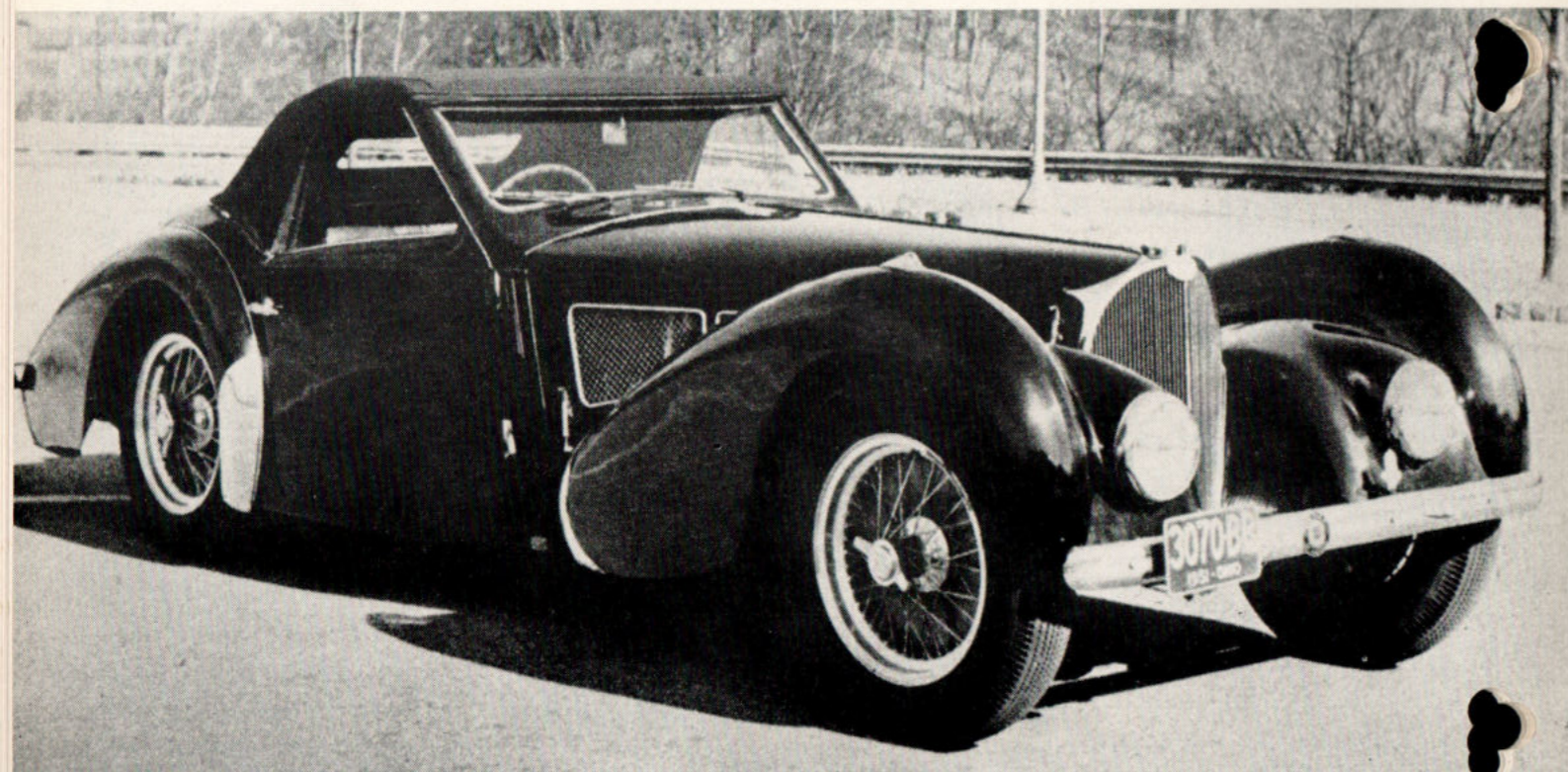
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- ★ TOM COLLINS
- ★ LIME RICKY

DREWRY'S

DRY GINGER ALE

"THERE'S NOTHING LIKE A BUGATTI, AND THERE NEVER WILL BE!"



The most attractive of all sports Bugs, the 57SC built during the late thirties, will still do 130 with ease.

Up to the present I have committed an awful social error in the car world, for during the past year in this column I have failed even to mention that peer of all cars—the Bugatti. However, I hope I'll be redeemed with this article which is devoted to that incomparable genius Ettore Bugatti—"Le Patron."

BUGATTI was without doubt a Michelangelo in metal; his designs were as much artistic creation as they were motorcars. Bugatti was a Milanese, but his fabulous factory was in Molsheim, France (Alsace). It is almost sacrilege to call that baronial workshop a factory; it was far more like the armoury of some bygone king, but with standards of precision and almost surgical cleanliness that have never been seen before or since. Even the vises were finished like jewels, each with the Bugatti crest. In Molsheim cost was of no consideration and cars were designed whenever Le Patron had the whim. Nor was this a fake reputation, for during the roaring twenties Bugattis reigned supreme the world over. In 1927 they achieved 806 first places! They won more races than any other car has ever done. In fact, they won more races than all other makes put together! Once you have caught the disease known as "Bugattitis" you are lost forever. If you are ever lucky enough to come up against one of these old "crocks" don't bet on yourself, even

BUGATTI

Material drawn from:

Stein—"Sports Cars of the World."

Purdy—"Kings of the Road."

"Road and Track, Nov. 1953.

By

F/O PETER McLOUGHLIN

if you own a 1955 Olds 88, for that "Bug" will probably still bat off 130 or more without any trouble.

From 1909 to 1939 Bugatti produced 36 models, four of which stand out. These are the Type 43, The Bugatti Royale, the Type 55, and the Type 57SC. The Type 43 was the sports version of the 35, the most successful racing car of all time. These cars had an 8 cylinder, 2,270 cc engine and were supercharged. They developed 120 h.p. at 5,000 rpm. and could better 100 mph. The valves were operated by fingers from a single overhead camshaft. Bugatti never worried about maintenance, and roller bearing con-rods and crankshafts, and non-detachable cylinder heads were common. The chassis was normal except for a beautifully polished tubular front axle, with square openings for the springs to pass through. These were subject to much speculation—no one could figure out how Bugatti made them, for the hole inside the tube grew smaller at the ends. The sound of the 43, like the 35C, being fired up is a mad symphony. One

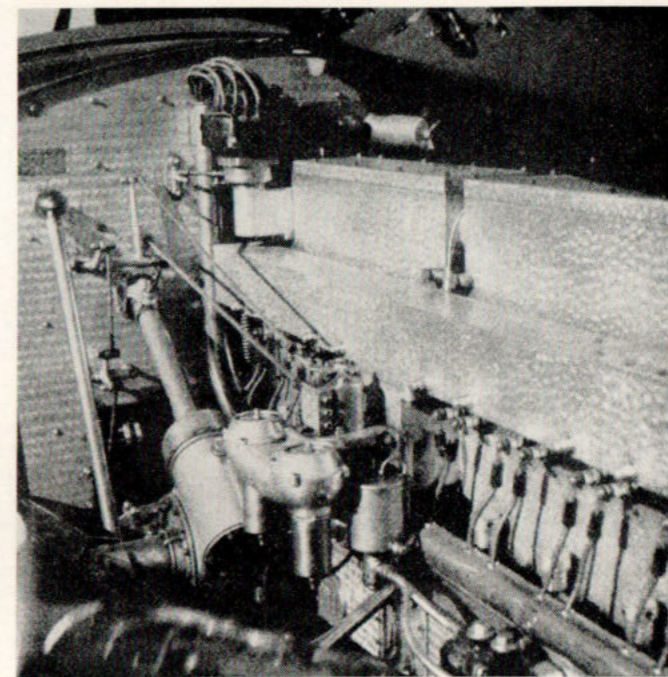
advanced "Bugattiste" made a ten minute recording of it. "Let me make this the last thing I hear before I die," he said. It is hard to describe, but the discerning ear can pick out three phases. First, the excruciatingly sharp crack of the exhaust, a high level ripping sound; second, the characteristic growling, rattling, "bucket-of-bolts" sound of the roller and ball bearing engine. (A Bugatti in good shape always sounds as if it were about to fly to pieces.) Thirdly, the siren like scream of the supercharger as it rises and falls. Ah, joy!

The Golden Bug or the "Royale" was supposed to have been the result of a chance dinner remark when an English lady mentioned one still had to go to Rolls-Royce for the ultimate in genuine elegance. This was the car to shame them all — wheelbase of 170 inches! A straight eight engine of 12½ litres (three times as large as a Cadillac). It would range in speed from a smooth 3 mph. to a perfectly steady 125. The engine was to be machined to zero tolerance. The chassis would sell for \$30,000—and what of it! From engine to radiator was merely seven feet! The crankshaft weighed at 220 pounds. With each car the purchaser got two things, a life guarantee for free service and overhaul, and a white elephant! Unfortunately the depression spoiled the market for \$40,000 cars, and only seven were built. Bugatti kept one, and the other six are still running in perfect order, three of them in the States.

The Type 55, which came out in 1932, was perhaps the greatest sports car ever produced. The engine was a twin camshaft version of the 35B, with 9 bearings for each camshaft. The conrods had roller bearings, and Mr. Stein shivers at the thought of when he had to replace a burnt out bearing, which involved taking apart the ten piece crankshaft and waiting ten months for Bugatti to make a replacement! The magneto was driven by one of the camshafts, and stuck out of the dashboard. Lubrication was by Bugatti's pet system of jets which squirted oil at the crank pins as they came by. Fine — until a jet clogged . . . The car had the same aluminium-spoked wheels that were fitted to the racing cars. These were the ones that had the brake drums cast integrally with the wheels so that quick changes of brake shoes were possible during a pit stop for a wheel change.

Very simple two-seater bodies were fitted, with cut away sides and ugly fenders, but both seating and visibility were perfect. Steering and roadholding were magnificent even by Bugatti standards, and it was possible to do 0 to 60 in 9 seconds. Maximum speed was 120, with 100 in third gear.

When the first Type 57's appeared in 1935 there were wails that Bugatti had one "Buick," but the wails soon changed to panting desire. The original car (8 cylinders and 3.3 litres) developed 130 h.p.; supercharged, this changed to 160 h.p.—57C. The sports version, the 57S, had higher compression, a lower chassis and fantastically complex De Ram shock absorbers (\$1,000 a

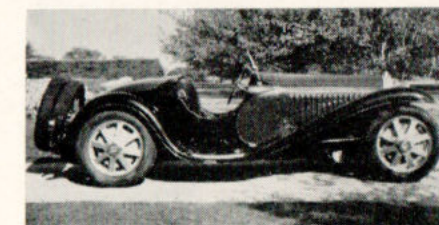


Three-quarter front view of the Bugatti "Royale" engine, built of alloy, engine-turned all over. Roughly three times size of a 1953 Cadillac!

pair!). The supercharged form was almost a racing car and developed 220 h.p.

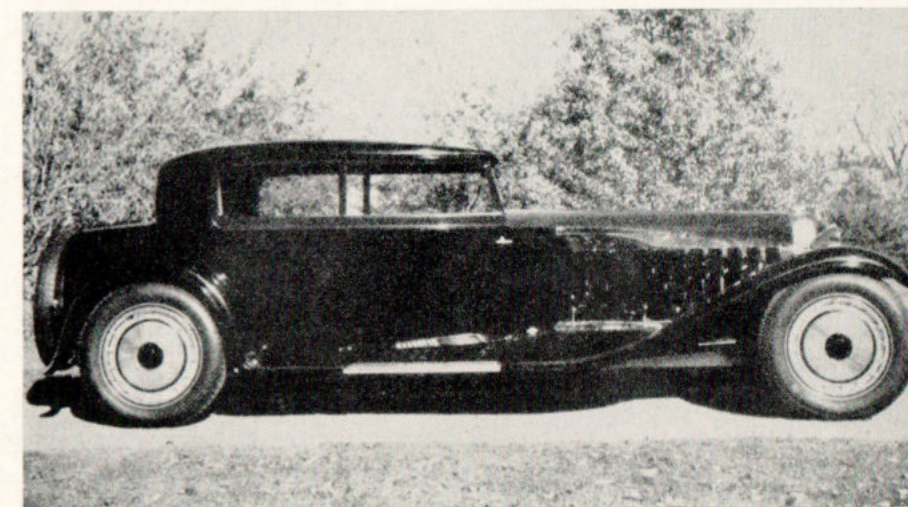
Le Patron had always been contemptuous of independent suspension, but he compromised by splitting the beautiful, polished steel front axle in the middle and joining the halves with a collar. This allowed an almost imperceptible amount of independence for each front wheel. He felt that the ultra fancy De Ram shock absorbers, which automatically adjusted themselves to road conditions, were sufficient answer to the independent suspension school.

All the Bugattis, right up to the end, still had the beautiful finish for which they had been known. The polished axle, the finned and much bolted rear end casing, the deeply finned and carefully finished brake drums and the wonderful six bearing crankshaft machined from one solid piece of steel. The war put a stop to the 57's when the Germans took over the factory. Le



One of the prettiest of the many Bugatti models was this Type 55, a super-charged straight eight, essentially a racing car de-tuned for road use.

Patron struggled on for two years after the war, and there were rumours of other designs, but since his death nothing of note has materialized. However, Bugattis are at last coming back into racing with a Formula 1 car this year; this was copied directly from Ettore's plans, made just before his death. It will have a chassis weighing only 150 lbs, an 8 cylinder engine (two 4's joined together), and will put out 260 h.p. for 2500 cc's. Total weight will be 1200 lbs. Therefore, if luck holds we may once again see roaring blue Bugattis racing around to victory on the world's tracks.

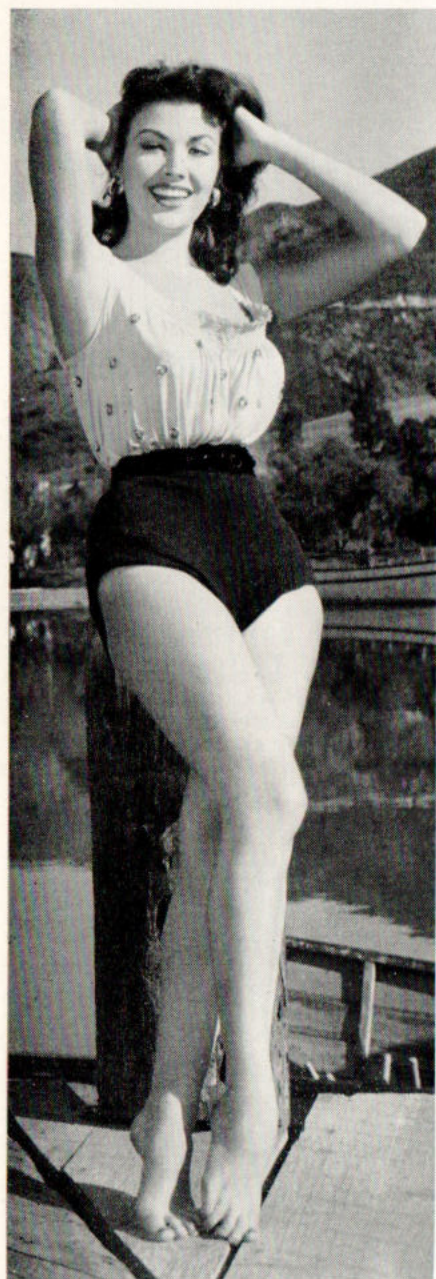


Biggest passenger car ever built: the Type 41 Bugatti, called "La Royale", or "The Golden Bug." Only eleven were built and they cost \$20,000 minimum.



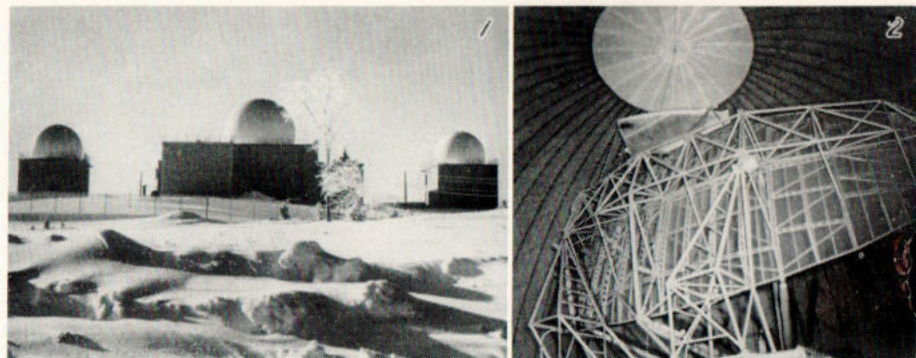
Edited by F/L R. W. GELLARD

"American Beauty"



Mara Corday

When movie audiences spotted Mara in such U-I films as "So This Is Paris" and "Francis Joins the WACS" they predicted stardom. In her next picture, "The Man From Bitter Ridge," Mara stars with Lex Barker and Stephen McNally.



RCAF RADAR SCANS SKIES

For the first time, security has been lifted to allow photographs to be published of the multi-million dollar radar network stretching across Canada. The code name of this vast chain of stations is "Pinetree."

At this station, 280 highly trained RCAF experts are constantly watching the radar scopes, on the lookout for both friendly and enemy aircraft.

The station covers over fifty acres of a bleak, snow-covered hill, but this is considered "home" to the RCAF men, women and families. There are seventy separate buildings, including a grocery store and soda fountain, hospital and fire hall, and school and married quarters.

This station, situated somewhere in eastern Canada, is typical of the many radar stations that form the "Pinetree" chain of defence.

(1) These domes are for defence—This is an exterior view of the "nerve centre" of one of the RCAF's radar stations somewhere in eastern Canada. Beneath the dome, men and women of the RCAF are busy 24 hours a day scanning the skies with the use of radar scopes.

(2) Each of the three domes contains an antenna. This photograph shows a close-up of one of the constantly revolving antennae.

NATO Left Flank Open

KOLSAAS, NORWAY—The left flank of the free world, extending 1,500 miles from Schleswig-Holstein to North Cape, in Norway, could not resist a major attack with its present defences, according to the consensus of military experts. Gen. Sir Robert Mansergh, who is responsible to the North Atlantic Treaty Organization for the defence of this northern flank, would need reinforcements and need them quickly to maintain his frontiers, which include Norway, Denmark and Schleswig-Holstein, the West German area at the base of the Danish peninsula.

Intercontinental Missiles

WASHINGTON—The U.S. Air Force revealed the other day that it is working on intercontinental atomic missiles that could be fired against Moscow from bases inside the United States. The disclosure brought renewed warnings from Sen. Stuart Symington, D., Mo., that Russia may be ahead of the United States in developing push-button warfare. The Air Force missile project, known as the Atlas, was confirmed by Gen. Nathan Twining, Air Force chief of staff, who appeared before the committee in closed session Feb. 24. Gen. Twining told reporters that work on the Atlas being carried on by Convair division of General Dynamics Corp. is "just getting along." He said, however, that another long-range missile, called the Snark, is "coming along fine" and already has been tested.

Wrens For Regular Navy

OTTAWA—Canada's Wrens are going into the regular Navy—the first time in Commonwealth history the women have been made part of a regular naval force. Defence Minister Campney, in making the announcement, said the ceiling for the new component of the RCN will be 35 officers and 365 Wrens. The present Wren reservist organization will remain, but its members will be given the first opportunity to join the regular Navy and make a career of it. The intention, Mr. Campney said, "is to provide a nucleus of well-trained personnel who will be capable of training the influx of women to the Wrens that would be necessary in the event of total mobilization."



(Photo by Ford)

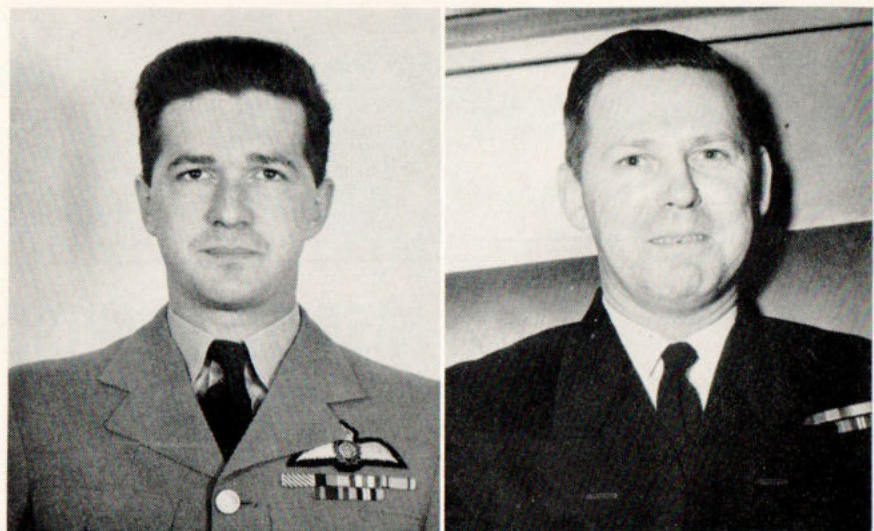
During the Service of Reception at the Protestant Chapel on Christmas Eve, the two young ladies pictured above were admitted into the Church. Left: Patricia Evelyn Finlay (daughter of Flight Sergeant R. F. Finlay of Central Warehouse) and right: Wendy Susan Mary Gilmour (daughter of Flight Lieutenant R. A. Gilmour, 14 Training Group Headquarters).

Finger To Future Of Winter Flying

TORONTO — De-icing equipment which makes Canada's CF-100 an "all-weather" fighter is being tested now by the Department of Transport for possible use in commercial aircraft. The CF-100 system, now under study by DOT, is the first fully automatic ice detection and shedding system perfected. Its vigil is constant. The ice detector itself and shedding controls are manufactured by PSC Applied Research Ltd., under license by the National Research Council of Canada which designed the basic system.

New Appointments

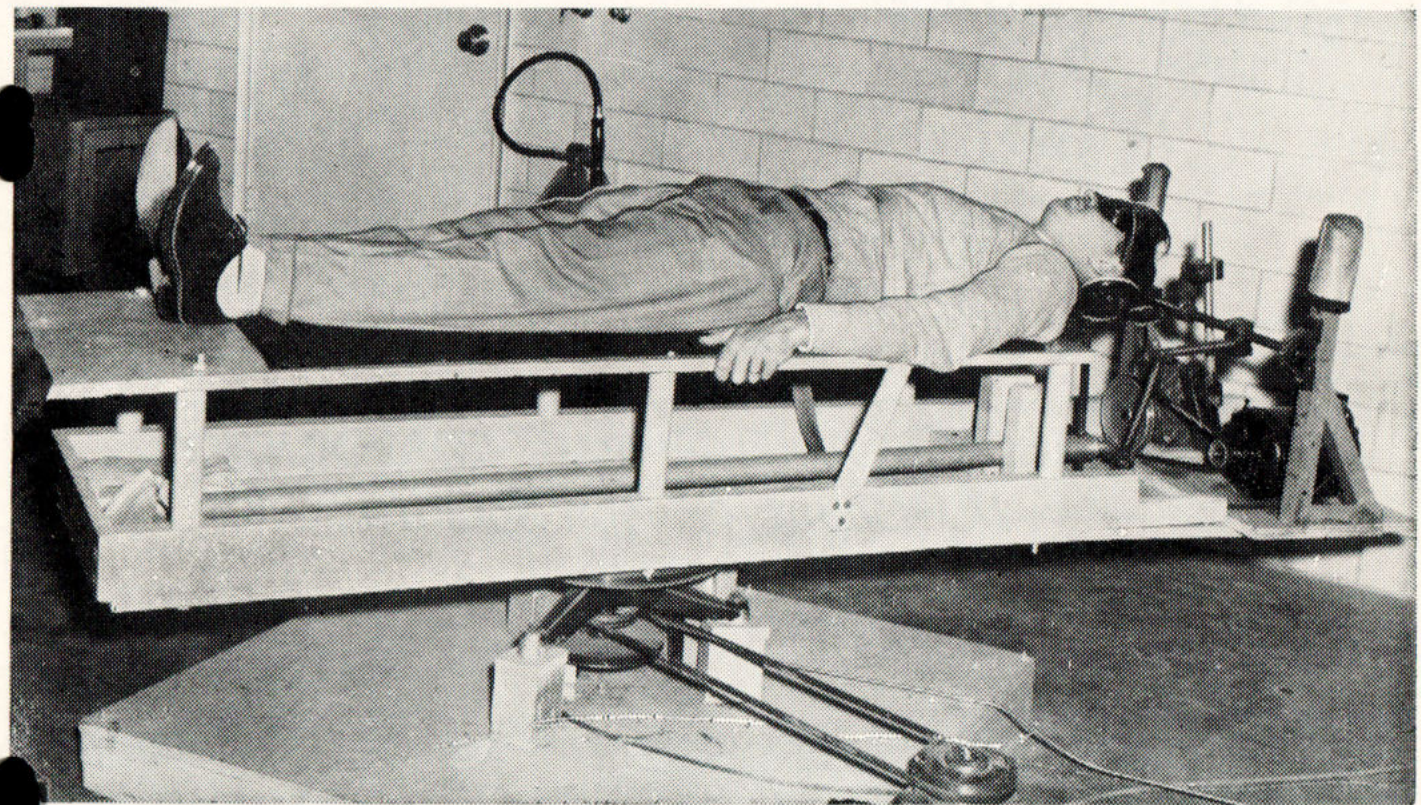
OTTAWA—Wing Cmdr. K. W. Walton, 44, son of Mrs. A. E. Walton, Central Greenwich, King's County, N.B., a former member of the armament branch at Air Force headquarters here, has been transferred to air material command headquarters as senior armament officer, the Air Force has just announced. He replaces Wing Cmdr. R. M. Trites, 40, of Moncton, who has been transferred to RCAF Station, Cold Lake, Alta., as chief technical staff officer.



(Photos by Dept. Nat. Defence)

NEW JOBS FOR CASSELS BROTHERS

Above are pictured (left) F/O S. C. Cassels, RCAF, and (right) his brother, Lieut-Comdr. Ernest S. Cassels, RCN, who have both recently received postings. F/O Cassels was a navigation and AI Instructor at Winnipeg for three years and is now on the instructional staff at the OTU, North Bay, Ontario. Lieut-Comdr. Cassels has left for the west coast where he will take command of the coastal escort vessel HMCS Brockville.



(Toronto Globe and Mail photo)

Downsview Research Aimed at Air Nausea

TORONTO—There's a torture chamber up at Downsview, just north of Toronto. It's a bright, 2-story room of the Defence Research Board's Medical Laboratories. Chief torturer is a soft-spoken physiologist, Dr. Walter Henry Johnson. He doesn't make people sick just for the fun of it. The idea is to make high-speed flying safer. As an indirect result of his experiments in trying to nauseate 600 paratroopers at Rivers, Man., the Judge Advocate's department of the Federal Government is preparing to license manufacture of a device that will make flying more comfortable for airline passengers.

NHA HOMES — 2, 3, 4 BEDROOMS

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PHOTOGRAPHY
BY BILL JASZEWSKI.



LIGHTING AND COLOUR FILM

In the last issue we discussed colour film, and briefly touched on lighting. Lighting is so important in colour pictures that in this issue we will devote this column to that subject alone.

THE latitude of black and white pictures is great. There may be a great difference of tone ranges from the lightest to the darkest areas of the picture. In colour film this latitude is rather restricted, to the point where a good photograph would not have its lighter area more than ten times as light as its darkest area. This particularly holds true when taking pictures of people. Because of this restriction of latitude, a lot of people habitually take pictures with the sun behind the camera. This gives the subject flat light or even light. In most cases this is very acceptable. Unfortunately too many people hold to this theory too rigidly, and let good pictures pass them by because they would not dream of having the sun in any other position except behind them. The rule of keeping the lighting contrast down to ten to one is very well for close-ups of people, or very familiar objects, but here we will create a paradox and state that in certain cases this rule should be broken.

Landscapes taken with the sun behind the camera appear flat in the print, and no wonder for the light upon the subject was flat. To give this same subject further dimension the picture could have been taken with the light from the side. This would toss shadows at different depths in the picture giving each plane separation and thus the illusion of third dimension. If we can make a rule on this we could say that landscapes should be photographed with side light. To go a little further, if the land-

scape is a "snow" scape, the sun should be little more forward still. This would give sparkle and life to the scene whereas a backlit shot would be drab, even on a sunny day. Remember to use a sun shade over the lens of the camera to prevent flare in the image caused by direct rays from the sun reaching the lens.

Never miss the opportunity of taking pictures of sunrises or sunsets. They are beautiful to see and still more beautiful to record on colour film. In taking photographs of this nature, the sun is shining directly into the camera. Exposure calculations here might seem difficult. They need not be. First, do not take the picture until there is the possibility of the sun darting behind a little cloud in its descent. This way you will keep the sun from registering too strongly on the film. If a metre is used to calculate the exposure, do not calculate the exposure from pointing the metre at the sun alone. Take one reading of the sun, and one of the zenith. The average of the two should be just about right for perfect rendition.

A photographer should never place heavy restrictions on himself as far as lighting is concerned. It is nice to know a few rules that will prevent total losses, but deviating from the main rules here and there is fun and sometimes proves startlingly acceptable. Try it next time you're out shooting colour film. Try photographs into the sun, sidelit, and backlit; your results will prove interesting.

BUSINESS—

Trends and Comments

By ART GAUTHIER

The town of Virden, Manitoba, has caught the oil fever. After watching wells come in all around the town limits the local council has negotiated leases for drilling rights on vacant and occupied lots with a Calgary drilling company. Twenty-one new wells were brought during October, and at the end of that month there were 221 producers in the province.

* * *

New Brunswick is also getting into the act with six new exploratory wells going down. The drilling will be in the eastern half of the province where some oil has been produced since 1909. With the important base metal discovery and development in the Bathurst area, and a possible boost in the oil industry, New Brunswick is at last getting some of the rewards that the other areas of Canada have had for some time.

* * *

A private weather consultant firm has opened in Montreal, the first of its kind in Canada. A similar service in the U.S.A. has saved industry millions of dollars by providing weather information in greater detail than the facilities of the government allow.

* * *

In Regina there is a new Supermarket for plumbing and heating contractors. It is patterned on the food store style, including the push carts, and it is "cash and carry." The advantages of this type of merchandising are in the elimination of much paper work and less staff required to operate the business. There is a 20% saving to the buyer under this new scheme.

VOXAIR PHOTO ALBUM

(Photos: LAC Gratton)



Left: Capt. N. S. Gage works on F/O Lidgren, watched by Mrs. Johnson.

Dental nurses Mrs. Philibert (standing) and Mrs. Johnson.



Airwomen model the latest in Easter bonnets.

(National Defence photo)



This year the Tri-service Ball held in the Officers' Mess, Winnipeg, on February 25th was sponsored by the University of Manitoba Squadron. The Squadron C.O. is Squadron Leader R. C. Bellan, and the Convenor for the function Squadron Leader R. J. Burnett.

Pictured is part of the reception line including (left to right) Mrs. L. C. Olien, Squadron Leader Olien, Mrs. A. G. Robinson, Major Robinson, Mrs. J. B. Rollit and Mrs. L. S. Bennett. F/C G. E. Mainland is seen shaking hands with Major Robinson.

The station's fourth snack bar was opened last month in the GIS building. The Commanding Officer, Group Captain R. B. Ingalls, performed the ceremony and quaffed the first cup of coffee off the assembly line.

Top left: Miss Jennie Stadnyk, Supervisor, draws the first half-pint. Right: G/C Ingalls smilingly accepts the inaugural brew, watched by W/C D. R. Walker, O.C. Air Navigation School, A/P/O Hides, and W/C Fred Gaffney, Chief Administration Officer.

Bottom left: The CO congratulates Miss Stadnyk. Right: A/P/O Hides draws a refill.



The annual meeting of the Manitoba and North Western Ontario Group of the RCAF Association was held on Saturday, February 26th at the Fort Garry Hotel. Purpose of the meeting was to sum up the year's activity plan for the 1955-56 term and to elect a new executive. Members are chosen from the Lakehead, Brandon and Winnipeg Wings with Headquarters rotated annually to the city of the President. For 1955-56 term the HQ will be Brandon.

Pictured here are the newly elected officers. Front row (left to right): Gordon Phillips of Brandon, elected President; Kay McLeod, Association Women's representative of Winnipeg; Bob Rosenberg of Brandon, Secretary-Treasurer. Back row: Earl Carlyle of Winnipeg, 2nd Vice-President; Roy Wilkinson, 502 Wing Representative from Brandon; Bob Close, 501 Wing Representative from Lakehead; Rex Johnson, 500 Wing Representative from Winnipeg; and missing from the photo is Harold Ogden of Lakehead, 1st Vice-President.



GRADUATING CLASS

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CINEMA

April 2 THUNDERHEAD and SERIAL (G)	April 12 MR. SCOUTMASTER (G) Clifton Weeb
April 3 FATHER BROWN, DETECTIVE (G) Alec Guinness Joan Greenwood	April 13 CAT WOMAN OF THE MOON MONSTER FROM THE OCEAN FLOOR (A) Double Bill
April 4 HOME AT SEVEN (G) Ralph Richardson Margaret Leighton	April 14 CALL ME MADAM (G) Ethel Merman Donald O'Connor
April 5 ADVENTURES OF ROBINSON CRUSOE (G) Daniel O'Herlihy James Fernandez	April 15 TIGHT LITTLE ISLAND (A) Joan Greenwood Basil Radford
April 6 RAIDERS IN THE SKY HURRICANE OF PILGRIM HILL (G) Double Bill	April 16 OUTLAW STALLION VOODOO TIGER and SERIAL (G) Double Bill
April 7 HER TWELVE MEN (G) Greer Garson Robert Ryan	April 17 GLENN MILLER STORY (G) James Stewart June Allyson
April 8 SLEEPING TIGER (G) Alexis Smith Dirk Bogarde	April 18 DANGEROUS MISSION (G) Victor Mature Piper Laurie
April 9 LITTLE COLONEL and SERIAL (G) Van Heflin Ruth Roman	April 19 LITTLE BIG HORN (A) Lloyd Bridges Joan Dulan
April 10 TANGANYIKA (A) Gregory Peck Joan Bennett	April 20 HOUSE ON TELEGRAPH HILL (A) Richard Basehart Valentina Cortesa
April 11 GREAT WHITE HUNTER (A) Gregory Peck Joan Bennett	April 21 RICOCHET ROMANCE Marjorie Main Chill Wills

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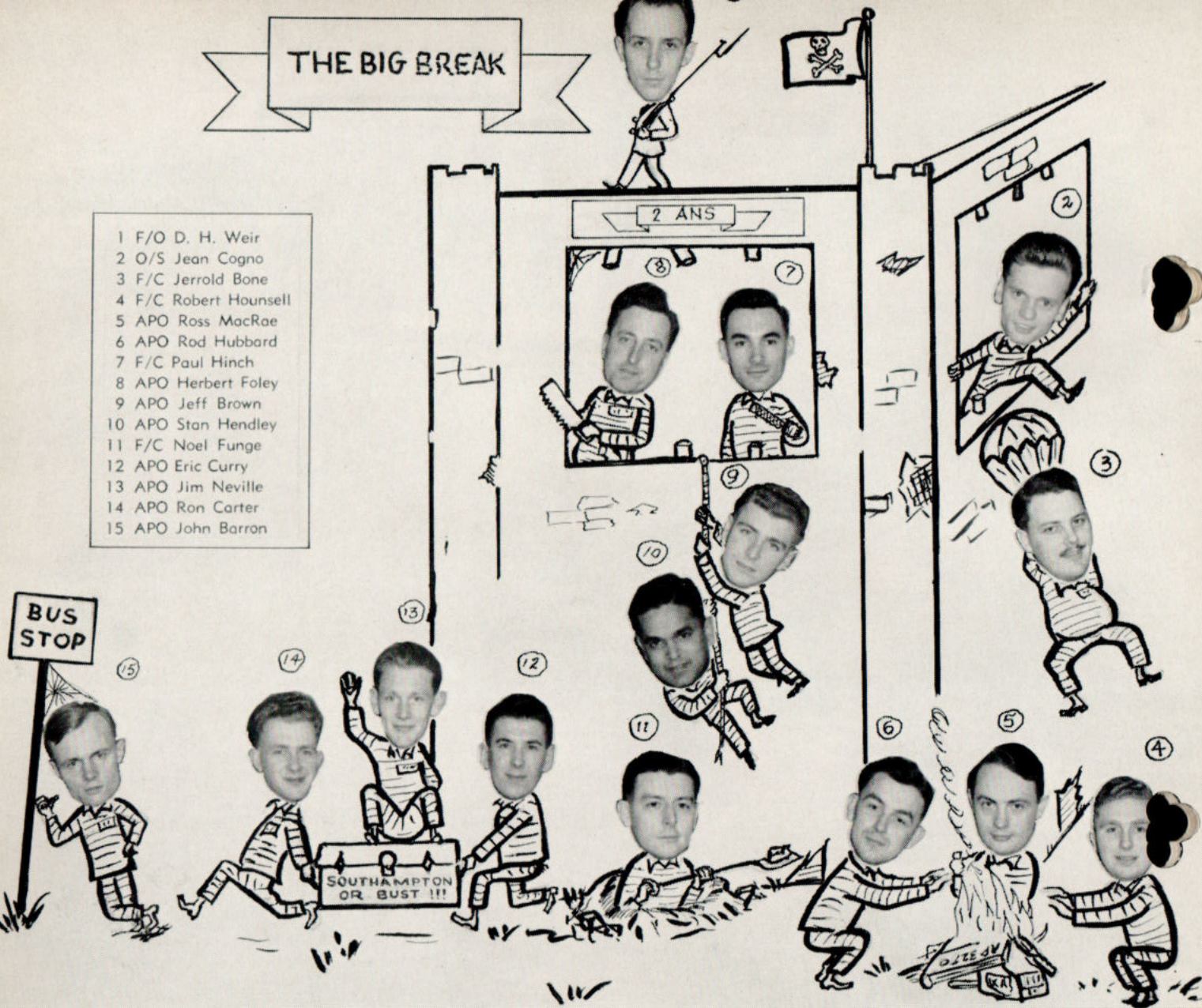
Frederickson presents this week a bargain bundle featuring 22-year-old Gwenn Fry of T.C.A. Dark-haired and brown-eyed, Gwenn measures only 61 inches from top to toe but we think you'll agree that cute things come in small packages.

\$\$ ——— \$\$

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- 1 F/O D. H. Weir
- 2 O/S Jean Cogno
- 3 F/C Jerrold Bone
- 4 F/C Robert Hounsell
- 5 APO Ross MacRae
- 6 APO Rod Hubbard
- 7 F/C Paul Hinch
- 8 APO Herbert Foley
- 9 APO Jeff Brown
- 10 APO Stan Hendley
- 11 F/C Noel Funge
- 12 APO Eric Curry
- 13 APO Jim Neville
- 14 APO Ron Carter
- 15 APO John Barron



GRADUATING CLASS 5406 A (LR)

GRADUATION DAY, 1st APRIL 1955

THIS is a true story. Only the inter-cepts have been altered. I was on duty in the canteen when the chief sent for me. "Dave," he said, "they're out! I knew you wanted to be the first to know. Good luck!" His eyes narrowed as I turned and stared blankly out of the window. I could have stared blankly at him, but the view was better from the window. I knew them all. Everyone an escapee from Long Range. Toughie Funge, Ace Hendley, Sir Macrae, Two-Rod Hubbard, Frenchie Cogno, Bone Dome, Brooklyn Barron, Kid Carter, Southern Fried Brown, Shiv Neville, Numbers Curry, Harry the Horse Hounsell, Evil Eye Foley and his trigger-happy sidekick, Twisted Hinch.

As I stepped out into the wild and stormy night I checked the clip on my 3270 (Vol. 3). These men were desper-

ate. I collected my assistant, Keith Mills, of 06B fame, and went back to the canteen for coffee break. There was no time to lose, and in less than four hours we left again.

Outside the "bird" sidled up to me. This was hot. Idly I signed his charge card for having his mouth unbuttoned and hurried to my car. The powerful roar of my Super Nash broke the silence, and I threw in the switch on my long range "Gee" set. Crashing through the barrier I sent the sleek monster roaring into the night.

Then I saw them. It was obvious they were cooking something up. I crept up on them dressed as an honest sight reduction. I knew they would never recognize me in this disguise. The flickering light of burning charge cards fell upon their evil faces. Turning to Twisted Hinch I mumbled, "What gives?" At the word

"gives" Numbers turned pale. He left the circle. I moved in close to Sir Macrae. "Sir, a question on . . ." I started, but before I could finish he had gone. I saw Two-Rod Hubbard looking at me. His face twitched as he read the card I silently handed him. He turned and ran to his waiting Austin. That Finance Company Card had saved me before.

Shiv Neville never finished his sentence when he heard my hoarse whisper, "The Twins are coming." Stumbling over the prone form of Toughie Funge, who was blanched between the four stripes on my shoulder, he ran to Twisted's car. Inside Ace Hendley was practising Stuke. A muttered oath drifted back to me as they roared off with both sextants ticking. Kid Carter and Brooklyn Barron were always ready to brawl, and a

(Continued on page 32)

COURSE 5406 B GRADUATES

The day has dawned at last! Let those who wish to attach significance to the date do so. We care not for thee Jack, we are graduating! After twelve hectic weeks in Long Range School, we emerge at last, ten weary souls with little left but a somewhat distorted sense of humour.

ROUNDELAY

To be sung to the tune of "The Ball of Kirmuir" (or whatever you may call it!) with apologies to no one. (Chorus to be sung between verses.)

The tenth day of the first month
Of nineteen fifty-five,
The following were assembled
More dead than alive.

Chorus:

Here's to the home-stretch,
Our backs are to the wall,
If you prop the bar up every
night
You'll never get through at all.

Here's that B/M Sextant
With the extra special bubble?
P.G.'s going to need it
To avoid the finger trouble.

(Chorus)

Ken Morgan's next upon the list,
But we can't think of a word,
It seems his parents told him
To be seen and never heard.

(Chorus)

Mrs. Mulrone's favourite son
Is a laughing boy named 'Red,'
We could fill this publication
With the doubtful things he's said.

(Chorus)

Half a dozen witch's brews
And half the mess is reeling,
But all this next chap ever gets
Is that Munday morning feeling.

(Chorus)

A Canadienne fan is Pennington,
Although he'll rave and shout,
There's nothing he'd like better
Than to see Duplessis out.

(Chorus)

He has a repertoire
Of lurid prose and song,
And on any liquid evening
He can last the whole night long.

(Chorus)

Robertson's idiosyncrasies
Are the waving of the flag,
The support of Arthur Murray,
And the 'bumming' of the fag.



Back Row: F/C Munday, A/P/O Robertson, A/P/O Masterman, F/C Shergold, F/C Mulrone, F/C Pennington.
Front Row: A/P/O Riley, F/C Zimmer, F/O Mills, P/O Verreault, A/P/O Morgan.

CURRENT RELEASES FILMS

There's a lanky lad named Shergold
Whose legs cause multi trouble,
As third nav in the cockpit
He would have to bend them double.

(Chorus)

Bob Zimmer, our course leader,
Is held in great esteem,
Although we do the dirty work
It's him that gets the cream.

(Chorus)

Labatt's, Vienna and O'Keefe's
They all go just the same,
Two seconds is the time it takes,
And Jacque Verreault's the name.

(Chorus)

The first of April fifty-five,
And graduation's here,
Though how we ever made it
Will never quite be clear.

(Chorus)

Now we're going home again,
So long to ANS,
If we ever come back to Winnipeg
It won't be by request!

Gone With the Windchange—Starring Flash Morgan and magnificent supporting crew. A saga of the air with plenty of action and a happy ending. Running time 3½-6½ hours estimated.

For Whom The Nav Toils—A mysterious story with a moral: 'Work is for the birds.' Not suitable for young children unless accompanied by a Screen.

Little Seizer—tells the story of a nerve-racked band of Flight Cadets cursed by a prowler, who repeatedly removes items from their private lockers, much to the inconvenience of all concerned. This angle ties in with a gimmick known as 'The System', but on the whole this show is a great disappointment in view of the tremendous expense and organization involved.

BOOKS

The Long Wait—by an O.T. Officer, explains how these mysterious individuals pass their time. Readers will be happy to see this question answered.

Tom Sawyer—A modern version of the ancient classic story of Lady Godiva's ride through Coventry.

RECORDS

"36 Minutes to D.R. and A/H"—by F/C Pennington (Montreal).

(Continued on page 34)

111 C&R FLIGHT OPERATION BEAUMONT

By

F/O H. N. McMILLAN



(Photos: Ron Ayers—Courtesy Toronto Star)

Above (left to right): F/O Norm. McMillan, and F/O A. C. Fanning, Senior Flying Control Officer, watch as F/L "Bounce" Weir plans the search route.

Left: An aerial view of the aircraft, showing the snow walls built by the survivors around the nose, and the tent shelter.

Below: "Bounce" checks the position of the downed Otter.



mile in the search area, and we spent four hours doing square searches over the area, twice flying to Ennadai to check our position. We saw nothing but snow and blowing snow. Our fuel running low we had to return to Churchill without finding the downed aircraft. Another aircraft was sent out with the same result. F/O Thrasher and his crew did a night search to no avail.

WEDNESDAY morning, February 23, an RCMP Otter was reported missing between Churchill and Lake Ennadai, N.W.T. Several aircraft from Winnipeg headed for Churchill. It was dark when we arrived, so plans were made by S/L W. H. Nickel, searchmaster, for an early morning briefing.

Thursday morning, briefing was held at 0600 hours. F/O Thrasher and myself of 111 C&R and F/O Tetrault and F/O Henniger of 2 ANS, handled the four Dakotas. F/O McNarry and F/O Fox of 111 C&R flew our Otter (3662) to Churchill and Ennadai. They were to remain at Ennadai until the RCMP Otter was found, and airlift the occupants back to Churchill.

On Thursday afternoon the downed aircraft was spotted by two navy observers in F/O Hennigar's aircraft. They circled the

area, waiting for a replacement aircraft to arrive, but, unfortunately, because of dwindling fuel, they had to leave before the relief Otter arrived. Unknown to them the Otter was less than ten minutes from the downed aircraft at the time they pulled out.

Visibility was bad, with ice crystals and fog, so the Otter went on to Ennadai.

Owing to the poor visibility, and even poorer terrain as far as navigation was concerned, the downed aircraft was plotted several miles south of its actual position.

The next day, Friday, F/O Hawley and myself, with two parajumpers, Sgt. McMenamon and Sgt. Dawson, a press photographer, a TV cameraman, plus six navy ratings as observers, took off for the spot to drop fuel and supplies. The visibility was down to about 1/4



Saturday morning Churchill was closed in, with blowing snow, and take-off was held up. In the meantime the hero of this story, F/L C. W. "Bounce" Weir, acting CO of RCAF unit, Fort Churchill, who had spent the night at Ennadai with F/O Fox and F/O McNarry, took off and flew on track towards Churchill. Finding the downed flyers he landed immediately, dropped off fuel, picked up the four passengers and flew them to Ennadai. We were just arriving over Ennadai, after a belated take-off, as F/L Weir was taking off for his return trip to the RCMP Otter.

We followed him back and, as we flew over the downed aircraft whilst it was being started, the press men and the TV cameraman busily took pictures, which later were seen in the Free Press and on CBC television news broadcasts.

After about one and a half hours the RCMP Otter was started, and the trio of aircraft, led by F/L Weir, with our Dak bringing up the rear, headed for Ennadai.

The following morning, a bright clear Sunday morning, we flew from Churchill towards Ennadai, and met F/L Weir in 3681 with the RCMP Otter following closely behind. All three aircraft flew over the town of Churchill and landed at the airport, where the Mounties were met by Inspector Dawson from Ottawa, as well as newspaper men and photographers.

Thus ended another northern search by the RCAF Search and Rescue Organization, with the bouquets being tossed to F/L "Bounce" Weir, a bush and northern pilot of many years standing, and a credit to the RCAF. Congratulations, "Bounce"; you did a fine job.

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TECHNICAL NEWS

Edited by F/L CHESHIRE



LARGEST IN CANADA

The Canadair 28—a version of the Bristol Britannia re-engineered and re-designed by engineers of Canadair Limited for RCAF maritime reconnaissance—is the largest aircraft ever built in Canada. A giant plywood “mock-up” of the fuselage is shown in the Montreal aircraft plant. The CL-28 will be powered with piston engines, as

more suitable for long-range over-water reconnaissance, in place of the turbo-props used in the Britannia. Security forbids other details, but it is known that the long fuselage Britannia, which can carry more than 100 passengers, has a length of 124 feet and a wing span of 140 feet.

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Boeing Flying Boom

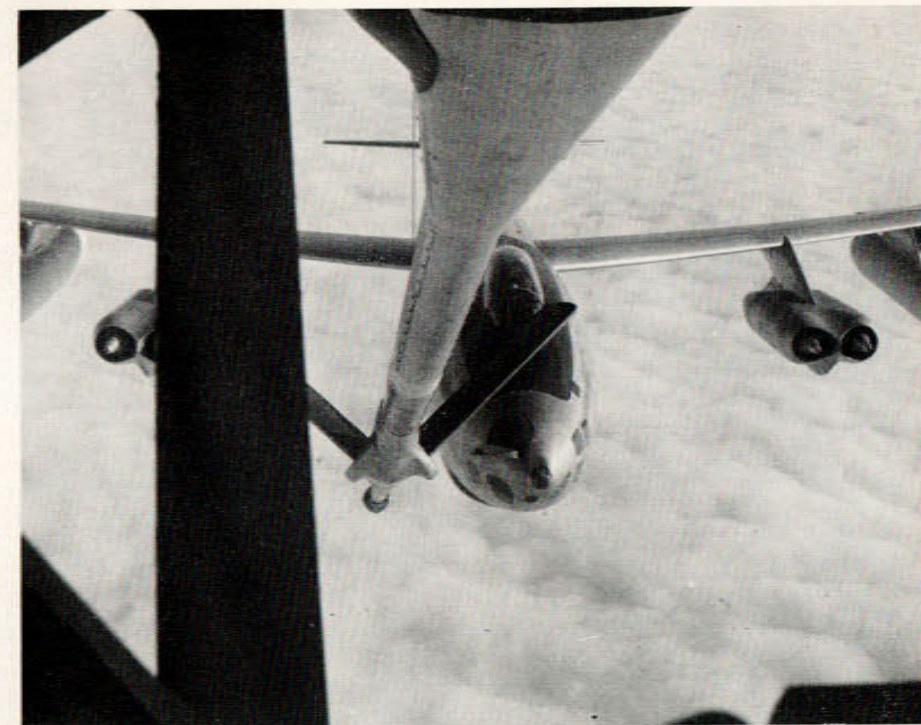
The current far-reaching global mobility of the USAF's Strategic Air Command has been made possible through the concept of aerial refueling.

SAC's jet-powered bombers and fighters today are refueled by Boeing KC-97 Strato-freighters utilizing the unique Boeing Flying Boom system of aerial refueling. Using this system SAC's current operations involve an average of 2,880 contacts per week, or one aerial refueling every three and one-half minutes around the clock. One SAC refueling squadron alone has transferred more than 6,000,000 gallons in its operations.

Aerial refueling of jet bombers with compatible jet tanker aircraft will vastly increase the already great range, flexibility and capability of the USAF. Towards that end the USAF has ordered into production a “limited quantity” of an advanced tanker-transport version of the new Boeing “707” jet prototype, to be known as the KC-135.

As a tanker the KC-97G carries its transferable fuel in 15 tanks located on the upper and lower decks of the double-lobe fuselage and in two droppable wing tanks. The seven tanks on the main deck are stacked two high along the port side of the aeroplane.

Both the forward and aft deck compartments in the Strato-freighter each contain four transferable fuel tanks spaced around a pump chamber housing a Model A-1 hydraulic-driven pump. The upper deck tanks drain into those on the lower deck and the fuel is pumped from them into the single fuel line running down the star-



(Photo courtesy Boeing Aircraft Company)

board side and into the Boom. A pressure of approximately 50 psi exerted by the pumps forces the fuel through the Boom at the rate of more than 600 gallons per minute. Both the transferable fuel tanks and the aeroplane's tanks are serviced through two central points on the underside of the aeroplane.

The Boom itself consists of four concentric aluminum tubes, one of which telescopes giving the Boom an extended length of 48 feet. The Boom is flown into place in the receiver aircraft by the operator from his station in the pod. Lying on his stomach, he watches the receiver's approach, talking him into a position where he can direct the Boom into the receiving receptacle.

When contact is made the operator signals the flight engineer, who controls the pumping operation, and the fuel transfer commences. Should either aircraft get out of normal formation during refueling, a spring-loaded steel poppet inside the nozzle closes off the fuel supply

and the Boom automatically disconnects and retracts. The Boom is activated by a hydraulic motor and also can be extended and retracted manually if necessary. Contact may be broken by either the Boom operator or the receiver pilot at any time during the operation.

Today's big fast-flying tankers are the result of research and testing on the part of the Air Force since 1923 and Boeing's own research dating back to 1929. Out of these early experiments and post-war developments evolved the B-29 hose-type tankers mentioned earlier. The original hose-type refueling system, developed by Flight Refueling, Ltd., in England, was modified and installed in a number of B-29's by the Boeing-Wichita division. By 1950 development and testing of the Boeing-designed Flying Boom had been completed and in March of that year Boeing was delivering Flying Boom tankers, designated KB-29Ps, to the USAF. The first of the KC-97 series was delivered to the Air Force in 1951.

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Today in SPORT

By CPL. HOWARD O'BYRNE



R.C.A.F. STATION WINNIPEG HOCKEY TEAM — 1954/55

Back row, left to right: F/O Cy MacDonald (manager), LAC E. Harris, AC1 R. Bowe, LAC F. McPherson, LAC J. Vince (spare goalie), F/O D. Fabro, F/O S. Sandberg, F/O J. Johnson, Cpl. C. MacDonald (captain), LAC P. Pickles (equipment manager).
 Front row, left to right: LAC D. McLean, LAC F. Henry, Sgt. R. Gardiner, LAC L. Bickerton (goalie), LAC J. Jones, Cpl. A. Deutch, Sgt. N. Sargent (coach).
 Missing: LAC T. Norman, LAC B. Groulk, and F/C Lynch.

The station hockey team has made a very good impression over the past few weeks. Three teams were tied for second place in the inter-service league, and our boys forced the RCMP into mothballs by 6-2 in a good clean game, following up with a 15-5 win over the RCHA in the semi-finals.

In almost all the games the Winnipeg team has been short-handed, with only eleven men turning out for each of these two games. Injuries, leave, exams and so on are hitting us hard, and we don't expect to be able to ice a full team against Fort Osborne in the finals.

The Army boys have plenty of talent, and there's no doubt they will put up a terrific battle for the inter-service championship, a sudden-death game to be played in the Amphitheatre during the last week in March.

The opposition and their fans have acknowledged many times that the boys in blue, though few in number, are a fast, clever, and clean hockey team, a credit to the station and to the Air Force.



BASKETBALL

The station team was beaten in the finals in a best two-out-of-three test by the YMHA. No disgrace attaches to this defeat, for the winners are a highly-rated club playing "A" calibre basketball.

We are still active in the Man-Group league, however, beating Amli in the semi-final by 86-24 and Portage by 15 points. March 19th will see the Group championship decided at Saskatoon, where Winnipeg meets the local RCAF team in a sudden-death encounter.

F/O Howard, LAC Ratcliffe, and F/C Urquhart were the stars in the finals in both leagues.

An attempt is being made to organize a game between the Ontario Training Group stations and the 14 Group champions, but so far arrangements have not been completed.

LADIES' CURLING

The Ladies' Dominion Curling Championship finals were completed recently at the Granite Curling Club in Winnipeg. Last year Alberta took the honours, but this year a team from Flin Flon, skipped by Mrs. Ethel Wright, triumphed.

The four western provinces took part, and it is expected that next year will see representation from Ontario, showing that before very long the ladies will be holding an annual event as big as the MacDonald Brier.

STATION CURLING

By the time you read this, two competitions will have been decided. The station curling club started the finals on March 10th, with thirty-two teams competing. The final two games are due to be played on the 31st, both 12-end games, played on the second draw. Some indication of the keenness of the play is the fact that three extra-end games were played on the first draw of the playdowns. Before the last rock is thrown on the 31st we should see some really good curling. The annual inter-service 'spiel' could be completed on the 21st and 22nd March. The RCAF will be represented by four teams (skipped by S/L Graham, LAC Galon, Cpl. Hodgins and Cpl. Turner), the Army by four teams, the RCMP and the Navy three teams each, and DVA two.

STATION SPORTS PERSONALITY



LAC AL RATCLIFFE
GUARD

Al started out in New Westminster, B.C. in 1949, and later played in the Vancouver and District High School league. With the Vancouver Senior "B" league in 1952, and was with the team that won the Northwest Canadian High School Championship. Joined the station club at its inception and has starred many times.

* * *

MIXED BOWLING

The Mixed Bowling League of eight teams has been operating every Sunday afternoon, with the first group taking to the alleys at 1330 hours and the second at 1530 hours. Tommy Keenan's team, including Dawson and Audrey King, Tom Elliott, Ruth Millar and Kay Keenan, is in the lead with 29 points.

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(Continued from page 24)

couple of words to each soon had them grappling.

I knew I was playing a dangerous game. Each man here could use a B3 as though he was born with one in his hand. Making like a blonde WD corporal I hung around till Frenchie Cugno saw me. His face blanched as he backed off into the night. I moved in closer to the remainder. They were idly feeding a B&A man into the flames. Before Bone Dome could say anything I snapped, "Very well, young man!" at him. He knew he was finished. The remaining four closed in on me.

I shook Harry the Horse Hounsell as I swore allegiance to the Newfy flag. Southern Fried Brown swung viciously at me but he failed to correct for VSI. I slapped a stripe on Evil Eye's arm. It was over. Evil Eye charged Twisted Hinch with being late. The gang was split up.

As I drove back to the Chief I thought over events. A good case. Twelve weeks' hard work had been rewarded. I WAS FREE!

CURRENT AFFAIRS

(Continued from page 7)

Mr. Bevan:

- (a) Said of Sir Winston and his decision to make and use the H-bomb to deter aggression: "The mediocrity of his thinking is concealed by the majesty of his language."
 - (b) Was virtually expelled from the official Labour Party.
 - (c) Agreed to retract his criticism of Labour policy if re-admitted to the Party.
 - (d) Would like to be Prime Minister.
4. Which one of these did not make the statement attributed to him:
- (a) Senator Knowland: "I don't believe (U.S. policy) would foreclose the (Chinese Na-

tionalists) from operating against the mainland if the Chinese communists commit aggression."

- (b) John Foster Dulles: "Chinese communist propaganda portrays the United States as being merely a 'paper tiger.'"
- (c) Sir Anthony Eden: "Unfortunately, the necessary conditions for a profitable meeting (with the Communists) in regard to Formosa do not now (10th, March, 1955) exist."
- (d) Mr. Nehru, of India: "I favor a defensive alliance in South-East Asia to preserve independence by force if necessary."

(Answers on Page 36)

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By BONNIE WADE

While you are perusing this, yours truly will be packing, and licking labels that read: 3 (F) Wing. Hardly happy at all! However, you are due for some "real" reading in future when Mickey Martin becomes your next reporter for WD's.

* * *

About the biggest item at this time is the large number of postings-out in the very near future. Our female shift-worker population will be almost nil. Oh, well! We all have to go sometime—but why did I have to wait so long? Anyway, gals, all the best at your new locations, and don't forget your old buddies from BB9.

* * *

We must say things are really bad when, one Sunday morning, we find a sleepy individual bending over a sink, nonchalantly brushing her teeth with *Lustre-Creme Shampoo*.

* * *

It must be disconcerting to the inspection parties to find a loose-limbed monkey dangling upside down from a lamp. Smitty's py-jama bag!



Little Lucy has departed from our midst (after a session in Deer Lodge) and will soon be attending ClkAcc course at Aylmer. Now, there's a girl with a wide vocab.

* * *

Like the flowers, love is supposed to bloom in spring — but some people must rush the season (despite the weather). (Marion? And Trenton is so far away.)

* * *

March 19th was the big day for Robbie, who is now Mrs. Don Barber. In case we missed saying it, Robbie, may your future hold all the happiness possible.

* * *

If no objections are raised, I will use a bit of company space to say good-bye and thanks to all friends and acquaintances who have made my stay in Winnipeg a pleasant and long-to-be-remembered one. Hope to see many of you again some day.

Bonnie has often written, a trifle enviously we always thought, of other people's overseas postings. Now her turn has come, and she is on her way to Germany.

We're glad for her sake, for we know how happy she is to have this opportunity to travel, but we're sorry for ourselves, for Bonnie has been one of the stalwarts with Voxair for some time.

As Bonnie reports in her column, LAW Martin has stepped into the breach, and will be bringing you local W.D. news in future issues.

But Cpl. Wade finds herself saddled with another assignment—she is to report on W.D. activity overseas, and will be sending her material in from 3 Fighter Wing, Zweibrücken.

Good luck from Voxair, Bonnie, and our thanks for your generous help over the past few months.

The Editor.

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COVER STORY

This month's cover is the latest in our experiments in the realm of printing and photo arts. We introduce you to BAS-RELIEF, a purely photographic trick for April Fool's Day. The immediate reaction to this photo should be an illusion of depth not normally seen in photos. Our subject this month is the radial engine of an Expeditor. For the photo enthusiast—this picture was created by combining positive and negative transparencies slightly out of register, and then printing them in the normal manner.

5406B (LR)

(Continued from page 25)

BETWEEN ME'N YOU

It is rumoured that a certain A/P/O has accumulated a vast amount of wealth during his nine months' stay in Winnipeg. If this is so, the writer humbly suggests that this individual is wasting his time in the RAF, when he could be commanding a fabulous salary as Economic Adviser to the British Government.

FLASH! Hot news from Maniwaki, Quebec, where preparations are in full swing for the return of native son, 'Red Mike' Mulroney. Revenuers are anxiously recalling the days of prohibition; as one remarked to our roving reporter, "This is the biggest thing since the Sheriff took to wearin' shoes."

Scotland Yard received a dossier this week direct from R.C.M.P. Headquarters in Ottawa. The return to the U.K. of 'Fingers' Masterman has set the whole police force on the alert. This individual has been under suspicion for some time, but as yet nothing has been pinned on him.

WARNING! The 'Slasher' is reported to be at large in B & A. All navigation students are advised to be on their guard. This individual will strike without warning and is known to show no mercy in the rapid destruction of promising young careers.

S/L Tweedie, the guest speaker at the last Mess Dinner, gave an interesting definition of an expert: "X" being an unknown quantity and a "spurt," a drip under pressure!

HOLD UP IN RESEARCH

Over the past thirteen months Professor Munday of Montreal has been conducting experiments in Winnipeg. The purpose of the investigation is to determine relative merits of Eastern and Western Canadian brews. There has been a temporary hold-up due to the lack of financial backing. The Professor has kindly offered free instruction in French-Canadian in exchange for original formulae for the preparation of alcohol from local raw materials.

ANNOUNCEMENT

A discussion will be held in Flight Cadets' Conference room (you know where), Saturday, 2nd April. Subject: "Can the U.K. be considered an aggressor nation by virtue of the fact that A/P/O's were sent to Canada?"

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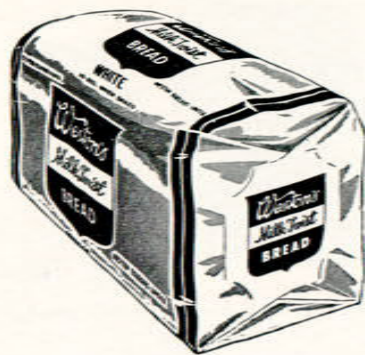


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ANSWERS TO
CURRENT AFFAIRS QUIZ

PART A

Questions 4, 5, 8, 11, 12, 15, 19, 20,
21, and 22 are false; all others
are true.

Notes:

Q. 8—Population 15 m. and 9 m.
Q. 15—Will start this spring.

Q. 20—Sam Etcheverry was se-
lected.

Q. 21—C.P.A., not T.C.A.

PART B

1.—(c) 3.—(c)
2.—(d.) 4.—(d)

(Photo: De Havilland Aircraft
of Canada Limited)

PLANE FACTS

(See back cover)

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