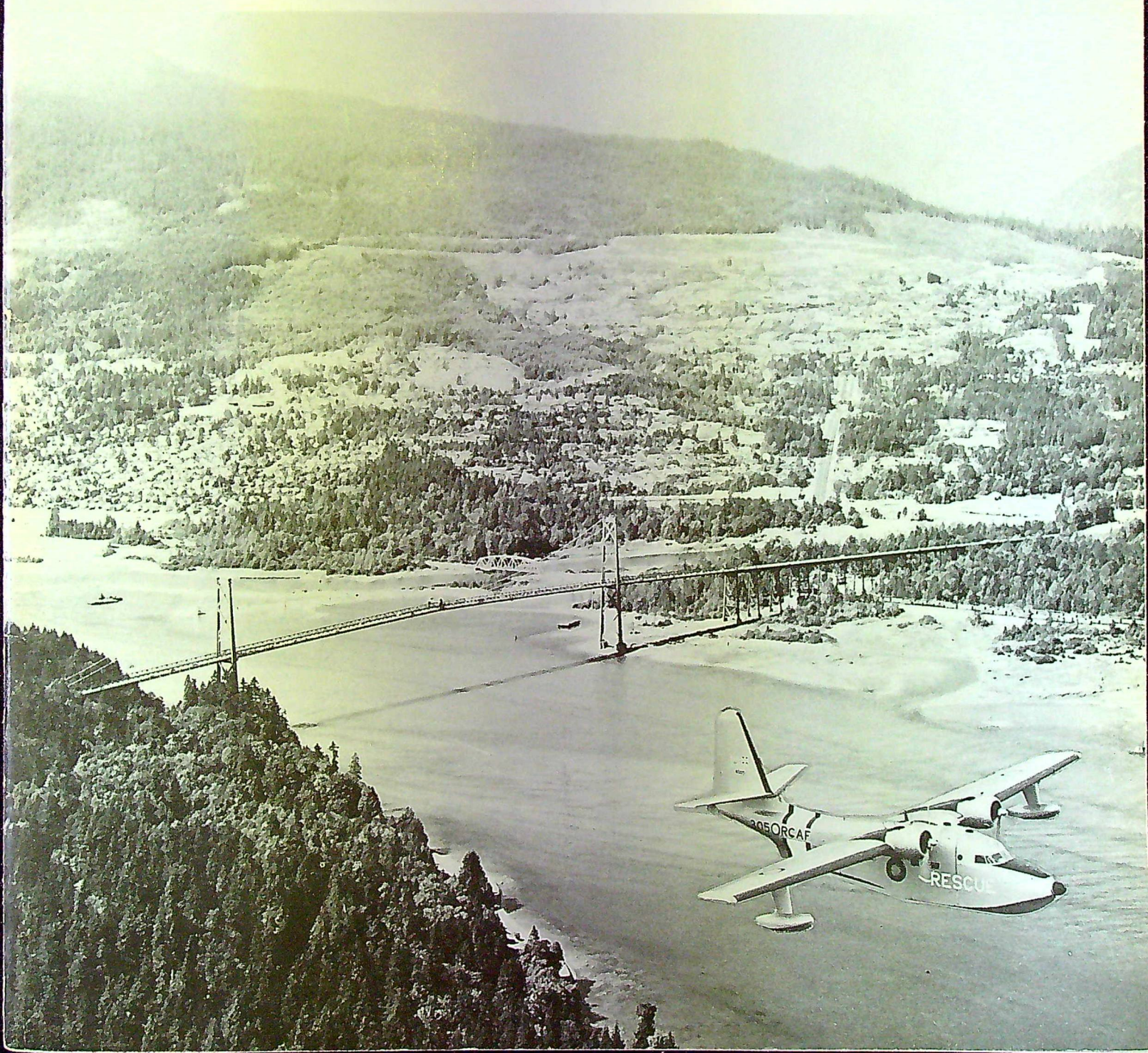
THE Roundel

VOL. 13, NO. 1

JAN.-FEB. 1961



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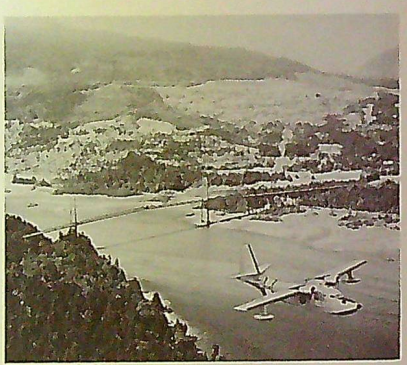

THIS MONTH'S COVER

An *Albatross* over Vancouver harbour introduces this month's featured station of the RCAF: Sea Island (page 7). Spanning First Narrows from Stanley Park to the rapidly-expanding residential areas of North and West Vancouver is world-famous Lion's Gate Bridge.

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On The Break

WE'RE NOT particularly superstitious here on Victoria Island. Nevertheless, we approached the opening of Volume 13 of this now-teenaged journal with more than usual trepidation. So many changes are occurring, in such widely separated places, in today's RCAF that it is well-nigh impossible to cover them all adequately in THE ROUNDEL and still maintain a balance between things current and historical.

This month's table of contents is proof, we hope, that we intend to stick by our New Year's resolution: during 1961 ROUNDEL readers will be given a wide-ranging menu of material covering all facets of air force activities —past, present and future. Towards this end, we again invite constructive criticism and unsolicited manuscripts.

THE FUTURE of NATO is much in the news these days. Recently Prime Minister Diefenbaker, speaking on this subject, stated: "I believe that NATO is, and will remain, an association where Canada belongs. It not only meets the criterion of self-interest from the point of view of military defence . . . it has proven to be an impregnable bulwark for freedom. We have maintained our strength in NATO . . . we have made a contribution on a per capita basis of which Canadians as a whole can be proud."

One specific example of this contribution, in which the RCAF is playing a significant role, is the mutual aid program. We think you'll enjoy S/L Alton's first-hand description of this work in Greece and Turkey (page 2).

ALMOST HALF-WAY around the world from the locale of our lead article, the RCAF fulfils an important contribution to the safety and well-being of Canadians. Spotlighting these activities in British Columbia, on page 7 we feature RCAF Station Sea Island, in what is turning out to be one of the longest and most popular series THE ROUNDEL has ever published.

Next on the list for Roundelization: RCAF Station Trenton.

TWO HISTORICAL articles this month: the third instalment of No. 418 Squadron's wartime history (page 18) and a story on Canadian aviation history in a very attractive setting (page 27). RCAF participation has naturally been considerable in planning and organizing this national aviation museum now located in Ottawa's new air terminal building at Uplands.

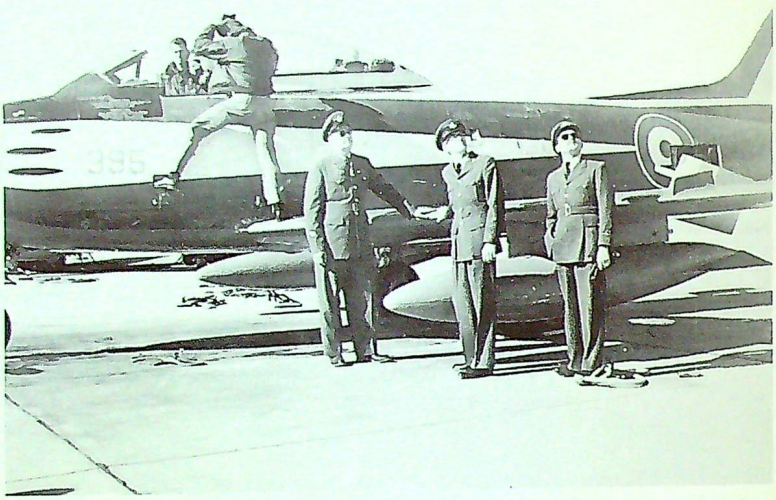
FINALLY, a word about this month's sports section. You may recall we promised to publish a technical article on curling, the RCAF's most popular winter pastime, if someone would write it for us. G/C McMillan, who is chief of quality control at AMCHQ, volunteered to do the job and the result appears on page 11. It should clear up several points for novices of the "roaring game".

WORD has just been received from Lethbridge that entries for the Eighth International Air Force Bonspiel, to be held 17 and 18 March 1961, are now being received by Charles Linn, Southern Stationers, Lethbridge, Alta. This bonspiel, open to rinks of Her Majesty's Air Forces, RCAF Association and USAF, is sponsored by 702 Wing, RCAFA. Entry fee is $25 per rink.

A T Patton S/L Editor

Supporting Mutual Aid in Greece and Turkey

By SQUADRON LEADER D. R. ALTON
Directorate of Materiel Supply, AFHQ



Three members of the RCAF logistic liaison group in Greece watch the RHAF aerobatic team fly past (l. to r.): WO A. V. Campbell, S/L D. C. Liss and WO G. Katsavos.

Beside a Turkish Air Force *Sabre*, (l. to r.) F/L S. B. Roach, Mr. G. Russel, Sgt. C. K. Crawford, S/L G. H. Campbell — members of the Canadian liaison team in Turkey.

OMONIA SQUARE — in the shadow of the Acropolis and Parthenon that epitomize ancient Greece — is the focal point for traffic in modern Athens. Teeming crowds, freight-carrying motorcycles, donkey-drawn vegetable carts, ancient streetcars and streamlined automobiles here present a formidable challenge to any traveller.

One day in June 1954 S/L (now W/C) R. M. Donaldson, the RCAF's first logistic liaison officer attached to the Royal Hellenic Air Force, got his initial taste of driving through this Greek imbroglio of the old and new. He was there to co-ordinate support for three squadrons of *Sabre II* aircraft allocated to the RHAF under Canadian Mutual Aid.

That same day another RCAF officer on a similar mission with the Turkish Air Force, S/L M. W. Dickinson, received his introduction to Ankara. He found a bustling city of close to half a million people on the rolling Anatolia Plain, where once the armies of Genghis Khan had unsuccessfully laid siege to the still-prominent ancient citadel.

S/Ls Donaldson and Dickinson were the first of several airmen who have become familiar with the customs and cultures of the Greek and Turkish peoples. For the past six and a half years RCAF personnel and civilian technical representatives have served, on a rotational basis, with the Canadian liaison staffs maintained in both countries to assist in the distribution and utilization of millions of dollars worth of military aircraft and materiel.

Today the RCAF continues to have major support responsibilities for some 280 *Sabre* and T33 aircraft allocated to Greece and Turkey as NATO partners. Additional trainer type aircraft and other items have also been supplied. In all, Turkey has received materiel valued at some $85,000,000, while the cost of the items transferred to Greece approximates $75,000,000. And this is only part of the RCAF portion of Canadian Mutual Aid — a military assistance program that has made hundreds of aircraft and other items of materiel available to 11 NATO countries since it began almost 10 years ago. Canadian-supplied aircraft are, or have been, operated by the RAF, the air forces of Germany, France, Portugal and Italy, in addition to Greece and Turkey. Scores of other items of defence materiel have also been provided to these countries as well as to Belgium, Luxembourg, the Netherlands and Norway. The total value of the some 1,000 aircraft (750 of which were jets), more than 1,100 aero engines, and miscellaneous materiel transferred as Mutual Aid so far exceeds $350,000,000.

After delivery of the *Sabres* to Turkey and Greece the next large allocation of Mutual Aid aircraft was made to Germany in 1957 when 75 *Sabre Vs* and initial supporting equipment, valued at some $38,000,000, were transferred to the embryo GAF. Another important segment of RCAF Mutual Aid was the initial support materiel provided to the Belgian Air Force from 1957 through early '59 for the 53 CF-100 aircraft purchased by the USA for the BAF. Canada's share of this over-all program approximated $10,000,000, which was in the order of one-quarter of the total cost of the aircraft and the initial support provided.

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INITIAL PROBLEMS

S/L Donaldson and S/L Dickinson arrived in Athens and Ankara, respectively, to find both the RHAF and TAF anxiously awaiting the arrival of the *Sabres*. Pilot conversion was one of the lesser of many initial difficulties since USAF-supplied F84G and T33 aircraft had been in operation in both countries for some two or three years. The real problems were expected in the logistics area because a whole new support system was being interjected into the RHAF and TAF supply organizations.

The RHAF was just completing the job of converting their records from the RAF system to the considerably more complex USAF methods and the fact that despite language problems, the mass of RAF/USAF/RCAF procedures, forms, catalogues, engineering orders and the like, did not become all "Chinese" to the Greeks was a real tribute to their perseverance. The problems of the TAF were equally trying for them because the support organization for their relatively new air force was in the building stage under USAF guidance. Understandably, although the operators in the two air forces welcomed the more advanced *Sabres*, the logistics staffs in both countries were justifiably apprehensive.

Regardless of all of the early anxieties, large quantities of *Sabre* materiel were absorbed into the supply systems of each country in the early stages of the program and, more important, the three squadrons of aircraft were flown at consistently satisfactory rates by both the RHAF and TAF.

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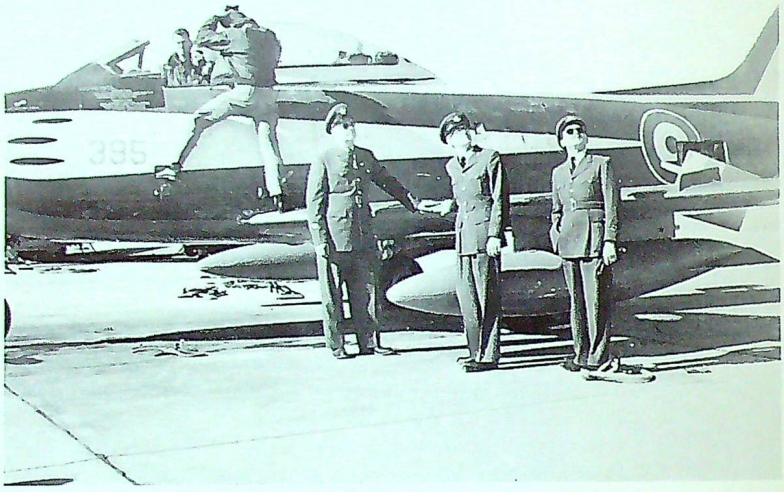

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ing the aircraft from Langar and the first squadron was formed in each country by the end of 1954. Additional RCAF personnel arrived to round out the small liaison staffs in each country; F/L R. T. Barlow went to Eskisehir, S/L M. B. MacMillan replaced S/L Dickinson and Sgt J. Chiviendiez completed the staff assigned to Turkey. The writer arrived in Athens in the late fall and WO2 A. E. Simmons followed a few months later. Complete *Sabre* FTTU units were supplied to each country and WO C. H. Stevens (now F/O) headed a group of RCAF NCO instructors who provided initial FTTU training for TAF and RHAF aircrew and maintenance personnel.

The business of supply support and technical advice to foreign air forces was entirely new to the RCAF and there were, it seemed, endless problems and queries which taxed the staffs' ingenuity in each country during the early days of the program. While these daily problems were demanding they were overcome without any really serious developments occurring, but the matter of becoming accustomed to living in a completely new environment and climate did require considerable adjustment. The guidance and assistance of the Canadian ambassadors and their staffs in both Ankara and Athens made and continues to make this particular aspect much easier.

THE PHYSICAL IMAGE

A thumb-nail sketch of the recent history, culture, topography and climate of these two countries will give the reader a better picture of the environment. Western civilization began here ages ago, yet present-day Athens and Ankara are relatively new. Athens was a town of some 5,000 when the Greek people gained their independence from the Ottoman Turks 130 years ago. Today it is a city with a population of nearly a million. In 1923 the population of Ankara was about 20,000 when Kemal Ataturk, the Father of Modern Turkey, decided that it should be enlarged into the capital and it is now a city of 450,000.

Both are bustling cities but the settings are quite different. Ankara is well inland on the rolling Anatolia Plain with a four-season climate and has hot, dry summers and cool winters. Athens, too, has a very long hot, dry summer but its winter consists of a rainy season and there is virtually no spring or fall. Its locale is the Attica coastline between the parched slopes of the mountains and the blue waters of the warm Aegian Sea and its sandy beaches. Much of Turkey, especially along the south coast and in the Istanbul area, is fertile; approximately 80 per cent of Greece is mountainous and vineyards cling to terraced mountain sides. Nevertheless, the fertile valleys produce citrus fruits and vegetables of excellent quality that equals those grown in Turkey.

LIVING CONDITIONS

The cultures of these two peoples differ considerably, although Greece still shows traces of the effects of the 300 years of Turkish occupation. These differences are, of course, most noticeable in their religious beliefs as Greece is almost completely Greek Orthodox while Turkey is a Moslem country.

The extreme summer heat of Athens drives most foreigners, including Canadians, to the suburbs in the mountains where temperatures are 10-15° cooler. The liaison staff and their families live in Kifissia, some ten miles from the centre of the city about half way up the side of Mt. Pentelikon near the quarries that produced the marble for the Parthenon. Modern houses and apartments are available in this area, but at a price few Athenians are prepared to pay. Thus Kifissia is largely an American community, for in addition to the civilian complement of personnel attached to the US Embassy the US Military Aid Assistance Group has a large staff.

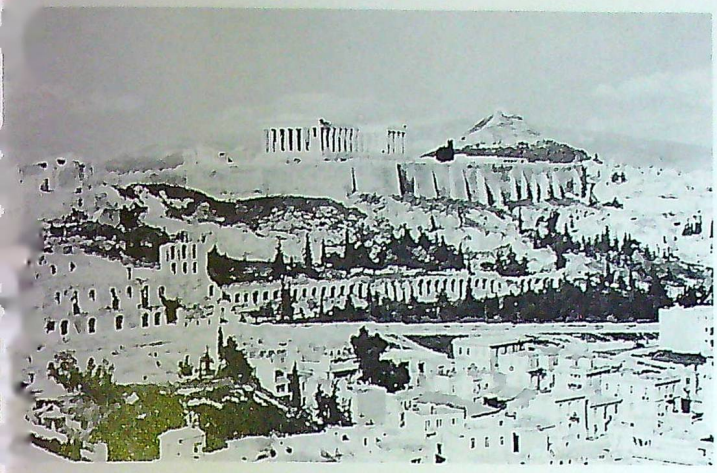
There are numerous small stalls or shops in the village where most of the day-to-day requirements of food can be bought from the proprietors who enjoy friendly haggling over prices. However, many items that Canadians prefer are ordered from export houses in Europe. Recreational facilities, especially skin diving and swimming, are good and there is also a small golf course. Watching outdoor movies — English voices with Greek sub-titles — is a popular pastime during the cloudless summer evenings.

The staff in Turkey does not fare quite so well. Eskisehir is relatively remote and apartments or other suitable housing is hard to find. Recreational facilities in particular are not available. Hunting is the only exception as geese, ducks and wild boar are plentiful in the area. Week-end trips to Ankara, some 165 miles distant, are popular and these journeys are usually made by TAF aircraft but occasional trips are made by car across the flat, treeless and sparsely populated Anatolia Plain.

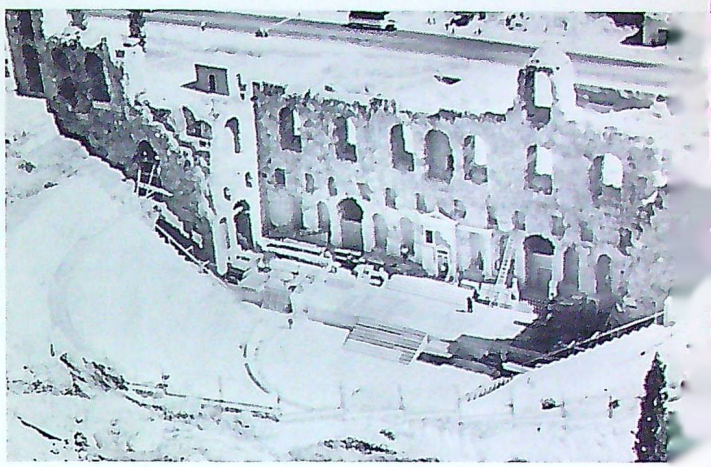
Living conditions are better in Ankara. Apartments are available but water is scarce for long periods during the summer. An evening out in the capital for both the Turkish people and foreigners usually consists of going to one of the several good restaurants. Meals last for hours; however, various oils are used for cooking and the western stomach requires some adjustment before the tasty local dishes can be fully enjoyed without some effect on the individual.

TOURIST ATTRACTIONS

Athenians also enjoy a long evening meal in one of the "tavernas" in

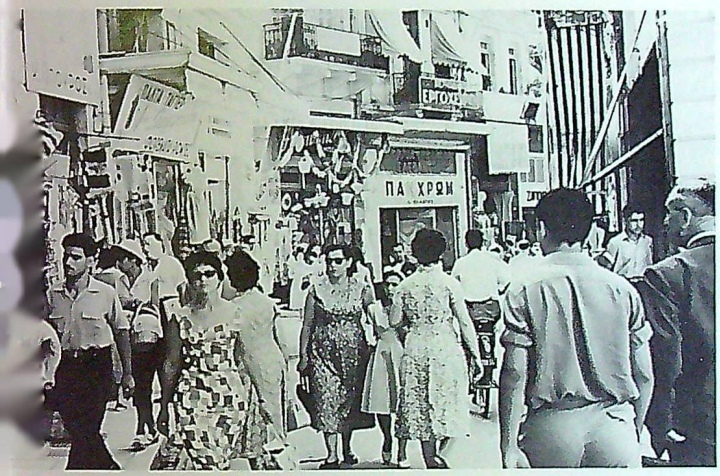


The Parthenon "Chamber of the Virgins," built in 5th century BC, and the Acropolis dominate Athens. In the foreground, the façade of the Herodes Atticus Theatre, built in 2nd century AD by the Romans.



Interior of Herodes Atticus Theatre, modernized and used today for the annual Festival of Music.

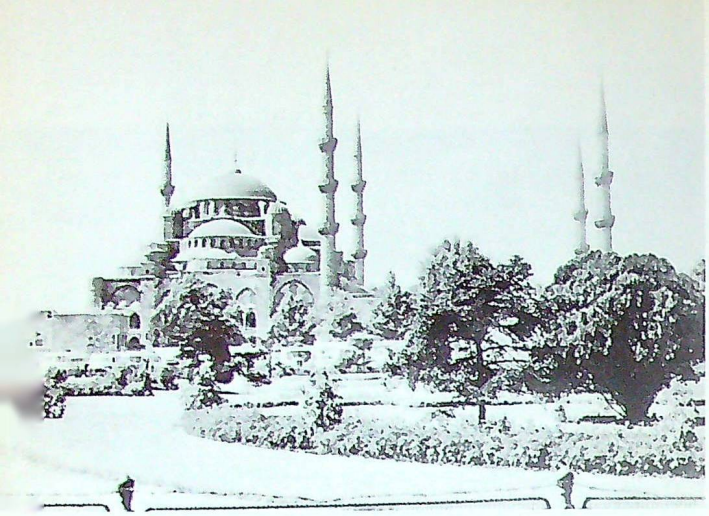
Shopping in downtown Athens.



Nauplia, a typical Greek coastal city in the southern Peloponnesus, some 10 miles from ruins of 14th century BC Mycenean civilization.

the old sections of the city near the Acropolis or at the water's edge on the seashore. In addition, there are excellent but expensive hotels and night clubs in the newer sections of the city that cater largely to the extensive tourist trade.

Sea-food is served in the restaurants along the water front and one taverna in Pireaus, famous for the quantity it provides, actually serves about 20 varieties for approximately $1.60. The dishes range from local delicacies such as deep-fried squid or sliced cold Octopus tentacles to a final course of chicken, apparently in the off-chance that the customer may not like sea-food. The meal usually lasts from 8 or 9 pm to about midnight and entertainment is provided by wandering vocal or string groups. The customers also join in with songs of their choice and the Greek music is sometimes interspersed with American music or songs by a tourist. The variety is wide and on one occasion a visiting Afrikaner enthusiastically rendered, with encores, his version of what he called the War Chant of the Zulus.



The Blue Mosque in Istanbul, most famous of all Turkish mosques.

Market-arcades, such as this one in Istanbul, are typical shopping centres in Turkey.

The ruins of Ephesus, the old Roman city on the southwest coast near the Turkish city of Izmir, is a historical site of special interest to Christians for St. John was its first bishop and the Chapel of the Virgin Mary has been reconstructed and is still in use. For those interested in one of the earliest of all cultures there are the ruins of the ancient Hittite civilization some 120 miles east of Ankara.

Istanbul, Turkey's largest city and capital before 1923, offers varied attractions for the visitor. The minarets of its famous mosques dominate the skyline particularly when seen from the legendary "Golden Horn" harbour. The magnificent Sultan Ahmed — known as the "Blue Mosque" because of the colour of its windows — is perhaps the most famous. St. Sophia, a Greek Orthodox church built during the Byzantine period, is also of historical interest, as is Topkapi Palace which was the residence of the sultans during the Ottoman period. The latter is now a museum for housing such treasures as the largest collection of fine china in the world and a wide variety of Turkish arms of the Ottoman period — even the old harem (now uninhabited) can be seen by the eager tourist. The Bazaar in the old section of Istanbul is a shoppers paradise, particularly if the visitor likes to bargain. This covered bazaar is the world's largest, selling almost anything from spices to jewels and rugs at its small stalls and shops.

Greece also has a range of interesting places to visit in addition to the well-known historical sites in Athens itself. Delphi, the ancient home of the Oracle in the mountain area some 90 miles north west of Athens, is a favourite spot. A pleasant week-end journey consists of a visit to the old city of Corinth, a picturesque 40-mile drive along the sea west of Athens, the ruins of the centre of the ancient Mycenean civilization, as well as the amphitheatre at Epidauros which is still used for the annual festival of ancient Greek plays. It also provides an opportunity for an overnight stop at Bourdzis Castle, the most unusual hotel in Greece. Bourdzis was built several hundred years ago as a fortress in the harbour at Naphlion, but its fame is largely related to its former use as a rest home for hangmen employed at a nearby prison during the Turkish occupation.

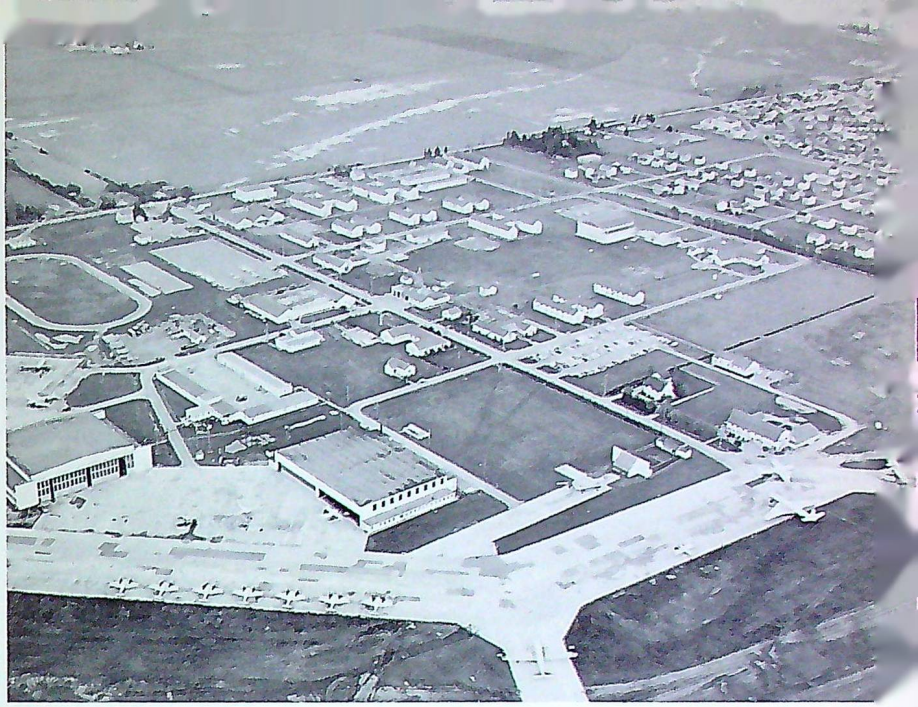
CONTINUING PROGRAM

While such links with history provide pleasant diversions, the RCAF liaison staffs are very much involved with modern-day Greece and Turkey. By 1955 the three *Sabre* squadrons in both countries had become fully operational. The experience gained in the *Sabre* program proved useful when delivery of the first T33s began in 1958, although the personnel of the liaison teams in both countries had changed by this time. S/L A. R. Jobson was now in Greece with WO2 B. E. Gooding as his assistant; S/L N. C. Shipman was in Turkey with F/O M. J. Powell at Eskisehir.

The problems associated with providing continuous support, including technical assistance, for capital equipment allocated to the various NATO countries as Mutual Aid were substantial in the beginning because this was an entirely new field for the RCAF's logistics organization. Additionally, the language difficulties were expected to be quite a barrier. Many of the early problems still exist and probably will remain as long as we provide this service. But we can take satisfaction in knowing that Canada, through Mutual Aid, made a real contribution to the forces of NATO during the early build-up stage. Equally important, the responsibility for providing the support materiel necessary to keep the aircraft flying is still being accepted for those countries whose economies make it impossible for their own air forces to undertake this obligation.

Stations of the RCAF:

SEA ISLAND



By FLIGHT LIEUTENANT D. F. B. METCALF

ALL RCAF stations have important parts to play in today's assigned air force roles. However, few are as favoured in location as RCAF Station Sea Island. Not only does this west coast base have a varied and vital mission, but its idyllic-like setting between snow-capped mountains and the blue Pacific has earned it the nickname "Shangri-la of the RCAF."

Situated across the field from Vancouver International Airport's civilian terminal, this RCAF station has literally grown up around what 20 years ago was one of Sea Island's most prosperous farms. Since its wartime creation RCAF Station Sea Island has had a variety of roles, perhaps none more important than today's to the immediate needs of the citizens in British Columbia: search and rescue, emergency evacuation, and transport in support of military and civilian requirements in the event of nuclear attack.

IN RETROSPECT

The war-time history of the west coast saw the birth of Station Sea Island. At the outset, No. 8 Elementary Flying Training School opened its doors in July 1940. *Tiger Moths* were supplied by the RCAF and used by the Vancouver Flying Training Company, with hangars and buildings on the south side of the field. When Canada declared war on Japan in December 1941 the EFTS was moved to Boundary Bay and the aerodrome and facilities of Sea Island were made available to the operational requirements of Western Air Command.

To meet air defence requirements on the west coast, a succession of operational squadrons were transferred from the east coast and the formation of others took place rapidly. The first, No. 11 (F) Sqn., was formed in December 1940 and transferred immediately to Patricia Bay on Vancouver Island. In January 1942, No. 8 (B&R) Sqn., arrived from Sydney, NS, completing the first coast-to-coast flight by a squadron. Equipped with *Bolingbrokes* and *Stranraers*, No. 8 moved to Alaska by June 1942 when the Japanese threatened invasion of the Aleutians.

No. 14 (F) Sqn. flew *Kittyhawks* here from March 1942 to February 1943, and No. 147 (BR) Sqn. equipped with *Bolingbrokes* continued from June 1942 until February 1943. One of the first squadrons to be equipped with *Cansos* was No. 160 (BR) at Vancouver in May and June 1943. No. 163 Army Co-operation Sqn. flying *Bolingbrokes*, *Cranes*, *Harvards*, and later *Kittyhawks*, was on the west coast from March 1943 to June 1944. Active in the air defence of Vancouver, *Kittyhawks* of No. 133 (F) Sqn. resided at Sea Island from March to August of 1944, followed by No. 132 (F) Sqn. which performed the same function for a few months. For the greater part of this period, from August 1942 to September 1945, No. 8 Radio Detachment operated continuous RDF and other telecommunication requirements at this base.

While bomber reconnaissance and fighter squadrons came and went, two other squadrons remained at Sea Island for lengthy periods. These two units, No. 165 Transport and No. 166 Communications Squadrons, came to the west coast early in 1943 and were disbanded here in October 1945. Equipped with *Norseman*, *Goose*, *Electra*, *Cranes*, *Ansons*, *Expeditors* and *Harvards*, No. 165 and No. 166 filled the requirements

of transport, rescues, searches, mercy and hospital evacuation, drogue towing, and photographic missions.

In March 1942, Station Sea Island emerged as an entity in itself, with the formation of a headquarters. Its many branches — supply, accounts, technical and others — have over the years provided the administrative and logistic support for a diversity of flying units.

THE STATION TODAY

Currently Sea Island is made up of station personnel, No. 121 Composite Unit, Nos. 442 and 443 Auxiliary Squadrons. An Air Movements Unit, the west coast debarking point for 12,504 passengers, 57,600 lbs. of freight and 34,521 lbs. of baggage during 1959, is also lodged at Sea Island. During July and August of each year, the station hosts approximately 1,800 air cadets at summer camp. A 10-bed hospital, two chapels, large recreation centre, library, bowling alleys, hobby shop, and 109 married quarters are located on the 543 acres of perennial evergreen where used to graze the Fraser delta's most famous dairy herds. Several of the buildings in use today, including the headquarters of No. 121 KU and the commanding officer's home, were there when the farm was taken over in 1940.

W/C T. J. MacKinnon, DFC
CO Stn. Sea Island

Most residents have strong feelings, either pro or con, about the climate and conditions on the west coast. Definitely in the former category is the station's present CO, W/C T. J. MacKinnon, DFC, who, on his transfer from Ottawa last summer, said, "I would have crawled all the way on my hands and knees."

121 COMPOSITE UNIT (KU)

No. 121 KU is made up of a transport flight with *Dakotas*, *Cansos* and *Albatross;* a rescue flight with *Vertol* helicopters and amphibious *Otters;* a training flight with T-33s and *Expeditors;* a land search section staffed with a keen group of parachutists who are constantly practicing with a large variety of equipment: an AMU detachment; and, last but not least, a very busy and highly efficient operations staff.

The *Albatross*, the new look in search and rescue, arrived at Sea Island last November.

Search and Rescue, as an organization, came into being in 1946 under Canadian agreements with the International Civil Aviation Organization. Rescue Co-ordination Centres, operating on a 24-hour basis, co-ordinate all search and rescue operations involving RCAF, RCN, Army, Department of Transport, RCMP and civilian agencies within their areas of responsibility. No. 121 KU, in its responsibility to the RCC at 5 Air Division, maintains a 24-hour standby for searches, rescues, and mercy trips to handle all flying commitments within B.C. Immediately available, in addition to the aircrew, are doctors, flight nurses, pararescue medics and mountaineers, land search teams, engineers, crewmen and spotters. These specialists have at their disposal equipment of great variety: a mobile communications centre, radio-equipped jeeps, delicate respiratory equipment, walkie-talkies, boats, outboard motors, all types of survival gear and

S/L C. C. Cooling,
OC 121 KU

S/L W. S. Harvey,
OC Reserve Support

S/L H. E. C. Deane Freeman,
CAdO

S/L A. E. Falls,
CTSO

droppable containers.

The routine at No. 121 KU is anything but dull. Located on a busy international airport, with radio facilities and navigational aids common to a metropolitan centre, one might envision the flying role a straightforward procedure. Consider that the airways of B.C. service only a few large centres, that most mercy trips and all searches occur in remote, rugged and mountainous terrain, that the Rockies, Selkirk and Coast mountains extend over most of the province, that weather forecasting is probably as difficult as anywhere in the world. Geography, weather, a variety of equipment and the ever-changing circumstances of rescue, evacuation and search, all dictate a necessity for a high state of proficiency on behalf of aircrew and all personnel contributing to the unit's basic function.

Briefing the 121 KU stand-by search and rescue crew is F/L G. L. Holland (centre), SOpsO. Author of this article is on extreme right.

THE AUXILIARY

No. 442, City of Vancouver Sqn. (originally No. 14 (F) Sqn.) and No. 443, City of New Westminster Sqn. (formed as an auxiliary in September 1951) currently make up the Reserve at Sea Island. W/C D. F. R. Aitken is CO of No. 442 Sqn. and W/C J. D. Fisher CO of No. 443 Sqn. The two squadrons are in turn responsible to No. 19 Auxiliary Wing Headquarters under the command of G/C R. B. Barker. The Reserve Support Unit, with S/L W. S. Harvey as OC, is a lodger unit on the station and provides administrative, maintenance and instructional support to the auxiliary squadrons.

These Reserve Sqns. in Vancouver are equipped with *Expeditors* and amphibious *Otters*. With these aircraft the auxiliary carry out a role of emergency, disaster, and light transport flying. They also provide support to search and rescue activity on the west coast.

Squadron personnel work hard at a continuous training program on week-ends and during the week, and

To the rescue of a civilian helicopter downed on a mountainside near Kamloops, B.C., went 121's *Vertol H21* "flying banana" last August.

by so doing, have been able to maintain a high standard of flying proficiency. Most mobility exercises take place on week-ends. Each year the squadrons attend a summer camp for two weeks at which time they engage in a variety of extensive air training exercises associated with their basic role.

The climate of Canada's "evergreen playground" provides many practical advantages. Costly snow removal equipment, the consideration of preventative maintenance in areas of extreme heat and dust are of no consequence here. One of the main requirements to aircrew proficiency on the flying boats is a program of continual water training. In this respect, most any type of water condition can be found at any time of year within a few miles of base; and, too, there is no ice to contend with. This is a situation unique and of distinct advantage to the role of No. 121.

No. 121 KU is currently engaged in ground trade familiarization and aircrew conversion on the *Albatross*. Training will carry on for some months before the aircraft can be considered an operational mainstay to search and rescue. A point of interest at this time, however, is that two days after the *Albatross* arrived a mercy trip was requested to Smithers, B.C., and was successfully performed by the new aircraft. The circumstances were such that it would not have been possible with other aircraft available, due to deteriorating weather and enroute icing.

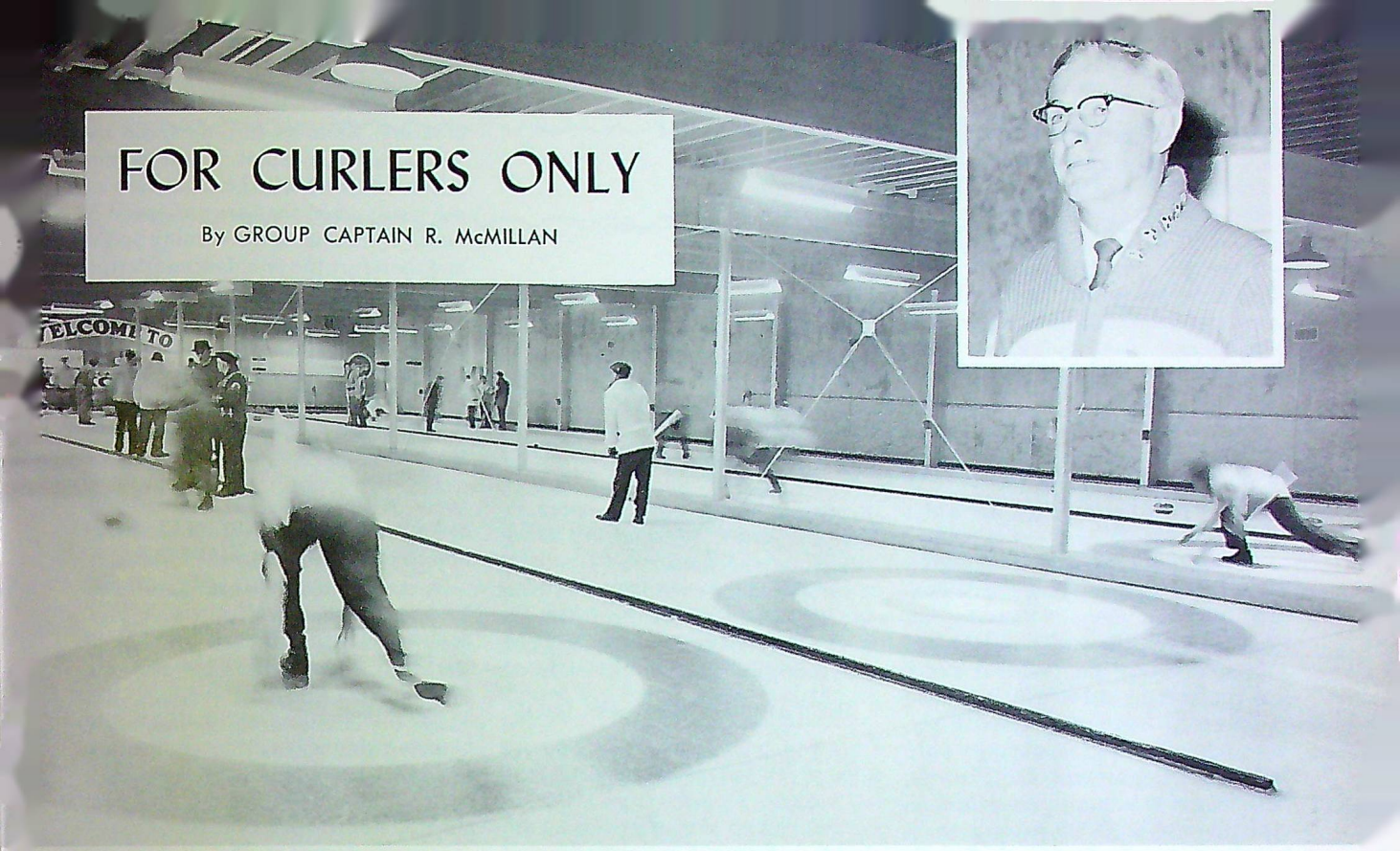
In the meantime, *Cansos* and *Dakotas* continue to perform yeoman service.

For those who know the west, Sea Island is truly a Shangri-la. Arrival at Vancouver airport, especially in winter, is an exhilarating experience for easterners. Regardless of the time of year there is the prospect of most any outdoor sport — skiing high on the mountains in summer time and golf all winter — to mention only a few of the many activities. To those who may venture this way, on duty or for pleasure, Station Sea Island extends a hearty welcome.

Most Canadians at this time of year go in for skiing, skating or curling (see opposite page). At Sea Island last December 13, thanks to an unusual flood of liquid sunshine, Cpl. L. J. Franks went fishing in front of the CO's house and No. 121 KU headquarters.

FOR CURLERS ONLY

By GROUP CAPTAIN R. McMILLAN



Home of the Rockcliffe Curling Club, whose president (inset) is the author of this article.

You are probably a curler, but what do you know about curling? "What makes a curling stone curl?" To this question I have received every conceivable kind of reply. One old fellow said that no one really wanted the granite to curl anyway but nobody had found out how to make it go straight. This answer is not as facetious as one might think.

Those of us who have curled for more than 20 years realize that the curling fraternity is one of the most non-technical groups in the world. Here I propose to interest you in the technical aspects of curling, answering the questions which are discussed every day in the thousands of curling rinks across Canada — technical questions such as:

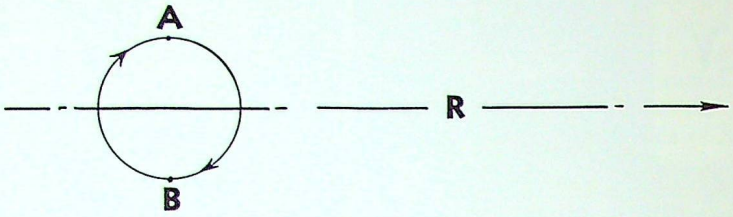
- Why does a curling stone curl?
- Why does a curling stone thrown fast draw less than one thrown slow?
- Why does the stone draw more on flat ice than on pebbled ice?
- Why does the spinner draw less than the stone turning slowly?
- Why is the straight handle useless?
- Why does a stone on outside ice sometimes lose or even reverse its turn?
- What are the effects of sweeping?

In attempting answers to these questions I want to make it quite clear that I am merely an interested engineer who has given these problems much thought and who hopes to provide answers to questions which have been bothering curlers for some time. I have also dealt with questions so elementary as only to interest the outright novice. However, with curling the fastest growing team sport in Canada today, I hope to include among my readers many in the RCAF who are playing the game for the first time.

Every skier knows that he must unstick his skis before he can start sliding. Every Canadian who drives a car knows that on ice or packed snow he must keep his wheels from spinning if he is to make progress. If we stop to think about it, we all know that the friction is greatest when the two surfaces are not moving relative to one another and that once they start to slide the friction gets less and less. This variation in the friction force is important to curling.

WHY DOES A CURLING STONE CURL?

The granite curling stone is built with a cup on the bottom, like the bottom of a saucer, and it is on this circular rim that the stone rests as it slides down the ice. In Fig. 1 the circle represents this rim and the



CAUSE OF THE CURL
fig. 1

arrow "R" the direction in which the stone is travelling.

When the curler delivers his stone he imparts a turn to it (quite deliberately). If we imagine that he has marked two points with small blobs of paint on this rim (points A and B on the sketch) these will have two motions as the stone slides along, i.e., a circular motion and a forward motion. If you will look at the sketch for a minute you will soon see that the blob of paint at A is travelling faster relative to the ice, than the blob of paint at B. In fact if the forward speed of the stone was just equal to the rotational speed the point A would be travelling at twice the forward speed (relative to the ice) and the point B would have no velocity (relative to the ice).

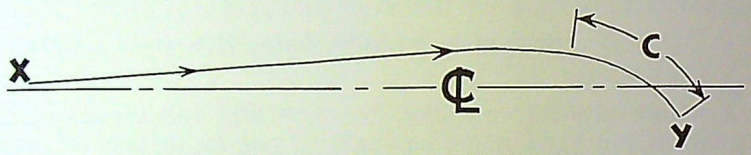
We have said that the friction between two surfaces is always greatest when there is no motion between them. It is also true that the friction decreases as the relative speed increases. As the stone moves along, therefore, the friction at B will be greater than the friction at A causing the stone to veer to the right. We say that the stone draws to the right, due to the unbalanced friction force.

THE PATH OF THE DRAW SHOT

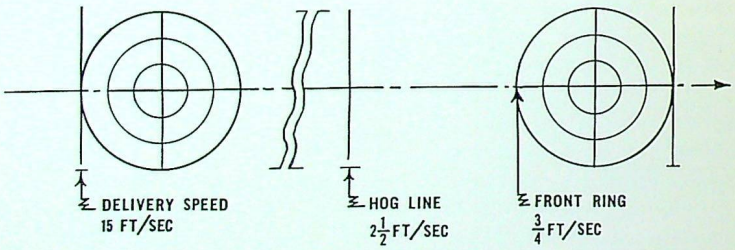
In Fig. 2 we have drawn a curved line XY representing the path of an average draw shot. As the stone slides along its path from X to Y, its forward speed is gradually decreasing, while its turning speed remains fairly constant. There comes a time in its travel (the C portion of the path) when the forward speed is about the same as the turning speed and therefore the unbalanced friction force (the difference in the friction force on the two sides referred to earlier) is greatest. The force changing the direction of the stone is greatest as it slows to a stop. Thus we get the big draw near the end of the run.

WHY DOES THE CURLING STONE THROWN FAST DRAW LESS THAN ONE THROWN SLOWLY?

A curling stone delivered six feet in front of the hack with precise T weight travels 120 feet. On ice at 28°F (or reasonably keen ice) the run requires about 16 seconds. Because the deceleration is reasonably uniform this means that the stone's speed at various points along the ice can be predicted as shown in Fig. 3. As this draw shot crosses the hog-line its speed is about 2½ ft. per sec. and as it enters the rings its speed is about ¾ ft. per sec. Let us now examine its turning speed.

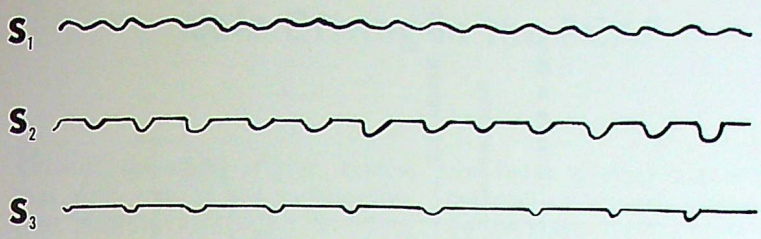


PATH OF THE DRAW SHOT
fig. 2



VELOCITY OF THE DRAW SHOT
fig. 3

An experienced curler has delivered this stone imparting a turning force sufficient to make it revolve three times in 120 feet. This means that the average turning rate for this particular shot is 67° per second. To see whether the turning rate was uniform throughout the run we checked the turning rate at several time intervals and found that the last turn is slightly slower than the first two. For example, by using stop watches



HOW THE PEBBLE WEARS
fig. 4

we found that the first turn took 5 seconds, the second 5 1/10 seconds and the third 5 9/10 seconds.

With the turn rate established we found that the velocity of a point on the rim of the stone was ¼ ft. per sec. By looking again at Fig. 3 we can see that the turning and forward velocities approach equality during the last 3 feet of the run — the time when we get the big draw.

Consider now the "runner" or the stone thrown fast. We all know that it curls (draws) very little. This is because the forward speed is so much greater than the turning speed that the conditions for drawing, as explained above, are not reached. Occasionally it happens that a runner is delivered with a "fast handle" which produces the conditions for the maximum unbalanced friction force. This runner will draw a bit and as a consequence miss its target. Usually the skip is surprised when this happens, little realizing that the cause of the missed shot is not the ice he has given but the fast handle on the rock. When you deliver a "runner" be sure it is not also a "spinner" or you may miss your shot.

WHY DOES THE STONE DRAW MORE ON FLAT ICE THAN ON PEBBLED ICE?

You curlers all know that the stones have to be thrown much harder when the pebble is fresh. The reason is not friction but rather the shear force required to cut the top off the pebble. After fresh pebble the ice surface looks like S1 in Fig. 4. After a couple of ends the crown is knocked off and the surface looks like S2. After 20 or 30 ends the surface becomes very flat as shown at S3. Of course the centre portion of the ice gets worn down first, the outside remaining well pebbled. The stone curls very little on fresh pebble because the shear force required to knock the crown off the pebble dwarfs the unbalanced friction force which makes the stone curl. Moreover, the stone does not have as long to curl because it must be thrown faster and it stops quicker.

At S2 the stone rides along on the "flats" with maybe half of the rim riding on these and the other half on air. The unbalanced friction force is ordinary and we expect to get a 12 inch to 18 inch draw on ice like this.

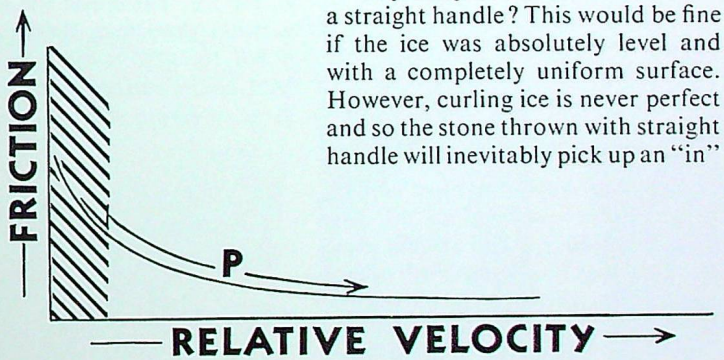
At S3 the pebble has worn down so much that most of the rock's rim is in contact with the ice and the magnitude of the unbalanced friction force is greater resulting in a three to six foot draw. We say that the ice needs pebbling with this condition.

WHY DOES THE STONE TURNING FAST (SPINNER) DRAW LESS THAN ONE TURNING SLOWLY?

This is because the point B (Fig. 1) reaches its maximum friction (i.e. lowest velocity relative to the ice) early in the path and for a short time only before it actually has a negative speed relative to the direction in which the rock is travelling. The trouble with the negative speed is that it produces very little more friction than the high relative speed at A because you are operating in the P portion of the friction curve (see Fig. 5). It is only when the relative velocity between the two surfaces gets very low that the friction force rises rapidly — the condition near the end of the path of a draw shot.

WHY PUT A TURN ON AT ALL IF THE OBJECT IS MERELY TO REMOVE YOUR OPPONENT'S STONE

Why not just take aim and throw a straight handle? This would be fine if the ice was absolutely level and with a completely uniform surface. However, curling ice is never perfect and so the stone thrown with straight handle will inevitably pick up an "in"



VELOCITY = HIGH FRICTION
fig. 5

or "out" turn depending on which side of the stone encounters greater irregularities in the ice. Once the turn starts, it tends to perpetuate itself and of course draws to the right or left of the rock you were trying to hit. A "straight handle" is therefore never used because its course is completely unpredictable.

WHY DOES A STONE ON OUTSIDE ICE SOMETIMES LOSE ITS TURN OR EVEN REVERSE ITS TURN?

The stone thrown on outside ice meets the following conditions. It is turning in such a way that it should draw toward the button at the far end but it is aimed perhaps four to six feet to the side as shown in Fig. 6. As this stone goes along, the pebble on its right is not worn down as much as the pebble on its left. There is a real danger that this may be the first stone thrown close to the boards since the pebble was put on and there is a high shear force on the right side of the stone tending to stop the turn as shown in Fig. 7. The stone is delivered and turning counter clockwise and as its right-hand side strikes the fresh pebble the force is against the turn as shown. If this force is large enough the turning stops, and if the right-hand side is still on the new pebble the opposite turn is imparted causing the stone to draw to the sideboards and be lost. One can avoid this trouble either by putting more turn on or "trimming" the outside pebble before the game starts.

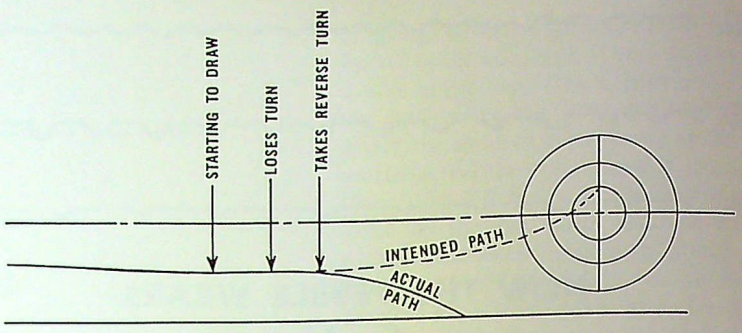
THE EFFECTS OF SWEEPING

This is probably the most controversial point discussed so far. The basic question is, "Will a swept stone travel farther than an unswept one?" Let us clear the air by admitting at the outset that if there is dirt, straws, etc., on the ice and this is swept away the stone will go farther. In the discussion to follow we will assume that the ice is clean.

The only way to make a curling stone go farther once it has been delivered is to reduce the forces which stop it. These are air and surface friction. We will dismiss the friction of the air by saying that at the speed a curling stone is travelling, air friction is negligible. Nor will it be possible with a broom to create a vacuum in front of the stone which "sucks" the rock along, for while attempting to do this you must displace air against it which would tend to slow the stone. So we dismiss air friction and vacuum and turn to surface friction.

The friction between granite and ice depends partly, but to an important extent, on the temperature of the ice. The closer the ice gets to melting the more slippery it gets. What the skip wants you to do is heat up the surface of the ice and instead of giving you something really useful, like a blowtorch to do it with, all he gives you is a broom. The only way to warm the ice with a broom is to rub it as hard as you can because we all know that friction creates heat. So the good sweeper is a strong person who takes a large number of high friction strokes per second. The excellent sweeper is the man who in effect beats the ice with his broom creating still more heat.

Many of us have watched the famous curling teams with three men sweeping a crucial shot, the slap of the brooms resounding through the rink like gun shots. The Campbell brothers are master sweepers, particularly Garnett. These men increase the travel of a shot from three to perhaps ten feet. But let us face facts — the way most of us sweep it is strictly for exercise and in some cases very little of that.



REVERSAL OF THE TURN
fig. 6

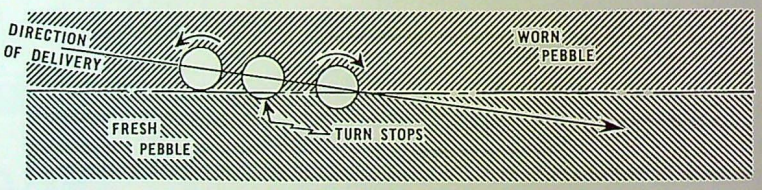


fig. 7 CAUSE OF TURN REVERSAL

Safe Driving in the RCAF

BEHIND the wheel of every vehicle that rolls out of the mobile support equipment section on every RCAF station is a driver to whom safe driving is second nature. This is how the air force, in only eight short years, has reduced its accident rate from five to a low of two per 100,000 miles of driving — despite a 100 percent increase in vehicle registrations in the same period.

Whether the airman driver is making his way through city traffic in a staff car or along the highway at the controls of a semi-trailer, his mind and reflexes are keyed to react instantly to any traffic situation. This approach to driving is the result of a continuing program aimed at an accident free record throughout the air force.

Based on the belief that safety habits are learned, not inherited, accident prevention commences the day a driver first sets foot in an air force vehicle at the driver training school. For the rest of his service career he is continuously reminded of the rules of safe driving. This is accomplished by periodic refresher courses under the direction of specially-trained safety supervisors.

But the campaign doesn't stop here.

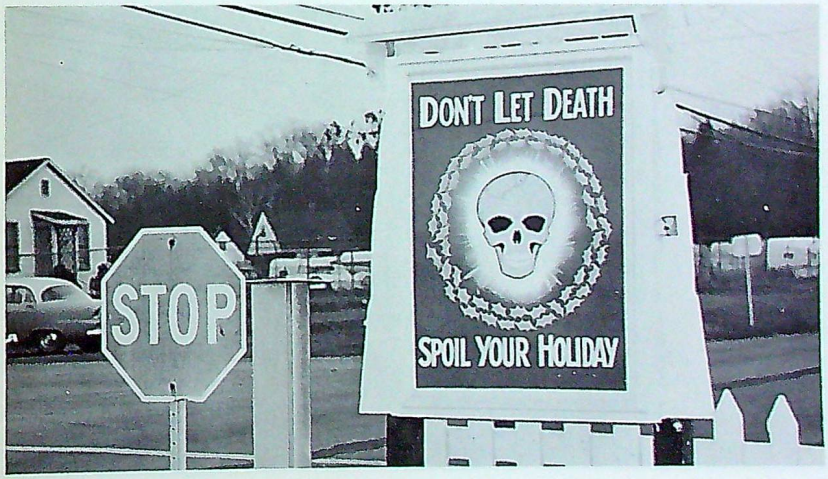
Even the most safety conscious driver in control of an unsafe vehicle cannot avoid an accident for very long. Therefore each piece of equipment is inspected daily, with emphasis placed on the safety aspects. Such points as brakes, steering, tires, wipers, and lights are thoroughly checked before the vehicle is permitted to move out of its stall.

Nor is the service community forgotten in this safety drive. A continuing traffic safety education program is carried out among the service and civilian personnel working and living at every station through the medium of timely slogans, safety posters and lectures. The mobile support equipment officer acts as his commanding officer's advisor on all traffic matters and is a permanent member of the station safety council which meets every month. Through this organization he creates a safety-minded public which in turn helps to ensure the success of the accident prevention campaign.

The benefits of this traffic safety policy in the RCAF are manifold, particularly in the field of economics. An accident-free record means there are no costly repair or replacement bills, no lost time through injuries, and no damage suits. Also, a clean accident slate serves to encourage the drivers to strive all the more to keep that slate clean. Another dividend accruing from this policy, possibly not so obvious, but nevertheless worthwhile, is the ingrained safety habits the driver learns. As he drives home after his daily stint he takes his good driving habits with him, and quite often passes them on to his friends.

Driving King Congratulated by Roadeo Queen

Corporal Frank Fast of RCAF Stn. Cold Lake, top scorer in the 1960 armed forces safe driving contest, receives congratulations from roadeo queen Joan Emard, radio and TV star. Held at RCAF Stn. Uplands last November, the annual event aims at reducing vehicle accidents by promoting careful driving. Proving they have an eye for beauty as well as for the road, the contestants who chose Joan queen came to Ottawa as winners of regional contests held previously throughout the three services.



A Day With

BEFORE any RCAF jet soars towards the stratosphere or any heavily-laden transport rumbles off to some faraway destination aircrews always check the latest weather. Helping meteorologists collect the necessary information for this 24-hour service are RCAF meteorological observers. Typical of the 51 women in the "met" observer trade is Airwoman Ann Fetterly of RCAF Station Trenton.

A newcomer to service life, Ann joined the RCAF in October 1959. After her indoctrination training at the Manning Depot and a 10-week meteorological course at Trenton, she was posted to the aviation forecast office at that same station.

Like her colleagues in the trade, Ann is responsible for a wide variety

0630 hrs. Sunday morning finds Ann nearing the end of her eight-hour shift, giving the latest weather sequences to aircrew while they wait for the forecaster.

0800 hrs. Before Ann goes off of protective clothing. Regulations

of tasks in order to gather, assimilate and record weather data. Every hour, for instance, she must take a weather observation. This consists of calibrating dew points relative humidities; reading the barometer for atmospheric pressure and the anemometer for wind speed. She must note the amount of sky covered by clouds and the type and height of the various cloud layers and estimate the visibility. When the information is obtained she transmits it over the teletype network which is hooked up to weather stations across Canada and in the USA.

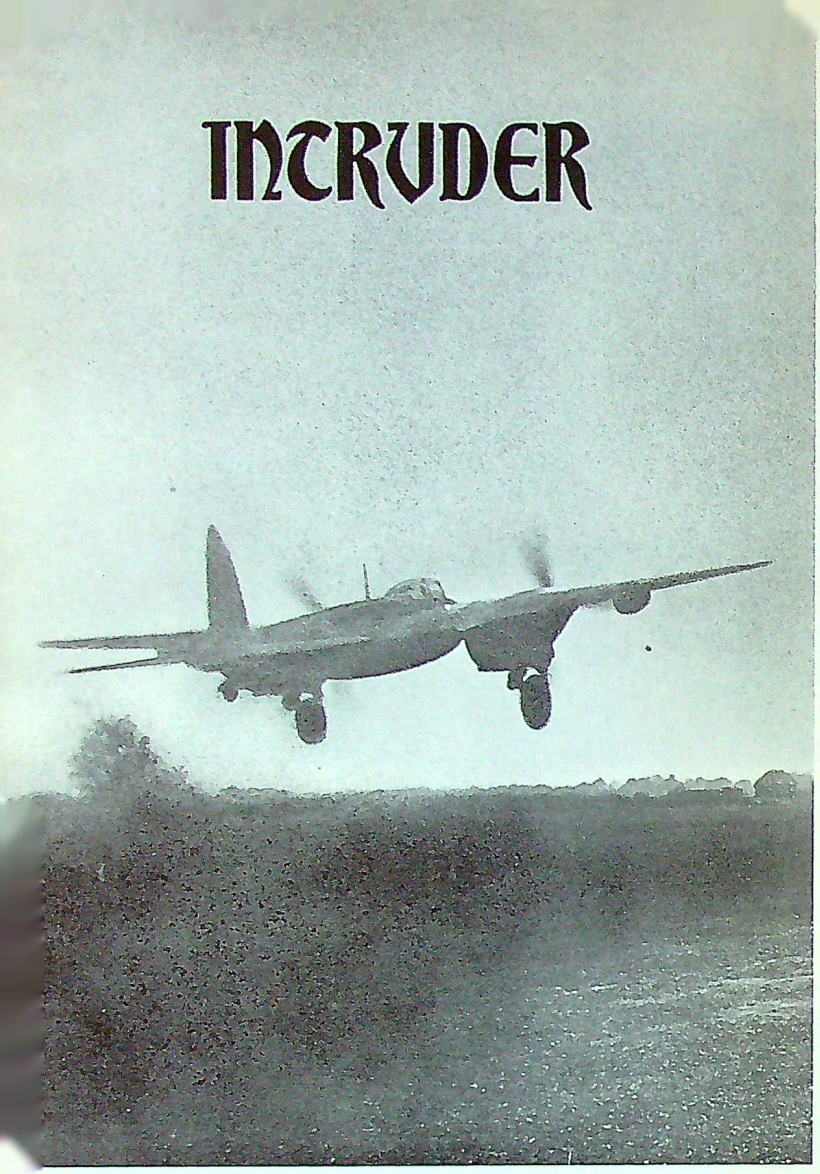
Shift work has its compensations, admits Ann, as she obligingly helped our photographer illustrate some off-duty activities.

1200 hrs. After attending Sunday church service Ann pauses to speak to the padre.

F/O G. Frazer explains the use vent her trying them out in the air.

1430 hrs. A dip in the station swimming pool is a welcome prelude to early retirement in preparation for another midnight shift.

INTRUDER



No. 418 Squadron's Wartime History

Third of Five Parts

By SQUADRON LEADER A. P. HEATHCOTE

Air Historical Section

SQUADRON Leader Dick Bennell's twin kill of 5 September 1943 set off a chain reaction of combat successes extending over a period of 13½ months. Refitting with the superb *Mosquito* was starting to pay dividends for No. 418 Sqn. The "Wooden Wonder's" added speed and range had made possible longer and more effective surveillance of Luftwaffe aerodromes, and given the squadron a radius of action embracing objectives in the more remote corners of Festung Europa.

In mid-September the enemy retaliated. Returning from an operation, the team of Sgt. A. Williams and FS R. T. Gurnett were only a few seconds from touchdown when their aircraft became the target of an intruder firing dead astern. Somebody's aim was bad. Williams shoved everything wide open and did an overshoot, with variations. Again the enemy let fly, this time from a rearward-firing gun, and again he missed. The *Mosquito* was then safely landed. The prowler squirted at a runway and dropped anti-personnel bombs which made the field unserviceable until nightfall the next day. By that time 86 of the nasty little things had been harvested and defused by bomb disposal personnel.

From 22 to 27 September the squadron assisted the heavy bombers three times, on each occasion adding to its score. S/L Moran destroyed an unidentified E/A* at Achmer on the 22nd, S/L Beveridge destroyed two E/A and F/O J. R. F. Johnson one, near Mannheim and Evreux, respectively, on the 23rd/24th, and F/L Hal Lisson got two at Volkenrode on the 27th. Before Bennell's successes of 5 September No. 418's tally of E/A destroyed in the air had reached only seven after nearly a year and half of operations; now it had more than doubled in in slightly over three weeks.

* enemy aircraft

Unfortunately S/L Moran's victory had a tragic aftermath. Absorbing a burst from close range, the victim blew up, the blast knocking the *Mosquito* out of control. Moran recovered and steered for base, but, about 24 miles off Manston, the port engine took fire and the flames spread to the wing. He ordered his navigator FS G. V. Rogers to bail out, watched him go, and then followed suit. *Albacore* aircraft found the skipper and ringed his dinghy with flares; after some three hours in the dinghy he was picked up by an Air/Sea Rescue launch. The search continued for FS Rogers but produced only an empty dinghy. With his presumed death the squadron lost a battle-experienced navigator who had combined with S/L Moran to fly an eventful and highly worthwhile tour of operations, of which this was officially the last trip. Moran was repatriated soon after and decorated with the DFC in October.

Another loss a week later, but unit's fifth in 14 weeks, was attributable not to the enemy's defences but to our own. A *Mosquito* collided with barrage balloons in the haze above Dover and crashed on the beach, the crew being killed. A second such accident the same night was narrowly averted when W/C Davoud and his navigator, F/O Keith Reynolds, found themselves in the midst of the Canterbury balloon barrage in similar conditions of poor visibility. Davoud had to exercise all his skill and quick reflexes to avoid disaster.

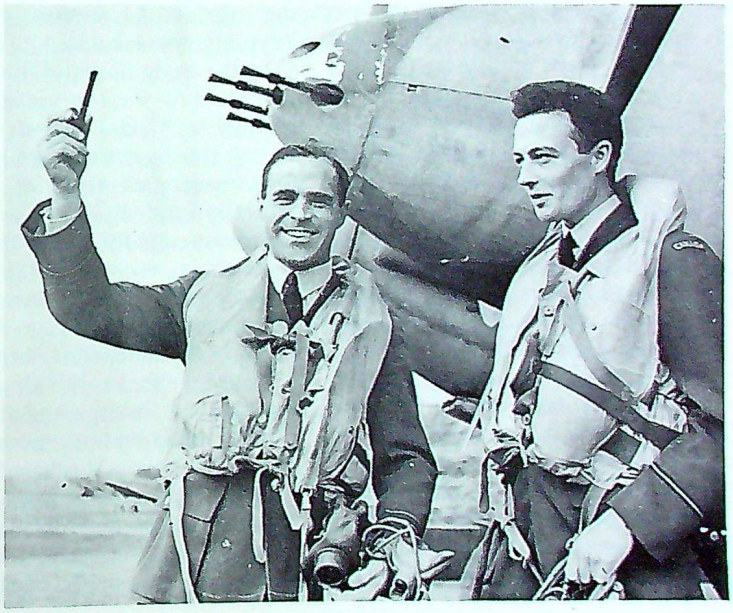
DAMBUSTER SUPPORT

One of the more important and unusual operations undertaken by 418 personnel never appeared in the squadron log. It involved the detachment of three crews to the famous 617 ("Dambuster") Squadron for an 11-day period in September. F/L Hal Lisson, F/L Ross Rowlands and F/O Charlie Scherf, with navigators F/O A. E. ("Diamond Jim") Franklin, Sgt. R. H. Medhurst and F/O E. A. Brown, respectively, took their *Mosquitoes* to Coningsby and began a week's training that consisted mostly of night formation flying (with 10 degrees of flap and throttled back to 170 m.p.h.) with *Lancasters* at 150 feet. The operation was carried out on the night of 15th, an attempt the previous night having been abortive because of bad weather. The target was the Dortmund-Ems canal. It was attacked with 12,000-pounders by a small force of *Lancasters* supported by a half-dozen *Mosquitoes* assigned to strafe searchlights (Lisson knocked one out) and gun positions and ward off night-fighters. Only three of eight despatched *Lancasters* returned. The last aircraft to leave the target area was the *Mosquito* manned by Lisson and Franklin.

The last quarter of 1943 saw a big drop in 418's sortie output, the main reason being the English weather, which was at its dirtiest. Only 141 completed trips were flown, less than half the total for the previous quarter. Still, the unit managed to damage two E/A in November, while in only 37 finished sorties in December it destroyed three, probably destroyed one, and damaged two more.

The two November scores were made during an operation on the 28th in which the unit was acting out-of-character. The crews of Scherf-Brown and Johnson-Gibbons collaborated in an interesting experiment, hedge-hopping in broad daylight to a seaplane base at distant Lake Biscarosse, some 40 miles south-west of Bordeaux. Approaching their objective from the south-east to further the element of surprise, they made one low, skimming pass over the water. Johnson damaged a pair of sitting *Arado 196s* and Scherf shot up an anchored flying-boat (probably a *Bloehm & Voss 222*), all the while managing to avoid intense ground-fire. This daylight expedition, or "day-ranger", was to have many a sequel in the 11

W/C P. Y. Davoud and his navigator F/O K. Reynolds.



months that followed. In point of vulnerability to enemy fighters, day-intruders were riskier than the night variety but often showed bigger profits.

DAY-RANGERS AND FLOWERS

A day-ranger also produced the next successes. The teams of F/Os Jimmy Johnson-Noel Gibbons and F/L Bob Kipp-F/O Pete Huletsky combined to down a *Heinkel III* at Bourges; then, in similar fashion, added a "probable" at Avord.

"Flower" sorties to airfields in Germany on the night of the 20th resulted in two more kills. Ansbach airfield, near Nuremberg, was found obligingly active by F/O Herb Jones and his navigator, F/O A. J. Eckert. Jones promptly despatched an *Me. 110*, which crashed and burned just off the airfield. F/O Johnny Caine and navigator FS Earl Boal were meanwhile drawing blanks at Speyer and Karlsruhe airfields; but, while proceeding to another patrol area in France, saw an unidentified E/A burning navigation lights and flying on the same course. It altered course for Delme airfield and Caine followed. Presently a single burst of cannon and m.g. fire sent it crashing into the centre of the aerodrome. It was the first of many a kill for Caine and Boal, who, over the next five months or so, were to fly an eminently successful tour. A good night's work was rounded off by F/O Ray Lee and his RAF guiding-hand, FS E. R. Collier, who damaged an unidentified E/A at Boblingen.

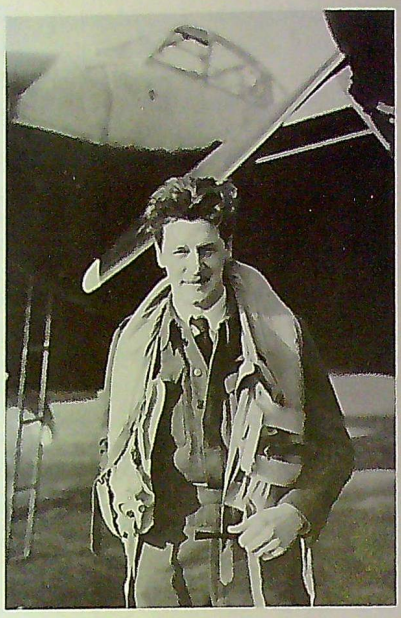
So did 418 score its last few victories of 1943. But the unproductive sorties should not be overlooked. Some mention should be made of the deep penetrations into Germany on nights when nobody had any business being in the air at all. The weather was so bad in the last quarter of 1943 that it rendered 25 per cent of 418's sorties abortive. Remarks such as "Returned early because of inability to pinpoint in low cloud and haze" were commonplace in crew reports of the period. In such conditions decisions to "press on regardless" were not easily made.

There were times when crews went all the way to the target and back and saw the ground only twice — on take-off and landing. On 4 December, for example, S/L Don MacDonald, who had succeeded Dick Bennell as flight commander early in September, intruded with his English navigator, P/O Stan Wilson, to Merseburg airfield, while Charlie Scherf and Al Brown went to Brandis. Both crews slogged through the soup to these airfields in the Leipzig area and back to Ford — a distance of 1100 miles — without a single pinpoint to guide them. They identified their patrol areas by the glow of burning Leipzig and the sight and smell of smoke rising through the cloud.

FLASHBACK

For one intruder pilot a trip to the Paris area on 20 December was the first over enemy territory. The flight in itself was not particularly noteworthy, but when viewed against a background of events of the previous 14 months, it was, if anything, remarkable.

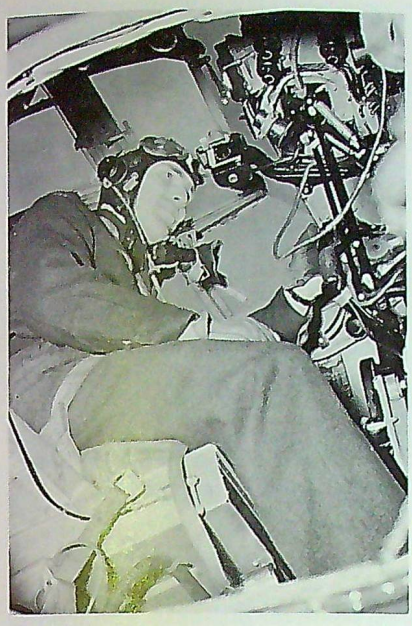
In the early hours of 17 October 1942 a 418 *Boston* aircraft had crashed on Mount Snowden, North Wales, during a training flight. The only survivor was the pilot, who was critically injured. He lay in a semi-conscious state for nearly three days before being rescued. In the hospital at Bangor his injuries were initially diagnosed as follows: a fractured skull, brain concussion, broken leg, damaged knee, broken thumb, and assorted cuts, bruises, and abrasions. Further examination revealed still another injury: a broken back. In addition, some of his open wounds had become gangrenous. He remained in hospital for nearly seven and a half months, being released late in May 1943. The medical officer's final report read as follows: "This patient has made a most dramatic recovery from all his injuries and has no disability of any significance whatever. From the orthopaedic point of view he is fit for full flying duties."



WO Merv Sims

Now, before the year's end, the pilot who had once seemed a sure bet to be invalided home was back on operations with his old unit. His name was Merv Sims, he was a warrant officer, and he was to compile an outstanding record as an intruder pilot with 418.

In October and November of 1943 the unit's ground-strafers had managed to uphold their reputation. They destroyed six locomotives, damaged 13, and shot up the cars and coaches of at least seven other trains. Massey Beveridge accounted for one locomotive destroyed, his accurate marksmanship causing it to explode in a geyser of vapour shooting up an estimated 800 feet. On the same sortie he surprised a tramp steamer moored on the



S/L Hal Lisson

F/O "Fin" Finlayson and Lt. "Lou" Luma inspect airconditioned *Mossie* tail.

Gironde River, and in two well-executed attacks scored strikes on the water-line and superstructure. Their persistent aggressiveness won gongs for Beveridge and his RAF navigator, Sgt. Bernie Bays, in November.

Notwithstanding 418's acknowledged ground-strafing talents, as of 1 December a fruitful field of operations was denied the squadron by virtue of an official decree banning further attacks by day or night on rail traffic in France, Belgium, and Holland. The ban was to last nearly six months.

1944 BROUGHT CHANGES

Early in 1944 the squadron's unofficial emblem of command changed hands. On 8 January W/C Davoud handed over his celebrated red fez to newly-promoted W/C Don MacDonald. The following day he was informed of his promotion and his transfer to No. 22 Wing. On 17 March there was promulgated in the LONDON GAZETTE the award of the Distinguished Service Order to G/C Paul Yettvart Davoud, DFC, the first officer to earn this high decoration for service with 418 Sqn. Besides mentioning his many operational sorties involving attacks on airfields and other heavily defended areas, the citation referred to him as a forceful and courageous leader whose personal example and exceptional ability were reflected in the efficiency and fine fighting qualities of his squadron.

Other executive changes effective early in the new year saw Hal Lisson take over A-Flight from Don MacDonald and Charlie Scherf inherit B-Flight from tour-expired Massey Beveridge.

In the first three weeks of 1944 the unit's sharpshooters could fatten their score by only one "damaged", Bob Kipp having creased an *Me. 210* or *410* over Handorf. Then things began to happen. Late on 21 January eight "Flower" crews headed for airfield-surveillance assignments in France, Holland, and Germany. Forward visibility was down to 1000 yards in fog and low cloud, and over the continent no crew could obtain more than one pinpoint. Yet seven of the eight found their objectives.

One of the seven, consisting of Lt. J. F. ("Lou") Luma (USAAF) and F/L Eckert, was pinpointing over Steinhuder Lake when an aircraft showing navigation lights happened along. Luma tore after it and, after losing it periodically in cloud and overshooting it once, managed to get it in his sights. At a range decreasing from 250 to 100 yards he fired. A flash came from the E/A, exposing it as an *Me. 210*. One wing fell off and it went into its death-dive, disintegrating on the ground. Souvenirs of Luma's first kill — two fragments of *Me. 210* — were carried home in the *Mosquito's* wing. So began a string of victories which, within four and a half months, were to quintuple 418's count of E/A destroyed in its first 22 months of operations. It was no coincidence that a good percentage of the kills were scored during the Luftwaffe's ill-conceived and ineffective "Little

Blitz" of January, February, and March, 1944.

The techniques and conditions required for successful day-rangers differed from those required for night intrusions. Instead of operating singly as at night, day-intruders flew mostly in pairs to give mutual protection from fighters and facilitate follow-up attacks. Low cloud, usually a hindrance at night, was absolutely essential for daylight penetrations, providing much-needed cover from would-be interceptors.

Over north-west France on 27 January was a weather pattern made for day-intruders: the cloud base was at 2500 feet, the visibility unlimited. At Station Ford it was drizzling rain. This failed to dampen the enthusiasm of W/C MacDonald, who spent most of his lunch-hour wangling permission to send a pair of day-rangers trouble-shooting over France. By mid-afternoon he and navigator Stan Wilson were airborne along with Charlie Scherf and Al Brown. About an hour and a half later they went into action. Near Bourges Scherf spotted a *Heinkel III*. The wingco got first grabs, opening fire at very close range and perforating the fuselage and starboard engine. The *Heinkel* went straight in, the Australian helping it on its way with a burst that set the port engine on fire. That was at 1625 hours. Almost simultaneously Scherf saw another E/A, a *Focke-Wulf 200* "*Kurier*", and peeled off to go after it. MacDonald's camera recorded the action as Scherf attacked with an eight-second burst that finished with the *Mosquito* climbing up the *Kurier's* back barely 300 feet above the ground. Pieces broke off the E/A, which was then abandoned by its pilot. It dug its own grave at 1630 hours. At 1632 MacDonald was eliminating one of Hitler's "secret weapons" — a *Heinkel 177*, which type was supposed to wipe London off the map. Two French farmers stopped ploughing momentarily to watch it crash in an adjacent field.

F/O J. Caine, W/C D. C. S. MacDonald, F/O C. Scherf and F/L J. R. F. Johnson.

Later on, at intelligence debriefing, the wingco jokingly remarked of the other two day-rangers operating that afternoon, "We aren't speaking to them unless they got at least four." A prophetic utterance it was, for the teams of Caine-Boal and Johnson-Gibbons did get exactly four, destroying a *Ju. 88* each and collaborating on a pair of *Ju. 34s* in the Bourges-Clermont region. Johnson also damaged a *Ju. 86*. It was a bad day for *Junkers*.

In just over a half-hour (the last kill came at 1657) the quartet of *Mosquitoes* had shot down seven of the enemy and damaged one. The tally of seven victories, air-to-air, on a single day's or night's operations was to be tied several times but never exceeded on the squadron. Spirits ran high in all messes that night as the septuple bag was celebrated. The events of 27 January 1944 continued long after to be recounted around the tables of the Arundel Arms, better known as the "Shaky Do".

NIGHTTIME KILLS

For reasons unknown, only one operation in the next four weeks was flown in daylight, that being uneventful. Excellent results were obtained at night, however, ten E/A being destroyed (one on the ground) and one damaged. Several of the kills were in themselves unusual or had eventful aftermaths. One came during a "nursery intruder". (Two of such type were flown by all newly-arrived crews before operational sorties, the flights being of relatively short range and not over heavily defended areas.)

The victors were F/L T. G. ("Tommy") Anderson and navigator F/O J. F. Cadman, who downed an unidentified E/A near Tours. Lou Luma, guided by F/O C. G. ("Fin") Finlayson, blasted a *Heinkel 177*, which, in its death throes, attempted to ram the *Mosquito* but failed. Bob Kipp and Pete Huletsky were officially on leave when they intruded to Juvincourt to intercept E/A returning from a "little blitz" raid on the London area. In roughly 60 seconds they started two bonfires at opposite ends of the airfield, the kindling in each case consisting of a victim *Me. 410*. Near Florennes, Charlie Scherf and Roger Gurnett chased a single-engined E/A which,

S/L A. D. Cleveland, F/L W. J. Harper, F/L J. W. Kerr and F/O C. M. Jasper.

in an attempt to shake them off, went into an ever-tightening steep turn that was beyond the capabilities of the pilot to handle; it spiral-dived to destruction. Scherf had merely turned with it, using his superior flying skill to force the enemy to destroy himself. He hadn't even touched the firing-button.

On a "Flower" a few nights later he resorted to armament to down two E/A at Ansbach. Also victorious during the period were the crews of Williams and Gurnett, at Coulommiers, and MacFadyen and Wright, at Wurzburg. The air-to-ground marksman was Johnny Caine, who, with Earl Boal, was flying a "Flower" patrol of distant Riem (Munich) airfield. He strafed a taxying *Me. 110* which had probably just returned from a sortie against our bombers attacking Augsburg. It was left going up in smoke.

The most successful operation of February 1944 was a day-ranger on the 26th by Scherf-Finlayson and F/L A.D. ("Howie") Cleveland and FS Frank Day. They found their first worthwhile targets sitting on the ground at St. Yan — an unidentified E/A and a pair of *Ju. 52s*. All three were incinerated in short order. The next stop was Dole airfield, where was waiting for them the most ideal sitting-duck of a target that any intruder could ever hope to see — a Bi-Heinkel (two *Heinkel IIIs* joined together) towing two *Gotha* gliders. In a matter of seconds both *Gothas* were falling apart under a hail of cannon fire and then falling straight down, in pieces. The clumsy composite which had been towing them proved easy prey under the combined attacks of the two *Mosquitoes* and soon rejoined the *Gothas* on the ground. En route home Cleveland strafed and damaged another *Gotha* parked in a field near Dole.

THE SCORE MOUNTS

The success of this day-ranger and the one of a month previous must have done much to convince "the brass" that daylight intrusions were paying propositions, for, only the day after the St. Yan-Dole operation, it was learned that henceforth the squadron could intrude by day at its own discretion. (Formerly daylight intruding, though not exactly frowned upon, had to have official sanction.) A wise decision this was, for it allowed 418 to give full rein to its talents of initiative, imagination, and tactical know-how. With their newly-won measure of independence, crews now began to intrude more and more by day. A competitive spirit arose between flights, even among crews, which vied with one another "laying on" trips calculated to pay off. The wisdom of granting the intruders more freedom of action was seen on the unit scoreboard. More than 75 per cent of 418's total kills were made in daylight.

Thanks mostly to the two daylight "turkey shoots", in the 30-day period from 27 January to 26 February 1944 the squadron's accumulative bag of E/A more than doubled. Its score for the first 22 months of operations — 22½ E/A destroyed, in the air and on the ground — and its score for the 23rd month alone — 24 E/A destroyed, in the air and on the ground — provide an interesting comparison. For all its success in the latter period it lost only one crew to enemy action.

EXECUTIVE CHANGES

Near the end of February all three executive positions changed hands. On the 25th W/C MacDonald, who was proceeding on posting to 129 Airfield the following day, handed over to W/C Dick Bennell, DFC, a flight commander with the unit in 1943. On the day of his departure MacDonald was awarded a DFC, largely for his brilliant leadership and combat skill on that eventful afternoon in January. Departing soon after were Flight Commanders Charlie Scherf and Hal Lisson, who were replaced by Howie Cleveland and Bob Kipp, respectively.

From time to time, in addition to its offensive operations, the squadron undertook various special assignments. Though officially screened, S/L Lisson and his navigator, F/O Franklin, flew a special mission to Salvaza, in the Toulouse

area, on 3 March. Because of circumstances beyond their control, the assignment was not carried out. Instead of turning for home, they proceeded south-east for another 400-odd miles and landed at Alghero, Sardinia, from which they made another unsuccessful attempt the following night. Again taking off from Alghero on the night of 6 March, they found their target and made a successful supply-drop in aid of the Maquis. Then they went home to Ford. When the groundcrew inspected the aircraft they stared in disbelief. Who would have thought the bomb-bay of a *Mosquito* could disgorge such quantities of Italian wines, lemons, and other souvenirs?

While Lisson and Franklin were making their third try to find the drop zone, Luma and Finlayson were prowling around Pau-Pont Long aerodrome, barely 25 miles from the Spanish border. Presently they were shadowing a single-engine aircraft of a type considered the arch-enemy of the *Mosquito* — a long-nosed *Focke-Wulf 190*, the fastest and most formidable E/A then on operations. One three-second burst and its war was over; it exploded and crashed to earth. But the range had been a bit too snug. Fragments of *Focke-Wulf* pierced the starboard radiator of the *Mossie*, causing a coolant leak and rapid overheating of the engine. Forced to switch it off, Luma had to finesse his way more than 500 miles to the south coast of England on one engine. The fact that he did attested to his sound airmanship and the matchless quality of the *Mosquito* and the Rolls-Royce engine. His total airborne time was 6 hours and 22 minutes, approximately half of which was single-engine flying.

To this point the squadron had despatched 24 sorties on day-rangers, destroying at least 14 E/A without loss. On 9 March the unfailing law of averages worked and an entry was made in the debit column. While carrying out his first operation since rejoining the unit, a day-ranger with Johnny Caine, W/C Bennell disappeared over the St. Lo-Avranches area. He and his navigator, Frank Shield, were never seen again. Both were later presumed killed in action. Stepping into the executive breach, temporarily, despite having only recently finished an operational tour, was S/L Lisson, a veteran of nine months' service with the squadron.

Crew reports from both day and night operations were indicating that ground defences in one of the squadron's favourite prowling areas, the north-west corner of France, were stronger than ever. *Mosquitoes* were more often showing flak scars after operations, in one or two instances the holes being big enough to crawl through. To intruder crews it seemed there was no night in this area; the searchlights saw to that. A belt of beams extended from the coastal town of Le Crotoy to Beauvais, some 60 miles to the south south-east. Almost intersecting it at right angles was another at least as long, from Abbeville to Cambrai. Don MacFadyen's aircraft was trapped in the latter belt one night for virtually the entire distance, despite constant varying of height. Even down below tree-top level the *Mosquito* could not be shaken free. Understandably befuddled by the beams, MacFadyen temporarily lost his bearings. In addition to hindering our aircrews, the searchlights were directly protecting the enemy's. They swept the air behind an aircraft circling to land, trying to light up any intruder that might be shadowing it while its pilot was pre-occupied with his approach.

EDMONTON ADOPTION

When the unit operated over France, Holland and Germany on the night of 18 March 1944, it carried not only the colours of the RCAF but also, figuratively speaking, the coat-of-arms of Canada's oil capital. That day official word had been received that the squadron was the ward of the municipality of Edmonton, Alberta. Thenceforth it would be known as 418 (City of Edmonton) Squadron. Considering the fact that the unit's C.O. and several pilots and navigators, plus a number of groundcrew, were Edmontonians, the adoption was particularly well timed and appropriate.

F/L C. A. Walker and navigator F/O T. J. Roberts celebrated the new association the following night by destroying an unidentified E/A near Melun. The teams of MacFadyen-Wright and Luma-Finlayson celebrated on the first day of spring with an unprecedented bag of seven E/A destroyed (four on the ground) and 12 damaged on the ground during a day-ranger to Hagenau and Luxeuil. All four officers won DFCs, and Lt. Luma, who was to wind up a tour in May with a total score of 6½ E/A destroyed and several more damaged, added the American DFC.

On the night of 22/23 March the squadron posted its second aircraft missing within 13 days. This time no loss of life was involved. Returning from a "Flower" in the Stuttgart area, F/L Cliff Walker and navigator F/O T. J. Roberts ran out of fuel and crash-landed near Abbeville. Walker began to evade, but Roberts, handicapped by an injured foot, had to be left behind and was soon captured. Contacting the Resistance, Walker moved from house to house and from village to village for the next five months or so, devoting much of that time to helping the Resistance to organize. He was billeted with a local commandant of the FFI* when the British Second Army liberated the area on 4 September 1944.

* French Forces of the Interior.

Bomber-support operations, which 418 had been carrying out regularly since July 1943, may not have brought the sensational scores of the daylight penetrations, but their overall effect was undoubtedly great. A case in point was the Battle of Berlin (ending on 25 March 1944), in which the unit despatched a total of 47 "Flower" sorties to cover selected airfields and give the bombers whatever help it could. Though failing to shoot anything down during their Battle of Berlin assignments, the Edmontons did present a constant threat to certain Luftwaffe night-fighter squadrons by hounding their bases at times calculated to cause them maximum embarrassment. They could not be kept on the ground, but, being denied free use of their airfields for landing, they no doubt had to declare more fuel emergencies than expected, thereby compounding with confusion the problems of Goering's already overstrained air defence organization.

NEW CO, NEW BASE

Before the end of March there was another change of command. Succeeding S/L Lisson on the 30th was W/C Anthony Barker, a Yorkshire alumnus of Yale University who had joined the RCAF. Lisson soon after put up a DFC and was repatriated.

The end of the first week of April brought a change of location, the new base being at Holmsley South, some 75 miles west of Ford. The move was not a popular one. Squadron life was never more pleasant and unit morale never higher than at Ford, a fact reflected by the squadron's record of achievement in the Ford period.

There was one more pay-off show from Ford before the squadron vacated. The inspiration came from an officer no longer on unit strength. Granted a 48-hour leave from his duties at Intruder Control, F/L Charlie Scherf, DFC, elected to spend part of it the best way he knew — on ops with 418. He hurried to Ford, picked up navigator F/O W. A. R. ("Red") Stewart, and organized a day-ranger with Johnny Caine; by tea-time the two *Mossies* were off. A lack of cloud cover over France made questionable the advisability of carrying on; Caine quite justifiably decided against it and turned back. For some reason Scherf kept going, low enough to bend the grass with his slipstream. At the Loire River he went after a *Fieseler Storch*, but his cannon misfired and the E/A had time to land. Its two crew members scrambled into a nearby wood and then watched as the Australian, with one burst, converted their *Storch* to scrap. Continuing on to Lyons airfield, he meted similar treatment to two unidentified twin-engined E/A, both in the air. As a parting gesture he finished off two *He. IIIs* parked at St. Yan. Then he went home. So did Charlie Scherf pass five hours of his "48", destroying five enemy aircraft.

SCORING SPREE

That began a month and a half of the most prolific scoring in 418's history. In the air 30 E/A were destroyed, one more was "shared destroyed" with another squadron, and three others were "probables". On the ground 38 E/A were destroyed and 20 were damaged. To illustrate the unit's scoring power and "depth", 14 different crews contributed to the harvest.

In the week after Scherf's holiday caper, when at least seven E/A were eliminated, the big guns were F/Os G. N. ("Lefty") Miller and G. D. Miller. They counted two destroyed and 2 "probables" in addition to four damaged, and earned a congratulatory letter from their AOC-in-C, A/M Sir Roderic Hill.

On 14 April, for the fourth time, the squadron wiped out seven E/A in a single day. Intruding by day to Copenhagen's Kastrup airfield, Kipp-Huletsky and Caine-Boal sighted four *Ju. 52s* and dunked same in the Kattegat. By so doing they were indirectly assisting in the sea-mining campaign, for three of the *Junkers* were mine-sweeping when attacked. Strafing of the airfield followed, three more E/A being cremated and two damaged on the ground. At this point a pair of *FW 190s* from Grove airfield checked in overhead. A spirited chase ensued, but the *Mossies*' speed kept the enemy beyond effective attacking range. By his audacity and thorough planning S/L Kipp earned the DFC, as did his navigator, F/O Huletsky. F/O Caine, whose DFC had been gazetted ten days before, was to receive a second such decoration seven weeks later. Boal also was gonged.

On 16 April the squadron had its biggest scoring rash of any single day since beginning operations. That early evening ten E/A were nullified and another temporarily put out of action. It all started when the teams of Jasper-Martin and F/L W. J. Harper-F/O T. H. Rees intruded in late afternoon to Luxeuil airfield, 35 miles from the Swiss border. Harper opened the scoring by blasting a *Ju. 34* which blossomed into flame and plummeted to earth. Meanwhile Jasper was making hay air-to-ground. Seeing a *Caudron* warming up on the drome, he gave it a two-second squirt that left it blazing. Flying through the flames of this victim, he did likewise to a second *Caudron* parked nearby which also went up in smoke. He then caught a third *Caudron* in the act of taking off. It barely cleared the airfield boundary before going in. Next Harper surprised another *Ju. 34* whose pilot had pushed the panic button and was desperately trying to land. Absorbing a three-second burst the low-flying *Junkers* collided with a tree, lost its port wing, flipped onto

its back, and disintegrated. In this action, air-to-air and air-to-ground, five E/A had been written off in less than five minutes.

Equally successful were day-rangers Cleveland-Day and F/L J. W. Kerr-F/O P. Clark, whose attacks were confined to E/A on the ground. Finding nothing attractive at Chateaudun, Orleans, Melun or St. Dizier airfields, the intruders called at Toul and discovered a number of aircraft dispersed along its perimeter. Two *FW 190s* and a *Bucker Jungmeister* trainer blew up or fell apart under Cleveland's fire, while one *Jungmeister* was consumed by fire and another was damaged in a single pass by Kerr. Then, on to a small field north of Thionville, where a lone *Stuka* was eliminated. Cleveland and Day scored again during a "Flower" on the 28th, but this time their weapon was nothing more than intimidation. Seeing the lights of an E/A approaching to land at Croix de Metz, Cleveland went for it head-on. Before he (Cleveland) could touch the firing-button, the enemy pilot panicked; his well controlled approach became a desperation dive. The E/A hit heavily while still nose-down, caught fire and soon burned out.

That was the second time a pilot of 418 had forced self-destruction on an enemy aircraft without firing a shot. More orthodox methods were used by Sims and Sharples on the 27th. Their "Flower" vigil over Schweinfurt led to an attack on an E/A, which, virtually saturated with cannon and machine-gun rounds, hit the deck almost vertically.

(to be continued)

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.

Mr. J. P. WHITRIDGE of AFHQ made a suggestion concerning the printing of door signs which was adopted officially by the RCAF on 18 January 1960.

Sgt. M. A. C. DOYLE of AMCHQ made a suggestion concerning a CSU shaft bellows installation in *Argus* aircraft which was officially adopted by the promulgation of EO 05-120A-6A/319 dated 4 May 60.

WO1 A. C. SWARTZ of AMCHQ suggested an improved method of soldering aircraft wiring which was adopted officially through AMCHQ E336 serial number 7792 and AFHQ letter 1901-670-12 TD9090 (DMS) dated 28 May 59.

Other award winners:

S/L D. G. Atkinson
F/L L. T. Stewart
WO2 A. Danforth
WO2 J. R. S. Richard
Sgt. R. B. Day
Sgt. D. A. McKinnell
Sgt. R. D. Payne
Sgt. R. P. Holloway
Sgt. J. G. Kines
Sgt. A. Friesen
Cpl. L. G. James
Cpl. J. F. L'Ecuyer
Cpl. R. W. Rennie
Cpl. J. E. Brown
Cpl. J. M. L. Begin
Cpl. H. K. Gill
Cpl. J. E. Brown
Cpl. D. Graham
Cpl. A. Moroz
Cpl. W. J. Essex
LAC E. Giesbrecht
LAC G. W. Scrutton
LAC G. A. Irwin
LAC V. Savoie
LAC J. P. Asselin
LAC E. H. LeBlanc
LAC G. B. Love
LAC J. Macleod
LAC H. E. Wall
LAC W. G. Tulloch

—Dept. of Transport Photo

CANADA'S NATIONAL AVIATION MUSEUM

By MR. S. L. ROBERTS
Department of Northern Affairs and National Resources

THE development of Canadian aviation is illustrated dramatically and comprehensively in the new National Aviation Museum which the federal government has established in the Ottawa International Air Terminal.

Opened officially last October in the presence of guests representing all sectors of military and civilian aviation, the National Aviation Museum presents for the first time an integrated series of permanent exhibits carrying out the theme of "Aviation's Contribution to Canada and Canada's Contribution to Aviation."

In the nine display sections every aspect of civil aviation is covered from runway construction and meteorology to research and the radar early warning lines. The items exhibited encompass 50 years of aviation history, including the original engine of the *Silver Dart*, some of the controllable-pitch propeller designs that Wallace R. Turnbull produced in the early '20s, a Chinook engine, and a mock-up of the *Velvet Glove* air-to-air missile.

While the Museum is limited basically to civilian aviation activities, the contributions the RCAF has made directly and indirectly to the progress of Canadian aviation have been recognized. Displays produced and donated by the Air Force illustrate the RCAF Hudson Strait Expedition of 1927-28, search and rescue, aerial photography operations, and aviation medicine. In addition, many of the interesting historical photos in the museum, and particularly those that line the wall leading to the museum entrance, were provided by the RCAF.

The National Aviation Museum is not a truly conventional museum. Practically all the items of individual historical interest are shown within the pioneer section. The other eight sections hold attractive exhibits, some operating demonstrations, three-dimensional displays and articles of aircraft and aviation equipment assembled in related order so that the educational function of the museum can be achieved.

With a floor area of 13,000 square feet and limitations on the load that could be placed on the structure of the second floor of the terminal, the exhibit of actual aircraft is impossible. Only one full-sized aircraft is a component of the museum and it is displayed in the glassed-in exhibition area at the front of the main entrance to the terminal. This is the famous replica of the *Silver Dart*,

built by Cpl. L. McCaffrey and other RCAF technicians and flown by W/C P. Hartman, DFC, AFC, in a re-enactment of the first flight in Canada by a Canadian pilot in February, 1909. However, there are numerous accurate models of aircraft built and flown in Canada.

The museum is laid out in a pattern that makes it easy to pass from one section to another. Moving in a counter-clockwise course from the pioneer exhibit, which is at the main entrance, a visitor encounters in succession the exhibit sections of piston-engined aircraft, the supporting services, operations, jets and rockets, research and development, manufacturing, and aviation's contribution to Canada.

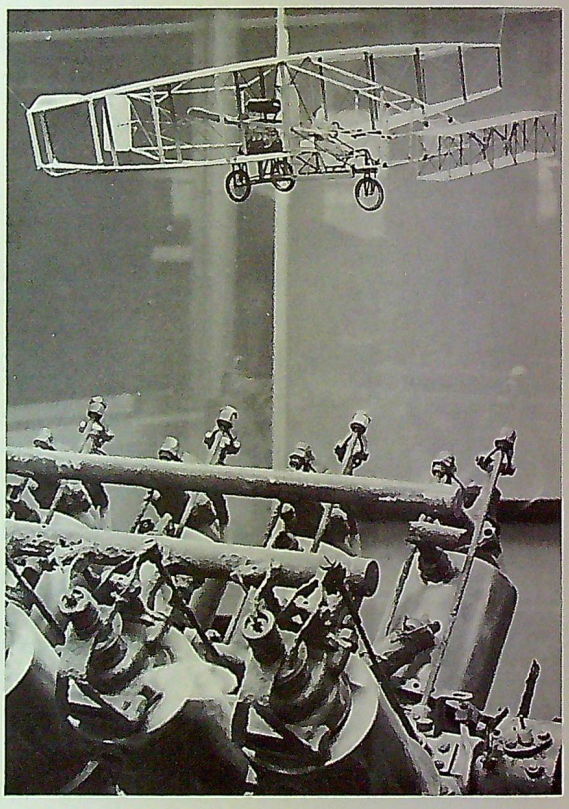
One novel feature is a children's museum with an adjacent observation area where foot-weary parents relax in airline seats and watch the busy traffic of the Ottawa International Airport. The children's area is designed to appeal to a child's interest level. Young Museum-goers can learn in this section how to identify the parts of an aircraft, watch practical demonstrations of aerodynamics and mechanical operations, and even land and take-off their own tiny plastic models from a toy landing field. To supplement the visual displays, tape recordings in French and English can be set into operation from repeaters built into some of the exhibits.

The National Aviation Museum is another permanent reminder of the Golden Anniversary of Flight celebrations in 1959. Its establishment was advocated by the National Coordinating Council for the Golden Anniversary of Flight in Canada and a placard acknowledging the Council's contribution is placed prominently in the museum.

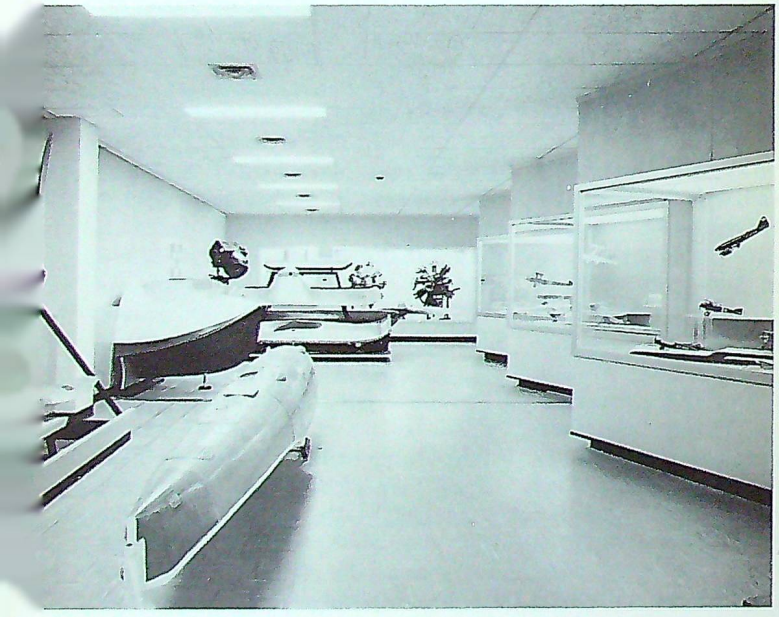
Planning and organization of the museum was directed by an Associate Committee of the National Research Council headed by General A. G. L. McNaughton, chairman of the International Joint Commission. Among the members of this committee are A/V/M J. A. Easton, OBE, Air Member for Technical Services, A/C W. E. Bennett, Deputy Air Member for Technical Services, and A/V/M F. G. Wait, CBE, grand president of the RCAF Association.

A great deal of credit is due the National Research Council for its part in the formation of a National Aviation Museum. In pre-war years, Mr. J. H. Parkin, now senior consultant to the Division of Mechani-

Original *Silver Dart* engine and a model of the aircraft, in museum's pioneer section.



Models of early Canadian aircraft and a collection of propellers, skis, pontoons and other equipment.



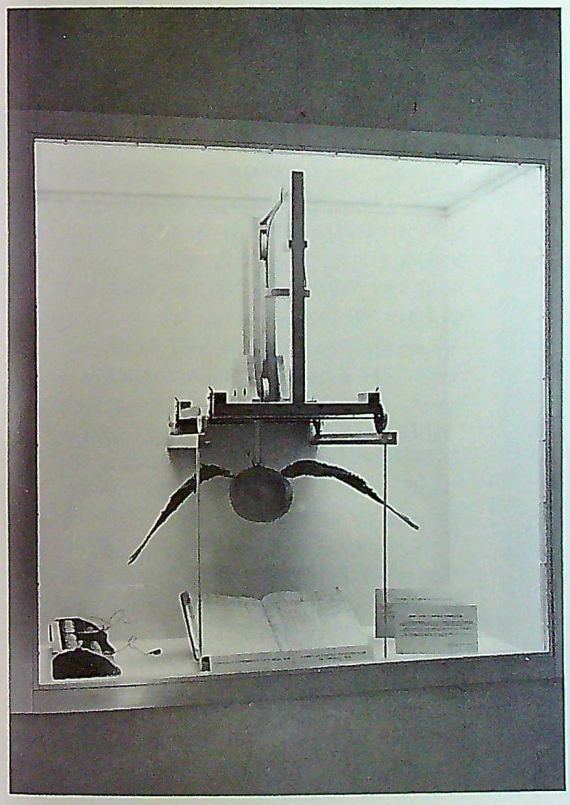
cal Engineering, NRC, set up a small aeronautical museum in the basement of the NRC building on Sussex St. In this museum were displayed a number of aircraft engines and wind tunnel models that Mr. Parkin had brought from the University of Toronto as well as other items of historical and aeronautical interest that had been collected. When Canada went to war, the space that the museum occupied was needed for more urgent work and the contents went into storage.

When the idea of a National Aviation Museum came up again, the collection of museum material, which had been carefully kept during the years, was available for display. Some of it is shown in the National Aviation Museum. The actual work of designing the museum and preparing the exhibits was carried out by the staff of the engine laboratory of the NRC Division of Mechanical Engineering under the direction of their chief, Mr. M. S. Kuhring, who also served on the Associate Committee.

The museum would not have been possible without the co-operation of many aircraft firms, equipment manufacturers, aviation companies and other organizations in Canada, Great Britain and the United States. These contributors donated displays, display materials and, even in some cases, funds towards the establishment of the museum.

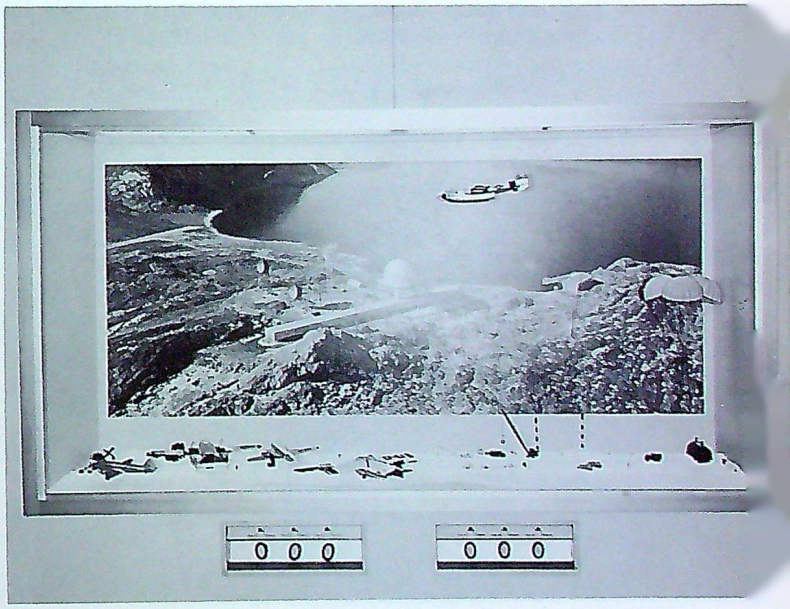
Experience so far indicates that the museum will be a great attraction. Its appropriate location in a busy air terminal assures a steady stream of air passengers, tourists and the casual sightseers from Ottawa and district who visit the Ottawa Airport on weekends. Although only one section of the museum has been open to the public since 1 July, more than 30,000 visitors have been recorded.

The National Aviation Museum will operate under the National Historic Sites Division of the Department of Northern Affairs and National Resources. Mr. K. M. Molson, of Toronto, who has been employed in the Canadian aviation industry for more than 20 years, is the curator. As an aviation enthusiast with a particular interest in Canadian aviation history, Mr. Molson hopes the National Aviation Museum will become a centre for historical information and photographs as well as a permanent showplace of Canadian aviation development.



An early model built with crow's wings to study the effects of lift.

In the operations section, a three-dimensional model of DEW Line activities and supply aircraft.



RCAF ASSOCIATION

This section of THE ROUNDEL *is prepared by RCAF Association Headquarters, 424 Metcalfe St., Ottawa, Ont. Wing contributions should be sent directly to this address.*

OUR NATIONAL IMAGE

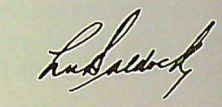
I WELCOME this opportunity to thank Association members for their kind hospitality and support extended in the past eight months since I took over this office. The reception my wife and I received on our Maritimes and Quebec tours was very gratifying, and the same spirit was also evident in the wings I have visited in the West and Ontario.

It is evident that our wings realize there is a big job to be done in establishing better Association public relations across the country, and that each wing must do its best locally if the national image is to be improved. Your national executive council appreciates this thinking, and is presently endeavouring to determine just what impact our Association is making on the Canadian people.

The establishment of an "Association image" can be one of the most important undertakings we have ever attempted. It is and will continue to be a challenging project since we are continually dealing with that elusive thing called "public opinion".

Although not much on this subject has been directed to the members-at-large, they also have a very important part to play in this program. It is my hope that they will help create this Association image.

Every opportunity should be taken to discuss and promote our aims and object before the Canadian public. Our challenge as we enter 1961 is for the wings and members-at-large to continue their efforts in their respective communities, while the national executive council strives to develop the national image of the Association.



(*L. N. Baldock*)
National President

Stephenson Memorial Trophy

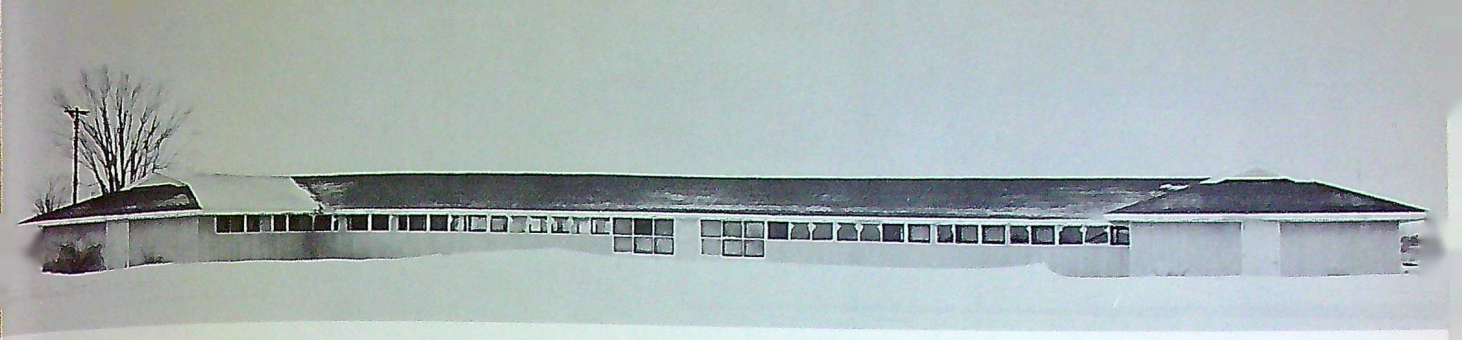
A trophy to encourage proficiency and sportsmanship among juvenile skiers has been established to perpetuate the memory of Air Commodore J. G. Stephenson who was killed in an air crash last year.

The members of 306 'Maple Leaf' Wing of the RCAFA who, with all members of the Association, had a fond regard for the popular RCAF officer and sportsman, presented the magnificent trophy to Michael Stephenson, the air commodore's son. It will be placed in competition this year by the Ottawa Ski Club and the Gatineau Ski Zone, and awarded annually in the 13-15 years age group to the juvenile skier who shows the greatest proficiency and sportsmanship during the season.

Walter Nobes, president of 306 Wing, and S/L Gordon McInnes, a serving member of the wing who was instrumental in selecting the Air Commodore J. G. Stephenson Memorial Trophy, present the cup to Michael Stephenson in Montreal.

National President Gets Around

In December National President L. N. Baldock visited 302 Wing, Quebec City, and 306 Wing, Montreal. At 302 Wing Mr. Baldock attended a reception in their well-appointed clubrooms and in Montreal the national president was a guest of honour at the annual Bon Voyage Dinner at the Queen Elizabeth Hotel. This dinner marked the windup of the wing's fund raising campaign for the year. Mr. Baldock reports that the campaign was a complete success and indicated that 306 Wing spends in excess of $10,000 a year in support of air cadets, hospital visits, "bon voyage" and general welfare work. Earlier the national president had visited wings in the Maritimes, Edmonton, Regina and Winnipeg.



Pictured above is the new headquarters of 424 Wing in Cornwall. Michael Kastner, wing president, has arranged with the city to make available a portion of the building to be used as a school for retarded children. Wing members are voluntarily making the necessary building alterations. The wing also plans to establish here an air force museum as a tourist attraction. Membership of 424 Wing has increased from 25 to 100 in the past year.

Sponsorship of Air Cadet Squadrons Expands

THE continuing interest in the air cadet movement by members of the RCAFA has resulted in the formation of three new wing-sponsored squadrons. In Saskatoon No. 602 Wing, sponsor during the past ten years of one active squadron, has met the demand for additional facilities and training with the formation of a new squadron. Regina's No. 600 Wing has recognized a similar need there and taken on the formation and sponsorship of a new squadron. The addition brings to three the number of squadrons supported and directed by Association members in Regina. In Trenton, recently reorganized No. 413 Wing has accepted the sponsorship of a new squadron as one of its major responsibilities. The total number of air cadet squadrons sponsored by RCAFA wings now stands at 53.

With a long record of successful sponsorship of 107 Sqn., 602 Wing began planning for the new squadron early last year and at the annual mess dinner received from the Air Cadet League the charter for 702 Sqn. F/O G. Avery, 702's commanding officer, reports recruiting has been very successful and the new squadron is making good progress. The Saskatoon School Board has granted permission for use of space in one of the city's new schools for meetings and parades.

No. 600 Wing in Regina has a similar story. The Wing, which has been sponsoring 34 Sqn. and 41 Sqn., found the response from boys of air cadet age more than existing facilities could accommodate. Plans were therefore initiated for the formation of a third squadron, accommodation was arranged through the co-operation of the Regina City Council and the Chief of Police. The wing partitioned the space made available at police headquarters and now have first-rate accommodation for a squadron of 75 cadets. The commanding officer of 703 Sqn. is F/L Doug Simpson.

The "Keystone Convention", Winnipeg, May 18-19-20

Busy since last September preparing for the 11th national RCAFA Convention has been this committee of 500 Wing in Winnipeg.

Front row (l. to r.): K. MacLeod, E. Carlyle, P. Aldrich, H. Bell (committee chairman), D. Stevenson, E. Frederickson. Back row: C. Fosh, R. Close, R. Hamilton, S. Buchanan, B. Aldrich, H. Anderson, A. Turner, E. Buchannon, K. Buchannon, G. May and G. Clark.

Letters To The Editor

PITY THE POSTMAN

Dear Sir:

Your Nov. 60 letters column reported the USAF "mildly shocked at the apparent ignorance displayed" by an RCAF-addressed communication to 25 NORAD Region. May I state that the RCAF and RCN were equally appalled when the enclosed envelope was received from Robins AFB, Georgia, USA:

672 AC & W Squadron,
Naval Station,
Nova Scotia, Canada.

The correct address for this unit is:

Commanding Officer,
672 AC & W Squadron,
Barrington Air Station,
Barrington, N.S., Canada.

Possibly your readers will get a laugh out of this, too, although I doubt the postal authorities would be amused.

F/O G. A. Ferguson,
101 KU, RCAF Stn. Dartmouth, NS.

(*We suggest all who address mail take heed of the last sentiment. — Editor.*)

TRIPLE STRIPE TROUBLE

Dear Sir:

With the article "Three in a Row" (Nov. 60, page 11) there appeared a photograph "marking the drogue".

The caption informs me that there is an American Air Force Sergeant marking the hits. I can't locate him. Could he be hiding behind the American Airman First Class?

Cpl. R. T. Berry,
TCHQ, Westwin, Man.

Dear Sir:

It was indeed gratifying to see that the recent success of the RCAF in winning the Guynemer Trophy was given publicity in the November issue. However, reference the picture captions on page 11, etc. . . .

LAC H. W. Holmes,
RCAF Stn. Rockcliffe, Ont.

Dear Sir:

I am sure the USAF airman shown in your photo (page 11, Nov. 60) would appreciate the promotion, but let's keep our ranks in order . . . etc.

Cpl. K. C. Hurt,
RCAF Stn. Downsview, Ont.

(*We get the point, fellows. — Editor.*)

HORNELL'S WATCH

Dear Sir:

Whilst in the UK early this year I visited the Royal United Services Institution's museum located at Whitehall, London, and was very surprised to see that one of the exhibits is the wrist watch worn by the late F/L David Hornell, VC, at the time of his famous exploit.

It would be interesting to know how this particular watch found its way to the RUSI's museum in the first instance. Perhaps my good friend S/L B. C. Denomy, DSO, who was Hornell's co-pilot at the time, could shed some light on this.

I am also wondering whether any reader of THE ROUNDEL knows if there is any particular reason why this watch is still in the UK and not on display in Canada's appropriate War Museum.

E. H. Andrew, ex S/L
23 Inverness Avenue,
Ottawa, Ont.

(*We haven't been able to discover the answers. — Editor.*)

THE OLD SONGS

Dear Sir:

Is there available anywhere a music book of air force songs, with or without words? Often when friends gather for a sing-song around the organ in our home I am asked to play an old RCAF song, but cannot as I do not play by ear.

F/L E. J. H. Baker,
30 AMB, RCAF,
CAPO 5051, CAFE.

(*The RCAF does not have such a book, but in view of repeated requests the recreation branch is interested in collecting material (printable versions) for same. Any volunteers? —Editor.*)

BATTLE OF BRITAIN

Dear Sir:

Re your article "Three Tour Man" (Jan-Feb 60) I would like to comment on the statement that the award of the Battle of Britain clasp to S/L Coupland "was a rare honour for a non-fighter pilot".

The relevant AFAO which gives the requirements for awarding this clasp states that it is to be awarded to aircrew of fighter aircraft engaged in operations against the enemy in the period from 12 July 1940 to 31 October 1940. Of the 63 squadrons named in this AFAO, 12 are multi-seater fighter squadrons (either Bolton Paul *Defiants* or Bristol *Blenheims*). These squadrons represent nearly 20 per cent of the fighter aircraft strength and over 40 per cent of the aircrew strength.

It is, perhaps, a distressing situation that the role of the multi-seater fighter squadron during the Battle of Britain has received so little recognition and publicity. It is sincerely hoped that one day soon someone will write up their history and so rectify the mistaken impression that the Battle of Britain was won solely by *Spitfire* and *Hurricane* squadrons.

F/O L. P. Ricks,
RCAF Stn. Portage La Prairie,
Man.

REQUEST FROM FRANCE

Dear Sir:

I would like to contact some Canadian RCAF veterans who were in England during the Second World War.

I am a veteran, ex-pilot with No. 346 Sqn. stationed at Elvington, Yorkshire, in 1944 and 45. Before making a voyage to Canada, as I intend to settle there with my family, I believe it would be to my advantage to correspond with some of these ex-associates. Perhaps this letter in your magazine would prompt a reply.

M. René De Miras,
Lieut. de réserve Artigues,
Commune de Pont du Casse,
Lot et Garonne, France.

SHORT SNORTER

Dear Sir:

Recently I received as change a dollar bill and on the back discovered the following written in ink:

25/1/43 Short Snorter
K. C. Baker F/L
E. J. Smith F/O
W. W. Graham
W. Burden F/L
L. Sykes F/O

I am curious to know where this originated and if any of these fellows are now members either of the service or the RCAF Association.

A. Turnbull, 442 Wing, RCAFA,
59 Royal Rd.,
Aurora, Ont.

CORRECTING THE RECORD

Dear Sir:

In your Christmas issue on page 3 you say that M. Jean Bolis donated the life-size nativity figures to No. 1 Air Div. in Metz. I am the person that donated them to the RCAF Catholic chapel, not M. Bolis. It was my idea from the start, I did most of the work on the creche and he helped.

I also made a shadow box for the Protestant chapel and a model of Santa, sleigh and reindeer for the PMQs. That is the kind of work I do in my spare time.

Cpl. L. J. Rogers,
RCAF Stn. Camp Borden, Ont.

(*We are pleased to give Cpl. Rogers belated credit for this project.—Editor.*)

SNATCHED

Most station papers faithfully report the names of those transferred in, transferred out, married or with new family additions. We note CHATAIR (RCAF Stn. Chatham) heads these respective columns: Attached, Despatched, Matched, Hatched.

Caribou on UNEF Duty

—Canadian Army Photo

RCAF *Caribou* currently roam far from the habitat of their Canadian namesakes. Flown by crews of No. 115 Air Transport Unit, three *Caribou* aircraft have replaced three *Dakotas* and two *Otters* in support of UNEF operations in the Sinai Desert. They perform a variety of tasks, including the movement of troops, communications between outposts, patrol work and transport of supplies in and out of short, rough, desert strips.

Roger Duhamel

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

OTTAWA

ROYAL CANADIAN AIR FORCE