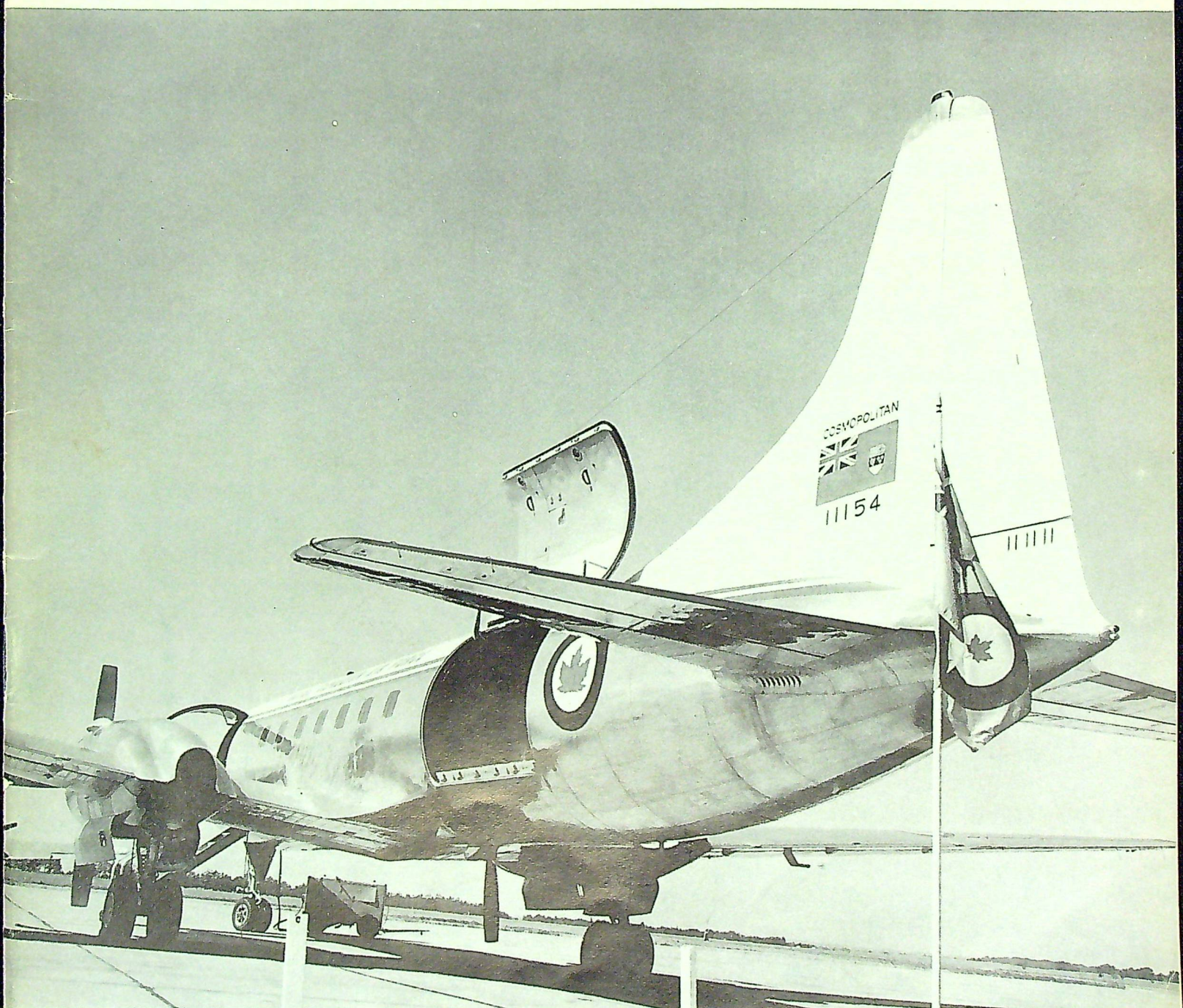
THE Roundel

VOL. 12, No. 8 OCTOBER 1960



THE Roundel

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VOL. 12, No. 8 **OCTOBER 1960**

ARTICLES

PICTURE STORIES

FEATURETTES

DEPARTMENTS

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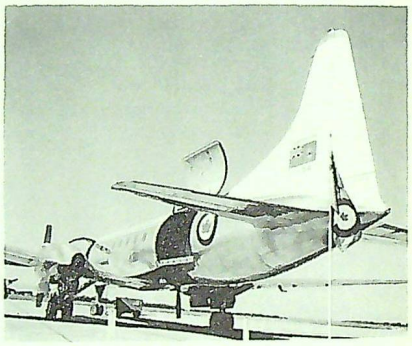


THIS MONTH'S COVER

On the line at RCAF Stn. Uplands, a *Cosmopolitan* is ready for loading. The twin-engined turboprop transport came into service with No. 412 Sqn. last month.

Authorized as Second Class Mail, Post Office Department, Ottawa.

On the Break

It's almost literally true these days that you can't tell the stars without a program. Such a variety of man-made objects now busily criss-crosses the heavens that it is difficult for the layman to keep abreast of developments, let alone differentiate between genuine space probes and cosmic garbage.

To bring the mysteries of space vehicles down to earth and give those of us not overly endowed with scientific knowledge an opportunity to glimpse the future in space, we asked an expert to write this month's feature article. Mr. K. J. Radford's forecast, beginning on page 5, is his first ROUNDEL contribution; we sincerely hope it won't be his last.

° ° °

Favourable reaction from readers to the "Stations of the RCAF" series during the past year prompts us to extend it beyond the original intention: explanation of today's air force roles through the stories of typical stations. Thus we pinpoint the job of all-weather fighter squadrons in the air defence role by choosing Bagotville as the example (page 11) this month.

We now plan to keep this series going just as long as we can get material that doesn't become too repetitious. We're realistic enough here on Victoria Island to know you won't come rushing with manuscripts and photos, but we will let you in on a secret: first come, first published from now on. Drop us a line if you'd like to see your favourite station ROUNDELIZED.

° ° °

For some people the skirl of the pipes and the swish of the kilt makes their Gaelic blood boil like an over-done haggis. Although we can't say our Scottish ancestry stirs us to this extent, we have often wondered just how our tartan tie (worn with blue blazer and grey slacks) did originate.

In the belief that many others in the RCAF have a similar curiosity, we prevailed upon bonny S/L H. G. Williamson to give us his interpretation — fully realizing there are several versions of the story. His documented, eye-witness account appears on page 21.

° ° °

We're convinced Mr. C. Northcote Parkinson's advice on paper work (page 28) has equal application to air force officers as to the business executives he was aiming at in the NEW YORK TIMES MAGAZINE. First attaining world renown with his "Parkinson's Law" some years ago, Mr. P's latest work is "The Law and the Profits", published by Houghton-Mifflin of Boston, Mass.

° ° °

Finally, a word about the aircraft in our cover photo. Aircrews of No. 412 (Transport) Squadron are unanimous in their praise of the *Cosmopolitan* and, after a quick trip to the west coast in one last month, we're inclined to agree.

This versatile bird (it can carry 40 passengers or 15,000 pounds of freight or a combination of both) is generally regarded as a medium-range transport. Yet on one of its first cross-country training trip the turboprop *Cosmopolitan* flew from Vancouver non-stop to Ottawa in six hours, 35 minutes, and had enough fuel in reserve to divert to Halifax.

The Editor

Calling All

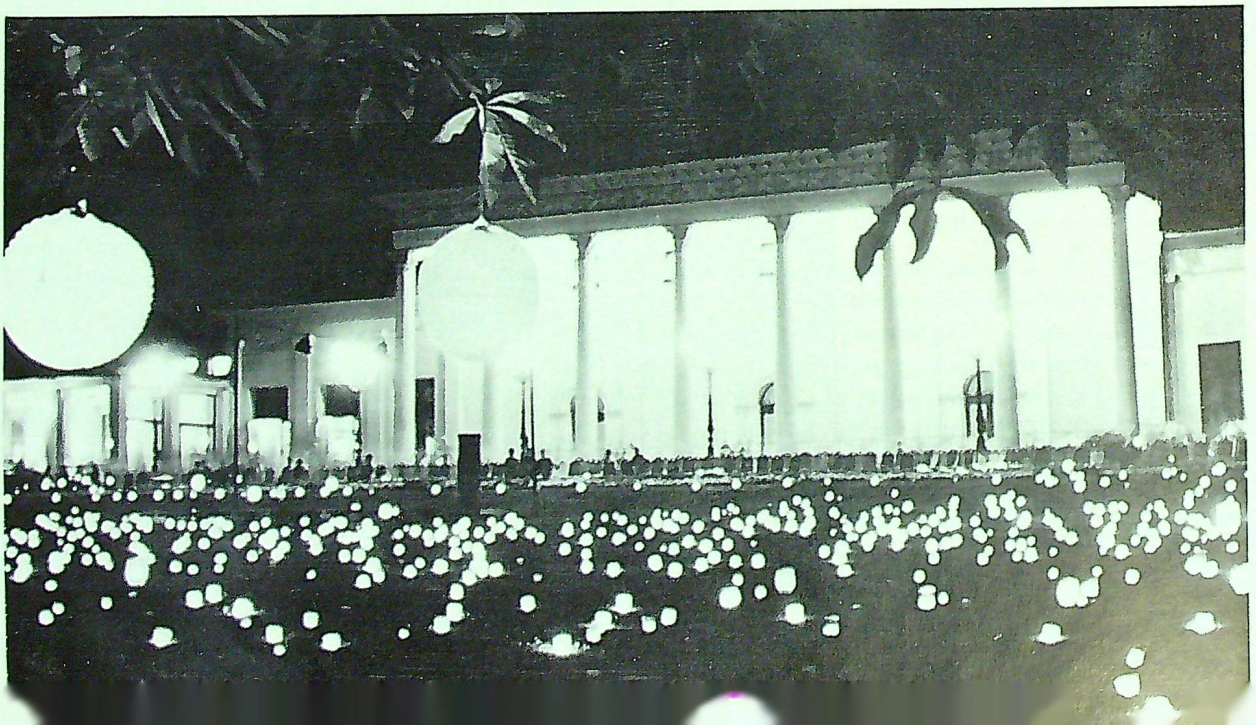
THE FIRST service-wide photographic contest, open to both amateur and professional shutterbugs, is currently being sponsored by the RCAF recreation branch.

Entries are invited from all serving members of the RCAF, Canadian civil service employees and allied service personnel attached to the RCAF and all dependents. There are two main classifications: one for amateurs and the other for members of the RCAF photographic branch. All entries, which must have been taken during 1960, should be submitted to AMP/DPA/PA6, AFHQ, between 1 Dec. and 31 Dec. 60.

Anyone desiring further information about this contest is advised to contact the recreation officer or photo club on his unit.

F/O R. J. Hicks' entry—Eiffel Tower—was judged best entry in the Air Div. Contest and also placed first in the colour section: 35mm. Kodachrome, 1/30 at f8.

Second place in the colour slide section was F/O Hicks' photo of the Kurhaus in Baden-Baden, Germany: 35mm. Kodachrome, 70 seconds at f8.



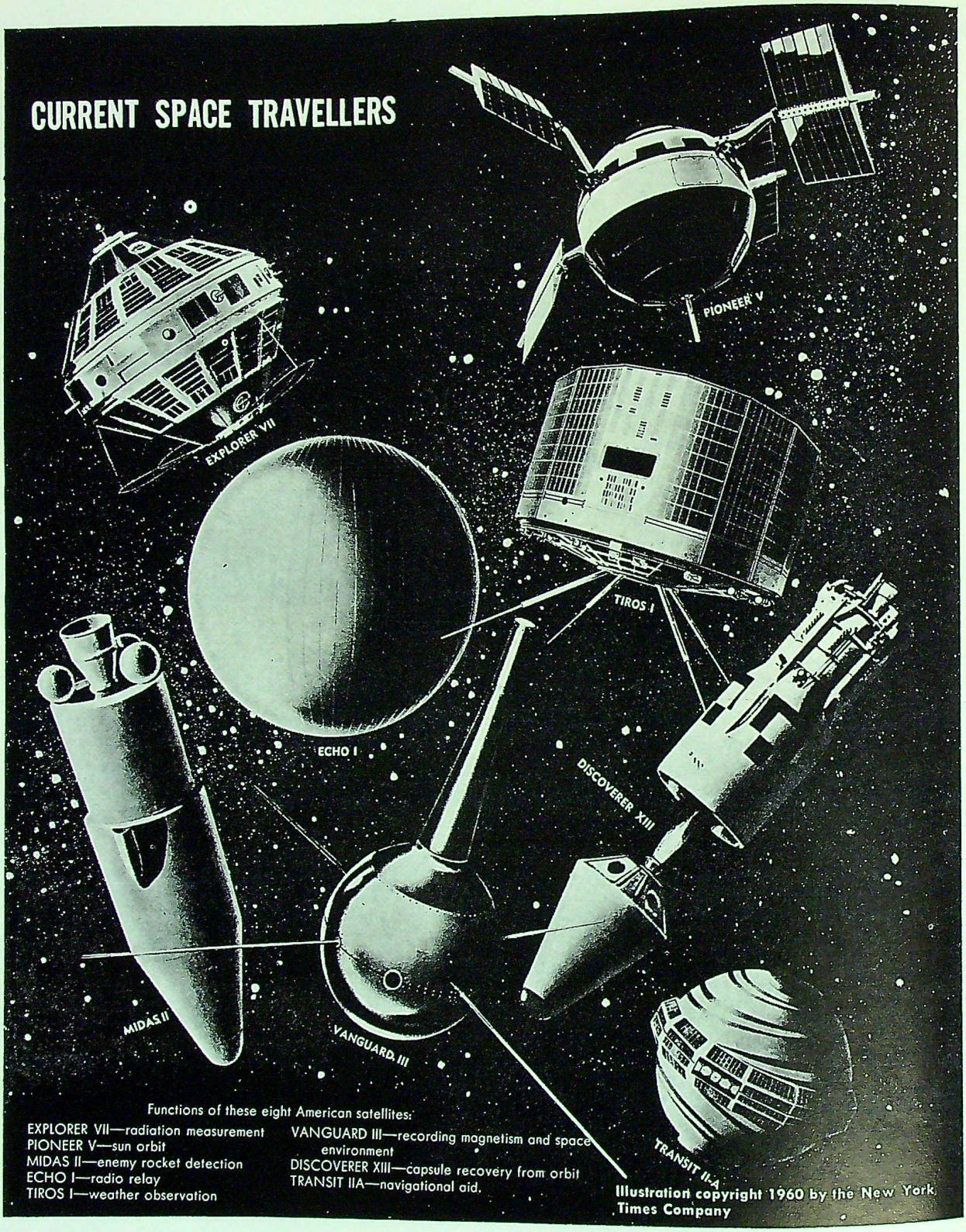
Camera Fans

While this is the first service-wide contest, several successful command competitions have been held recently in response to growing demands from camera enthusiasts. Earlier this year No. 4 Wing Photo Club sponsored an Air Division contest, some winners of which are reproduced here. Unfortunately, we can only print the colour slides in black and white.

Big Ben by Sgt. R. Parker was the first prize entry in the black and white section: Adox R17, 1/50 at f16.

F/L J. P. MacLean took second place in the black and white section with his entry entitled "Steep Hill": Verichrome pan, 1/50 at f8 with yellow filter.

Third prize in the black and white section went to LAC W. C. Smith: Adox R17, indoors with two 500W floods, 1/30 at f5.6.


CURRENT SPACE TRAVELLERS
PIONEER V
EXPLORER VII
TIROS I
ECHO I
DISCOVERER XIII
MIDAS II
VANGUARD III
TRANSIT II-A
Functions of these eight American satellites:
EXPLORER VII—radiation measurement
PIONEER V—sun orbit
MIDAS II—enemy rocket detection
ECHO I—radio relay
TIROS I—weather observation
VANGUARD III—recording magnetism and space environment
DISCOVERER XIII—capsule recovery from orbit
TRANSIT IIA—navigational aid.
Illustration copyright 1960 by the New York Times Company

FUTURE USES OF SPACE VEHICLES

BY MR. K. J. RADFORD Director of Systems Evaluation, AFHQ

SPACE vehicles are now being used in both the civil and military fields. In this article I will discuss briefly those applications which I consider will be important in the years to come, and at the same time put some of the more fanciful suggestions into perspective.

In dealing with space vehicles it is convenient to consider them in three categories, specified by the final velocity achieved after boost:

- Sub orbital velocity — missiles
- Orbital velocity — satellites
- Escape velocity — space vehicles.

The dominant feature of vehicles with less than orbital velocity is, of course, that they fall back to earth, and this is exactly what is required in a missile. The time that such vehicles spend above the earth is naturally limited, with typical values between 15 and 30 minutes. This short time of flight limits the usefulness of this class in more routine operations such as communications and meteorology, but such vehicles may have a minor part to play in roles other than as missiles.

The second class includes all vehicles which attain the velocity required to orbit the earth. Orbiting vehicles enjoy comparative freedom from the restrictions in line of sight communications and data gathering which are imposed by the curvature of the earth. The rules of sovereignty of air space have not yet been extended into space, so that US satellites can pass over the USSR, and vice versa, without challenge or protest at the present time. This situation may change when a satellite with an overt military application is launched, but declarations of sovereignty will not be of much use unless the means to enforce them are available.

Satellites travel outside the earth's atmosphere and, more important, above the portion of the atmosphere which causes severe attenuation of high frequency radiation like infra-red. Satellites may therefore carry equipment which can be expected to have very long detection ranges on infra-red sources above the attenuating portion of the atmosphere (above 30-50,000 ft.); and also to absorb and use radiation from the sun which would otherwise be absorbed or reflected by the earth's atmosphere, as for example in the use of solar energy cells. Finally it is possible to look down on the earth from satellites from a height which can never be achieved by airborne vehicles, thus allowing a much greater field of view and also permitting observation of phenomena which occur only at these greater heights, such as the plume of a rocket engine as it becomes visible above the tropopause.

The third class embraces vehicles which attain sufficient velocity to escape from the earth's gravitational field and take off into the wide blue yonder — or more correctly the wide black yonder. These are the vehicles which will eventually be used for exploration of the moon and the planets and which are some years behind those used for placing satellites in orbit. Nevertheless the first simple vehicles have recently escaped from the earth and are at present orbiting the sun. These early extra-terrestrial voyages are undoubtedly the forerunners of manned exploration and exploitation of our neighbours in the solar system.

I will now proceed to discuss the applications of these vehicles to the tasks which confront us in both the military and civilian spheres.

It is widely recognized that the present capabilities of ballistic missiles

THE AUTHOR

Mr. Radford was educated at the University of Cambridge and graduated with the degree of Master of Arts (Hons. Mathematics) in 1945. After service with the Royal Air Force and the British Ministry of Supply, he joined the Canadian Defence Research Board in 1953 and was immediately assigned to the Directorate of Operational Research in Air Force Headquarters. Mr. Radford was a member of the Canadian — U.S. Scientific Advisory Team in Washington, D.C., from April 1954 until the end of 1955. In January 1956 he joined the Directorate of Systems Evaluation in AFHQ and was appointed director in March 1958.

in offense far outweigh those of the defence against them. This superiority of offense over defence is likely to exist for some time to come. The best defence against ballistic missiles is to destroy them on their bases or to destroy the means of launching them, and this puts a nation which is dedicated to a "strike second" posture in a most difficult position. The fact that the enemy can strike first requires that missiles required for retaliation must be defended. In the absence of effective active defence, the only means left for protection of the retaliatory force are passive — protection by concrete, concealment and dispersal. The underground *Atlas* sites, the mobile submarine launcher for *Polaris* and the development of the mobile *Minuteman* are evidence of the existence of this situation.

There have been suggestions from many quarters that the requirements for dispersal and some reduction in vulnerability could be achieved by placing vehicles in orbit so that they could be launched at earth targets on command. This scheme has the advantage that the prime deterrent targets in any nuclear exchange would be remote from the homeland. There is a penalty involved in this plan, which arises from the fact that it takes a similar amount of energy to get a missile down from orbit as it does to get it up, and each of these amounts is probably greater than that required to hurl a warhead between two earth locations. Adoption of the idea would therefore entail greater investment per missile on target. However, the greatest argument against such a system is that the concealment attained is less than that with a nuclear submarine or a site in Siberia, for example. Objects in orbit are on precise courses which can be predicted with some accuracy. With time available in which the orbiting vehicle could be tracked on successive passes, and once the vehicle is identified as hostile, it seems that it might be possible to intercept and destroy or disarm such a device. Add to this the uncertain effect of establishing such a system on world opinion, the problems of servicing over a prolonged period and the possibility that someone might learn the code and fire them at you, and the missiles in orbit idea does not seem as attractive as at first sight.

MOON BASES

One stage further leads us to the suggestion of establishing missile bases on the moon and the intriguing argument that with flight time to the moon in the order of days, there would be plenty of time to launch the retaliatory missiles after the attacking force had been detected heading for the moon base. However, the problem would remain of deciding whether the vehicle heading towards the moon was hostile or just another space probe, and there would be a considerable chance of launching the retaliatory force from the moon after mistaking the intentions of a space vehicle approaching the base. Moon bases would require a manifold increase in investment in the deterrent. Right now, the possibilities of protection, concealment and dispersal of earth deterrent bases seem far too good to allow the moon base concept to go ahead; but should conditions here on earth change, this is one of several proposals which should at least receive some consideration.

Let us consider at this point the view held in some quarters that space will become a major battlefield in any future war. I think that we are past the stage when wars can be decided by individual combat between champions in a place remote from the homeland of the nations involved. It seems to me that a battle between space forces could be decisive only if the victory allowed one combatant to dominate the earth by virtue of his control of space, and thereby to bring destruction to the opponent's homeland without fear of retaliation. We are a long way from that state of affairs now, but this is the danger of which we must be constantly aware.

To summarize this aspect of military affairs, the earth launched ballistic missile would seem to fulfil requirements for offensive and deterrent forces for many years to come. Space based systems do not appear to offer operational advantages at the present time and would almost certainly be very much more costly.

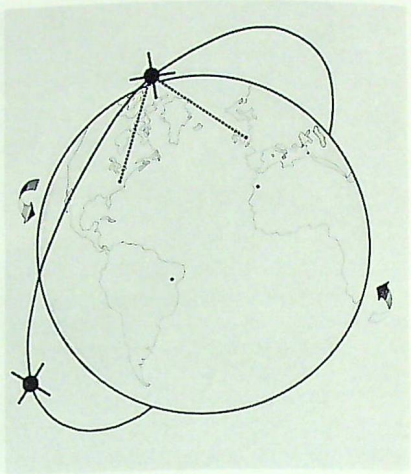


FIG. 1: Effect of motion of satellites in orbit and earth rotation on the continuity of a communications link are shown here.

Earth satellites have some potential in the very difficult problem of defence against the ballistic missile, by virtue of the fact that they can operate in a region where there is little attenuation to very high frequency radiation such as infra red. This feature, together with the wide field of view obtained from satellite altitudes makes feasible a system to detect hot objects such as rocket motors as they rise above the tropopause. The development of such a warning system into one for intercept and destruction of the warheads is clearly something we should explore.

CIVIL APPLICATIONS

Turning now to less fanciful matters, there are a number of everyday operations which will be facilitated in the next few years by the introduction of earth satellite systems. Specifically these are:

- communications;
- navigation;
- meteorology.

Satellite relay systems offer two advantages over ground-based equipment for long range communications: firstly, long range can be obtained using line of sight frequencies, due to the altitude of the satellite above the earth; secondly long range transmis-

sions, which are now affected by ionospheric disturbances, can be made much more reliable, since the very high frequencies used in line of sight transmissions are relatively unaffected by natural phenomena.

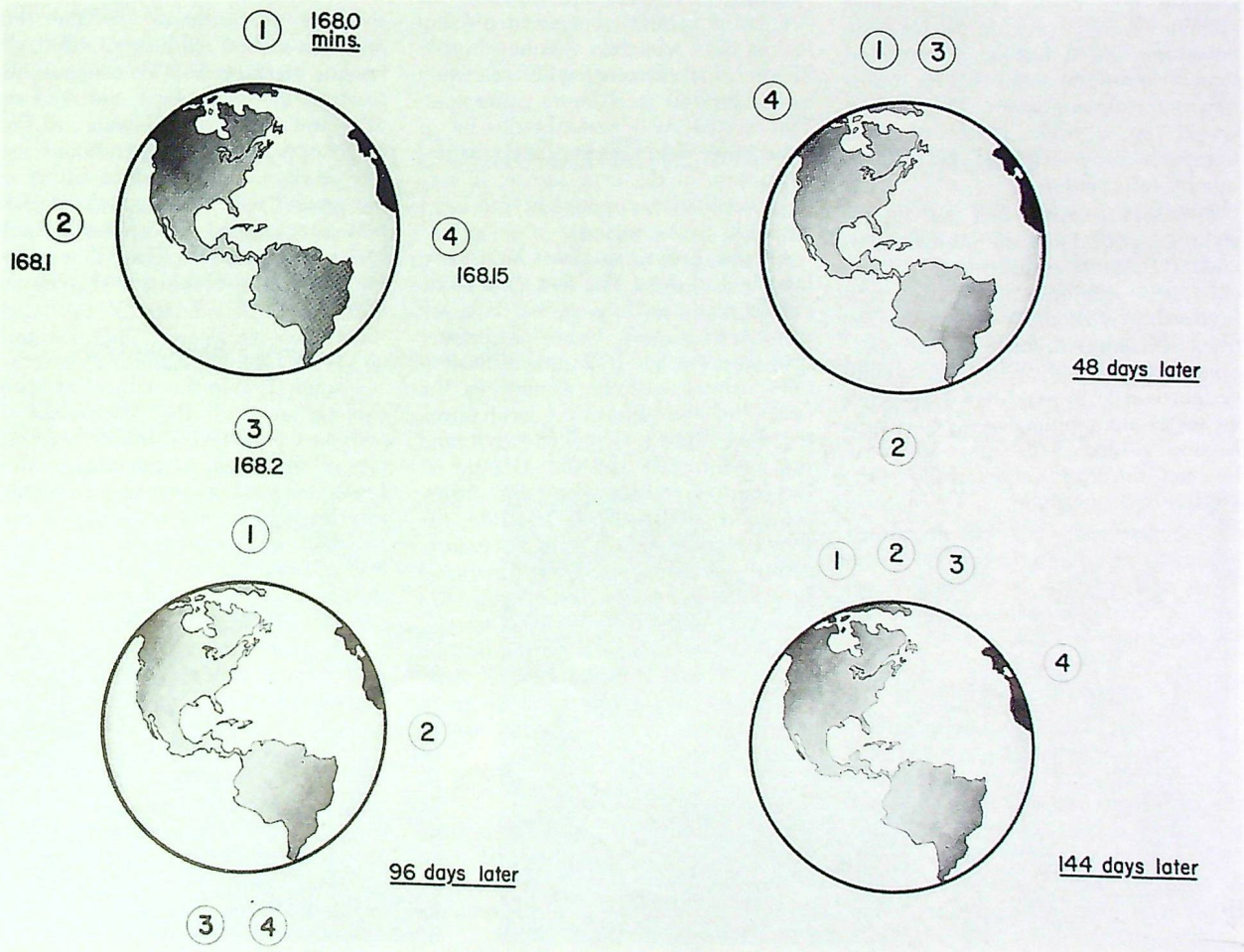
The number of satellites required in a communications system depends upon their altitude and the problem of determining the number required is complicated by the different motions of the earth about its axis and the satellites in their orbit (see Fig. 1). The orbital period of a low altitude satellite is considerably less than that of the earth's rotation, so that, when a satellite of two-hour period (for example), returns to the same place in its orbit after one revolution, the earth locations which it is attempting to link will have effectively moved 30° in longitude. The link must therefore be maintained by a preceding or succeeding satellite in the same orbit, or possibly by satellites in another orbital plane.

COMMUNICATIONS PROBLEMS

A further complicating factor is that we cannot rely on the satellites to maintain their position in orbit relative to each other. A number of factors such as small velocity errors made in placing the satellites in orbit, the non-spherical shape of the earth, differential atmospheric drag (if the orbits are close to the earth), and gravitational effect of other bodies (if the satellites are far enough away from the earth), may make the satellites overtake one another in their orbital plane or cause the orbital planes of the satellites to diverge. Unfortunately this distortion of the satellite orbits by one or many of the effects is cumulative, so that over a period of time, satellites which were once regularly spaced, tend to bunch, and this can have a serious effect on the maintenance of the communications link.

This bunching effect is graphically illustrated in Fig. 2. In the top left picture are shown four satellites, regularly spaced in orbit, but launched with errors which result in their period varying by up to 2/10 of a minute, or 12 seconds. The top right picture shows the positions of the satellites exactly 48 earth rotation (or days) later. There is considerable bunching at the top and it is certain that continuity of communications will

FIG. 2: "Bunching" of satellites can have a serious effect on the maintenance of a communications link.



suffer in the southern part of the world. The situation has improved somewhat after 96 days, but again the coverage will be far from perfect. After 144 days, all satellites are confined to one quadrant. This bunching process will repeat itself in time so that coverage is alternately good or patchy, depending on the location of the receiving and transmitting stations which it is desired to link.

To overcome these problems the ultimate development in a satellite communications system will employ satellites with orbits in the equatorial plane and with 24-hour period. Such satellites would appear from the earth to hover over one point. The 24-hour period can be attained only by satellites at an altitude of 19,500 nautical miles above the earth, and large boosters will be necessary to place significant payloads in orbit at that altitude. A minimum of three ground stations would provide world-wide coverage, and it has been suggested that a first use would be for trans-Atlantic communication. This system would be capable of transmitting television programs and other high quality information.

It is an interesting fact that the installation period and the initial capital cost of a system employing three synchronous satellites compare very favourably with other more conventional systems. Moreover, the operating cost of the synchronous satellite system will be competitive with other means of communication such as submarine cables. This may therefore become the first economically competitive space system.

The first test of a US developed synchronous satellite system will be in 1963, and it is to be expected that reliable communications will be established late in 1964.

NAVIGATION

When the first earth satellites were launched, a number of groups reported measurements of Doppler shift of the radio transmissions from the satellites, and deductions of orbit parameters from them. A group at the Applied Physical Laboratory, Johns Hopkins University, proposed that such a procedure, worked in reverse from known orbit parameters, could be the basis of a position fixing system. The apparent increase, null, and decrease in the received frequency as the navigation satellite transmitter approaches, goes overhead, and recedes makes it possible to determine the relative position and motion of the satellite and observers. The US Project *Transit* is designed to establish a navigation system using this principle in the first instance, with development leading to a system in which satellites transmit such information as identification and time and a principle similar to astro navigation is used.

The accuracy of navigating by *Transit* will vary with the accuracy of observing the satellite position, the computing procedure, and will also be directly related to the known orbital characteristics. No figures of expected accuracy are available as yet, but it is likely that position fixing to less than one mile will be possible in the final system, with relatively simple ground or airborne equipment. This system will undoubtedly be of importance for airborne and surface navigation in the near future. It may have particular application for navigation in Arctic regions.

Several *Transit* satellites have been launched to date. The first (a 36-inch 265-lb non-miniaturized test vehicle) was launched by a *Thor Able* booster on 14 September 1959 toward a 400-mile orbital altitude. Owing to the failure of the separation mechanism, the final stage was not effective, and the satellite fell into the Atlantic off the coast of Ireland. However, during the short lifetime of the satellite, the Johns Hopkins group made measurements which confirmed a predicted fixing accuracy of considerably less than one mile from a fixed ground station. A second satellite duplicating *Transit I* was launched on 13 April 1960, and the development program is continuing with periodic experimental launchings.

METEOROLOGY

Earth satellites, travelling outside the atmosphere and equipped with suitable sensors, offer a unique opportunity to observe the phenomena which control the weather. Initial observations of cloud cover and movement have already been made and these data should allow some estimates of wind force and direction to be made. As suitable equipment becomes available, a three-dimensional distribution of temperature and water vapor at all altitudes can be obtained. With suitable infra-red sensors, the temperature and quantity of gases such as carbon dioxide in the atmosphere can be measured, and this will lead to a better understanding of the circulation of air currents which have a direct effect on weather conditions on earth.

While measurements are continually being made from instruments installed in satellites and rockets on a space-available basis, the US satellite *Tiros* is equipped with infra-red detectors and television. Later models will contain a light-weight radar to measure precipitation. In the first model launched on 1 April 1960, the images from two TV cameras are scanned, stored on tape and read out to ground stations at Hawaii and Fort Monmouth, N.J. In operational use, the production of finished prints on the ground will be the start of a complex operation to provide usable data to local forecasters. The US weather bureau is responsible for this important phase.

SPACE EXPLORATION

I come now to the subject of space exploration and the usefulness of activities outside the immediate vicinity of the earth. At the present time I cannot predict any major military role for man in space. In saying this, I do not wish to exclude the possibility that one may develop, but merely that it is in my view too early to be specific about the military role in space. This is an area where constant attention is necessary because, as I mentioned earlier, we could not permit another power to reach the point where it could control activities on earth from a position in space.

Although we cannot specify at the present time any major military role for man in space, I consider that the projects aimed at manned space exploration must continue; firstly,

because it is not in the nature of man to neglect this challenging opportunity and, secondly, because the advances in scientific research which will result from this exploration will ultimately be of great benefit to the human race.

CANADIAN PARTICIPATION

The great cost of supporting many of the programs which I have mentioned makes it most desirable that Canadian participation in this field should be on a cooperative basis with the US or within the Commonwealth. Although the advances required in such areas as propulsion can probably be financed only by the major powers, there are many less spectacular developments which will be vital to the success of the projects and may well be within the scope of Canadian effort. For example, on-board electronic equipment and auxiliary power units will be needed which must necessarily be light yet high powered. They must also be able to withstand radiation and to operate in an environment far different from that on earth. Also, new materials will be needed for a wide range of applications, such as propellants, combustion chamber linings, low temperature hydraulics, vehicle skins etc. Canada could find ample opportunity for exercising her scientific talent in these associated fields.

In summary, therefore, I would make the following points:

(a) The earth launched ballistic missile would seem to fulfil requirements for offensive and deterrent forces for many years to come. Space based systems do not appear to offer operational advantages at the present time and would almost certainly be very much more costly.

(b) The use of earth satellites in a system for defence against the ballistic missile is worth exploring.

(c) Earth satellites will become useful in the fields of communications, navigation and meteorology in the very near future.

(d) No major military role for man in space can be specified at the present time, although this is an area which requires constant attention.

(e) Manned space exploration must continue because great benefit will ultimately result to the human race.

(f) Canada should participate in space projects on a co-operative basis with other nations and there are many vital areas in which she can exercise her scientific talent.

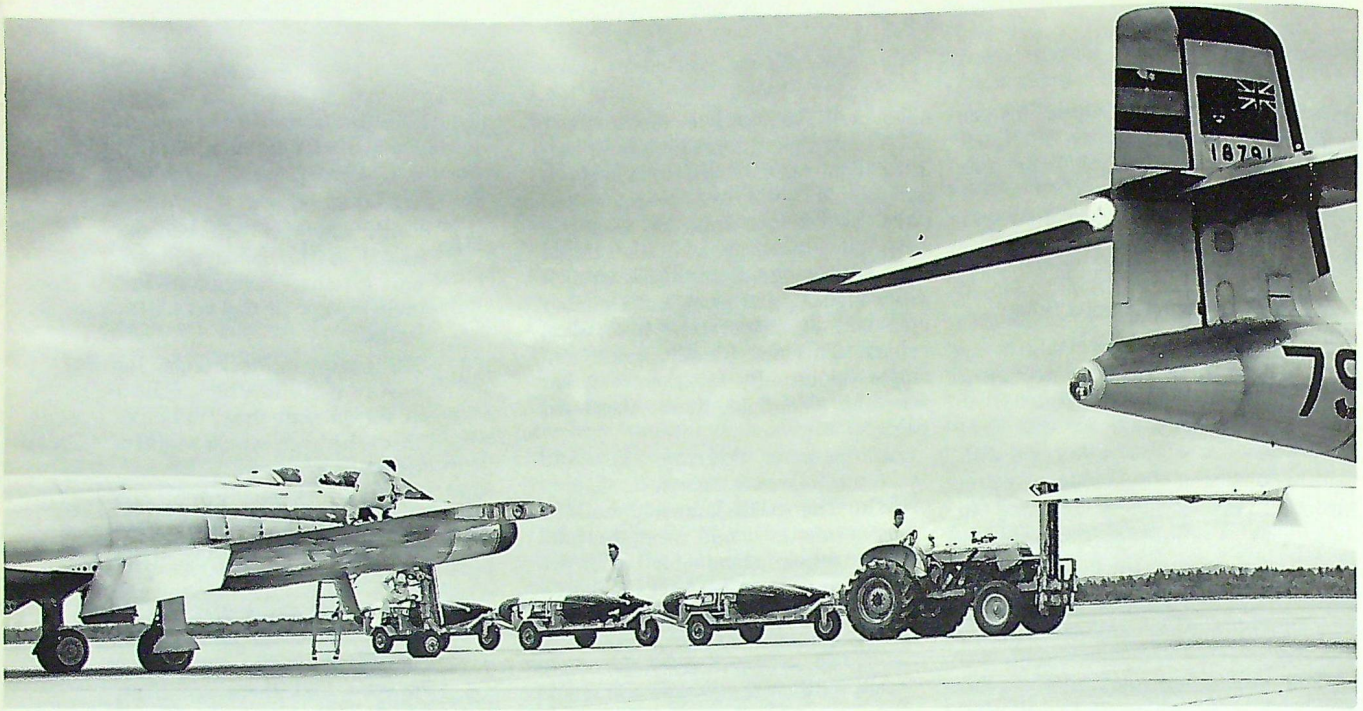
Airmen Win Dominion Rifle Shooting Honours

Flight Sergeant J. W. Brown, an RCAF instrument technician currently stationed at No. 11 TSU in Montreal, was the 1960 winner of the Queen's Medal for Champion Shots at the Dominion Rifle Association meet held at Ottawa's Connaught Ranges. He is thus one of only seven Canadian servicemen to win the award since its creation in 1954 and is entitled to wear the ribbon (dark blue with pale blue and red stripes) on his uniform.

The rifle team from RCAF Stn. Rockcliffe won two trophies during the shoot: the Senator McDonald Challenge Cup and the Victoria Rifles of Canada Challenge Trophy. Both FS Brown and the Rockcliffe team members received their awards from A/M Hugh Campbell, chief of the air staff, at the ranges.

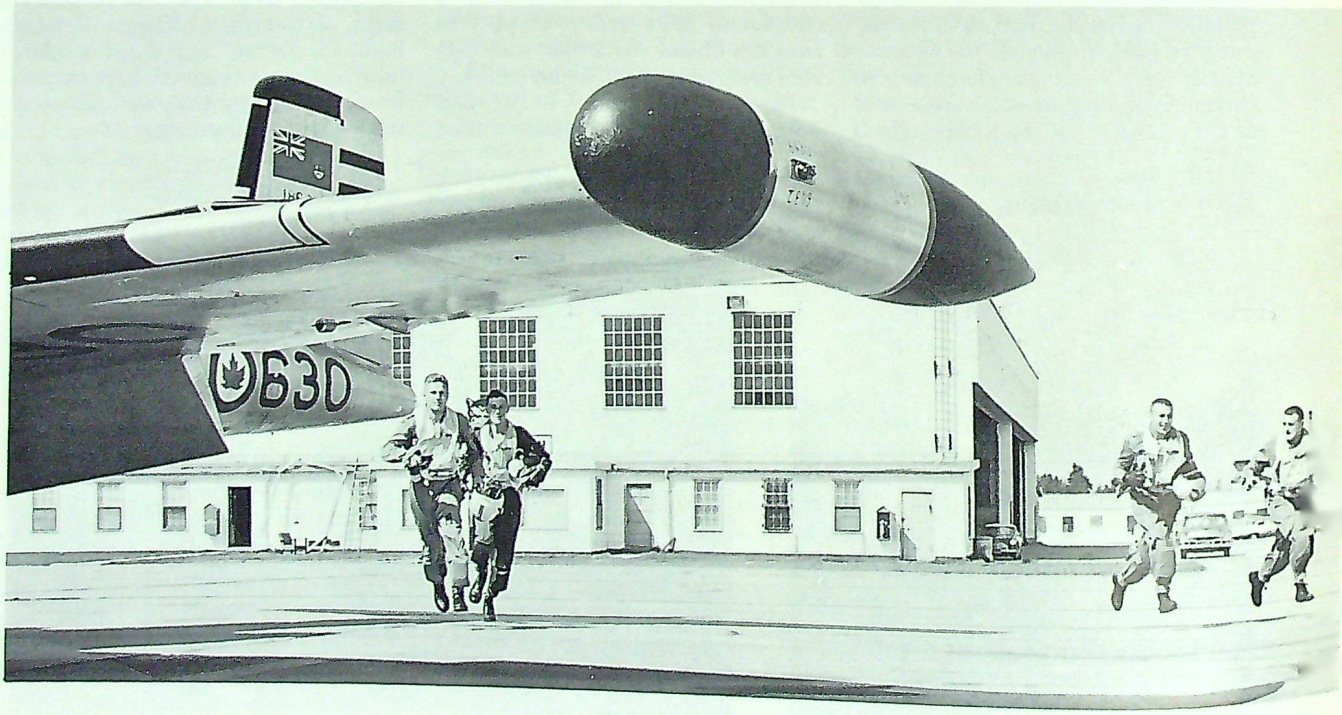
FS J. W. Brown—
Queen's Medal Winner.

L. to r.: F/L D. J. Driscoll, LAC J. Hennok, FS R. Thorburn, Sgt. M. McCullough and (kneeling) team captain WO2 K. Livingstone.



Rocket pod train crew at work on the line at Bagotville . . .

. . . are soon replaced by "scrambling" aircrew off on another mission.



Stations of the RCAF:

BY FLIGHT LIEUTENANT T. G. COUGHLIN

BAGOTVILLE

STRATEGICALLY situated in Quebec's beautiful Saguenay River Valley, RCAF Station Bagotville is Canada's eastern anchor of the all-weather air defence chain.

Crossed war clubs and the motto "Defenders of the Saguenay" which make up the proposed station badge, presently pending approval by the College of Arms, suggest that the area has long been a fortified one. But, the defenders of the Saguenay have come a long way since Montagnais Indians roamed the valley. Today, RCAF aircrews maintain a round-the-clock vigil aboard their faithful CF-100 mounts.

THE HERITAGE

The story of Bagotville is closely associated with the history of fighter pilots in Canada. Early in June 1942 Bagotville became a vital part of the British Commonwealth Air Training Plan when it was opened as No. 1 Fighter Operational Training Unit. In addition to the OTU, No. 130 Fighter Squadron, No. 12 Radio Detachment and, for a short period, No. 129 Fighter Squadron were based there. By the time the wartime station closed on 28 October 1944, approximately 1,100 pilots, representing the RCAF, RAF, RAAF, and RNZAF, had been graduated. The fighter squadrons based at Bagotville had flown regular dawn and dusk patrols and had carried out innumerable practice "scrambles" for more than two years.

On 1 July 1951, due to expanding air defence requirements, RCAF Station Bagotville was re-activated. This time, however, it was not to be a training unit but an operational fighter station. Within a month of its opening the station was in the air defence business with the arrival of the *Vampire*-equipped No. 413 Sqn. In November of the same year No. 414 Sqn. arrived, flying *Sabres*. Bagotville's two-squadron strength was halved when No. 413 went overseas to join the RCAF's Air Division; No. 414 followed in August 1953, leaving Bagotville for a brief period a fighter station without any fighter squadrons.

This situation was remedied two months later when No. 440 Sqn. was posted to the unit. The station's strength was up to par on 18 January 1954 with the arrival of No. 431 Sqn. *Sabre*-equipped No. 431 had a comparatively short life, however, as it was disbanded on 1 October 1954 and replaced on the same date by CF-100-equipped No. 432 Sqn. Bagotville finally became an all-weather fighter station in May 1957, when, in a double shuffle, No. 440 Sqn. left Bagotville for the Air Div. while No. 413 Sqn., disbanded overseas and reformed and equipped in Canada with CF-100s, returned to Bagotville.

THE TASK

Today, RCAF Station Bagotville is a key unit in the Montreal NORAD Sector. Like all other CF-100 flying units, Bagotville in on 24-hour duty 365 days of the year with a designated number of crews on varying degrees of alert status. Although not blessed by exceptionally good flying weather, overcast conditions at the unit seldom go below GCA working level, thus Bagotville has rarely known a day when its fighters haven't been airborne.

Aircrews arriving at Bagotville via the operational training unit at RCAF Station Cold Lake are highly qualified personnel but, by squadron standards, they aren't qualified enough. Their integration into either squadron isn't completed until they have been declared "combat ready" — a state acquired by completing a rigid and challenging squadron training program, attaining specified standards and maintaining them by constant practise.

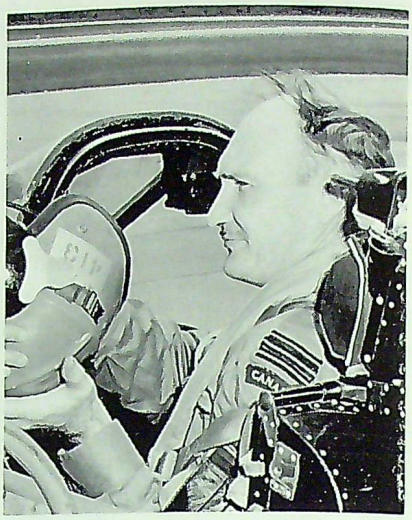
CONSTANT DRILL

Day or night the roar of departing jets is heard as aircrews take off on practise high and low-level interceptions. Pairs of CF-100s are vectored out to some specified spot in the troposphere by radar controllers of the Pinetree system. Then interception exercises with the ominous sounding name of lead-collision courses are carried out. From their lofty realm eight miles high attacking aircraft respond to instructions from ground controllers as "blips" of light on cathode tubes are brought unerringly together on converging courses. When they are close enough for airborne radar to take over, the second man in the CF-100 crew, the observer, comes into his own. Quickly giving changes of heading to his pilot as hunter and hunted merge, the observer tensely watches his scope until a triumphant call of "splash one" indicates a "kill". The kill probability of each exercise is carefully determined by cine films assessed by squadron weapons officers at the end of each exercise. A record is kept of these exercises so individual crews can compare their proficiency rating to others in the squadrons and, by consulting published performance data, can see how their squadron stacks up against others in Air Defence Command. Since a record of their "batting averages" is available in print, a strong incentive exists for crews to engage in healthy competition.

In addition to practice interceptions, the fliers at Bagotville engage in in-

G/C J. A. B. D. Richer, DFC
C.O. Stn. Bagotville

W/C J. R. D. Braham, DSO, DFC, AFC
O.C. 432 Sqn.



W/C R. D. Schultz, DFC
O.C. 413 Sqn.

tricate cat and mouse games known officially as Electronic Counter Measures Exercises. These missions are necessary in this electronic era when scientific advances are constantly complicating the already complex field of radio warfare. To ensure that they are abreast of the latest developments in this field, aircrews are scrambled to intercept target aircraft laden with electronic gear designed to jam radar defences and telecommunications. Using a variety of methods such as dropping chaff and blocking frequencies, the "intruders" attempt to run the aerial blockade. The task of the CF-100s is to stop them.

Additional training engaged in by aircrews of Nos. 432 and 413 Sqns. includes long range practice defence penetrations. For these manoeuvres, tip tanks replace the CF-100s' normal rocket pods as the aircraft are sent on prolonged sorties as target aircraft. To round out their training and to demonstrate conclusively that they are, in fact, combat ready two or three exercises a week are held to determine the squadrons' reaction. These exercises, which may or may not be known to the squadrons beforehand, emanate either from the appropriate NORAD Sector, ADC Headquarters or NORAD Headquarters.

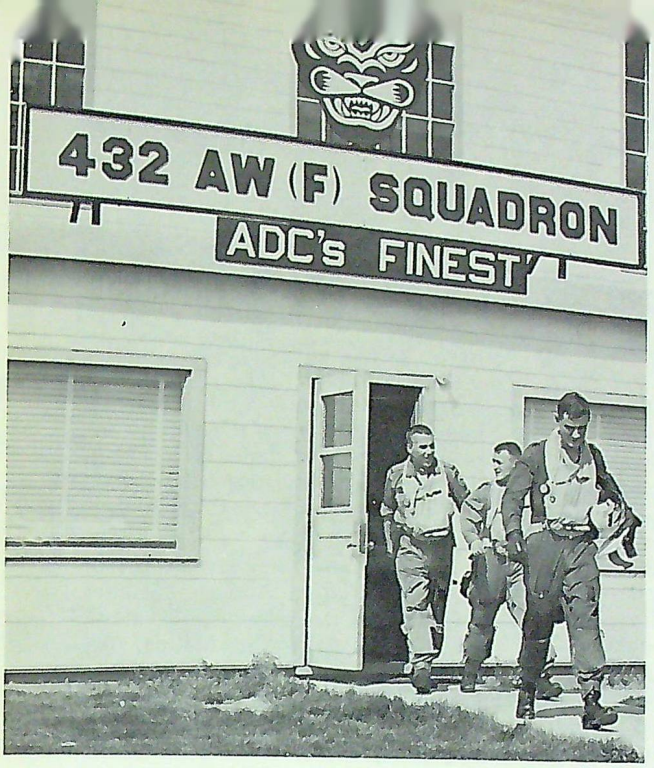
To ensure that the squadrons' pilots are ready to go in any kind of weather and can maintain their high standards, a mandatory number of instrument hours are flown each month in the squadrons' T-33 aircraft. This IF practise in the air is supplemented by many hours spent in the CF-100 Operational Flight and Tactics Trainer. This simulator can realistically duplicate every aspect of a training mission from the starting up of engines at the beginning of a flight, through a complete interception exercise, to shut-down at the end of the trip. When they are not in the air or in the simulator the aircrews are expected to stay current in such subjects as flight procedures and flying orders, navigation, meteorology, aeromedicine, flight safety, armament, and fire control systems. To supplement this ground training each squadron conducts short survival courses throughout the year. In these exercises several crews at a time are taken out to the woods and left overnight with the survival equipment which is normally carried in CF-100s.

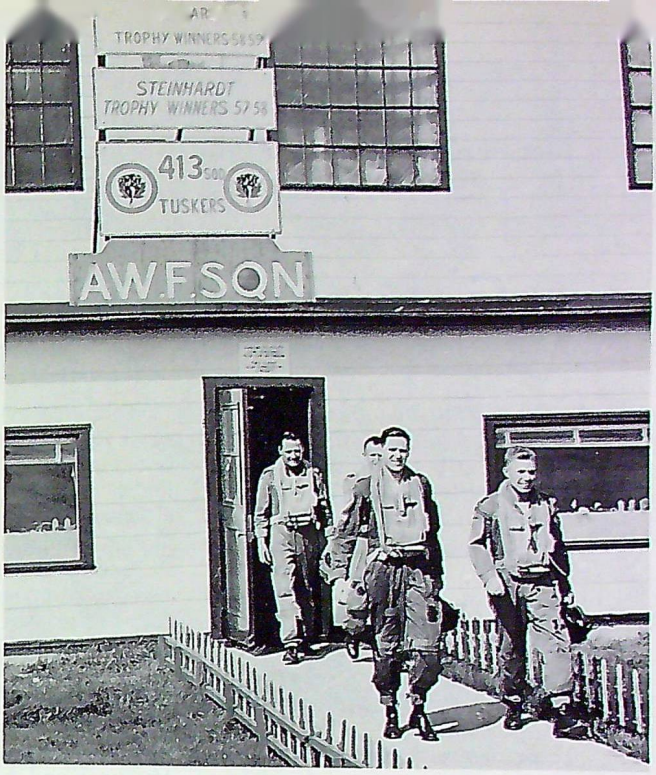
Just which of Bagotville's two squadrons is the better is somewhat hard to say. Posted over the entrance to No. 5 hangar, home of No. 432 Sqn. is a sign which reads "No. 432 Squadron — ADC's Finest". This modest claim is, of course, completely ignored by the members of No. 413 Sqn. whose own claim to fame is displayed for all to see on the sign which reads "No. 413 Squadron, winner of the Steinhardt Trophy in 1958 and 1959."

In addition to No. 432 Sqn., commanded by W/C J. R. Braham DSO, DFC, and No. 413 Sqn. under the command of W/C R. D. Schultz DFC, there is also a Station Flight at Bagotville equipped with one T-33 and two *Expeditor* aircraft. Along with the normal role of transportation, communications and practise flight for personnel on ground tours, Bagotville's Station Flight occasionally finds itself acting in a search and rescue capacity.

THE AMENITIES

RCAF Station Bagotville is a self-contained community comprised of approximately 1,200 servicemen and dependents and is located some five miles from its namesake and seven miles from Port Alfred, the seaport for the great aluminum plant at Arvida. The station encompasses an area of 1,838 acres laced together by 11 miles of roads and dotted with almost 80 buildings. Like so many





RCAF stations, Bagotville is a combination of the old and the new, with buildings ranging in age from wartime "H-huts" to the ultra-modern maintenance hangar. The airmen's club, for instance, is the renovated station theatre of many years ago, while the wartime officers' mess is now seeing duty as the office of Defence Construction Ltd. An unlikely combination is the sewage disposal plant and greenhouse building, the large glassed-in area which serves the double duty of drying sludge (used for fertilizer on station flower beds) and providing greenhouse conditions for young plants. The station's PMQ area, appropriately named Saguenay Park, contains 220 modern homes and 28 trailers in a park-like setting with ample green lawns, trees and flowers.

Station Bagotville is not an all-work and no play organization. In spite of the fact that it is a going concern 24 hours a day with personnel working shifts, there is still ample time for healthy recreation and sports activities. As well as having a fully-equipped recreation hall and gymnasium, the station also boasts such amenities as a 250-seat theatre, a swimming pool, outdoor tennis courts, a three-sheet curling rink, bowling alleys, a drama club, station band, hobby shop, auto club and a library.

RCAF Station Bagotville has a responsible role to play in the national defence picture. Since its units secure one flank of the all-weather fighter force its obligation is a vital one.

WO2 A. J. Pridham and station band lead children to Bagotville swimming meet.

BY WING COMMANDER R. V. MANNING, DFC
Air Historian

Graduation of the First Observer Course, BCATP

Two decades ago this month, on 27 October 1940, the first Observer Course, BCATP, completed advanced navigation training at Trenton and was given its wings. One year later half this course had been killed in action and by the end of the war over two-thirds of the original 37 course members who proceeded overseas in November of 1940 had given their lives for their country — probably the highest casualty rate ever suffered by an RCAF course.

These observers had been selected from the first group of aircrew trainees to graduate from No. 1 ITS in the old Eglinton Hunt Club° and late in May 1940 were posted to the newly-opened Air Observer School at Malton. There is a hint of the hurry, and occasional confusion, of those early days of the BCATP in the laconic note in No. 1 ITS's diary for 27 May 1940: "Observers from last course returned to resume study here. At noon were shipped back to Malton." Malton was described in 1940 as a village 15 miles west of Toronto.

No. 1 AOS had been rushed to completion to receive this first class. It was one of the many schools in the early days of the BCATP which were operated by private companies on behalf of the airforce. Dominion Skyways had been given a contract to provide the flying and domestic services at No. 1 AOS while the RCAF provided the ground lectures and checked the quality of the graduates. It was a system which worked surprisingly well and although all the facilities at Malton were not complete (the canteen for example was still housed in a tent) everything that was needed to give the first course their basic observer training was on hand.

° THE ROUNDEL, Vol. 12, No. 6, Jul.-Aug. 1960

Work was hard and the worsening news from Europe, where Hitler's forces were winning staggering victories, lent an underlying note of urgency to the steady alternation of ground school and flying instruction. It is difficult to be serious all the time, however, and during the time that this course was at Malton occurred the piece of frivolity known as "The Case of the Lonesome Airman". A massed flight of *Anson* aircraft from Malton had been arranged to fly from Malton to North Bay to Ottawa to Montreal and back to Malton. Over Ottawa one of the students threw out a note which read "Lonesome flyer wishes to correspond with a young lady" and signed his friend's name, Peter Leboldus. Whoever picked up the note passed it to the newspapers, who, probably surfeited with the gloomy news from overseas, were glad to regale their readers with lighter fare. A former member of the course can remember the look of despair on Peter Leboldus' face in his room at Malton, surrounded by letters from sympathetic females, and wondering how he could explain it to his sweetheart in Montreal. Later F/L Leboldus was to become one of the three sets of three brothers to give their lives in the air force.

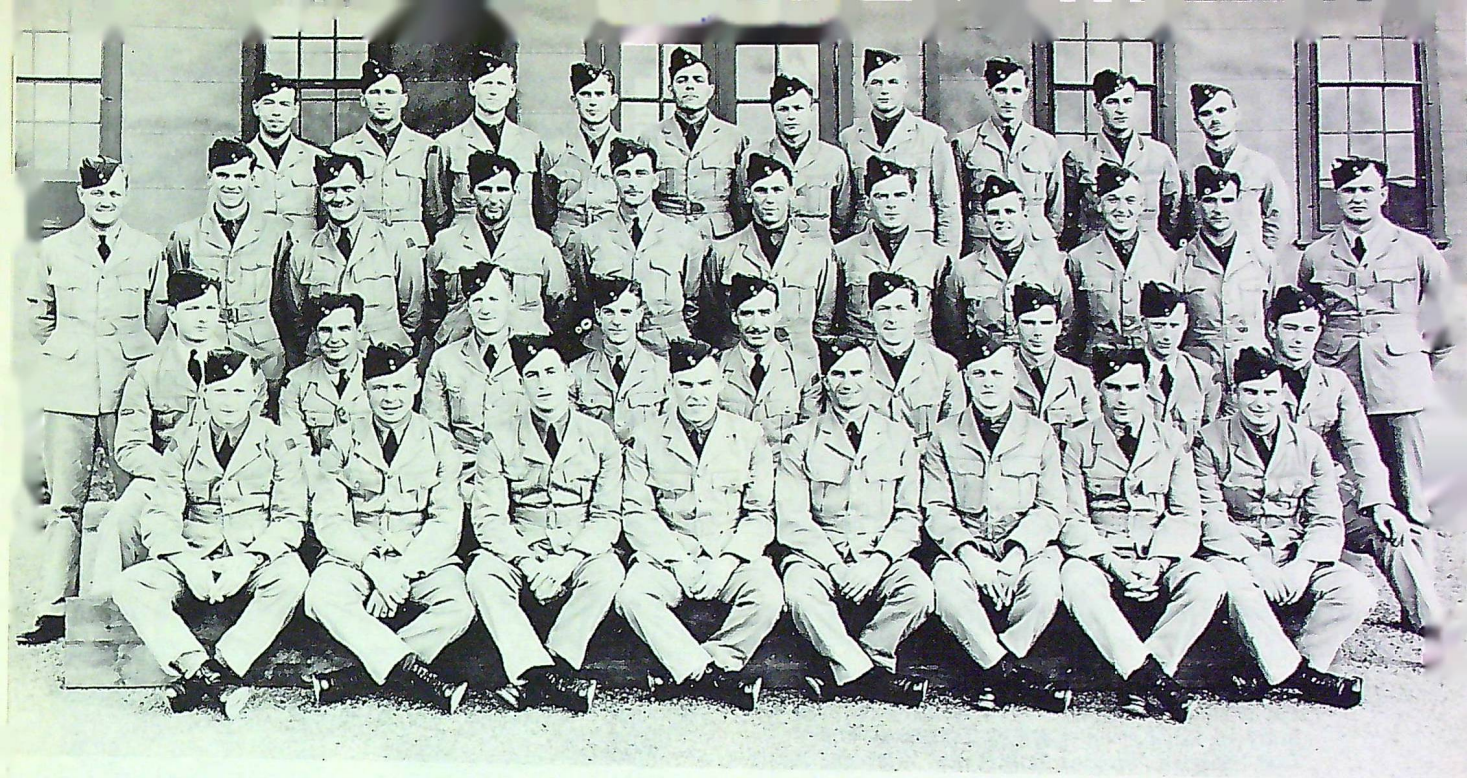
BOB HOPE'S DEFINITION OF A NAVIGATOR:

And those navigators! Imagine hitting a little island in the middle of a big body of water. I can't even find the soap in the bathtub. But a navigator can find anything. He just takes out some maps, shoots the sun, draws a circle on his map, trisects the circle, figures the number of degrees in each angle against his compass reading, cuts the cards, and before you know it he's located the only blonde in town.

Bombing and Gunnery School at Jarvis followed in August. Facilities at this school were even less advanced than they had been at Malton, and for the first few days the students resorted to some primitive expedients to get water for shaving and ablutions. Apparently the dearth of water in the pipes was not true of the big outdoors and the motto for No. 1 BGS (the well-known "You'll Stick To Your Job at Jarvis") was founded on literal truth.

Although succeeding observer courses received their wings when they completed the course at Bombing and Gunnery School, No. 1 Course remained un-winged until after the completion of advanced navigation training at Trenton, a delay that cost it the honour of being the first BCATP aircrew course of any trade to be awarded its wings. After graduation and a period of embarkation leave, 37 of the original 41 who had left No. 1 ITS six months earlier to start their training as observer embarked on the "Duchess of Richmond" bound for the United Kingdom, the first BCATP aircrew to be posted overseas.

When Course No. 1 Observers disembarked in the United Kingdom on 25 Nov. 1940 the Blitz was still at its height. London had taken a gruelling beating and the smashing raid on Coventry was just over. With the Royal Air Force straining every resource to hold off the enemy and prepare a response, there was no delay in sending the new Canadian observers to squadrons. A wartime



Back row (l. to r.): A. B. MacKenzie, D. S. Florence, D. S. Craik, W. W. Heywood, J. Gellner, J. H. Smith, J. P. Scott, unidentified, W. F. Webber, W. L. Waldron.

Third row: J. A. Jepson, J. H. Purser, N. J. Leishman, A. E. Snell, J. R. Gilmore, T. H. Rose, C. D. Noble, J. H. C. Roberts, D. C. Martin, R. A. Mather, I. H. Acland.

Second row: G. J. Mavor, L. C. Mansell, H. R. Easton, G. F. King, J. G. Flaherty, J. G. Pidduck, A. H. A. Morris, T. S. Royan, R. W. Alexander.

Front row: G. T. Webb, L. S. Hill, U. J. Bezaire, T. E. Carter, W. H. Cleaver, B. C. MacNab, P. J. Leboldus, G. W. Jeffrey.

newspaper reported that P/Os Snell and Flaherty were in action within a week of their arrival in England, and "Butch" Cleaver (S/L ret.) remembers that only six days after landing he carried out his first operation. The first casualty occurred within little more than a month of disembarkation when P/O L. H. Hill was killed on No. 42 Squadron.

Over half the course went to Bomber Command and most of the remainder went to Nos. 22 and 42 Sqns. in Coastal Command, circumstances which helped to account for the high attrition rate suffered by this group of aircrew. Bomber Command's losses were heavy in relation to its resources during this period, as it sought to retaliate for the destruction falling on the United Kingdom. The two Coastal Command squadrons, the only trained torpedo-carrying squadrons in the Royal Air Force in 1940-41, were carrying out a gallant but costly campaign to prevent German naval vessels escaping from German-controlled waters into the open seas.

Two members of the course who especially distinguished themselves on bombing operations and who survived to become members of the postwar air force were P/O John Gellner (W/C ret.) and Sgt. Joe Noble (W/C). Torpedo-bomber operations brought fame to several of this first group of Canadian observers to see action in the Second World War. Sgt. Jimmy Scott, the youngest member of the course at 19, was the navigator of the *Beaufort* which slipped through the defence of Brest harbour and which survived for long enough to put a torpedo into the German battle-cruiser "Gneisenau" in one of the most gallant operations of the war. An equally successful attack was carried out in the North Sea on the German heavy cruiser "Lutzow" by a *Beaufort* whose navigator was Sgt. A. H. Morris. Less than a year later Al Morris was killed navigating a formation of *Beauforts* and other aircraft against the "Lutzow's" sister ship, the "Prinz Eugen."

Time has permitted most of the survivors of this distinguished group to slip into the anonymity of civilian life but it is unlikely that the men who were there will ever forget that they were members of "Course No. 1 Observers, BCATP."

A MEDAL FOR HORATIUS?

BY COLONEL W. C. HALL, USA

(Reprinted courtesy U.S. ARMY COMBAT FORCE JOURNAL)

Rome
II Calends, April, CCCLX

SUBJECT: Recommendation for Senate Medal of Honour

To: Department of War, Republic of Rome

I. Recommend Gaius Horatius, Captain of Foot, O-MCMXIV, for the Senate Medal of Honor.

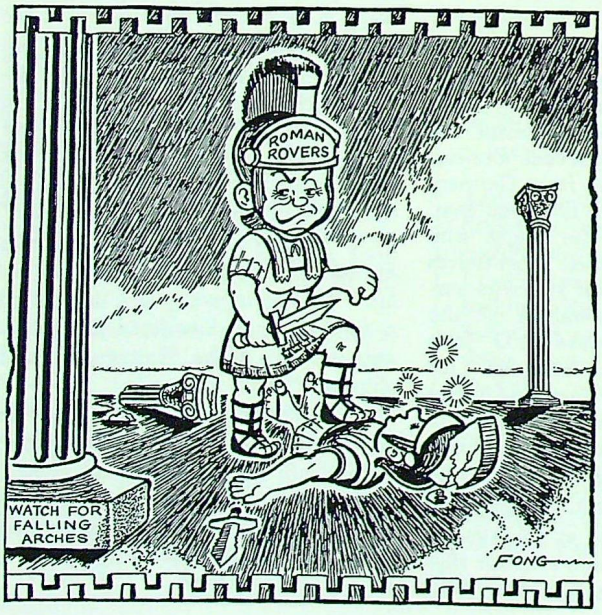
II. Captain Horatius has served XVI years, all honourably.

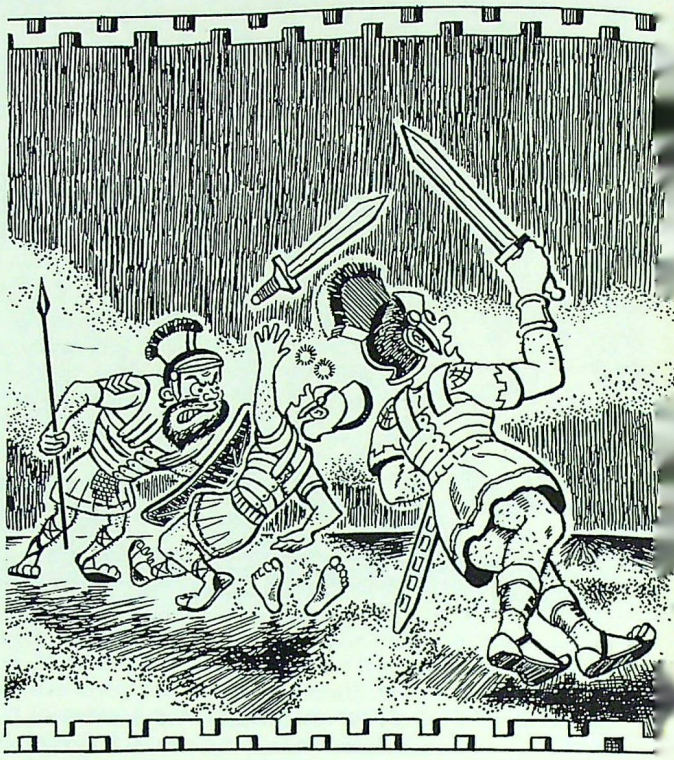
III. On the III day of March, during the attack on the city of Lars Porsena of Clusium and his Tuscan army of CXM men, Captain Horatius voluntarily, with Sergeant Spurius Lartius and Corporal Julius Herminius, held the entire Tuscan army at the far end of the bridge, until the structure could be destroyed, thereby saving the city.

IV. Captain Horatius did valiantly fight and kill one Major Picus of Clusium in individual combat.

V. The exemplary courage and the outstanding leadership of Captain Horatius are in the highest tradition of the Roman Army.

JULIUS LUCULLUS
Commander, II Foot Legion





1st Ind. AG. IV Calends, April CCCLX

To: G-III

For Comment,

G.C.

IId Ind. G-III IX Calends, May, CCCLX

To: G-II

I. For comment and forwarding.

II. Change paragraph III, line VI, from "saving the city" to "lessened the effectiveness of the enemy attack". The Roman Army was well dispersed tactically; the reserve had not been committed. The phrase as written might be construed to cast aspersions on our fine army.

III. Change paragraph V, Line I, from "outstanding leadership" to read "commendable initiative". Captain Horatius' command was II men — only I/IV of a squad.

J.C.

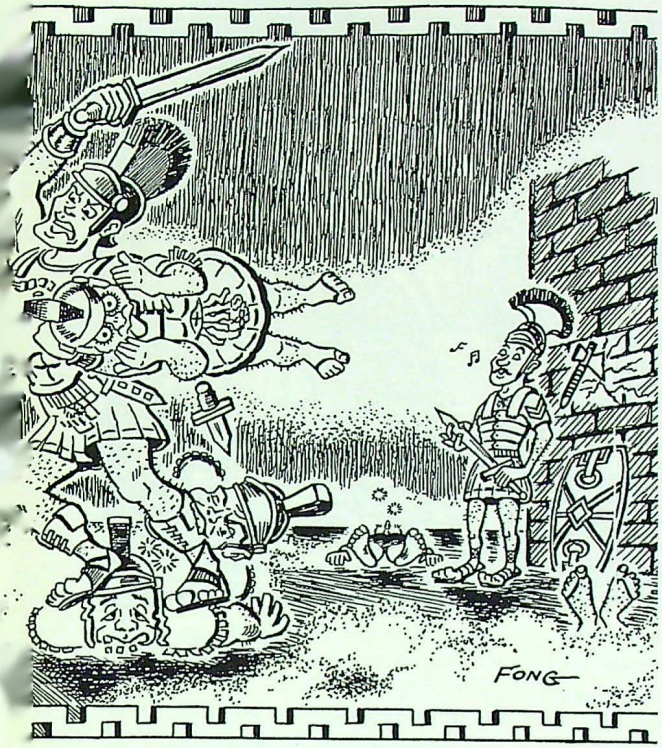
IIId. Ind. G-II. II Ides,
June, CCCLX.

To: G-I

I. Omit strength of Tuscan forces in paragraph III. This information is classified.

II. A report evaluated as B-II states that the officer was a Captain Pincus of Tifernum. Recommend change "Major Pincus" to "an officer of the enemy forces".

T.J.



IVth Ind. G-IIX Ides,
January, CCCLXI

To: JAG

I. Full name is Gaius Caius Horatius.

II. Change service from XVI to XV years. One year in Romulus Chapter, Cub Scouts, has been given credit for military service in error.

E.J.

Vth Ind. JAG IId of
February, CCCLXI

To: AG

I. The Porsena raid was not during wartime; the temple of Janus was closed.

II. The action against the Porsena raid, ipso facto, was a police action.

III. The Senate Medal of Honor cannot be awarded in peacetime. (AR CVII – XXV, paragraph XII, c.)

IV. Suggest consideration for Soldier's Medal.

P.B.

VIth Ind. AG, IV Calends,
April, CCCLXI

To: G-I

Concur in paragraph IV, Vth Ind.

L.J.

VIIth Ind. G-I, I day of
May, CCCLXI.

To: AG

I. Soldier's Medal is given for saving lives, suggest Star of Bronze as appropriate.

E.J.

VIIIth Ind, AG III day of
June, CCCLXI

To: JAG

For opinion.

G.C.

IXth Ind. JAG. II Calends,
September, CCCLXI

To: AG

I. XVII months have elapsed since event described in basic letter. Star of Bronze cannot be awarded after XV months have elapsed.

II. Officer is eligible for Papyrus Scroll with Metal Pendant.

P.B.

Xth Ind. AG. I Ide of
October, CCCLXI

To: G-I

For draft of citation for Papyrus Scroll with Metal Pendant.

G.C.

XIth Ind. G-I III Calends,
October, CCCLXI

To: G-II

I. Do not concur.

II. Our currently fine relations with Tuscany would suffer and current delicate negotiations might be jeopardized if publicity were given to Captain Horatius' actions at the present time.

T.J.

XIIth Ind. G-II. VI day of
November, CCCLXI

To: G-I

A report (rated D-IV), partially verified, states that Lars Porsena is very sensitive about the Horatius affair.

E.T.

XIIIth Ind. X day of
November, CCCLXI

To: AG

I. In view of information contained in preceding XIth and XIIth Indorsements, you will prepare immediate orders for Captain G. C. Horatius to one of our overseas stations.

II. His attention will be directed to paragraph XII, POM, which prohibits interviews or conversations with newsmen prior to arrival at final destination.

L.T.

(concluded next page)

Rome II Calends,
April I, CCCLXII

SUBJECT: Survey, Report of DEPARTMENT OF WAR

To: Captain Gaius Caius Horatius, III Legion, V. Phalanx, APO XIX c/o Postmaster, Rome.

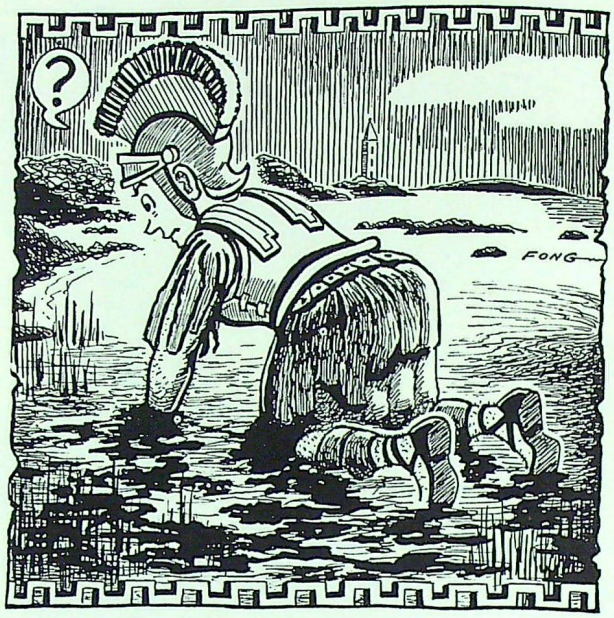
I. Your statements concerning the loss of your shield and sword in the Tiber River on III March, CCCLX, have been carefully considered.

II. It is admitted that you were briefly in action against certain unfriendly elements on that day. However, Sergeant Spurius Lartius and Corporal Julius Herminius were in the same action and did not lose any government property.

III. The Finance Officer has been directed to reduce your next pay by II I/II talents (I III/IV talents cost of one, each, sword, officers; III/IV talent cost of one, each shield, M-II).

IV. You are enjoined and admonished to pay strict attention to conservation of government funds and property. The budget must be balanced next year.

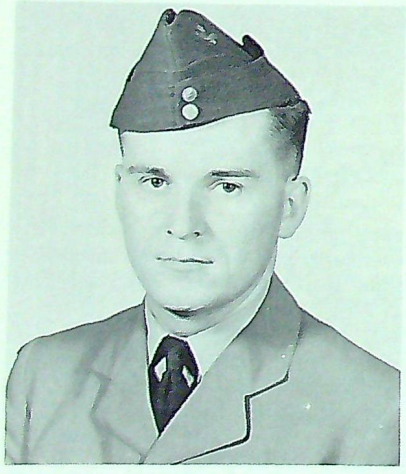
H. HOCUS POCUS
Lieutenant of Horse,
Survey Officer.



The Suggestion Box

The following individuals have received awards from the Suggestion Award Committee, Department of National Defence, for suggestions which have been officially adopted by the RCAF. Photographs of winners of $100 or over appear below. Proper procedure for submitting suggestions is detailed in AFAO 99.00/01.

LAC J. D. M. Halde of Station Rockcliffe made a suggestion concerning mailing of Government Bills of Lading which was implemented on 29 January 1960. Other award winners:



S/L M. J. Kobierski
F/L C. D. Eakin
F/L E. J. McLaren
F/L D. A. Peters
F/L J. H. Pigden
F/O K. G. Garland
WO1 G. R. Worsick
WO1 D. R. Pirie
WO1 E. M. Williams
FS G. R. Simmons
FS L. E. Palmer
FS G. Douglas
FS J. D. Hughes
Sgt. R. C. Broderick (2 awards)
Sgt. D. C. Quarry
Sgt. H. Acton (2 awards)
Sgt. W. S. Harris
Sgt. F. N. Foulds
Sgt. J. C. Hawryluk
Sgt. D. C. MacPherson
Sgt. A. H. Colbert
Cpl. J. E. Svendsen
Cpl. L. E. Hawley
Cpl. N. W. Shewchuk
Cpl. J. F. Harding
Cpl. R. T. Jordan
LAC R. J. Walker
LAC J. G. McDougall
LAC R. H. Lefurgey
LAC A. R. Cooke
LAC H. L. Swartz
LAC G. A. Hebron
LAC G. W. Scrutton (2 awards)
LAC A. B. Severn
LAC G. G. Geiger
LAC P. F. Percy
LAC R. J. Goodfellow
Mr. G. Hammond
Mr. M. Goldberg

Easy does it! Barrels are 30 feet apart in the "serpentine" event . . .

. . . here a driver goes through the "diminishing clearance" course.

ARMED FORCES DRIVING COMPETITIONS NEXT MONTH

THE annual Armed Forces Safe and Skilled Driving Competitions will be held at RCAF Station Uplands from 15 to 17 November. Contestants will be the winners of area competitions held previously throughout Canada.

Both service and civilian DND drivers will compete in tests designed to evaluate knowledge, skill and judgement. All servicemen will drive similar vehicles over the exacting course, with prizes going to the top three contestants. Three categories will be open to civilians: straight truck, single axle trailer and tandem axle trailer. Awards will go the top two drivers in each category. All prizewinners will qualify for the National Truck Roadeo in Toronto.

Added attractions will be the demonstrations of the Army Service Corps' "Jeep Assembly Team" and the Army Provost Corps' "Motorcycle Display Team". The former requires just two minutes to put a completely disassembled jeep into driving condition. The competitions will be presided over by a "Roadeo Queen" to be elected by the contestants before the three-day meeting gets underway. A parade of vehicles and competitors will take place at noon of the first day before a reviewing stand in front of DND Headquarters in Ottawa.

Drivers qualifying for the finals must meet exacting requirements. Trying for a possible 400 points, they will be tested on such things as appearance and personality as well as general driving knowledge and practical demonstrations at the wheel. Most of the points, naturally, are to be gained in the latter fields. One of the events is known as "diminishing clearance". Here the driver must steer his vehicle between two rows of gradually converging uprights. By the time he reaches the end of the course, there is no more than one inch clearance on either side of his vehicle so that even the slightest deviation can cost him a drastic loss of points. All this must be done within a given length of time.

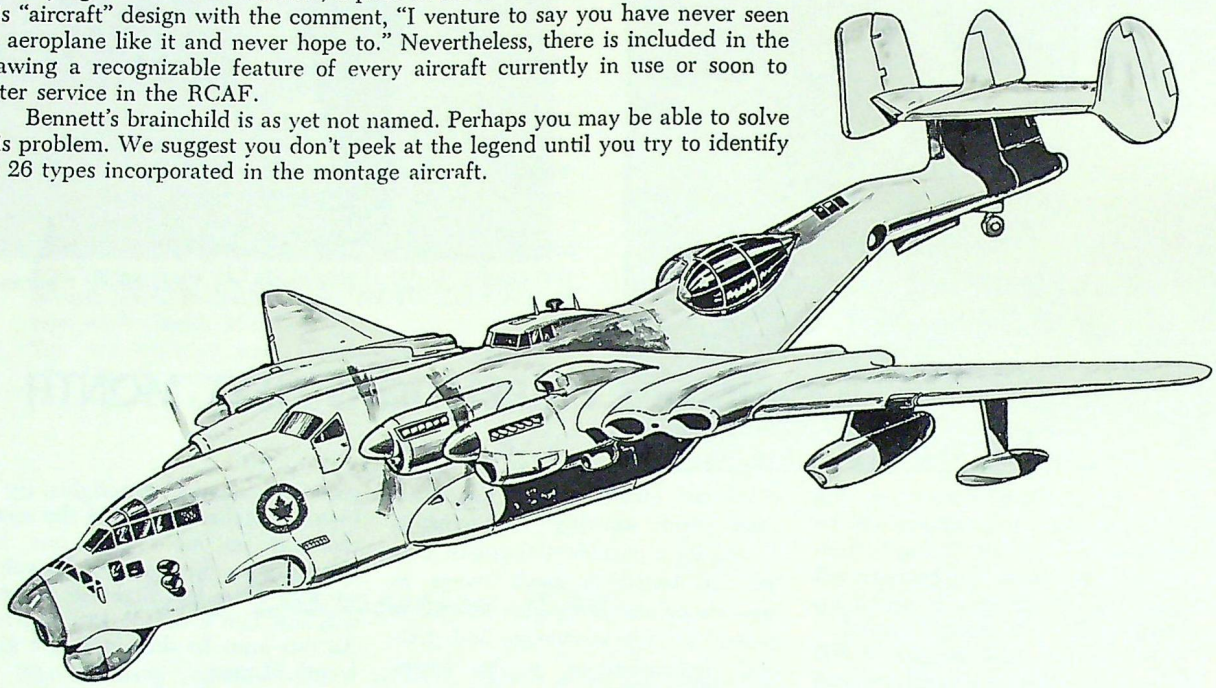
On the final evening of the competitions a banquet for all contestants will be held at RCAF Station Rockcliffe, when awards will be presented to the winners.

Service winners of the 1959 National Truck Roadeo (l. to. r.): RCAF Cpl. P. J. Orth, third; Army Cpl. C. R. Thompson, first; RCAF Cpl. H. Norden, second.

What's the Score?

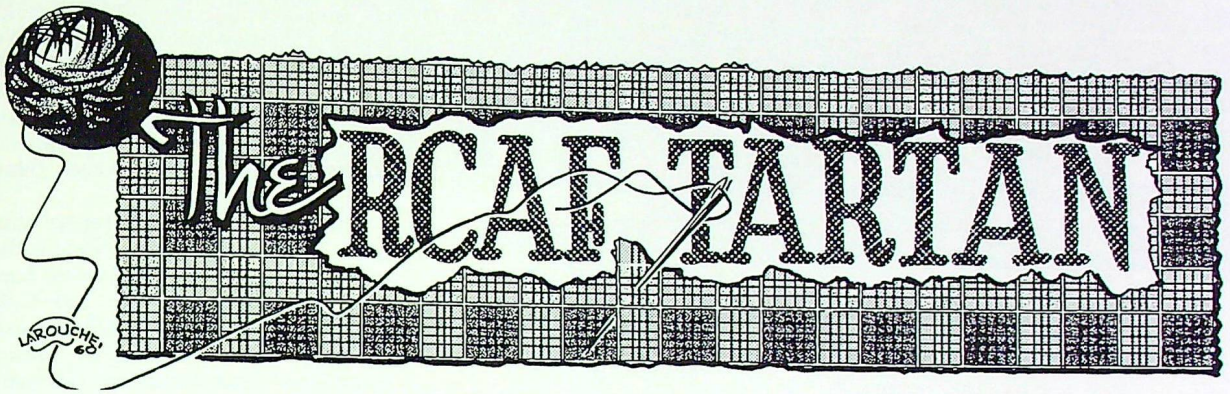
Flying Officer G. B. Bennett, a pilot at RCAF Stn. Moose Jaw, submitted this "aircraft" design with the comment, "I venture to say you have never seen an aeroplane like it and never hope to." Nevertheless, there is included in the drawing a recognizable feature of every aircraft currently in use or soon to enter service in the RCAF.

Bennett's brainchild is as yet not named. Perhaps you may be able to solve this problem. We suggest you don't peek at the legend until you try to identify all 26 types incorporated in the montage aircraft.



1.	CHIPMUNK	Central fin and rudder	
2.	HARVARD	Tailwheel.	
3.	T-33	Air intake (low down on the side of the fore part of fuselage.)	
4.	SABRE	Air intake (extreme tip of nose).	
5.	CF-100	Extreme rear of fuselage, lower fin and rudder, tailplane.	
6.	CF-104	Ventral fin (just ahead of tail-wheel).	
7.	EXPEDITOR	Port fin and rudder.	
8.	DAKOTA	Outer wing panels, air intake above, oil cooler below nearest piston engine.	
9.	C-119	Front flight deck and cabin.	
10.	NORTH STAR	Inboard port engine.	
11.	CC-106	Inboard starboard engine.	
12.	COSMOPOLITAN	Outboard starboard engine.	
13.	COMET	Paired jet engines buried in wings.	
14.	CARIBOU	Tilted part of rear fuselage with cargo door underneath.	
15.	C-130 HERCULES	Undercarriage housing bulge low on fuselage sides, amidships.	
16.	BRISTOL FREIGHTER	Rear flight deck and cabin.	
17.	OTTER	Central cabin.	
18.	CANSO	Observation blisters aft of wings.	
19.	ALBATROSS	Wing tip float.	
20.	ARGUS	Radome under nose.	
21.	NEPTUNE	Jet pod under outer wing.	
22.	LANCASTER	Outboard port piston engine.	
23.	MITCHELL	Starboard fin and rudder.	
24.	H-21 (HELICOPTER)	Louvres and hole in fuselage aft of observation blisters.	
25.	H-34 (HELICOPTER)	Twin exhaust pipes below forward flight deck.	
26.	S-55 (HELICOPTER)	Engine cooling intakes around top and sides of the nose.	

Several versions of this story persist in the RCAF. Here, told by an eye-witness, is purported to be the true origin of . . .



BY SQUADRON LEADER H. G. WILLIAMSON

Air Force Police Marshal

ONE of the most popular tartans in Canada today contains a lot of blue, a little maroon and some white. You will find it used as curtains in air force transport aircraft, and, made into drapes, adding to the decor of many messes and institutes. It is also used in numerous articles of wearing apparel, among them the tie worn with the familiar blue blazer and grey slacks. Today it is known as the Royal Canadian Air Force tartan, officially registered on 15 August 1942 by the Lord Lyon King of Arms of Scotland in his court archives.

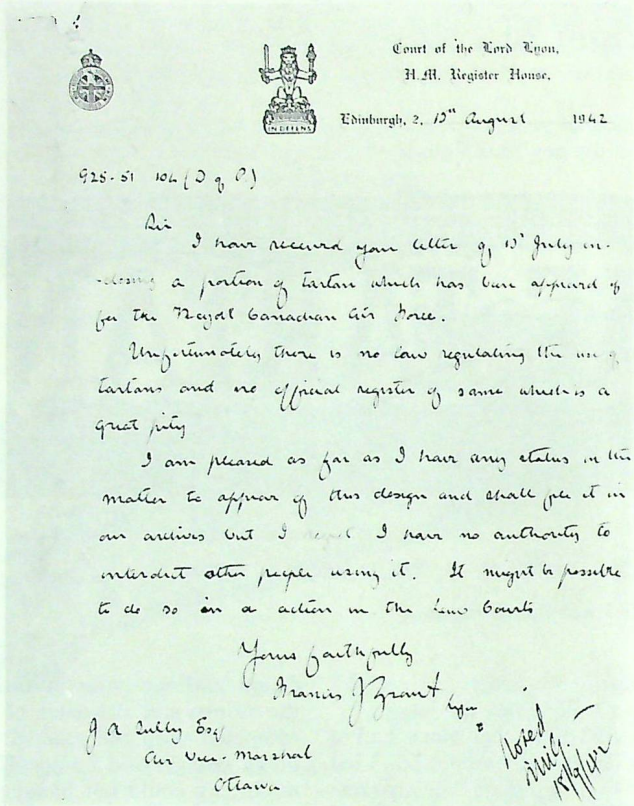
The RCAF tartan and the first RCAF pipe band are almost synonymous historically. It all started at No. 9 SFTS Summerside on 25 January 1942 at a "Burns Night" mess dinner. G/C E. G. Fullerton, a Nova Scotian of Scottish ancestry, was C.O. at the time.

Two pipers from Charlottetown piped in the traditional haggis that had been prepared by a French-speaking flight sergeant cook. I cannot recall anything unusual about the pipers but certainly you needed a large measure of Scots (or scotch) ancestry to really enjoy the haggis.

No. 9 SFTS at that time had a volunteer drum and trumpet band led by Sgt. D. A. Engdahl, an airframe mechanic. I was president of the band committee whose members were mostly of Scottish descent. The CO was so pleased with the fine music provided by the pipers at our Burns Night dinner, he decided we should endeavour to incorporate one or two into our trumpet band — a task most difficult, as we were to discover. We were unable to find pipers from within the station complement so command was asked to help. The CO was authorized to enlist two pipers, if they could be found, as general duties airmen. Mr. Brennan, publisher of the Summerside newspaper, made known our need for pipers and bagpipes. From many applicants two were finally accepted as pipers and several sets of pipes were received as gifts or duration-of-the-war loans. Now we were in business.

Soon, Station Summerside resounded to the skirl of pipes, the rattle of drums and the notes of trumpets, as the airmen and airwomen of our band competed with the roar of *Harvards* doing circuits and bumps. Try as we might, we could not blend pipes and trumpets and the drummers could not cope with the changing tempo. This resulted in the CO's decision to try to establish a complete pipe band in Scottish regalia; their dress, if possible, to be as colourful as Scottish tartans but one that would be based on a design of air force colours of light blue, dark blue and maroon.

After fruitless efforts searching stores and catalogues, the Anderson tartan came the closest to being like the one G/C Fullerton had suggested, however it still lacked something. He then decided to design a tartan based on the colours he wanted. Using red and blue pencils he sketched his ideas on a scratch pad. This was the embryo of the now-popular tartan. A few years later there was a legal argument about who, in fact, did design the tartan. As far as I am concerned G/C Fullerton was the one!



Court of the Lord Lyon,
H.M. Register House,
Edinburgh, 2. 13th August 1942

925-51 104 (D & P)

Sir

I have received your letter of 13th July enclosing a portion of tartan which has been approved for the Royal Canadian Air Force.

Unfortunately there is no law regulating the use of tartans and no official register of same which is a great pity.

I am pleased as far as I have any status in the matter to approve of this design and shall put it in our archives but I regret I have no authority to interdict other people using it. It might be possible to do so in a action in the Law Courts.

Yours faithfully
Francis J. Grant Lyon

J. A. Sully Esq
Air Vice-Marshal
Ottawa

Having this rough sketch, I then had to find someone who would weave a sample. I wrote to the Chambers of Commerce of several large cities and they were all helpful; but finally we contacted a firm in Gagetown, N.B. who had a small handloom studio operating under the Dominion-Provincial Youth Training Program. After a good deal of discussion with Miss Muriel Laurence who was in charge, a small sample was made up from our description. The weavers also made up a sample which incorporated a white line in the design. The CO liked the improvement and ordered a larger piece of the material to be sent through the proper channels to AFHQ for approval.

The AOC and AMP had discussed the proposal made by G/C Fullerton to form a pipe band and design a distinctive tartan when they had visited the station previously; therefore, when the official submission arrived in Ottawa it was not unexpected. On 21 May 1942 the Air Council viewed the sample, accepted it with minor changes relating to the shades of blue and commended No. 9 SFTS for its fine effort. On 26 May a new sample, changed to comply with Air Council's suggestions, was sent to Ottawa. A/V/M J. A. Sully (AMP) then requested the Lord Lyon King of Arms of Scotland to register the tartan in his Court. This was done and on 15 August 1942 it was named the official Royal Canadian Air Force Tartan, becoming as far as is known the only tartan approved for any Commonwealth air force. Pipe bands were authorized for some Scottish RAF squadrons and some wore the kilt while serving. They did not, however, use a special air force tartan. We were very proud when the RNZAF asked the RCAF for samples of its tartan in 1948. (That same year Air Ministry told an English tartan manufacturer that there was no such thing as an air force tartan!)

There is much more to pipers' uniforms than the tartan kilt. There is the question of doublets, glengarries, hose tops, spats, sporrans, etc. and G/C Fullerton tackled this problem next. Doublets were improvised by cutting away the front skirts of airmen's jackets. Glengarries were obtained by modifying field service hats through the use of ribbons and a hawk feather. Mrs. Fullerton and the officers' wives knitted hose tops in the required colours, and spats, sporrans and cairngorm brooches were purchased with non-public funds. By midsummer 1942 our two pipers were resplendent in their outfits which were approved by AFHQ. Later a more sophisticated uniform was developed and more articles of highland regalia were purchased from NPF.

On 5 July 1942 No. 9 SFTS was moved to Centralia, Ont. One of our two pipers remained behind at Summerside but at our new location we persisted in our efforts to form a pipe band. The CO was authorized to recruit six additional piper GDs. Among them was Mr. John Ross of London, Ont. Mr. Ross, a Scot who, in addition to being a good piper, had experience as a bagpipe instructor. He was accepted as a corporal and certainly was the technical mainstay in the early days of the Air Force Pipe Band. Fully kitted in Scottish regalia he was presented to A/M G. M. Croil, himself a Scot, who expressed his approval of the regalia.

New problems arose when the loomcrafters informed us that they

No. 9 SFTS Band at Centralia in 1942. The author of this article and G/C Fullerton are seated in the centre of the front row.

could no longer fill our orders. They referred us to Paton and Baldwin Ltd., who were the suppliers. They in turn advised us to make representation to the Wool Controller of the Wartime Prices and Trade Board. Arrangements were made for me to see the Controller personally at his office in Toronto. Besides according me a courteous reception, he approved the release of more yarn for the uniforms of the members of the band because they were part of the armed forces. This was my last effort on behalf of the pipe band as soon I was posted to duties elsewhere.

Records show that the band was increased in size and in June 1943, 19 bandsmen were approved for the establishment as pipers and drummers. Thus the band changed from its volunteer status and No. 9 SFTS was reimbursed from public funds for its previous expenditures. By the autumn of 1943 the pipe band was fully manned, equipped with highland uniforms of air force tartan, and even had a WD drum majorette in kilt, busby and doublet.

Pipe Major John Ross.

ROCKET-POWERED SABRE

The F-86 *Sabre* could become a supersonic, high altitude interceptor as a result of a major modification.

A rocket engine with 6,000 pounds of thrust has been mounted beneath the *Sabre's* fuselage to give the aircraft a ceiling of 60,000 feet and a rate of climb (above 40,000 feet) 15 times faster than the conventional F-86. An additional feature of the rocket-powered *Sabre* is its ability to turn in half the radius of the standard *Sabre*.

An experimental model of this aircraft is currently being tested by North American Aviation for the USAF.

If you're going to jump at conclusions, you can't always expect a happy landing.

The Canadian Military Journal

Husband to wife shopping in supermarket: "Never mind the large economy size . . . get the small, expensive box we can afford."

Bell News.

No. Six Group Revisited

BY N. J. WELWOOD

(This nostalgic account of a recent visit to England should strike a responsive cord in the hearts of many ROUNDEL *readers. The author was the sole survivor of the first crew of No. 425 Sqn. to be shot down (over Hamburg, 9 Nov. 42) and spent the rest of the war as a POW. He now resides in Wingham, Ont. — Editor.)*

To THOUSANDS of Canadians who served with wartime Bomber Command there is an area in England that will always live in memory. Stretching north from Leeds, in this pleasant green countryside, were the bases from which most of the Canadian bomber squadrons operated. They grew in number until 1943 when they became organized as Six Group, a powerfully effective part of Bomber Command's air offensive. From this area, dotted with aerodromes, there rose almost nightly the great fleets of *Wellingtons, Halifaxes* and *Lancasters,* carrying the war deeply into enemy territory.

For the young aircrew it was a time when quick maturity and ageless experience were crowded into a few brief months, or sometimes, even weeks. Many never returned.

The writer had an opportunity recently to fulfil a long-held desire to revisit some of the familiar old towns, villages and air stations of this Yorkshire-Durham countryside: Leeds, York, Ribon, Boroughbridge, Topcliffe, Linton, Middleton St. George, Dishforth, Thirsk, Leeming, Skipton-on-Swale, to mention only a few.

Driving north from Leeds on winding stone-hedged roads, we stopped first at Harrogate, ancient garden and resort town, a place of quiet beauty and rest. It is here the large air force cemetery is located. After the war, the graves from the surrounding villages and towns were moved and relocated in this beautifully kept and landscaped plot. Over 600 white crosses mark the resting place of the fallen, nearly all bearing Canadian names. To walk down the rows and see the names is to invoke fleeting memories of young faces from the past; to read some of the ages (18 to 23 would seem to be average) suddenly makes us aware how fast the years have passed. Every year a memorial service is held in the cemetery with the British Legion and units from local RAF stations participating.

Most of the flying stations in the area are still in active use. Transport, Training, Fighter and Bomber Commands are all represented. Those who

regarded the air space as crowded in wartime will appreciate the problems of flying control now, with aircraft of many types and flying speeds, both propellor and jet, using this confined area. Flying control is located at Dishforth, where once the *Wellingtons* of 425 and 426 Squadrons operated. A modern control tower building has replaced the older unit. However, the old tower is not completely obsolete, as fine crops of 'hot house' tomatoes are grown within its wide, sloping glass walls.

At Middleton St. George a link with the past is provided by a restored *Spitfire* which is permanently mounted at the station gates. One wished that perhaps a *Halifax* or *Lancaster* had been used more typically for this purpose. The stations have not changed much, although a great deal of new housing makes them look different. Most of the temporary wartime structures have been removed and the old scattered dispersal points have reverted to farm land.

No visit to this area would be complete without a call, here and there, to some of the familiar old 'locals'. The pubs are generally the same, quieter of course, but still the friendly places we remembered. One can occasionally find an older patron who will talk of the days when the 'Canidean lads' were here. Nostalgia frequently colours our memory, and it is easier in some way, to recall the happier moments of those dangerous times.

Mr. Welwood and station adjutant at present-day RAF Dishforth.

Doubling back through Northallerton, Thirks and Boroughbridge, we continued on toward York, where the spires of York Minster soon became visible in the distance. We made our way to the cathedral where the great memorial to the fallen airmen of 1939-45 stands in the north transept. The memorial, the result of a great effort by the British Legion and RAF Association, has been created in honour of the 18,000 aircrew who gave their lives while flying from these Yorkshire-Duram shores. The names are listed in alphabetic order in the Book of Honour and included are 3,537 Canadians from Six Group.

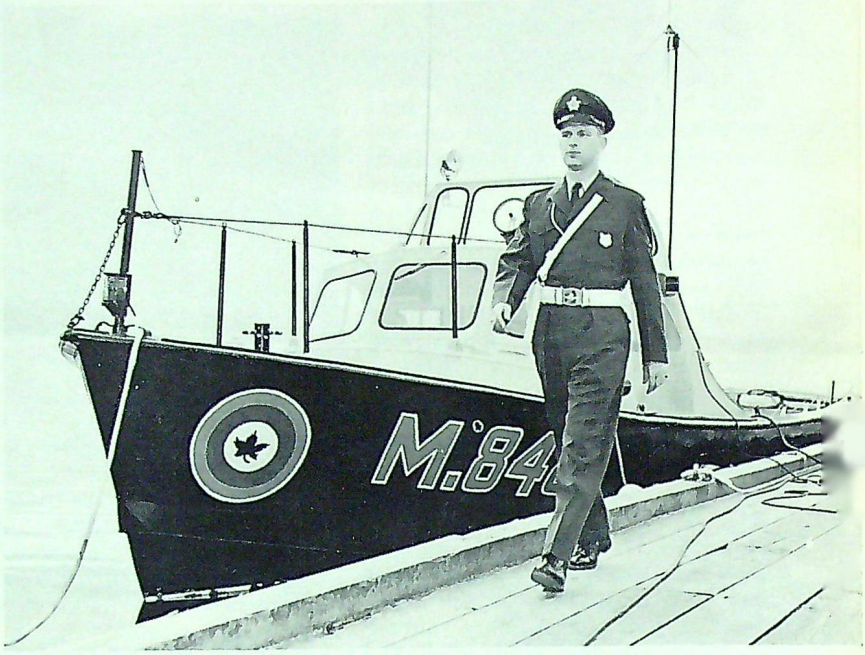
The memorial is constructed, fittingly, in the form of a complex astronomical clock, designed to show the position of the stars and celestial bodies, just as they might be observed by a navigator, flying directly over this spot. Not only is it a precise instrument, but it is also a beautiful work of art, contained in a monumental walnut base, crowned with an impressive bronze frieze. The stand containing the Book of Remembrance is placed in front, with this inscription over the book: "THEY WENT THROUGH THE AIR AND SPACE WITHOUT FEAR, AND SHINING STARS MARKED THEIR SHINING DEEDS".

We left at dusk, at that same time of evening when once on the slow climb to the coast, these same ancient walls and spires appeared below — often as the last well defined land mark in the growing darkness.

Our visit had ended. Three days were all too brief to retrace all the steps and see the places we wanted. Nevertheless, it was a most unique and gratifying experience, one that will be added to our memories of Six Group.

Operation York—1942 style.

A Day with the Air Force Police



LAC J. C. Duhamel on dockside duty.

An air force unit is a community and, like all communities, requires protection. This vital requirement is in the hands of specialists — the air force police.

The primary function of the air force police is the protection of life and property and to this end all their efforts are bent. Whether conducting security checks to ensure that classified matter is adequately protected, quelling a disturbance or directing traffic, the purpose of their duties is the same.

Air force police maintain a 24-hour watch on stations and many of their duties are performed when the rest of a unit's personnel are in bed asleep. During weekends or holidays you will always find an air force policeman on duty. They maintain patrols in all weather, by day and night, for there is no real substitute for the patrol who, as he goes quietly on his rounds, is quick to notice any unusual circumstance.

The air force personnel in the accompanying pictures are typical of the more than 900 men and women who make the business of our protection their life's work.

Patrolling the hangar line at RCAF Stn. Comox.

Cpl. E. D. Casselton carries out routine security check at main gate.

Investigating accidents—one of many AFP tasks.

The policeman is the children's friend,
as illustrated by LAC D. F. Balser.

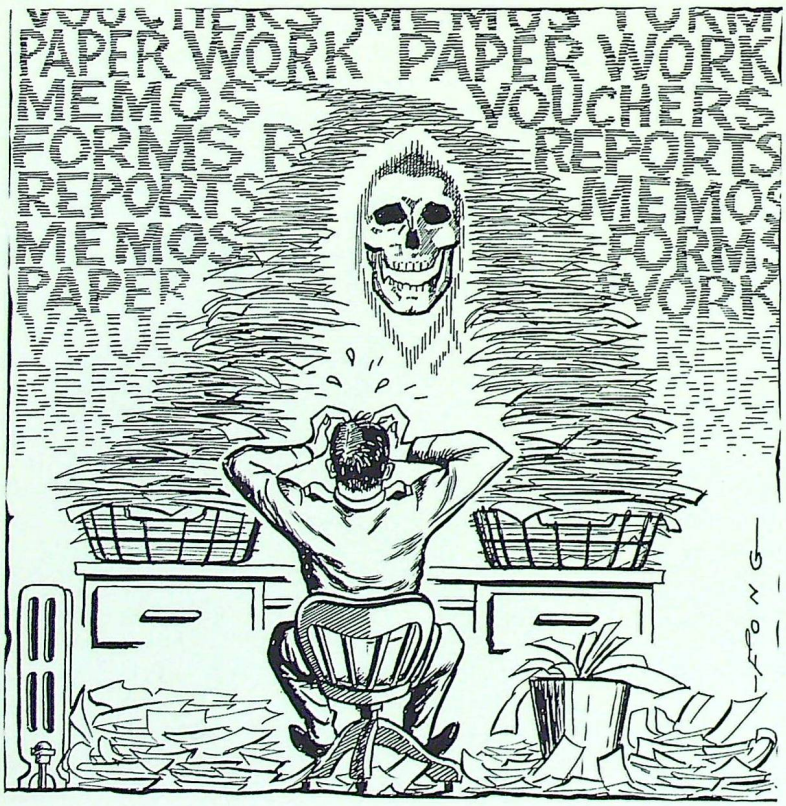
LAW H. Johnston fingerprints another
air force policewoman, LAW Q. Conrad.

A Britisher who delights in storming bastions of bureaucracy suggests a way for executives to get out from under all those memos and do something.

PARKINSON'S LAW FOR PAPER WORK

by C. NORTHCOTE PARKINSON

Reprinted courtesy THE NEW YORK TIMES and the author



THE flood of paper which now threatens to submerge the world is something peculiar to this century. The Hellenistic scribes who wrote on papyrus, the Chinese bureaucrats who exercised their penmanship on silk, and even the eighteenth-century clerks who inscribed their civilities on rag paper with a quill pen, were guiltless of any such mass dispensation of the written word as exists today.

In a number of organizations the question is being asked whether paper work has gone too far. Some have agreed that it has. A few, a very few, have actually done something about it. In this respect, we may note a programme recently undertaken by the firm of Marks & Spencer, Ltd., a British retail store organization, operating through 237 branches. Merely by deciding that the head office should trust the branch managers, and that the branch managers should trust the girls behind the counters, Marks & Spencer found that it could do away with time cards, catalogue cards, complaint reports and stockroom forms, thus eliminating 22,000,000 pieces of paper weighing 105 tons. All that they lost was a mass of statistical data of which no use, in fact, had ever been made.

It is no easy task to decide how and when a firm should free itself of a system based on a paper-ridden bureaucracy. The perfect system for a retail store chain would not be perfect for, say, the Tennessee Valley Authority. Proper examination of all the factors involved would mean writing a book. Here we have space only to consider a relatively simple test question: how much time should an effective executive, during any working day, spend at his desk?

ROUTINE A

Let us compare the routines of two managing directors, whose names, purely imaginary, shall be A and B. Managing Director A arrives at the office to find his in-tray piled to a height of eighteen and three-quarters inches. Of this stack, eleven and one-half inches is information which A has demanded; the remainder con-

sists of files on which his decision is asked.

Hardly has he looked at the first item before the day's mail is added. Of this additional eight inches, nearly half is composed of circulars from the Federal Government, the top one (oddly enough) a booklet on "Buying Men's Suits." It is Miscellaneous Publication No. 688, published by the Department of Agriculture, for no apparent reason, and at least requiring no reply. For circulars of this kind every office has a suitable capacious and cylindrical receptacle. But the files have to be dealt with in less summary fashion.

The process of dictation has scarcely begun when the first telephone call is received. With a staff conference at 11:30, lasting nearly an hour, and with continual interruptions of every kind, A finally disposes of all the business on hand. By the time he leaves the office every letter has been answered, every problem solved and the in-tray left empty. A feels that he has earned his salary and doubts whether anyone else could have done as much. And so the day's work comes to an end.

ROUTINE B

Managing Director B has an outlook and methods which are totally different. To B the flood of correspondence is merely an interruption. Were it to occupy the day, as it does in A's office, B would think that his time had been wasted. This outlook is reflected in his routine. His mail is opened at 8:45 and the rule of the office is that fifty letters must be dealt with by 9:15. B often replies in his own handwriting, usually at the foot of the document he has received. His answers are laconic: "Sorry — can't be done." "O.K., I'll be there." "I quite agree." And occasionally: "Drivel"

To other letters he dictates a brief reply. Those he has not answered by 9:15 will have to be answered by someone else, for that is the moment at which his dictation stops. At 9:20 there is a staff meeting, which lasts no more than ten minutes, at which outstanding problems are dealt with verbally. The meeting over, B grabs the telephone and attempts to make eight trunk-calls before 9:40. He has found by experience that the lines are mostly free then and that the same calls later in the morning would take twice as long.

At 10 he quits his desk and leaves the office, beginning a leisurely tour of the factory or setting off on a visit to a branch establishment. Instead of tearing around the factory so as to get back to the office, he tears through the office work in order to have time for the factory. He greets the elderly foremen: "Hello, Fred, how's it going?" "Tell me, Bill, how's that new lad shaping on No. 5?" He feels pipes to see whether they are too hot. He notices a light left on in daylight. He sees a blocked gutter and tells someone to clear it. He asks after a man's wife, whom he knows to have been ill. And all the time he is noticing things and talking, his mind is revolving around a new idea. How would it be if they installed a ganty in No. 11 Shed, making a new loading point at the back?

ALWAYS ON TOP

Pondering this problem, he spots a boy he has never seen before. "Who is the ginger-haired lad over there?" Later that day, the awe-stricken youth will be telling his mother, "The boss actually spoke to me, asked me which school I been at — just like as if he was interested!" If there is any trouble in B's factory — and there seldom is — he sees it coming from a mile off. If the place were to catch fire, he would be the first man on the spot — a fact which everyone seems to have realized.

It is just the same at the branch establishments. B always tells them when he is coming. Why? Because, he says, the value of the visit lies half in the tidying-up process which precedes it — the lick of paint on the previous day. He would have achieved something even if the visit had to be cancelled at the last moment. But B's visits are never cancelled and never even hurried. He sees everything, even the new tennis court. He has lunch in the staff canteen. If there is a lack of leadership, a decline of loyalty, that is the time when B detects it.

Should he stay the night, as he often does, the head office staff knows that he will ring up at exactly 9:20 next morning. By then his mail will have been opened and his deputy will have framed fifteen or twenty questions, to each one of which the answer can be "Yes" or "No". After five or six minutes B will ring off and turn once more to the things that matter. There are people who believe that B is a very good manager indeed.

PEOPLE MATTER MOST

If there is a moral to be drawn from this comparison, it is that people matter more than systems. In a news account of how Marks & Spencer came to simplify its paper work, the most significant words may have escaped attention. "It all began one Saturday afternoon," wrote the correspondent, "when Sir Simon Marks, chairman, visited a branch store at Reading."

Finding the girls working overtime to complete the catalogue cards, Sir Simon asked what the cards were for. No one could tell him. No one knew. No one had ever known.

It was from that moment that the great reforms began. They would never have begun if Sir Simon had stayed in his office, holding board meetings and answering mail. When he made his discovery he was not only visiting a branch store outside London — he was visiting it on a Saturday afternoon.

But with our praise for Marks & Spencer reorganization we must include a word of warning. To clinch their admirable reforms, the directors have set up an anti-paper committee; excellent in itself but representing, nevertheless, the thirteenth stroke of an overzealous clock. For a committee, once formed, is apt to develop a momentum and life of its own. From small beginnings it will accumulate its sub-committees, its own permanent staff. Unless Sir Simon remains eternally vigilant, his anti-paper organization will become a major department, its anti-paper directives using more paper than was ever used before.

ROYAL CANADIAN AIR CADETS

Statistics Summarize 20 Years Accomplishment in Youth Work.

BY ARTHUR MACDONALD
Assistant General Manager,
Air Cadet League Hdqts.

SINCE the Air Cadet League of Canada received its dominion charter in April 1941, more than 140,000 young Canadians have participated in the program. Present overall strength of the organization is very close to the maximum authorized establishment of 25,500 cadets in 331 squadrons, and waiting lists are the order of the day at units in all parts of the Country. There are now more active squadrons in Canada than there were during the peak wartime year of 1944.

Over the years more than 85,000 air cadets have attended the annual summer camps held at RCAF stations, where they have enjoyed recreational activities, advanced training in syllabus subjects and the thrill of familiarization flights in RCAF aircraft. More than 4,500 cadets have learned to fly since pilot training for air cadets was first introduced in 1946. The majority have been trained under scholarships provided by the RCAF, this plan being supplemented by a large number of scholarships granted each year by civilian committees of the League. Records show that one out of every six private pilots trained in Canada since the end of the war has been an air cadet.

Approximately 1,500 senior air cadets have received valuable leadership and career training through special full-time courses held during the summer months. These courses are presently being conducted at RCAF Station Camp Borden under the direction of the RCAF's Supervisor Service Training School (SSTS). The courses are of seven weeks duration and are attended by 200 cadets annually.

To promote international friendship and reward outstanding cadets, 770 young Canadians have travelled abroad as goodwill ambassadors under the League's "get acquainted" plan. Reciprocal parties of cadets from six other countries have been entertained in Canada by the League and the RCAF. Over the years, air cadets exchange visits have proved themselves to be an effective instrument in promoting international goodwill.

Since accurate enlistment records were not maintained during the early years, it is unfortunately not possible to estimate the total number of cadets who have gone into the armed services since the movement was founded. However, in the past nine years, no less than 7,361 air cadets have enlisted in the RCAF Regular Force and the air cadet program has consistently provided the RCAF with 15 to 20 per cent of its recruits each year. During the past five years, 145 air cadets have entered the Canadian Services Colleges, which amounts to 23.3 per cent of the total RCAF intake for that period. Over the course of the past 12 years, a large number of deserving cadets have had the advantages of a higher education brought within their grasp by the granting of League scholarships having a total value of well over $50,000.

No statistics are available on the total number of adults who have served the air cadet program since the League's inception. At the present time, the activities of Canada's air cadets are directed by more than 2,400 officers and instructors, supported by over 5,000 committee members whose voluntary services are the real key to the success of the movement. Each year League workers at local, provincial and national levels raise and expend in excess of $325,000 in support of the program.

The foregoing paragraphs do not, of course, come even close to telling the complete story of air cadet training in Canada; such a story would require much more space than is available for this brief summary. The cold figures do, however, provide some idea of the magnitude of the contribution made to Canada by the air cadet movement over the course of the past 20 years. According to those who currently serve the League, the next 20 years will be even more productive.

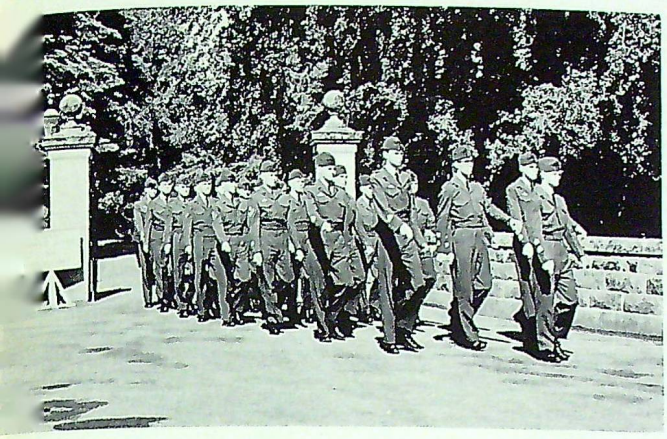
* * * *

During the months of July and August, more than 6,500 air cadets participated in special training and reward activities. These photos offer a glimpse of this extensive summer program in action.

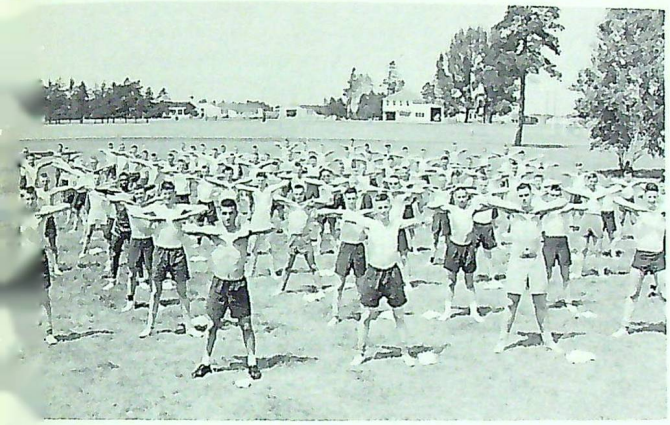
RCAF ASSOCIATION

At deadline time for this issue Wings of the Association were just beginning their fall and winter programs. In order that a more complete account of these activities may be published in the next ROUNDEL, the Association has relinquished its normal space this month.

Members are requested to advise RCAF Association Headquarters, 424 Metcalfe St., Ottawa, promptly of any changes in address.

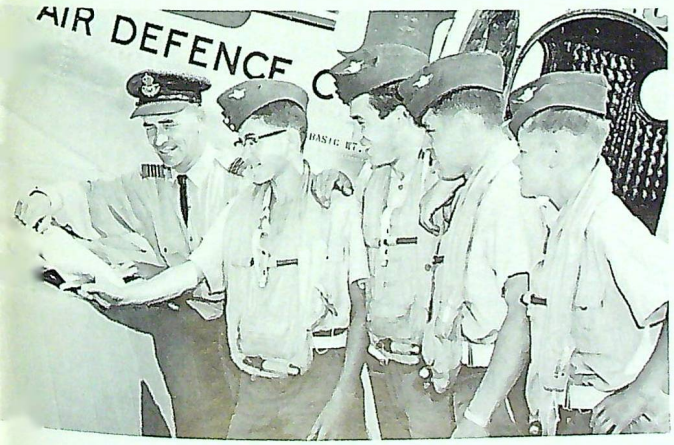


Canadian cadets entering Balmoral Castle grounds during UK tour.



Leadership Training Course PT session at Camp Borden.

Pre-flight briefing at Sea Island summer camp.



Another group visited UN headquarters in New York.

UK and European exchange cadets at Lake Louise during their Canadian tour.

Letters to the Editor

RHYME REBUTTAL

Dear Sir:

Lines in reply to W/C Yellowlees (The Parable of Joe", Vol. 12 No. 6 Jul-Aug 60):

It's doubtful that men of the groundcrew
Who are serving the knights of the blue
Are pleased to be classed, in the issue just past,
As vassals and serfs, tried and true.

Is it true that our wonderful fly-boys,
Of such God-like appearance and poise,
Are unreasonable clowns responding with frowns
And threats when balked of their joys?

Let's hope that the good Wing Commander
Just allowed his muse to meander,
Not consciously trying, by serfdom implying,
To raise up the other ranks' dander.

FS G. F. Stoneman,
RCAF Stn. Greenwood, NS.

LOOKING FOR LANCS

Dear Sir:

I read with considerable interest the article on No. 408 Sqn. and its *Lancasters* (Vol. 12, No. 4 May 60) as I am trying to collect sufficient data to write a history of this wonderful aeroplane, both during and after the war.

Might I make an appeal to your readers who flew *Lancs* for the loan of photographs and logbooks? Any material or books which are so loaned will be treated with great care and returned as soon as possible to the owners.

Mr. B. Goulding,
2 Tennyson Rd.,
Balderton, Newark, Notts., Eng.

PER ARDUA AD ERRATUM

Dear Sir:

Please be more careful when printing photographs. That group of sprogs pictured on page 20 in the first pilot course article (Vol. 12, No. 7, Sept. 60) looks pretty silly with wings on their right breasts.

One of Them.

NIGHTHAWKS REMEMBERED

Dear Sir:

The wartime history of No. 409 Sqn. (Vol. 12, Nos. 6 and 7, Jul-Aug., Sept. 60) brought back pleasant memories as I had the distinction of being that squadron's first adjutant.

Early in July 1941 I was posted to RAF Stn. Digby direct from officers' college. Despite my then complete practical inexperience of adjutant duties, I was somewhat dismayed to find that although my arrival coincided with that of the unit's first aircraft, the administration side was far less advanced than the operational. We eventually cut short "normal channels", obtained a typewriter and enough forms to fight the paper war.

I recollect the squadron moving to Coleby Grange and the subsequent replacement of *Defiants* by *Beaufighters*. Recently I paid a nostalgic visit to Coleby Grange. Much of the old airfield is now derelict, but the name survives and a portion is still in service occupation.

I would appreciate the opportunity of sending greetings to the many Canadian friends with whom I worked during that period.

F/L G. S. M. Edward, RAFVR,
"Knutton House",
51 Tewit Well Road,
Harrogate, Yorks, England.

CLOSE CHECKER

Dear Sir:

I am certain many readers must have checked, as I did, those serial numbers that were legible on the *Yales* pictured on page 18 of the September issue against their log books, to determine any they may have flown. I found two, 3372 and 3399, that I flew while staff piloting at No. 4 Wireless School, Flying Squadron, St. Catharines, Ont.

However, those finding 3363 in their log books must have been left somewhat confused as to which 3363 they had flown. (See the second and fifth aircraft from the left.)

The "right breast" wings worn by the LAC pilots pictured on page 20 only added to my confusion. Of course, they could have been Americans simply being prepared for their eventual transfer to the U.S. Army Air Corp.

A. P. Lamont,
103 Glen Agar Dr.,
Islington, Ont.

(We think the second Yale on the line is 3365. We know a gremlin reversed the photo on page 20. — Editor)

NOW YOU KNOW

Editors call themselves "we" so that the reader who doesn't like an article will think there are too many for him to lick.

BLUE BELL

Hairy Old WO, settling argument among long-service types about who has got most time in: "Listen, you lot — when God said 'Let there be Light!' I was duty electrician."

Wren — The Aeroplane and Astronautics.

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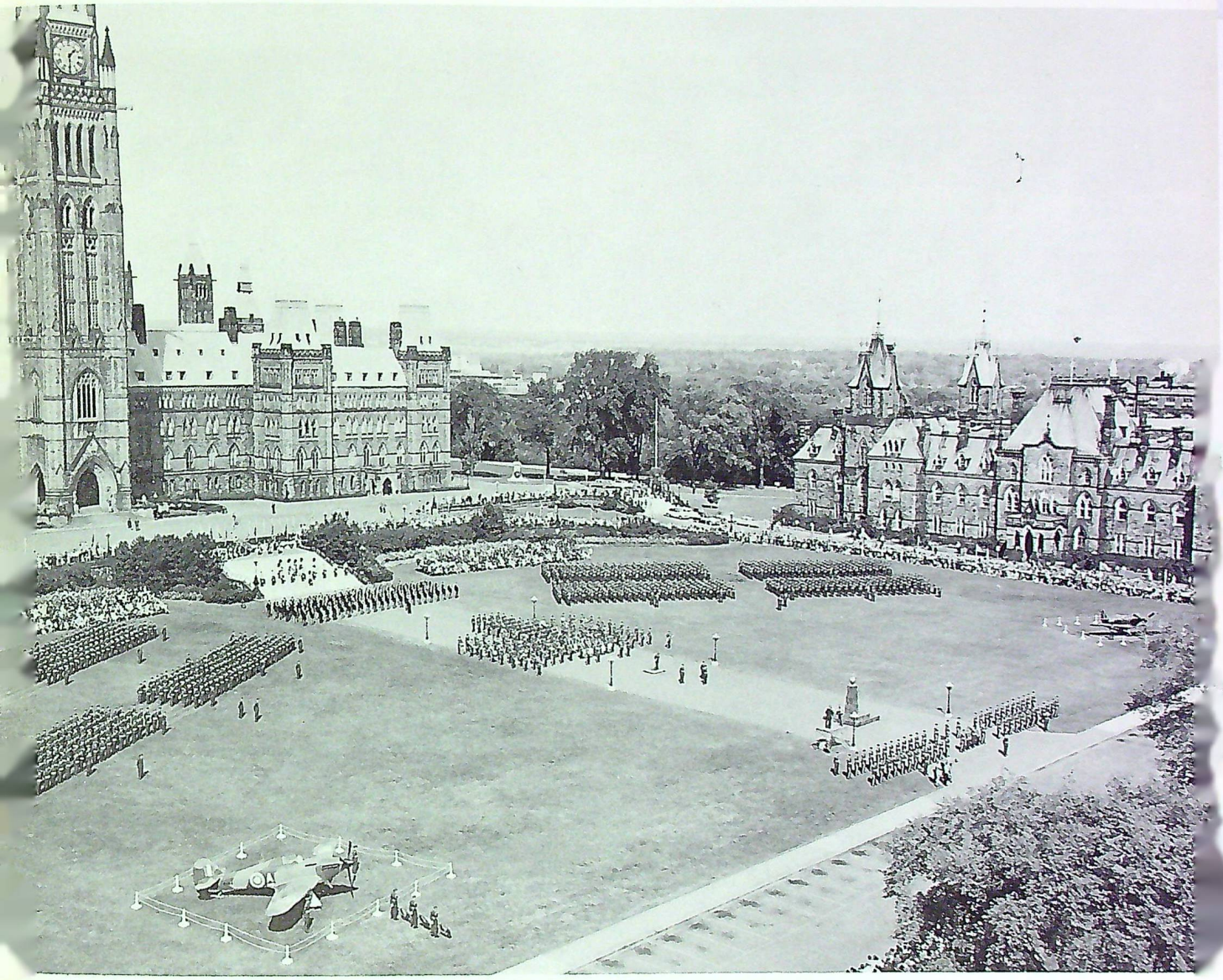
Battle of Britain National Ceremony



Parliament Hill in Ottawa was the scene of this impressive ceremony marking the 20th anniversary of the Battle of Britain last month. Prime Minister J. G. Diefenbaker took the salute of 1,400 personnel on parade. G/C E. A. McNab (ret.), commander of No. 401 Sqn. in the Battle of Britain, laid a wreath on the improvised cenotaph. Overhead a jet fly-past paid tribute to "the few".

The Queen's Printer — L'Imprimeur de la Reine

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ROYAL CANADIAN AIR FORCE