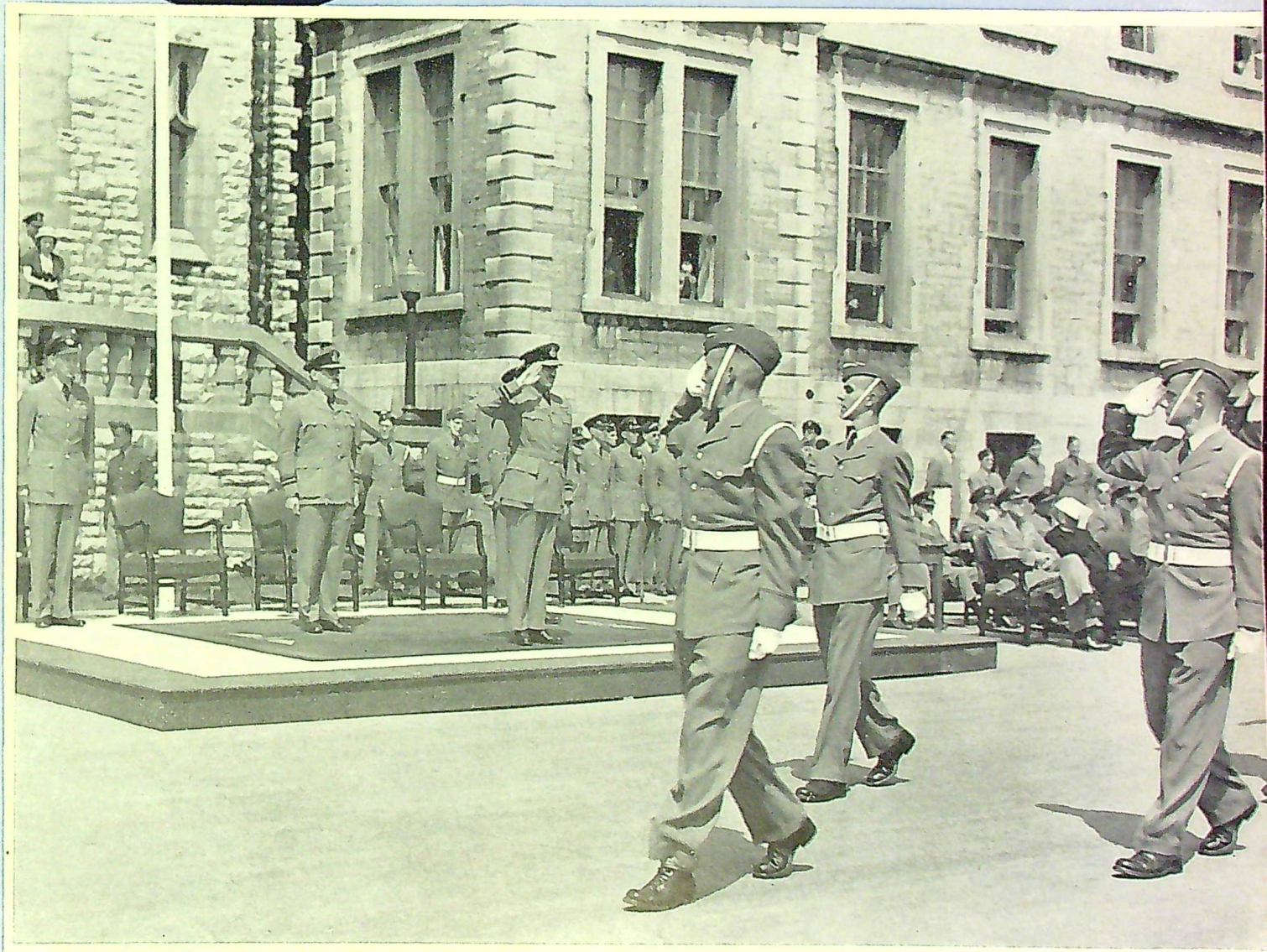


The **ROUNDDEL**

Vol. 3, No. 11
NOVEMBER 1951



ROYAL CANADIAN AIR FORCE



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

VOL. 3, No. 11

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This Month's Cover



Air Vice-Marshal C. R. Slemon, C.B., C.B.E., takes the salute from first-year flight cadets at Royal Military College, Kingston.

EDITORIAL OFFICES:
 R.C.A.F., Victoria Island
 Ottawa, Ont.

Sgt. Shatterproof Sides with the Angels

Sir:

Somewhere in the course of my theological studies at Sunday School, I recall that my attention was directed to the writings of a prominent divine known as the Reverend Ecclesiastes. I cannot remember to what denomination the gentleman belonged, but I was considerably impressed by the breadth of his tolerance. Indeed, it was his celebrated theory that **THERE IS A TIME FOR EVERY PURPOSE** which served as the chief inspiration of my early 'teens. It enabled me to reconcile my sacred duties as a choir-boy with my more worldly activities as hatchet-man for the Boilerhouse Thugs.

The Reverend Ecclesiastes amplified his theory with a fairly comprehensive list of the purposes he had in mind. It included such occupations as dancing, weeping, making love, refraining from making love, laughing, killing, and so forth. But there was one thing it most definitely did not include, and that was — *getting "The Roundel" out three weeks late.*

I am well aware, Sir, that the men who guide the somewhat nebulous policy of "The Roundel" have got away with a great deal. They have, so far, successfully denied the boys in the field their rightful heritage of cheesecake. No denunciation from the floor of the House has as yet forced a shocked world to scrutinize the type of articles with which they have filled the magazine's pages. Nor has any Royal Commission been set up to investigate their refusal to print LAC Bladder's "Open Letter to the Minister." But, Sir, let the Brass beware of over-confidence. Let it bear in mind that the Reverend Ecclesiastes does not stand alone in his convictions. Let it remember that Shatterproof, too, is on the side of the angels. "The Roundel" **MUST** appear on schedule!

But enough: it is already too late for warnings. As the Reverend Ecclesiastes himself would have

said (had he been twice a W.O.2 and thrice a Flight Sergeant), there is a time for memos and there is a time for action. This, Sir, is a time for action.

May I ask that you turn to the third page of the September (!) issue of "The Roundel"? There you will find it stated in bold type that entries for the Name-Our-Airwomen Competition must reach me not later than October 20th — that is, only a few days after the majority of the boys in the field can possibly have had a chance to see the announcement!

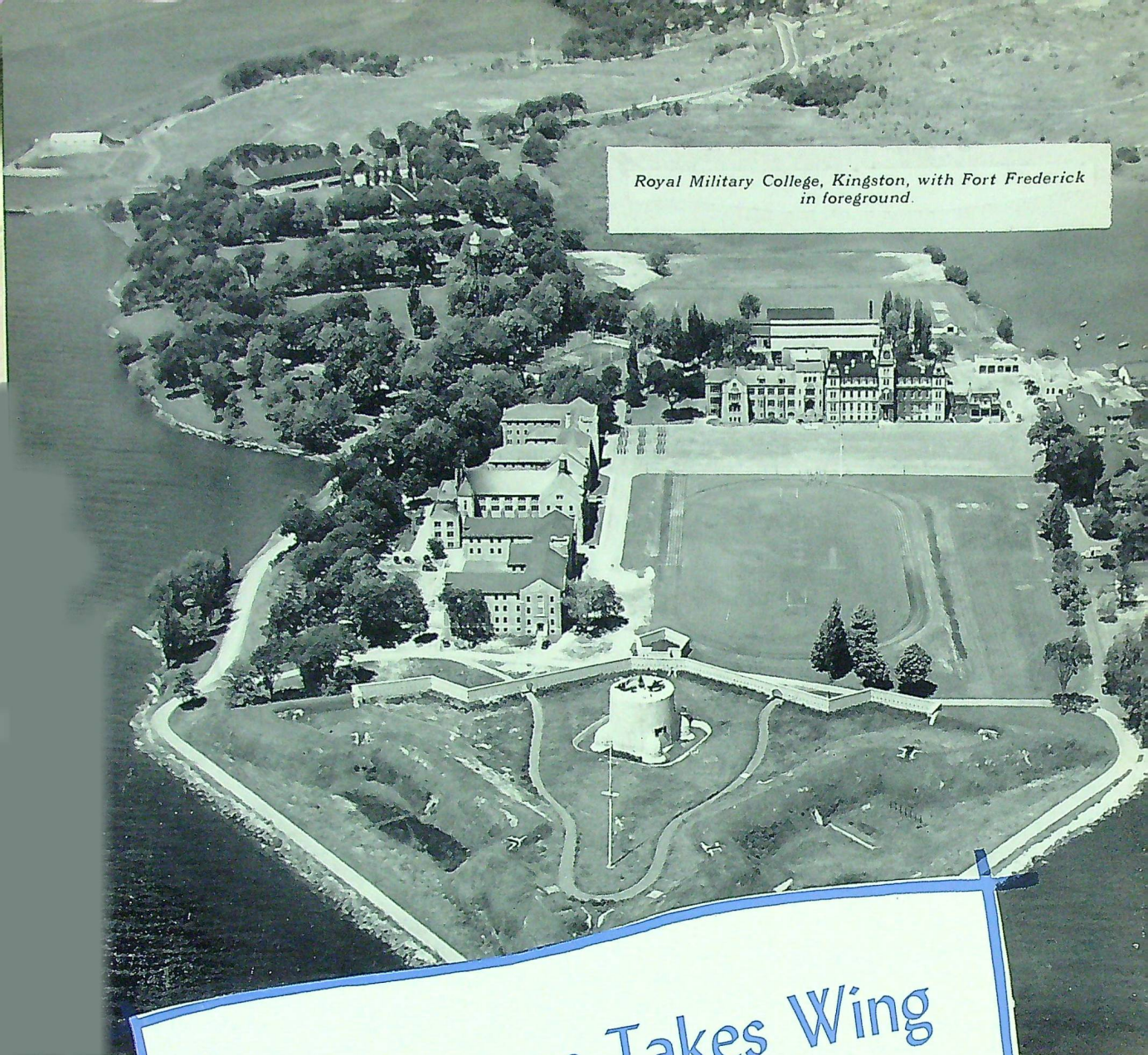
Can it be, Sir, that the Brass does not realize what it is asking? Does it really expect instantaneous and inspired responses from imaginations deadened by hardship and by three years' perusal of "The Roundel"? Or is it hoping to build up frustrations in our airmen that will render them more malleable for its future machinations? I do not know the answers to these questions. All I know is my duty.

In the name of the boys in the field, whose finely-tuned intellects may even now (October 19th) be cracking by the thousands — in the name of our airwomen, wandering like lost souls through a Canada that knows not what to call them — in the name, Sir, of all that "The Roundel" might once have been — I call upon the Brass (through the proper channels) to set back the deadline!

Shatterproof.

* * *

The angels win. Judgment Day will be held over until December 12th. Readers are asked to consult our September (!) issue for full details of the competition to which Sgt. Shatterproof's letter refers.— Editor.

An aerial photograph of the Royal Military College in Kingston, Ontario, Canada. The image shows a large, multi-story building complex situated on a hillside overlooking a body of water. In the foreground, a large, open field is visible, with a circular structure in the center. The fortifications of Fort Frederick are clearly visible, including a central bastion and surrounding walls. The surrounding area is lush with trees and greenery.

*Royal Military College, Kingston, with Fort Frederick
in foreground.*

The Campus Takes Wing

A Survey of Reserve University Training in the R.C.A.F.

By Pilot Officer J. E. Ruch, University of Toronto

(Pilot Officer Ruch, who recently completed his third period of summer employment with the R.C.A.F., returned to Toronto at the end of September to begin his fourth year at the University — Editor)



INTRODUCTION

ON THE 28TH OF JUNE, 1951, a group of University authorities and senior R.C.A.F. officers watched the graduation ceremony of more than three hundred flight cadets of the University Reserve at the R.C.A.F. Reserve Officers' School, Royal Military College, Kingston, Ontario.

This graduation ceremony marked the end of the Indoctrination Course — the first phase of the

flight cadets' Service training. For the visiting dignitaries it was a highly significant occasion. The Reserve University Training Plan was one to which they had given their whole-hearted support from its very inception. The Reserve University Flight Cadets themselves were now furnishing them with conclusive evidence that their confidence both in the training and in the students had been more than justified.

The Indoctrination Course is a formative training period during which the flight cadet is introduced to the R.C.A.F. and his training as a citizen-military leader is begun. It is a period during which he forms his first clear impressions of the Air Force and begins what will probably be a life-long association with the Service.

Until the threat of the totalitarian powers had been recognized, gradual expansion to the desired operational size had been the aim of the R.C.A.F. On a peace-time basis this could easily have been accomplished through normal officer-training methods. But with this threat there arose the need for training a large force of officers who could be relied upon in an emergency to perform duties capably without further training. Thereupon the R.C.A.F. set about planning a scheme to train the best potential leaders, a scheme directed at skills not only in Service work but also in public life. An officer-training scheme was therefore inaugurated at the universities in 1948.

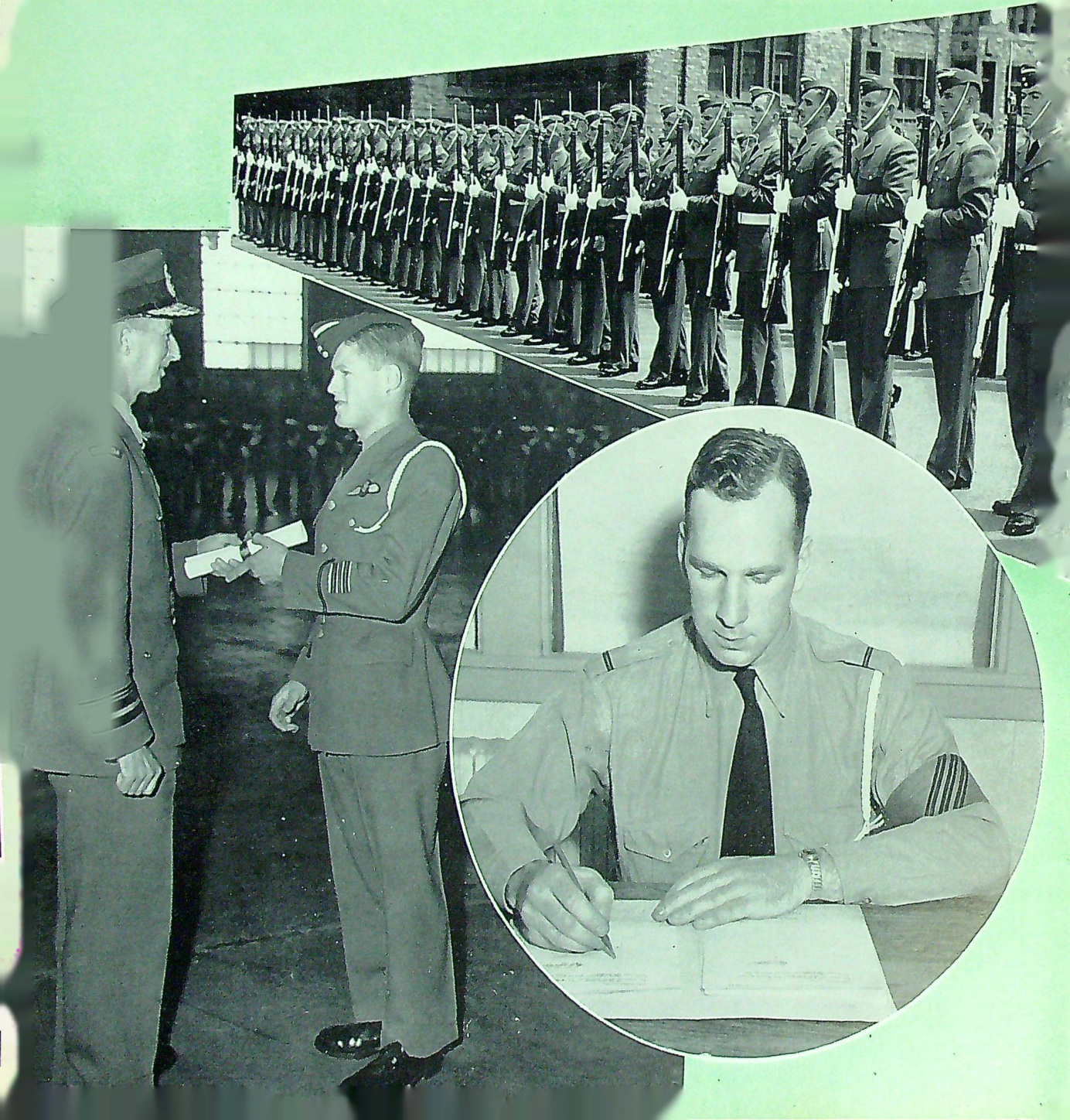
HISTORICAL BACKGROUND

In point of fact, the Air Force had been using the universities as training grounds long before 1948. In 1923, when the Canadian Air Force was being reorganized as the R.C.A.F. and the decision was made to bring new blood into the Service, a training scheme was begun to attract university undergraduates for summer periods. Prior to this, the only officer-training organization at university level was the Army's Canadian Officers' Training Corps (C.O.T.C.), founded in 1912. In conjunction with the components of this unit at the Canadian universities and Royal Military College, applicants for aircrew training were selected to train at the old Camp Borden air station. The plan was very

Guard of Honour on graduation parade at R.M.C.

Flt. Cadet R. Holland receives the Scroll of Honour from Air Vice-Marshal F. G. Wait, C.B.E., for having attained the highest standing of his course.

Flt. Cadet Wing Cdr. R. R. Ort, a Physical Education Student at the University of Western Ontario.



successful, and of the 270 students who were selected during its existence approximately half received their wings and joined the R.C.A.F. Drastic reductions in the budget precipitated suspension of the scheme in 1933. Although the plan was never reconstituted, it had made a substantial contribution to the Air Force in the capable leaders it produced.

It was not without its limitations, however. Trainees were selected from only the Applied Science and Engineering Courses and were trained only as pilots. During their three summers of training they held the rank of Provisional Pilot Officer (P.P.O.). It is from these early days of the almost legendary P.P.O.'s that one of the surviving traditions dates — the white flash in the flight cadet's wedge cap, which harks back to its ancestor, a white band worn around the flat hat of the P.P.O.

From 1933 until the Second World War, no R.C.A.F. training was available for students during their university careers; but the various Services speedily came to anticipate great and urgent demands for university-trained men, and the Air Force, in 1942, instituted a system of training undergraduates during their regular school and vacation terms. Fundamental Service training was given to students so that they could be directed more quickly into essential positions after graduation. In all, twenty-three units were established at different universities, and they were known as University Air Training Squadrons.

Originally connected with the C.O.T.C., the U.A.T. Corps later became independent of that organization until its own disbandment in 1944. The training programme included 125 hours of lectures during the academic term and two weeks at summer camp on R.C.A.F. Stations. The U.A.T.C. was not, however, an officer-training body, being regarded solely as a source for aircrew and technical branch recruits with a basic training as airmen.

While plans were being drawn up for a programme of officer-training for the college student, Reserve radar units, experiencing difficulty in finding enough skilled men to train as technicians, directed their attention to the universities. They

found there a wealth of young men, trained in electronics and allied subjects, who were anxious to work on the advanced equipment thus placed at their disposal. No. 401 (F.) Squadron (Aux.), St. Hubert, P.Q., obtained recruits from McGill University's engineering faculty and began training them as airmen technicians. This scheme was not broad enough in scope to be placed on a full-scale basis at universities across Canada; but meanwhile useful information was being gathered by the originators of the plan. It soon became apparent that university authorities were willing to extend their full support in the implementation of Air Force officers' training of a type similar to that offered by the Army's C.O.T.C. and the Navy's University Naval Training Division (U.N.T.D.).

With the post-war organization completed in 1947, the R.C.A.F. set up a University Aircrew Training Plan (U.A.T.P.) to build up its reserve of pilots and radio-navigator officers. To conform with existing facilities, the intake was small, being restricted to veteran undergraduates. The following year the plan was broadened to include applicants without previous service. From the large number of applications it was evident that more young men desired Air Force training than could be included in the U.A.T.P.

In the same year, 1948, plans assumed a concrete form with the adoption of the Reserve University Training Plan (R.U.T.P.), with which was integrated the U.A.T.P. Seven universities were selected to inaugurate the plan: University of Toronto, University of Western Ontario, McGill University, University of Manitoba, University of Saskatchewan, University of Alberta, and the University of British Columbia. Also the Canadian Services Colleges contributed 35% of their cadet enrolment. In all about 350 students were chosen from the first and second-year courses at these institutions, and the winter training schedule was begun early in 1949. This scheme was designed to remedy any faults that were present in previous university training. High standards were maintained, with emphasis on physical fitness, mental alertness, academic proficiency, and aptitude for Air Force service.



Flt. Cadet (Regular) K. Mills checks drift during training-flight at Summerside.

Undergraduates who were accepted were appointed by the Chief of the Air Staff to the relatively new rank of Flight Cadet for their probationary training period.

In 1949 the first intake of flight cadets under the R.U.T.P. was posted to Indoctrination Courses at Abbotsford, B.C., Camp Borden, Ont., and Trenton, Ont., at the commencement of the first summer training period. The indoctrination training was followed by contact training at R.C.A.F. Stations across Canada.

In the second year of its existence the R.U.T.P. became an integral part of the officer-training scheme, assuming the rôle of a branch rather than a separate unit. Four more universities were added to the list of those embraced by the plan: Queen's University, University of Montreal, Laval University, and Dalhousie University. In addition, ten universities and colleges whose small enrolments precluded representation by fully-

manned flights, have been enabled to participate in the plan. These universities are:

Memorial University, St. John's, Newfoundland
 Acadia University, Wolfville, N.S.
 St. Francis Xavier University, Antigonish, N.S.
 St. Mary's College, Halifax, N.S.
 Mt. Allison University, Sackville, N.B.
 Sir George Williams College, Montreal, P.Q.
 McMaster University, Hamilton, Ont.
 Carleton College, Ottawa, Ont.
 University of Ottawa, Ottawa, Ont.
 University of New Brunswick, Fredericton, N.B.

Recruiting and training ran smoothly in the autumn and winter of 1950-51. The following spring, at the end of the academic year, the first intake of Reserve University Flight Cadets completed their three-year lecture series. During the summer the first wings parades were held for R.U.F. Cadets who were graduating from their courses. The second intake of trainees commenced their training at their respective R.C.A.F. schools, while the third (new) intake was posted to the Reserve Officers' Training School at Kingston, Ontario, for indoctrination.

Held in the historic atmosphere of Royal Military College, the training was perhaps the finest of its kind ever to be given in the R.C.A.F. The R.M.C. has served as an officer-training school since its foundation in 1876, and hence is ideally equipped to carry on this programme. Approximately 330 Reserve University Flight Cadets received the six-week indoctrination, with 125 pilot officers who had just completed their final year at university under the subsidization scheme.

The number of flight cadets undergoing summer training this year in the R.C.A.F. is about 760, roughly 98% of the strength of the R.U.F.'s. Apart from the university flights, there are about 60 flight cadets from the other participating universities.

GENERAL TRAINING PATTERN

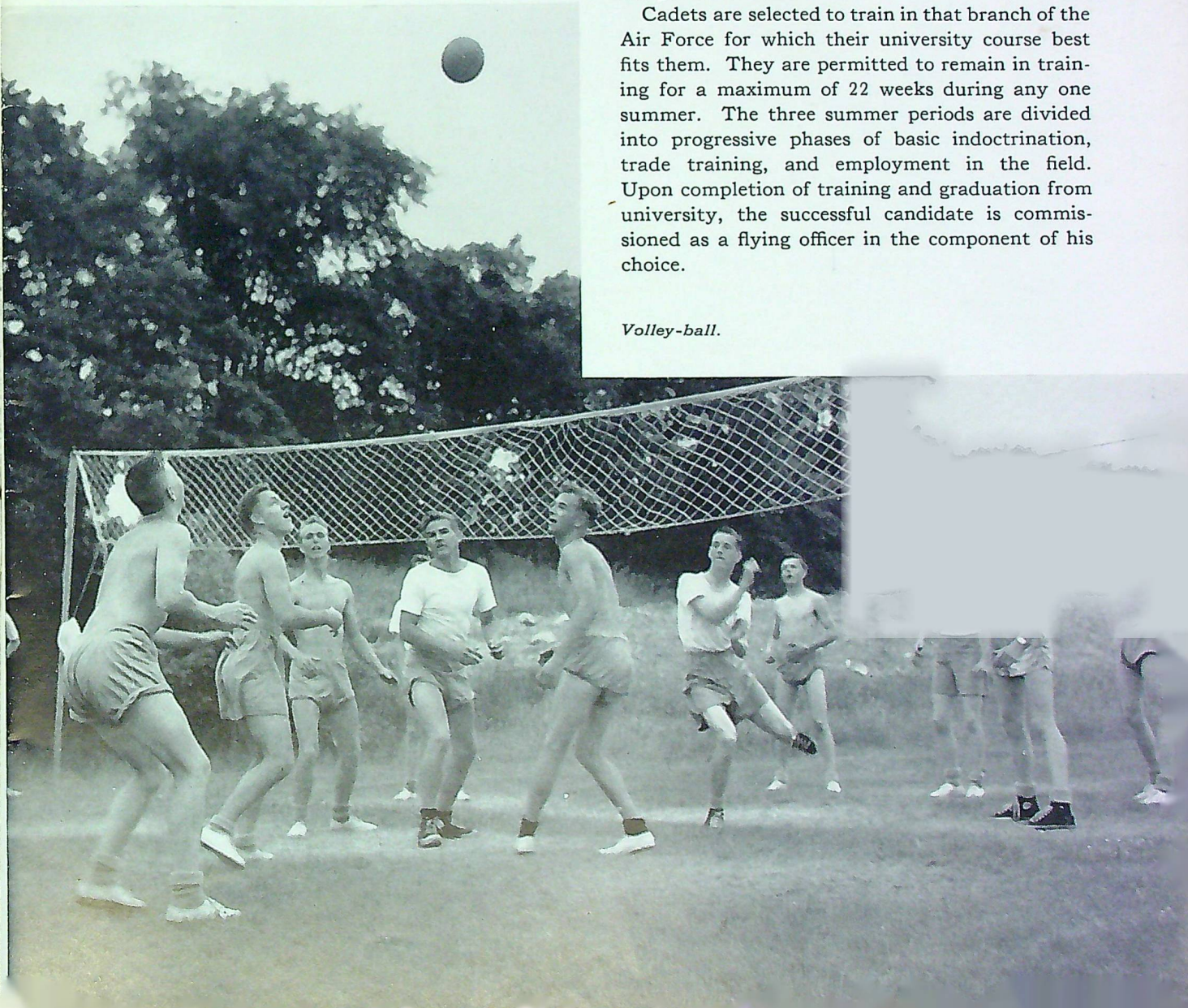
The original purpose of the training scheme was to "stimulate interest in the Air Force and provide a flow of trained university students into the Regular and the Reserve." To-day's trainees are

required to signify in writing their intention of joining one of these components upon graduation from university. They receive both winter and summer training from the R.C.A.F. for three successive undergraduate years. The whole schedule is arranged so that there is no interference with the normal academic routine. Winter training consists of 19 hours' lectures the first year and 28 hours in each of the second and third years. Lectures are arranged by the staff of the flight, which is composed of a Commanding Officer and

an Adjutant, both of whom are Reserve officers as well as members of the university staff, and of a Regular officer who performs liaison duties between the Regular Force and the university. The lectures themselves deal with subjects such as air strategy, military history, and geography, and are given by R.C.A.F. officers and civilian experts. The flight cadets are remunerated for the time which they spend in lectures on a basis of five days' pay for the first series and ten days' pay for the latter two. Their status as flight cadets is that of officer-trainees, similar to that of pilot officers but junior in rank.

Cadets are selected to train in that branch of the Air Force for which their university course best fits them. They are permitted to remain in training for a maximum of 22 weeks during any one summer. The three summer periods are divided into progressive phases of basic indoctrination, trade training, and employment in the field. Upon completion of training and graduation from university, the successful candidate is commissioned as a flying officer in the component of his choice.

Volley-ball.

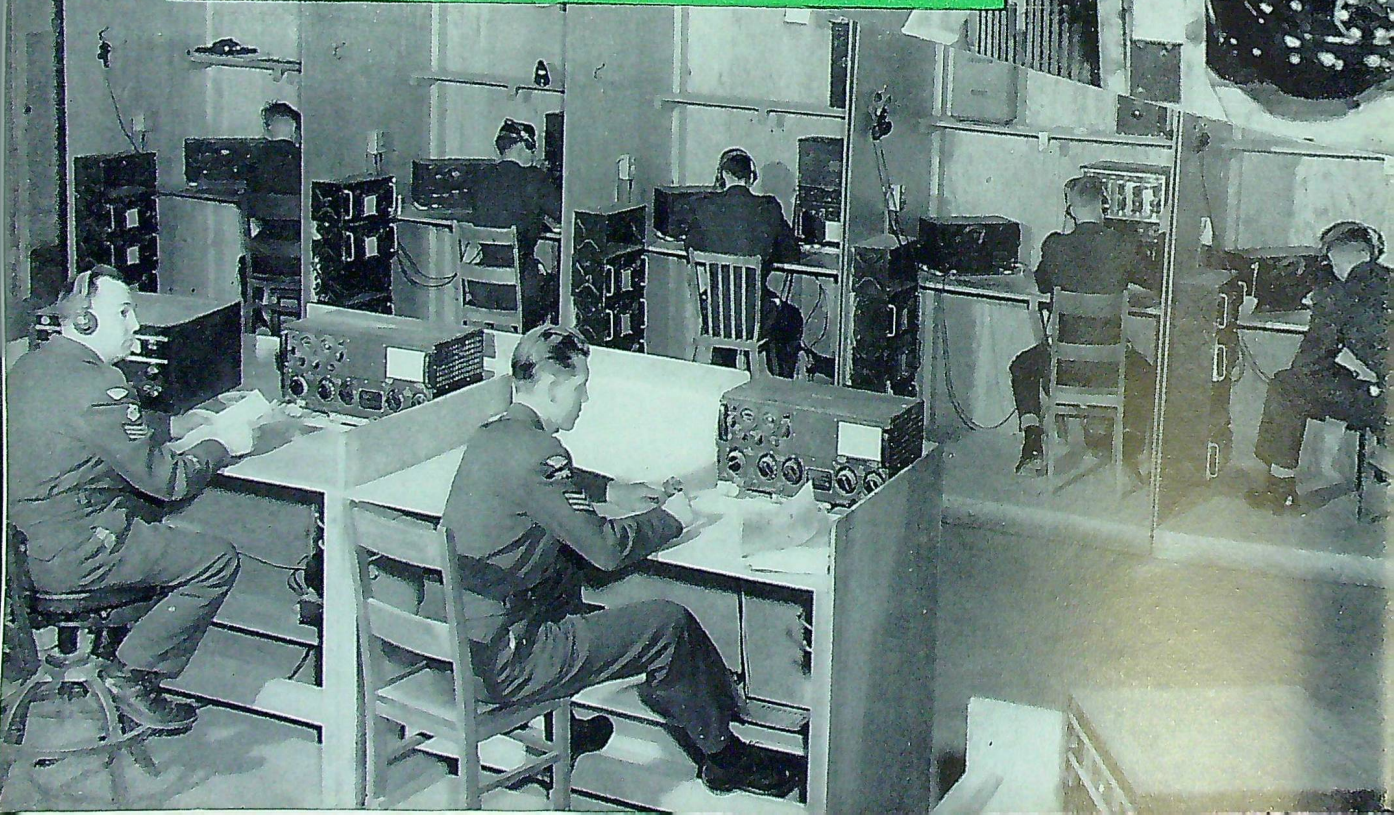


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*Cadets at Aeronautical Engineering School, Aylmer,
timing valves on Merlin engines.*

*Instructors Flt. Sgt. A. Haines (left) and Sgt. R. A.
Butler at "control centres" of radio-trainer booths at
A.R.O.S., Clinton.*



All clothing and necessary travelling expenses are supplied by the R.C.A.F. during the summer training period. Two styles of uniform are issued to the flight cadets. The summer dress consists of a tropical worsted patterned from the style worn by officers. The winter uniform is the official R.C.A.F. working-dress. It is of battle-dress pattern and Canadian baratheia cloth. Both uniforms have the distinguishing pilot officer's braid. A white flash and officer's badge is added to the regulation wedge cap.

The Indoctrination Course, which gives the cadet his first introduction to the Service, forms a foundation upon which all subsequent training will be built.

Later on, advanced training, with its intensive lectures and study courses, aims at the production of fully-trained officers — "officers" in every sense of the word. Schooling in world affairs, geopolitics, and air strategy gives the trainee the knowledge which is essential to his understanding of the necessity for a modern Air Force and its requirements. Training in effective speaking and effective writing renders him more valuable as a clear-thinking and precise planner, in addition to improving his power of expression.

When the advanced training is completed, the schedule allows for a period of employment in the field. This gives the trainee an opportunity to fit his training into practical experience and to complete his qualifications for officer positions.

Many of the young men undergoing training will return to civilian life after their graduation. The necessity of training these men thoroughly is obvious. They will provide a first-line reserve of officers who will need little or no refresher training in the event of mobilization to meet a national emergency. When they emerge from the R.C.A.F. as officers and take up their civilian positions, they must be able to lead in both the military and civilian field. The following points are therefore stressed in R.C.A.F. officer-training:

- familiarization with the underlying principles and requirements of national defence,
- training in appreciation of Canada's foreign and defence policies,

- the study of modern defence problems and the rôle of air power in peace and war, and
- Service knowledge.

SUMMER TRAINING

Training for the various branches is divided into four categories: Aircrew, Technical, Medical, and Non-Technical. All trainees receive the Indoctrination Course at Reserve Officers' School with the commencement of their first summer of training. Upon its completion, the technical trainees are posted to trade schools, while the non-technical cadets receive an eight-week Executive Training Course at R.O.S., followed by a short period of contact training at various R.C.A.F. Stations. Aircrew trainees, on the completion of the Indoctrination Course, proceed to Flying Training Schools.

During the second summer, technical trainees complete their course, while non-technical trainees receive contact training. Aircrew complete their training up to wings standard at the end of this summer period. Throughout the third summer, all receive supervised employment in their trades. The four categories of summer training are broken down as follows:

Aircrew:	Pilot Navigator Radio Officer
Technical:	Aeronautical Engineer Armament Construction Engineer Telecommunications
Medical:	Medical Officer Medical Associate
Non-Technical:	Accounts Chaplain Education Legal Physical and Recreational Training Instructor Supply

Aircrew

Flight cadets who are eligible for aircrew training are first sent to the Aircrew Selection Centre, where they are carefully screened for selection in the aircrew branch for which they are best suited. Thence they proceed to the Institute of Aviation Medicine for their medical examination, after

which they are posted to the schools for which they have been selected — pilots to Trenton, navigators to Summerside, and radio officers to Clinton. At the end of the second summer, successful trainees receive their wings. Training at advanced flying stations is carried on throughout the third summer.

Pilot trainees receive their training in three phases:

- basic training in Harvards up to the 60-hour check at Trenton in the first summer,
- completion of basic training at Centralia up to wings standard in the second summer, and
- gunnery training in the third summer at Pilot Gunnery School, Macdonald.

Integration of instruction is maintained between the two Flying Training Schools, and air instruction is integrated with ground instruction. Training to wings standard requires a total of 180 hours' flying-time for R.U.F. cadets on Harvard and/or Texan aircraft.

A familiar sight — the classroom — greets the flight cadet in the Ground Instruction School. Here he is instructed in subjects necessary for a complete understanding of the duties of an aircrew officer. Among the subjects for study are: flight principles, aircraft engines, instruments, meteorology, navigation, morse and radio, armament, and officer development.

A typical day at Flying Training School begins with morning parade, roll-call, and inspection at 0730 hours. At 0800 hours, training begins. A normal day's routine is evenly divided into a lecture period in the Ground Instruction School and a period of actual flying instruction. The schedules alternate weekly so that each cadet gets an equal number of mornings and afternoons in the air. The half-day spent at G.I.S. is divided into four equal periods, each of which is allocated to one of the subjects in the curriculum.

The flying part of the day begins with a lecture from the meteorological officer on prevailing weather conditions, illustrated by the latest weather maps. Then, prior to going aloft, the flying instructor briefs his student on the flying programme for the day. In this way the student picks up much useful information beforehand, and

only a minimum of instruction is necessary in the air. Immediately upon landing, the complete flight is gone over in detail to unravel any mistakes made or difficulties encountered in the air. The average training flight lasts approximately three-quarters of an hour. Instruction in both blind and night flying, supplemented by periods in the Link Trainer, make the programme a thorough one. The training day ends at approximately 1640 hours, and the student's time is his own until lights-out at 2230 hours.

The third phase of training takes place at Macdonald, Manitoba. Here the trainee is schooled in gunnery — machine-guns, cannons, rockets and bombs. Much of his time is spent in attaining accuracy in marksmanship with these various weapons. The entire training here is of the operational type.

* * *

Flight cadets selected for training as radio officers spend their two summers of training at the Air Radio Officers' School at Clinton, Ontario. The aircrew trainee is schooled in communications operation and servicing in flight, both under normal and exceptional conditions.

The first year in the schedule is designed to enable the trainee to pass Department of Transport examinations for the Third-Class Radio Proficiency Certificate. With this qualification he may carry on radio operation and maintain contacts the year round, both increasing his ability as an operator and maintaining his interest in the field of radio during his spare time.

Classroom instruction in the Air Radio Officers' School, as in all other R.C.A.F. schools, makes liberal use of specially-designed demonstration units and trainers. These are particularly valuable in the electronics lectures. For instance, flight cadets receive training in radio operations in the school's radio trainer, which simulates the radio room of a Service aircraft with all its equipment. They are given problems of radio operation concerning routine flight conditions and then individually assigned to one of the completely-equipped radio booths. There each student decides upon his course of action and carries out the multiple

duties of a radio officer. Instructors sitting at master radio sets in the control centre maintain radio contact with the students and are thus able to monitor and gauge their progress.

The radio course deals with Service radio equipment of every conceivable type. The radio officer trainee spends 65 hours airborne in training flights in Dakota radio trainers. On completion of his two-year course he receives his wings and is ready for advanced training at flying stations in the third summer.

* * *

Flight cadets who, because of their aptitude for training as navigators, are posted to the Air Navigation School at Summerside, P.E.I., undergo a course parallel to other aircrew courses. They receive complete instruction in the use and operation of navigational instruments and aids. Much stress is laid upon accuracy in mathematics and the detailed calculations used in the performance of such duties as astro-navigation and dead reckoning. They are also instructed in the manipulation and use of such aids to navigation as Rebecca, Loran, and H2S. The trainees from this two-year course graduate and receive their wings at approximately the same time as the other aircrew trainees in the pilot and radio courses. They proceed in their third summer to flying stations as qualified navigators.

Technical

The Reserve University Flights accept a number of applicants for summer training from among those students whose college courses fit them for entry into the technical branches. Students in engineering, mathematics, and allied courses are eligible for these branches.

* * *

Trainees who are to receive training as armament officers are posted to the Air Armament School at Trenton after completing the Indoctrination Course. During the first summer, ten weeks of armament training are given, consisting mainly of armament engineering and gunnery instruction. The second summer completes the armament programme with twenty weeks of instruction on

bombing, electronics, and rockets. In armament, theory and practice are synchronized to obtain the most satisfactory results. Workshop and practical exercises are interspersed among the lectures. For example, from classroom lectures on fire-control mechanisms, students proceed to armament practice upon Harvard, Mustang, and Vampire aircraft. Although the armament officer performs his tasks on the ground, he must have a clear understanding of the use of weapons in the air. For this reason flight cadets in this branch are detailed as air observers in aircraft which carry out bombing and gunnery missions. This practice serves to acquaint them with their responsibilities to the aircrew who rely upon their weapons. The course of instruction includes study of modern bomb- and gun-sights and their operation.

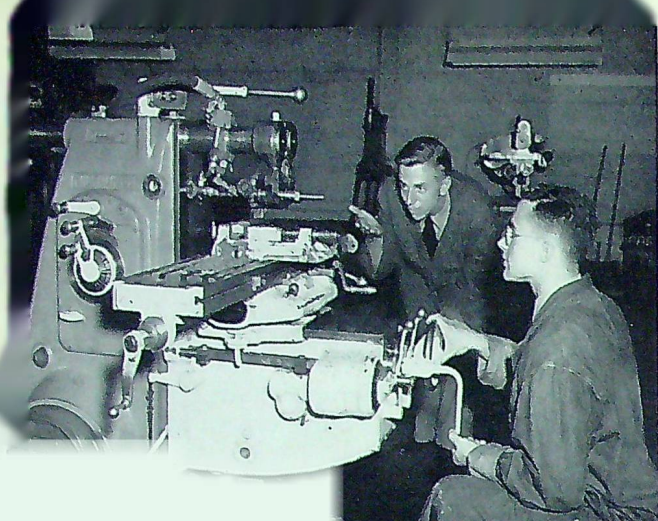
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Maintenance of Service aircraft and the design of more efficient aircraft is vitally important. Such is the task of the aeronautical engineer. It is at the Aeronautical Engineering School, Aylmer, Ont., that flight cadets receive training of this type. They study aircraft structure mechanics and cover in detail the construction and maintenance of all Service types. The aircraft and its parts are systematically dissected and reassembled in the school workshops so that students can master the complex machine in its entirety. Lectures include thermodynamics, aerodynamics, and structures, while workshops handle sheet metal work, carpentry, and welding.

Detailed study of aero-engines gives the flight cadets the opportunity to dismantle Service types such as the Rolls Royce "Merlin" and the Pratt & Whitney series. Few universities possess purely aeronautical engineering courses, and instruction in the R.C.A.F. must compensate for this deficiency. In many cases aerodynamics is dealt with at the colleges only in the students' senior years. Thus Air Force training greatly benefits cadets in their later academic training by providing a solid foundation for advanced study.

* * *

Construction engineering is an R.C.A.F. activity closely allied to many university engineering and



Flt. Cadets L. R. Broderick (left) and F. J. Clements, both of Queen's University, adjust a milling-machine at Air Armament School, Trenton.

architecture courses, and for this reason less orientation is required in the schooling of the potential C.E. officer. Cadets in this branch, in addition to receiving the indoctrination training, receive the Executive Officers' Course, a valuable education for either Service or civilian life. The training of these young men during the second and third summers is given in the "Works and Bricks" sections of various Air Force Stations across Canada. There, under the direction of the Station Engineering Officer, they carry out such duties as runway-surveying, planning of new facilities, renovation of older buildings, and a thousand and one large and small projects peculiar to C.E.

* * *

Telecommunications trainees are posted to the Radar and Communications School, at Clinton, Ontario. Their course differs from the Air Radio Officers' Course in that maintenance and repair problems of radio and radar equipment are studied in greater detail. All telecommunications devices of the Service are covered on the course and dealt with in proportion to their present and future importance in the R.C.A.F. The history and methods of use of such equipment as Loran, Rebecca, and H2S are given to broaden the flight cadet's knowledge.

Popular items on the time-table are the radar field schemes which are planned at intervals during the progress of the course. These schemes acquaint trainees with the problems of operational use of

mobile equipment. The friendly competition established between rival units on these manoeuvres demonstrates how indispensable teamwork and co-operation are to a successful unit. In addition to such projects as these, the schedule allots thirteen hours to flight-training to familiarize cadets with the problems of aircraft radio operation.

Medical

Flight cadets who are students in medical or pre-medical courses are eligible for training as medical officers or medical associates, respectively. Following the Indoctrination and Executive Training Courses, Medical Branch trainees are posted to Stations where they receive training and professional experience in diagnosis and medical treatment. Under the supervision of the Station Medical Officer, trainees take charge of sick parades in the Medical Inspection Rooms.

Cadet trainees in the Medical Branch can be identified by the golden caduceus worn in the lapels of their tunics. It has been the honoured symbol of the physician since the days of ancient Greece.

Non-Technical

Officer trainees of the R.U.F.'s whose university training, though not technical, is of a specialized nature, may be trained in other branches of the Air Force. For example, theology students may train in the Chaplain Branch, commerce and finance students in the Accounts or Supply Branch, and physical and health education students in the Physical Recreation and Training Instruction Branch.

* * *

Theology students are trained in the preparation of sermons and generally in those matters which pertain to the spiritual life and welfare of the Station personnel. In addition, they learn to handle the affairs of the communities that cluster about Air Force units.

* * *

The Legal Branch trains law students in jurisprudence as applied to the R.C.A.F. During their

summers of training, after they have acquired the necessary proficiency, they are schooled in the various departments, such as Estates, Claims, and Pensions.

* * *

The duties of a supply officer are many and varied, and in training for this position a flight cadet finds a busy and interesting life. The vital necessity of maintaining a stock of everything from pencil-sharpeners to Sabre aircraft presents one of the Service's most complex problems.

* * *

Flight cadets training as education officers receive a course in Instructional Technique to fit them for their new position. Following this course, they may be sent to training units to instruct on topics ranging from English grammar to physics. Or else they may be posted to an R.C.A.F. Station to learn the various duties of a unit education officer. Here the cadet finds that, as an education officer, he will in some degree be responsible for trade advancement training, qualifying exams, and that, generally, his duties will be to assist the Commanding Officer whenever possible on all educational matters.

* * *

A number of flight cadets whose respective courses at university preclude them from being selected for training in the Technical or Non-Technical Branches are selected for training in the Administrative Branch of the R.C.A.F. After successfully completing the Indoctrination Course and the Executive Officers' Course, the flight cadets are posted to R.C.A.F. Stations in the capacity of junior executive officers. Personal contact with administrative and staff matters keynotes this phase of self-instruction. By associating with senior officers at work and by observing the functioning and organization of a department, the junior officer can absorb much more than could be taught in a classroom.

CADET ADMINISTRATION

Of the several Stations where R.U.F. cadets are trained during the summer months, Centralia has the largest complement of Regular (i.e. non-

R.U.F.) and Reserve flight cadets undergoing training together. In 1951 its total number of cadets was about two hundred and seventy-five (about sixty of these being from the R.U.F.'s), taking eight different courses.

With such a large number of trainees and courses, personal contact between officers and trainees is naturally somewhat reduced, and unavoidable variations are apt to occur in the degree of Service experience gained by the different students. A plan was therefore devised at this Station whereby the cadets take care of their own administrative work and housing arrangements. This plan, which has been adopted by other Stations to which large numbers of cadets are posted, gives cadets valuable training in those officer duties with which they would otherwise have little opportunity to become acquainted prior to being commissioned later.

Under this plan, whereby all cadets on the Station are organized in a single group, the R.C.A.F. unit structure is adhered to, and positions within the unit are filled by qualified cadets. The cadets are responsible for their own discipline, drill, mess, and quarters, and all that is required of the advisory officers is guidance. The Mess Committee, with its sub-committees, handles housing, messing, entertainment, and maintenance and improvement of the grounds. All officer and N.C.O. positions are filled by flight cadets chosen on a basis of qualifications and a combined vote of cadets and advisory officers.

The number of flight cadets on the strength of the Station determines the type of Service formation to be adopted for the cadet unit. At Centralia the number is large enough to warrant a wing; at Aylmer, on the other hand, there are only enough for a squadron. The flight cadet in charge of each formation holds a cadet rank equivalent to his counterpart in the Active Force, and wears an appropriate badge sewn upon a white background to indicate his trainee status. The commander of the wing at Centralia is called a Flight Cadet Wing Commander; the commander of a squadron, Flight Cadet Squadron Leader; and so on. Junior flight cadets are eligible for the more elementary positions in the organization until

their training progresses to more advanced states and they become qualified for the senior positions.

Cadets decide upon their own standards of discipline and promulgate routine orders through their own orderly rooms, where they hold their own defaulters' parades. The cadet in charge of discipline metes out penalties according to the seriousness of the offence. Punishment in most cases involves extra duties, such as lawn-mowing, and a demerit system is maintained to discourage habitual offenders.

Much of the cadets' off-duty time is spent in working on the flight cadet organization, and in shaping the social life of the cadets to conform with Station routine and a well-balanced programme of work.

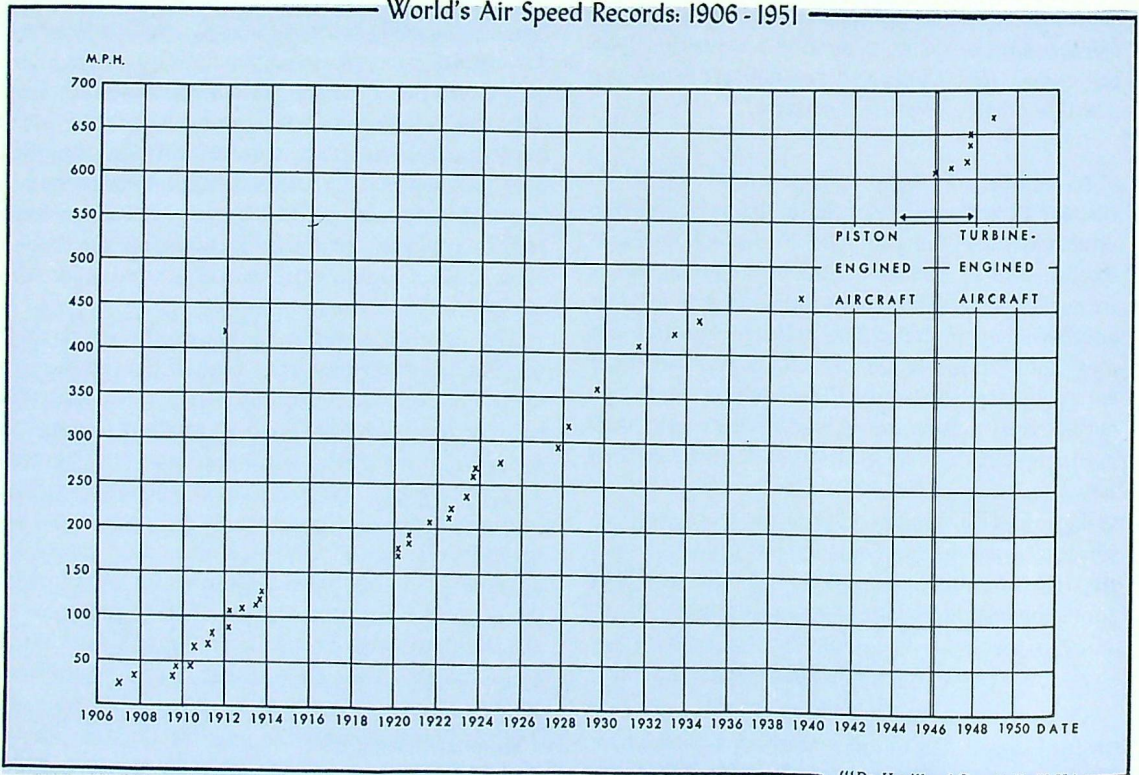
Participation in sports is important both from the point of view of health and because it helps to

a better understanding of leadership and teamwork generally. Every cadet is expected to take an active part in all sports throughout his training.

CONCLUSION

The Reserve University Training Plan offers much — to the nation, to the R.C.A.F., and to the student. To the nation it offers strength, in that it provides citizens of dynamic leadership; to the Air Force, a flow of trained officers into the Regular Force as well as a reserve of trained officers; and to the student, citizenship and military training. It is a plan well calculated to ensure national security by the effective air education of the young potential leaders in Canada's universities.

World's Air Speed Records: 1906 - 1951



(“De Havilland Gazette”: U.K.)

The R.C.A.F. Benevolent Fund

It is a rather curious fact that few of those who discuss the R.C.A.F. Benevolent Fund seem to have a very clear idea of what they are talking about. Since all the Fund's dealings with individuals are strictly confidential, what it actually accomplishes receives little publicity — and such publicity as it does receive is, thanks to certain basic principles of human nature, more apt to be of an unfavourable than a favourable character. It is only natural for anyone whose application for assistance has been turned down to feel aggrieved and to give verbal expression to his feelings; nor is it any less natural, for one whom the Fund has helped, to avoid advertising the fact that he has been in financial or other difficulties. The aim of this article, therefore, is to give our readers a concise and accurate picture of what the Benevolent Fund is, why it exists, and how it is administered.

* * *

The Fund goes back to 1934, when it was founded as a trust, with the gift of a small amount of money to the R.C.A.F. to commemorate the part played by Canadians in the flying services during the First World War. Its purpose was to relieve distress and to promote the well-being of R.C.A.F. personnel and their dependents during and after service. Both the size and scope of the Fund increased enormously during the Second World War, but the original purpose remained, and remains, unchanged.

Capital held by the Fund at present is about \$3,750,000. Most of this was contributed by the quarter-million men and women who served with the R.C.A.F. during the war, and contributions continue from the personnel who are serving now. Other continuing contributions come from the public, and the Fund has collected more than \$800,000 in prize money since the war's end.

During the last twelve months the Fund has dealt with more than 2400 cases. Its investigations

of these cases resulted in the making of almost 1500 loans and nearly 1000 outright grants, totalling altogether to more than \$373,000. During the five-year period following the war's end the Fund handled more than 16,000 cases, involving nearly \$2,000,000 in loans and grants, split about 50-50. This \$400,000 yearly disbursement would appear to be the best answer to the uninformed criticism that the Fund officials are "building a big bank account just to have it tucked away."

For Manager Air Commodore D. E. MacKell, C.B.E., C.D. (who retired from the R.C.A.F. in 1949 after starting his Air Force career as an airman in 1924), the disposition of the Fund is no easy task. The officers of the Fund, aided by members of 161 civilian voluntary field committees, have no book of regulations by which to go, and the simple way out would be to hand out money to everyone (except the occasional obvious scroungers) who asks for it, and then, when the money was all gone, regretfully tell all applicants that there wasn't any more. Large as it is, the Fund is not and never will be large enough to make a loan or grant to everyone who asks for it. It must be administered along lines that ensure that actual cases of need are suitably dealt with, yet the level of the Fund must not be allowed to sink to a point where its officers will have to turn away serious cases of distress. The Service man or veteran who wants to turn in his 1941 jalopy for a new model will never get anything but a polite refusal. A similar refusal may be met by the man who finds himself faced with a pile of bills that he just can't manage. Although the latter will probably feel a little bitter when his request is turned down, the Fund officials maintain that, if a check shows that the man's credit is good and his earnings are adequate, it is quite practical for him to get a loan from a commercial agency. Isn't it better, they say, to turn down such an

applicant and to keep the money for a man faced with a similar situation, but whose position is such that he cannot get the money anywhere else? Fund officials point out that if they began interest-free or low-interest loans to facilitate the purchase of household articles or for business purposes, such privilege should be extended to all eligible applicants, numbering some 250,000.

Not that the Fund officials insist on an applicant proving that he has been living with his family on a straight diet of water and oatmeal before they are prepared to help him. But they do feel that, if he can afford to drive a car, he should cash in on that before asking for help. Otherwise the day will surely come when they will be forced to turn away an applicant who needs help badly and hasn't got a car or anything else to cash in on.

When examination of an application has shown a definite and serious need, the next question is whether the assistance should be in the form of a grant or a loan. There is little purpose served in granting a loan if simple arithmetic shows the impossibility of the applicant's ever being able to repay it without putting himself straight back in the financial hole. That's why two men, both requiring money for the same purpose, may get different treatment — the one a grant, the other a loan. If one can repay the money, he is asked to do so. On the other hand, an applicant whose earnings are not too unfavourable, but who has, after encountering serious misfortune, made substantial payments from his own resources, may obtain a straight grant.

It is not possible to pick any "typical" cases in which the Fund has helped a serving or veteran member of the R.C.A.F., for each case is different. One case, however, that does illustrate the difference that the Fund can make in the lives of thousands of individuals, concerns the wife of Sergeant Blank, who was killed overseas. His widow, a former dancing-teacher, was stricken with a spinal disease which paralysed her legs. She sold her household effects to provide for hospitalization costs, and her mother, also a widow on pension, did the same in order to raise money to restore the use of the girl's legs. That was before the Fund learned about her plight.

Since then the Fund has provided \$1,500 in grants, leaving the girl's pension clear to provide other necessary costs.

Another case concerns a former airman, married and with a child. He had used his gratuities and rehabilitation benefits to get started in a small business, which was just beginning to provide a living when his child choked on a particle of food which lodged in its lungs. Doctors told him the child had 48 hours to live unless a delicate operation was performed, involving facilities unavailable in that region. The local committee of the Fund stepped in and funds were made available to rush the child and its mother to a centre where special surgical facilities were available, and there the operation was successfully carried out. The ex-airman was spared a financial blow that would have crippled him at the time, and — which is probably just as important — he was awarded the grant without feeling that he was being forced to accept charity. That is one point that the Fund stresses: help from the Fund is not charity. It is a return on an investment, a return made to those who most need it, at a time of real distress and in cases where no other normal means of obtaining aid is available.

Assistance given by the Fund is not limited to cash loans or grants. On occasion, the Fund aids in obtaining employment, suitable housing, and even helps (where it can) in settling family troubles. In short, whenever it can assist an applicant in actual need, it will do so by any means at its disposal.

Fund officials emphasize, though somewhat regretfully, the fact that they are unable, except in extremely distressing circumstances, to approve grants or loans for down payments on homes. To provide equal treatment in this respect for everyone would require a capital many times greater than that possessed by the Fund.

Much of the Fund's work is possible only through its 161 field committees, made up of unpaid volunteers who act locally, keeping in close touch with national headquarters in Ottawa. Applications for assistance should be made through these local committees. The local committees also work closely with the R.C.A.F.

Association and the Canadian Legion, and in many instances it is one of these veterans' groups which bring to the attention of the local Fund committee the existence of an Air Force veteran who needs help.

Applications for aid made to the local committees are investigated by them on the spot, and a report is then made to national headquarters. However, where the local committee finds itself dealing with a real emergency it has authority to make limited advances or guarantees sufficient to look after things. In other words, where an actual emergency exists, the Fund doesn't waste time wrestling with red tape: it gives help then and there, and the paper work follows.

In addition, there is at every R.C.A.F. Station a Benevolent Fund Committee which operates in a similar fashion. These committees restrict their operations to serving personnel.

* * *

That, briefly, is a résumé of what the Fund does

and of the principles on which it operates. Fund officials admit freely that the scope of assistance given could easily be broadened. In fact, at the war's end the money could simply have been split up among all those who had served in the Air Force and thus contributed. On the other hand, they feel (and most veterans will agree with them) that such a proceeding would have defeated the very purpose of the Fund. Nor would its purpose be any less defeated by the giving of outright grants or interest-free loans on a broader basis than now exists. Fund officials have a big responsibility in keeping faith with those who made possible the building-up of the Fund, and they consider that, should they, by injudicious administration, ever reach the point where seriously distressed applicants have to be told "there isn't any more money," they will have fallen down in their responsibilities.

The Fund is there to help people who are in *real* trouble, and its officials are there to make sure that it always will be.



Jet jargon is developing rapidly into a technical language understood only by the initiated.

For instance, you might hear someone say, "Trim the wicks and spark up to boil. The jockey is in the panic rack and ready to go."

Interpreted it means "Gun the engine as a quick check prior to the take-off, and open it wide, because the pilot is in his ejection seat and ready to fly."

Here are four more items from the newer jet lingo: The console — The control panel, which has so many knobs and switches it looks like a console organ.

Wick trimmers — Jet mechanics.

Dog bone — The front mount of a jet engine, named because of its shape.

Stiff knee clips — Ground locks installed in the landing gear.

(*"Sourdough Sentinel"*: U.S.A.F.)

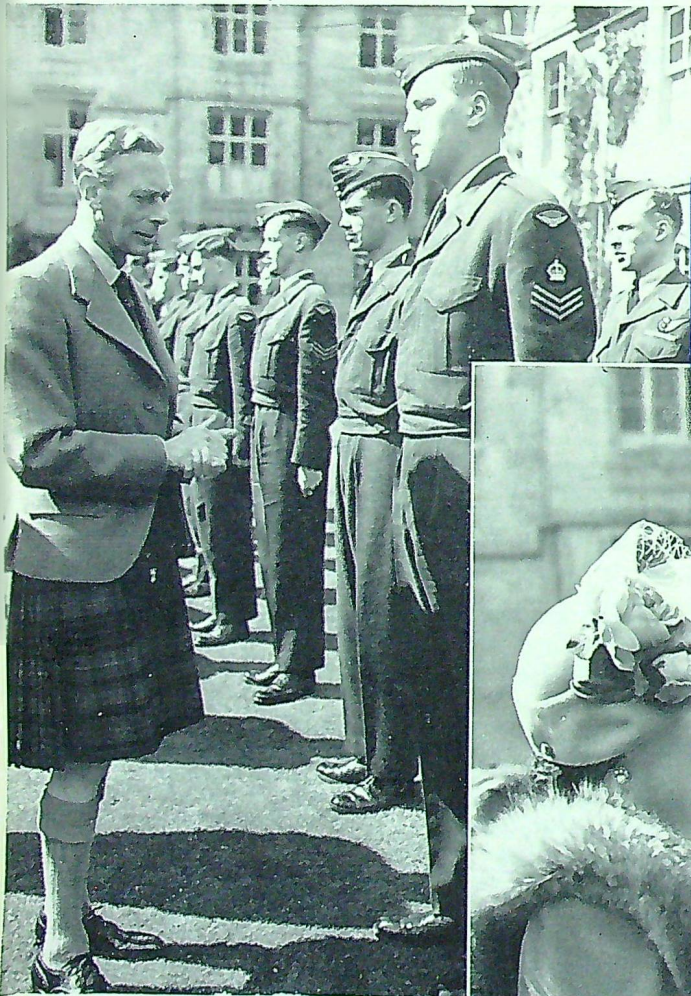
The ROYAL CANADIAN

AIR CADETS



Summer Shots: 1951

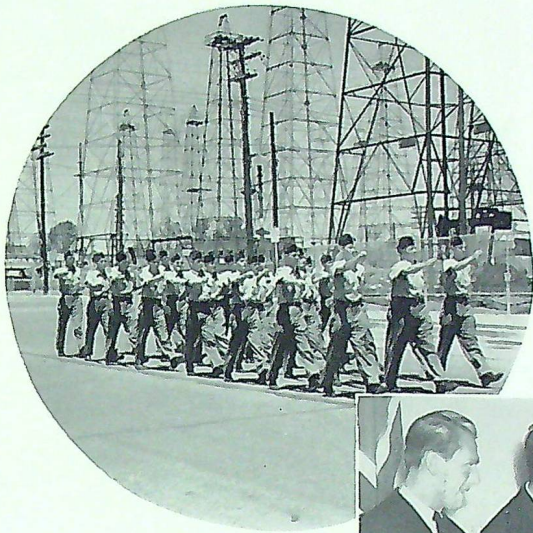
Shown below are a few photographs illustrating the international flavour of the past summer's Air Cadet activities in Canada, England, and the United States.



His Majesty King George VI stops for a few words with Cadet Sgt. L. Parker, of Vancouver, at Balmoral Castle.



Her Majesty Queen Elizabeth chats with a Canadian cadet at Balmoral Castle. Accompanying the Queen is Mr. Donald R. MacLaren, Air Cadet League Representative on the tour.

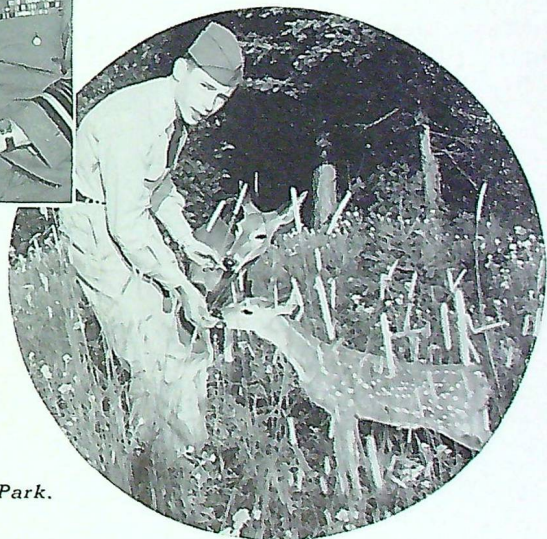


Canadian cadets march through the streets of Kilgore, Texas.

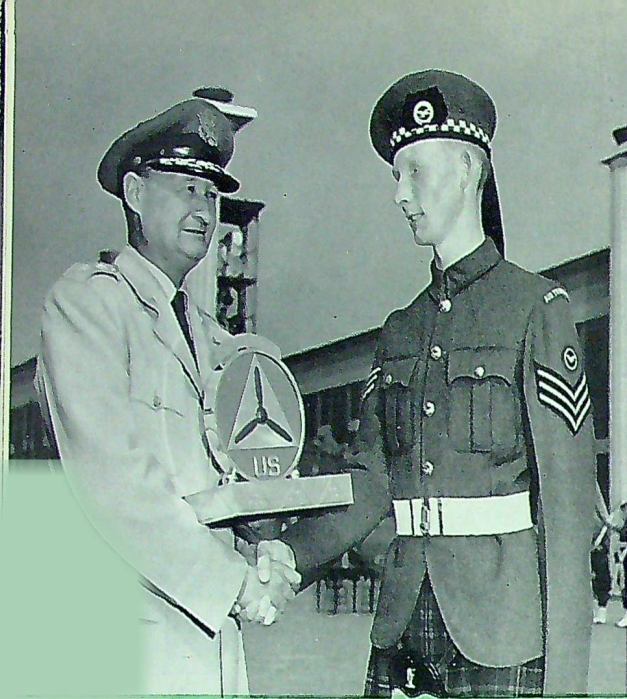
R.C.A.F. Station Aylmer. L. to r.: Bjorn Hedegaard, Sweden; J. M. van Swijndregt, Holland; O. C. McCallister, U.S.; E. Vallerand, Canada; G. W. Harries, England; J. C. Kielland, Norway; Karl G. Petersen, Denmark.



In the Château Laurier Hotel, Ottawa. Seated (l. to r.): Mr. H. L. Garner, president of the Air Cadet League of Canada; Bjorn Hedegaard, Sweden; Air Marshal W. A. Curtis, C.B., C.B.E., D.S.C., C.A.S. of the R.C.A.F. Standing (l. to r.): J. M. van Swijndregt, Holland; Under-Officer E. D. Frith, England; Karl G. Petersen, Denmark; J. C. Kielland, Norway.



C.A.P. cadet makes friends in Algonquin Park.



Cadet Warrant Officer R. Kyle, of Glasgow, receives the Beau Trophy from Major-General Lucas V. Beau, National Commander of the U.S. Civil Air Patrol. In this year's International Drill Competition at the Canadian National Exhibition, the Scots scored 367 points; the Canadians, 362; and the Americans, 360.



The three team captains. Cadet Commander I. B. Abrahms, New York; Cadet Warrant Officer L. Tighe, Edmundston; Cadet Warrant Officer R. Kyle, Glasgow.

The Scotch team undergoes inspection by the judges prior to the competition.





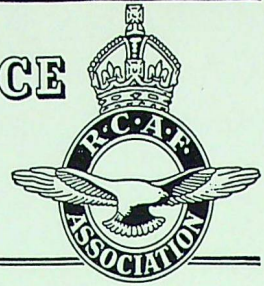
General Willis P. Hale, U.S.A.F., inspects the Canadian team, which was selected this year from Maritime Squadrons.

Cadets from (l. to r.) the U.S., Australia, India, Ceylon, the U.K., and Canada, link arms in front of their countries' flags during the Air Cadet rally held at White Waltham, England.



ROYAL CANADIAN AIR FORCE

Association



EASY MONEY

TO ENCOURAGE submission of material for inclusion in "The Roundel" and "Wings At Home", the R.C.A.F. Association is offering a monthly prize of \$10.00.

This is not a "literary" competition. Entries will not be judged on style or grammar. The general interest and value of the material will be the criterion.

It is open to all members of the Association in good standing. Members-at-large will naturally compete on an individual basis, while members of Wings may either compete as individuals or in the name of the Wing. Subjects, however, will be weighted on alternate months to appeal to Wings and to members-at-large.

For instance, one month we may offer the prize for the best account of a Wing special event. Normally this would not be covered by a member-at-large, although there is no objection to such a member attending and submitting a write-up for competition. We are hoping, however, that Wings will regard this as an opportunity of getting a little extra cash for the treasury, that the competition will be in the name of the Wing as a whole.

The next month, on the other hand, the subject will be one on which members-at-large should be qualified to write. The present competition, for example, will be on the subject "How Members-at-Large May Take a More Active Part in Association Activities."

In one respect this competition is going to be unusual: the writer does not have to stick strictly to the suggested subject. High marks will be given for promptness of submission.

The first competition, for Wings only, was announced in the fourth issue of "Wings At Home" and was to close on November 15th. The present competition will close on December 15th. All entries received on or prior to that date will be regarded as eligible for the first prize to be awarded generally. It is hoped that the winner will be announced in the February issue of "The Roundel."

OPERATION RECRUITING

The R.C.A.F. suggested that individual quotas for Association Wings might stimulate greater efforts in getting recruits for the Service. National President Air Vice-Marshal A. L. Morfee replied that, while the Association was quite willing to undertake anything which would assist the recruiting campaign, the R.C.A.F.A. firmly believed that national selective service was the answer to the manning problem.

A fact-finding meeting between officers of National Headquarters staff and R.C.A.F. manning officers has already taken place, and it is hoped that an equitable basis for establishing quotas may be worked out, as well as a method for utilizing the services of members-at-large for outlying areas.

In addition to Wings previously mentioned for their activity in connection with R.C.A.F. recruiting, Kingston has been co-operating effectively with the Ottawa Recruiting Unit, Ottawa Wing has now established a recruiting counsellors' committee, and Windsor, Ontario, has been both active and effective.



The Annual Convention of the Air Force Association, U.S.A. Air Vice-Marshal Morfee is seated in front of the "Air Force Association" banner (left centre of head table), talking with Ass't. Sec'y. of the Army, Earl Johnson. On his right is noted actor James Stewart.

"WINGS AT HOME"

Four issues of the magazine published by the National Office have been sent out. The magazine, which carries details of Wing activities and items of aviation news of general interest is so far only being distributed to presidents and secretaries of Wings.

The editor was considerably encouraged by receiving several favourable verbal comments from members and by getting his first "fan letter" after the third issue.

NATIONAL PRESIDENT ACTIVE

Air Vice-Marshal A. L. Morfee, C.B., C.B.E., (ret'd), of Granville Ferry, N.S., has been particularly active. After attending the Air Force Association of the United States Convention in

Los Angeles, he stopped off in Ottawa to discuss pressing matters with the Headquarters staff. Among matters discussed was a visit by a national officer to Western Canada in the near future, and the possibility of a presidential visit to Wings in Ontario.

He had barely returned home when a rash of correspondence broke out on arrangements for the visit of Princess Elizabeth and the Duke of Edinburgh, as well as on a number of other important matters.

On September 27th (yesterday, at the time of writing) he came to Ottawa to attend the national executive meeting of the Air Cadet League and to present to the national office of the League the first R.C.A.F. Association Award. To-morrow, the 29th, he is to attend the Second Annual Air Force Reunion sponsored by No. 410 (Ottawa and

District) Wing. A meeting is scheduled next Monday at A.F.H.Q. to discuss certain important matters with R.C.A.F. senior officers. The timetable also calls for him to represent the Association at the ceremony before the National War Memorial in Ottawa when Princess Elizabeth lays a wreath on the cenotaph. The following day he is to leave for Toronto with his executive assistant to deal with a number of matters of interest to the Association there. Presumably, he will then be free to return home for a while.

CIVIL DEFENCE

An active interest is still being taken in promotion of civil defence for the Ottawa area. A special committee of Ottawa organizations presented a brief to the late Mayor Grenville Goodwin and the Board of Control. Co-operation of surrounding municipalities has been sought and further meetings are taking place to consider the next course of action.

WINGS AWAKEN

Life reawakens in the Spring, but it is the Fall that brings renewed activity to our Wings.

Dues, both for old and new members, have begun to flow into the National Office; Wing bulletins are again being published, many indicating plans for more activities than usual; in some cases Groups and Wings have made changes in their executives; and letters from presidents and secretaries, dealing with multifarious subjects, are becoming more frequent.

The number of new members enlisted by certain Wings is certainly encouraging — and this is no reflection on the importance of renewals. In a period of six weeks, 258 new members have been enlisted. No. 201 (Confederation) Wing, Charlottetown, is the leader, with 31. Other Wings that have done well are: the new No. 150 Wing in St. John's, Newfoundland, with 30; No. 250 (Saint John, N.B.) 25; No. 429 (Elgin), St. Thomas, Ont., 22; and No. 253 (Moncton, N.B.), 21.

Special mention should be made of No. 254 (Chatham, N.B.) In an area of limited population,

already canvassed, Chatham is picking up members by one's and two's, for a total of nine. No. 101 in Halifax also has nine, and Sarnia eight.

Cyril Malone, K.C., who was elected National Chairman at the May convention, has retired as president of the Saskatchewan Group. He is succeeded by the first vice-president, F. N. Park. After his retirement, the Group called an inter-Wing meeting, which R. S. McCartney, assistant general secretary, T.C.A.-ed from Ottawa to attend.

S. E. Parker has succeeded R. G. Mason as secretary of the British Columbia Group. Mr. Parker is a former secretary of the Group.

Among recent Wing executive changes are:

No. 404 (Kitchener-Waterloo) Wing:

President:	A. Snetsinger
Vice-President:	W. G. Roberts
Secretary:	J. D. Playford
Treasurer:	J. Darby
Directors:	R. Briscoe
	R. Hilker
	C. Stover
	D. Budd
	A. Jones
	M. Perrin

No. (Brockville) Wing:

President:	D. A. Shotter
Vice-President:	F. B. Henderson
Secretary:	A. C. Farrow
Treasurer:	D. R. Allen

No. 703 (Central Alberta) Wing, Red Deer:

President:	W. J. Dowler
Secretary-Treasurer:	B. E. Crane
Executive Members:	M. Holender
	A. Smith
	G. Macdonald

Recruiting Panel Chairman: L. Pollock

Cornwall Wing started off the Fall season with a smoker, at which attendance was over the century mark. A film depicting R.C.A.F. fighter squadrons during the last war was shown, entitled "Wasp Wings." Vocal solos were given by Larry LeGros, a member of the Wing.

No. 600 (Regina) Wing got off to an early start with a general meeting early in September. Among subjects discussed were provision of volunteer instructors to take a short course in civil defence, new quarters for monthly meetings, participation in the Ground Observer Corps, and general plans for the forthcoming season.

No. 500 (City of Winnipeg) Wing has been encountering a spot of difficulty in getting a place in which to meet regularly. An inter-Wing meeting with No. 502 (Brandon) Wing was being planned.

No. 406 (North Bay and District) Wing made plans to stage a dinner and dance to welcome staff officers of the new R.C.A.F. Station North Bay, at the first Fall meeting, during which it was also announced that financial backing for the Air Cadet Squadron to be sponsored by the Wing has been obtained. Allan Larden, vice-president, was named chairman of the committee to arrange for the dinner-dance. On Labour Day the Wing sponsored a band concert to stimulate interest in Air Cadet work and it is hoped that 1,000 will be available as recruits.

No. 418 (Belleville) has now obtained permanent club rooms. Premises were leased on a five-year basis and Wing members were busy altering and improving quarters at 224 Front Street. The Wing also staged a very successful opening dance towards the end of September.

BATTLE OF BRITAIN SUNDAY

A General Bulletin was sent out recommending that special significance should be attached to Battle of Britain Sunday this year. According to reports available at time of writing, Wings which staged special events are Cornwall and Ottawa in Ontario, Quebec City, Que., and Saint John, N.B.,

To be completely accurate, possibly Ottawa should not be included, as the special concert by the R.C.A.F. Central Band planned for Sunday evening was cancelled. The programme details were determined, items of the band numbers sent to the press, invitations to a limited number of guests sent out, welcoming addresses written, posters designed, etc., when it was found that the American Army Field Band was contemplating a band concert in Ottawa at the same hour. In courtesy to the visitors, the Wing cancelled its arrangements.

No. 703 (Central Alberta) Wing, Red Deer, and No. 24 Air Cadet Squadron held a memorial service and church parade. The R.C.A.F. ensign was raised at the cenotaph and flown throughout the day. The parade attended St. Luke's Anglican

church, where the Rev. George Lang, the Wing padre, conducted the service. Following divine worship, the parade returned to the cenotaph, where a wreath was laid by B. E. Crane, Wing secretary. Fred Elridge sounded the Last Post just as four Mitchells of No. 418 City of Edmonton Squadron flew overhead. Col. R. C. Lister, M.M., spoke at the memorial service and took the salute.

Quebec City Wing had a special showing of motion pictures, including "Battle of Britain," a film produced by Frank Capra for the U.S. Army special services.

In Saint John, members of 250 Wing and the Air Cadet Squadron laid a wreath on the memorial which the Wing had placed last year in the City Hall. The parade also attended divine service.

In Cornwall, the Wing was joined in a parade and special commemorative service by the Canadian Legion, Air Cadet Squadron No. 325, the Stormont, Dundas, and Glengarry Highlanders, and the local chapter of the Silver Cross Women of Canada.

An appeal to all citizens to dedicate their lives to the cause of peace was made by Sqn. Ldr. J. A. Payton, former chaplain with the R.C.A.F., in delivering the address in Memorial Park. Air Commodore N. F. Mossop, C.B.E., (ret'd), took the salute, and reviewed the story of the gallant band of airmen who fought the Battle of Britain. Both speakers were introduced by Vernon Webster, president of the Cornwall Wing.

The wreath to the memory of the airmen who died was placed at the foot of the cenotaph by Mrs. Edward Priddin, president of the local chapter of the Silver Cross Women of Canada.

The assembly, which included hundreds of Cornwall and district residents, stood at attention while the Last Post and Reveille were sounded.

2ND ANNUAL AIR FORCE REUNION

About 4,000 serving members and veterans of His Majesty's Air Forces, and their friends, attended the Second Annual Air Force Reunion sponsored by No. 410 (Ottawa and District) Wing. On September 29th the Coliseum, Lansdowne Park, Ottawa, echoed with the festivities until an early hour.



Mrs. E. Priddin places wreath at foot of cenotaph. In foreground (l. to r.) are: Vernon Webster, president of No. 424 (Cornwall) Wing, Air Cdre. N. F. Mossop, and Sqn. Ldr. J. A. Payton. (Park Photo Service).

Headlining the floor show were radio and television stars, Jinx Falkenberg and her husband Tex McCrary, who also were guests of honour of the Ottawa Wing at the Rough Riders v. Hamilton football game in the afternoon. At half-time, Tex was introduced on the radio programme which carried the football broadcast. The Hon. Brooke Claxton, Minister of National Defence, and the Hon. Lester B. Pearson, Secretary of State for External Affairs, were also honoured guests at the game, as was the Association National President, Air Vice-Marshal A. L. Morfee. Mr. Pearson doffed his usual bow tie in favour of the tie of the Royal Flying Corps for the occasion.

D. A. Hall, Ottawa Wing president, opened the evening show at the Coliseum, and introduced Air Vice-Marshal F. G. Wait, C.B.E., Air Member for Personnel, who was officially representing the Chief of the Air Staff. In addition to speaking briefly on the R.C.A.F., Air Vice-Marshal Wait commended

the work the Association was doing for Canada and the R.C.A.F., and introduced the National President. The National President in turn introduced Ralph V. Whitener, organizational director of the U.S.A.F. Association. Mr. Whitener presented to Mr. Hall a scroll from the Washington, D.C., Squadron of his Association, conveying fraternal greetings from an Air Force unit in the capital of his own country to the Association Wing in the Canadian capital.

Tex and Jinx were then introduced. During their act, Jinx batted out some autographed tennis balls and her husband some autographed ping-pong balls. Tex and all the other entertainers, except Jinx, were "Air Force," but during the programme she was made an honorary member of No. 410 Wing by President Hall, who had a bit of difficulty in finding a place on her low-cut gown on which to place the pin.

Tex McCrary discusses chapeaux with two airwomen.



Air Vice-Marshal F. G. Wait, Jinx Falkenberg, and Air Vice-Marshal A. L. Morfee, at the 2nd Annual Air Force Reunion.



Left to right: D. A. Hall, president of No. 410 Wing; Jinx Falkenberg; Ralph Whitener, Air Vice-Marshal A. L. Morfee





George and Lynn Gorman, both ex-members of the R.C.A.F., doing their act.

Doug Romaine, of Toronto, and George and Lynn Gorman, of Ottawa, furnished the comic element of the programme. Music prior to the floor show was presented by the R.C.A.F. Central Band and dancing was to the music of Cammie Howard and his orchestra. Corporal Dave Davies gave several vocal numbers with the band.

Refreshments were provided throughout the evening, and apparently a happy time was had by all. The McCrarys delayed their departure until the last second on the following day, so that they could see a bit of the city.

Many Wings in the area from Toronto to Montreal were represented at the gathering.

Automatic Weather Station

National Bureau of Standards has developed an automatic weather station with radio transmitter, which is designed to be parachuted from an airplane into otherwise inaccessible territory. It will automatically set itself in operation, make and transmit weather observations on temperature, pressure, and humidity. It is dropped from a bomb rack, and chute opens automatically, by pull of a static line. An electric clock then starts a series of operations, including firing of three explosive charges; one cuts loose the chute after landing; the second sets the station upright on a

six-legged stand; the third raises a 20-ft. telescopic vertical antenna for transmission. At intervals the timer turns on the transmitter to send a pulsing signal, rate of which is determined by one of three resistors. These are connected to three measuring mechanisms which determine temperature, pressure and humidity. At the receiving station, the transmitter pulse rate is read as temperature, pressure or humidity, depending on a predetermined timing cycle. The device is a refinement of an earlier World War II automatic transmitter.

(“Aviation Week”: U.S.)

From the Suggestion Box

THE PERSONNEL whose photographs appear on this page have received letters of thanks from the Chief of the Air Staff for suggestions which have been officially adopted by the R.C.A.F.

Flt. Lt. W. G. Harrison, of the Directorate of Construction Engineering (Administrative) at A.F.H.Q. has proposed a simple method of identifying buildings in relation to official site plans. Henceforth a small brass plate, bearing the number of the building as shown on the official site plan, will be affixed to the front of every Service building. Many hours of needless work will thus be eliminated, both in the field and at A.F.H.Q.



Flt. Lt. W. G. Harrison.

W.O. 1 L. R. Cousins, of No. 6 R.D., has devised an ingenious system of rubber stamps for use in completing M.E. Vehicle Accident Report Forms, the value of which returns has hitherto been greatly reduced by poorly-drawn designs. Warrant Officer Cousins' two stamps, one of which represents a vehicle in motion and one a vehicle at rest, can be used in conjunction with inks of two different colours to give a completely accurate and comprehensive report of any normal type of accident.



Sgt. G. G. Smith.

Sgt. G. G. Smith, of R.C.A.F. Station Toronto, has proposed three simple modifications to the .303" Browning Machine Guns used in Harvard IIA aircraft that will permit of the firing of blank ammunition by pilots engaged in joint Army/Air Force exercises, thus adding realism to the manoeuvres and facilitating evaluation by umpires.



W.O. 1 L. R. Cousins.

A.M.E.S. 894: Part 6

The Story of a Mobile Radar Unit in North Africa

By Marshall S. Killen

THE TIDE TURNS

ON FEBRUARY 28TH, Flt. Lt. Pickford, who had joined the unit on February 17th to replace Flt. Lt. Roebuck on the latter's posting to A.M.E.S. 898, controlled an interception and destroyed an enemy bomber at a range of 70 miles from the Station. This was considered unusual, as most successful interceptions were usually completed within a radius of 45 miles. The next night, however, he went one better, and carried out an interception of a German travelling away from us. He controlled his Beaufighter out to 90 miles, which is the limit of the interception screen, and the enemy was actually destroyed at the record range of 97 miles.

The rains ceased in March. Since it seemed that the First Army was never going to move forward and that the unit might therefore remain at Morris for a long time yet, we set about making our camp more permanent. All the telephone wires were laced into cables and put up on poles. The cables between the technical vehicles were placed in wooden troughs and the power lines between the diesel engines and the radio telephone tenders were replaced by heavy armoured cable. (This particular job was long overdue. Two sheep had already been electrocuted and the Arab owner had claimed and received twice their value, despite the fact that he had eaten both of them.) We even began to resurface the roadways and to cut and

trim the hedges along the lanes. The French Government supplied both tar and gravel for the road work — much to my amazement, until I discovered that the local road surveyor was a friend of Corporal Hirst and that his wife was the lady who did our laundry because she liked Canadians.

The end of February had brought the unit's score of successful interceptions up to 50, so a celebration dinner was held on March 7th. Several officers from other units were invited and there was plenty of *vin rouge* for everybody. Since it was also my wife's birthday, I had a very good excuse for a double celebration.

On March 6th, a Spitfire pilot forced down a new type of ME-109B close to us. The German pilot, who spoke perfect English, had landed normally and the aircraft was undamaged except for some bullet holes made by him when he tried to set fire to the gasoline tank after landing. Lacking matches, he was unable to do any more damage before he was captured. We never learned why he had given up so easily, as his guns did not seem to have been fired. The Wing Investigating Officer had the ME-109B towed into Bône to the docks, where our radar mechanics took out the radio equipment, which was of an improved pattern. By nightfall, Flt. Sgt. Maxim and the others had it working on the bench, after which it was crated and sent off to the R.A.F. Research Establishment at Farnborough, England.

By mid-March, Tunisia and Algeria were beginning to look green and pleasant after the winter. The days were cool and dry, the winter mud had disappeared, and the choking dust of summer was not yet airborne. Some of the scenery was really magnificent, especially up in the mountains. One would travel for miles across desert and bleak flat land and then suddenly find oneself among luxuriant forests such as are usually associated with central Africa. The grape vines, which were cultivated in great numbers in the Bône district, were putting forth green leaves, and the Arabs could be seen trimming and working at them from sunrise until dusk.

Ever since its formation, A.M.E.S. 894 had been keen on sport, and it was fortunate in having among its crew LAC Hoyle, a professional footballer who had played goal for Bradford City before joining the R.A.F. Hoyle looked after the sports activities of the unit and, with the able assistance of Cpl. Jordan, maintained a football team that was a credit to the unit in all the local and military leagues around Bône.

The British Army held an Area sports meeting in Bône on Sunday, April 4th, and Sgt. Valeriot came in third in the 3-mile race — an achievement which we considered pretty good, since he was competing against some of the best runners in the Army.

There were several other activities besides sports to keep us happy. A Garrison theatre as well as several cinemas had been opened for the troops in Bône, and a liberty run went to town from camp twice weekly. In Morris itself, the Y.M.C.A. had arrived and set up a canteen and recreation rooms. The lady in charge was Miss Boleau, from Belfast, Northern Ireland. The lads from our unit helped her in running the canteen and we brought all the buns and cakes out from Bône each day with the ration run. Consequently we always got preferential treatment when it came to tit-bits and seats for the E.N.S.A. shows which frequently came to the village.

Another pleasant feature of life was that we had more surplus transport than most other units. Our trucks were in great demand, running all over Tunisia and Algeria on business for other people.

This gave the A.M.E.S. 894 men plenty of opportunity to see most of North Africa, since trips to Oran, Algiers, Setif, Constantine — and later on, Bizerta, Tunis, Sousse, and Sfax — were common and generally took from three days to a week to accomplish. The pleasantest were the trips inland and away from the towns and cities. The Arabs who live near the coast are, generally speaking, dirty and shiftless, but as one proceeds away from the towns and cities, a different type is encountered — clean and of excellent physique, hard-working, and living in grey stone houses. Furthermore, they even look honest. Another difference between the coastal and interior Arabs is that one seldom sees women working in the fields inland, whereas around Bône and Algiers they appear to do most of the work. At the age of thirty, or even sooner, the average Arab woman looks old and haggard, and she is probably wife number three or four.

The Arab who lived in the farm buildings beside our camp was named Belcazem. He was one of the few rich Arabs in the district. Although he was not permitted under French law to own his own property, he rented several farms and possessed many fine horses, cattle, and sheep. He had a son named Omar, who, at the age of twenty-two, was getting married. His father bought the bride for three hundred dollars, and, as is usual amongst the Arabs, neither bride nor bridegroom had ever seen each other before. She was Omar's first wife, and I would say was about fifteen years of age, or perhaps even younger.

The first day of an Arab wedding ceremony is spent at the bride's home, where the two families (with the exception of the groom) make merry. The next two days are spent at the home of the groom, with the latter still absent. The women stay in one building and the men in another, and when the women stop singing the men start up. An Arab orchestra bangs away all the time, and the noise never stops throughout the days and nights. The bride, dressed in her white wedding finery, sits in one corner and takes no part in the proceedings. From time to time other Arab girls and women get up to perform various dances in front of her. At Omar's wedding, we found the

Wind Dance to be the most amusing: it reminded us of Carmen Miranda.

As our tents were only a matter of yards away from all the noise, it was not long until we began to miss our sleep. On the second night Cpl. Hirst and another driver started up two of the heavy trucks which were parked close to the buildings, revved up the engines, and produced as many back-fires as possible in order to try to put the Arabs off their stroke. The result, however, was just the opposite. The old chief came out and thanked them for their contribution towards the party and wanted to know if I would order some of the men to fire their rifles into the air to make things a bit livelier. At the end of the third night the merrymaking and feasting came to an end, and not until then did the bridegroom come home. As soon as he returned and entered the house, he was considered to be officially married.

* * *

At the beginning of April, the Allied armies launched the final offensive, which continued until all organized resistance ceased, on May 12th. As soon as Cap Serrat was in Allied hands once more, Sqn. Ldr. Brown, Flying Officer Nixon, and Flt. Sgt. Maxim went there to find out what the Germans had done to the vehicles and stores. They found that, apart from the removal of the vehicles, the enemy had not touched very much but had left the place in a filthy condition. Most of the stores had been taken, but the tents were still standing. Despite the fact that a number of French and German dead were still unburied, there appeared to be no British or American casualties.

Two weeks later, A.M.E.S. 8011 arrived at Morris, and on the 23rd of April left for Cap Serrat. Flying Officer Houlgrave of Toronto, the technical officer of the unit, was very upset on the morning of his departure, because one of his high Crossley tenders caught on our telephone cables when passing out from the field to the lane and pulled down the entire half-mile of cable and poles between our two sites. I went with him as far as Tabarka, as I knew the way over the mountains pretty well by this time. He had a difficult job



German "Tiger" tank destroyed near Tunis.

getting his convoy into the Cape, but once there the unit soon became operational. It had considerable success, giving the JU-52 transports which were ferrying troops across from Italy a rather bad time. The following winter the unit was cut off from the outside world for several weeks by floods. Everything, including diesel oil, had to be dropped by parachute.

On April 7th the padre and I set out to visit several units near Sejenane. We spent the first night in the mountains near Ain Draham with a wireless unit to which I had to deliver some equipment. On the next day we visited our unit at Tamara, then went on to Sejenane. The entire area had been freed from the Germans only a few days previously, and burial and salvage parties were busy everywhere. It must have been heavy going in places for the British attacking forces, for we noticed that the British 2nd Parachute Regiment in particular had experienced heavy casualties.

The Germans apparently thought they were in Africa for the duration: they had brought over their tropical clothing and equipment and had stored them in buildings around Sejenane and Tamara, which they had captured in March. In one large group of farm buildings close to an iron mine at Sejenane, the enemy must have got out in a hurry. In one room, which looked like an officers' mess, food was still set out on well-laid tables. An old French car stood outside this building, and it possessed several items in good condition which fitted the padre's car and which he wanted badly. We spent a hot two hours getting the axles off, but it was worth the labour just

to see how pleased the padre was afterwards. In other places, the Germans had left lots of booby traps before retreating, and that very morning eight men had been killed or wounded. We were warned by an R.E. sergeant to be very careful about touching anything that looked like a good souvenir.

Five miles beyond Sejenane we came to a small radio observation unit forming the link between the Army and the R.A.F., which was further back at Souk-el-Arba. It consisted of one officer controller and three men, whose job was to call up air support in the event of an enemy attack. All around them were signs of severe fighting — unexploded grenades, piles of German ammunition, and pieces of broken equipment lying everywhere. There were quite a few German graves near here, and each one had a well-made Maltese cross at the head. The crosses were made of wood, painted black, with the particulars of the dead soldier neatly printed in white. The German Army must have carried these crosses about with it in readiness — unlike ourselves, who made temporary crosses out of pieces of packing-cases, wrote the inscriptions in pencil, and left the rest to the War Graves Commission who came along later and moved the bodies to central cemeteries.

All along the roadsides, sappers were busy with mine detectors, checking the verges of the roads. As they advanced, signs were put up to indicate that the road and so many feet to each side were swept and considered safe. By three o'clock in the afternoon, the padre had visited all but one of his units. This last we were unable to locate, although we went as far as the forward outposts. The outposts each consisted of a couple of men in a slit-trench, armed with a Bren gun and separated by about fifty yards from its neighbouring outpost. From here we were able to look across the valley to Green Hill and to see German cars moving along the road to Mateur. Everything was very quiet, but a sergeant in charge of a reconnaissance party told us that things really got lively at night and that the British were on the offensive all the time. American troops were being brought up from the south and were going forward to concentrate on the capture of Mateur and Bizerta, while the

British First and Eighth armies, after their join-up, were to drive on to capture Tunis itself.

Coming back to where the British tanks were hidden in the woods behind Sejenane, I noticed that the names on their turrets were all of Ulster origin. I stopped at one named "Bushmills" and found that the squadron was part of the North Irish Horse, a famous Irish territorial regiment. The first man whom I saw turned out to be someone who had gone to school with me. Very soon several of my old friends gathered around, and we spent an enjoyable half-hour talking about bygone days and the people we had known in North Antrim. Several times later on I ran across this same troop, in North Africa, and in Italy on the Gothic line.

From this time onward, one or more U.S. controllers were placed with us in order to obtain as much operational training as possible until their own nightfighter squadrons arrived in the theatre. These officers were exceptionally keen and had been trained in the U.S., employing much more modern methods for controlling. At every opportunity they carried out practice interceptions, using the Beaufighter crews on patrol against one another. It was good practice for the Beaufighter crews too, and they did everything possible to dodge and catch each other. The "target pilots," as the hunted aircraft were called, were on their honour not to listen in on the R/T channel to the directions given by our controller to the attacking Beaufighters — but from the way they used to take evasive action at the right moment, we suspected that they listened plenty!

Summer was now approaching, and each man was given three typhus injections and was issued with tropical kit and mosquito nets before the really hot weather arrived. On May 1st we started taking mepacrin tablets, which were the substitute for the non-procurable quinine. For the first four days after starting the daily dose of this vile-tasting yellow stuff, most of us were ill with stomach trouble. After that we got fairly used to it, although if anyone took too much his skin turned yellow.

* * *

As April came to an end it was obvious that the North African campaign was reaching its climax and that the Germans and Italians could not hold out much longer in the north-eastern part of Tunisia to which they had been driven, especially as the Royal Navy had by this time obtained complete control of the Mediterranean. Both the First and Eighth Armies were steadily driving forward, and when Tunis and Bizerta were captured, on May 7th, the end was in sight.

As the Axis armies fell back, their air forces increased their raids against Bône in an attempt to delay Allied troops and stores from reaching the front. A.M.E.S. 895, on Cap Takouche, began to have some success in combating the low-level attacks, but A.M.E.S. 894 was practically useless, as we could not plot enemy bombers flying below five thousand feet unless they were close in to us. From the experience gained by 895 at this time, and with the new type of aircraft radar coming into operation, the heavy low-level attacks made on the Allied convoys after the commencement of the Sicilian and Italian campaigns were successfully met, and many German bombers were destroyed with the loss of very few Allied ships. U.S. 531, an American radar station located on Cap Caxine ten miles west of Algiers, and A.M.E.S. 8006, near Cap Tedles, were particularly successful. Between them they destroyed over 50 aircraft. Meanwhile, A.M.E.S. 893, which was located between these two Stations, continued to pick off the high-flying raiders and brought its score up to nearly 40. None of these convoy raids took place east of Djidjelli, so that A.M.E.S. 894 and 895 were out of the picture after the summer of 1943.

On May 8th the British army guard was withdrawn from A.M.E.S. 894, to be replaced by Algerian Zouaves commanded by a French captain. The next day a mobile flashing beacon arrived from Blida in charge of Sgt. E. Normington, a radar mechanic from near London, Ontario, who had gone overseas with Flying Officer Nixon and myself. This beacon came as a complete surprise to me, and I was shaken to the core when told that it was to be installed half a mile north of the technical site, near an Arab village, and that



we were to switch it on at dusk and off at dawn each day. This was the first visual beacon to be installed in the area. It was to be used by Allied bombers which were about to commence intensified raids on Sardinia and Italy. I immediately got on the blower to Sector and explained that, as enemy aircraft were coming over every night, both the beacon and ourselves were very likely to be blitzed.

Sector Ops. said we had to obey orders; so the beacon was duly installed and was flashing the letter L in Morse Code, using red lenses, as soon as the sun went down that evening. It was not long, however, until the army units and the local inhabitants began to kick up a fuss, complaining that the light was visible for miles around. Our fears and theirs were soon justified: two hours from the time of switching the beacon on, enemy aircraft were reported coming straight for the unit. They were low-flying raiders, and we could not pick them up ourselves until a few minutes before they dropped nine bombs in a circle around the beacon — without doing any more harm, however, than spattering it with shrapnel which put it out temporarily.

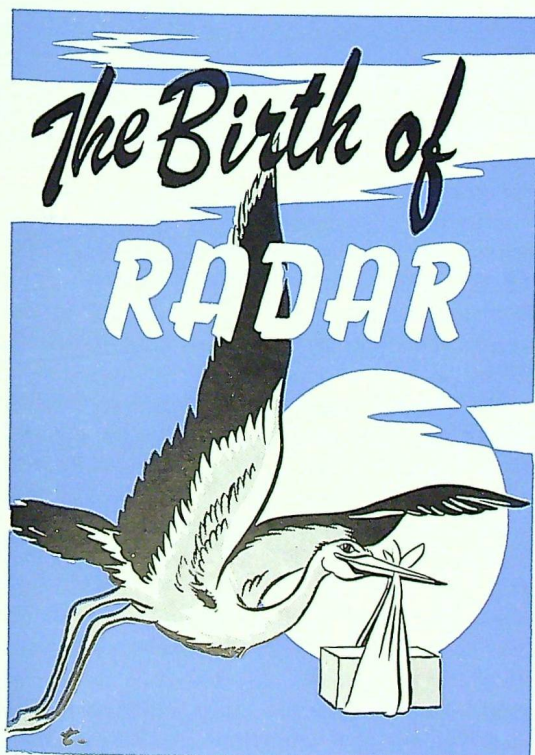
The next morning an excited Arab came to me and asked if we would move the beacon away from his village and closer to the next one. To please him, and to see what the reaction of the other village would be, we complied with his request later that afternoon. Soon a deputation from the second village showed up. They did not mind the

first village being bombed as long as their own was safe. (Two days later, when we saw that the Germans were going to leave the beacon alone, we brought it in quite close to the technical site, and remotely controlled the motor from the Ops. Tender.) The second night the beacon was operating, the enemy came over and flew around it several times without dropping anything. Thereafter, until his raids ceased entirely in August, he seemed to use it merely to locate Bône, and, after his raids were completed, would fly straight towards the beacon and then swing out to sea.

As the raiders came in from Bône towards us, the ack-ack people would continue to fire at them, and the naval shells, which did not explode until they contacted a solid object, fell around us in a fairly steady rain. One dropped in No. 212

P.O.W. camp close by and killed several Germans. Another landed in the middle of the 5th General Hospital and killed five men. Yet a third landed right on top of one of our tents and blew it apart. This last shell seriously wounded an Arab and broke a bottle of whiskey belonging to Sgt. Valeriote, but no one in the unit was hurt. Sgt. Valeriote was more concerned about his whiskey than he was about the large hole in his tent wall. On this occasion, as on several others, the telephone cables were cut by the shrapnel and we were out of touch with Sector until the next morning, as the W/T lines were also broken. We remonstrated with the naval people, but all they had to say was that we would have to take our chance like everyone else.

(To be continued)



Radar was born out of a wartime search by British scientists for a death-ray to knock the German Air Force out of the sky. This was revealed in London when seven of Britain's "back-room boys" claimed awards for inventing and developing radar.

They told the Royal Commission on Awards to Inventors that their invention had helped to win the Battle of Britain and the fight against Hitler's U-boats.

Sir Robert Watson-Watt, brilliant Scottish scientist, often called "the Marconi of radar," said that during his wartime research work he was asked to investigate a death-ray — a ray that would either destroy or cripple enemy bombers.

During this investigation he came to the idea of using radio beams to spot and identify enemy aircraft. Without radar the air Battle of Britain would have been lost and the country invaded.

("11 Supply Depot Round-Up": R.C.A.F.)

Flight Research by the N.R.C.

A Visit to R.C.A.F. (N.R.C.) Unit, Arnprior, Ont.



In a bend of the Madawaska River . . . (All photographs taken in May 1951.)

INTRODUCTION

IN A BEND of the Madawaska River, forty miles from Ottawa, there is located a small but efficient unit maintained for the purpose of studying such scientific processes and theories as require flight facilities. Formed jointly by the Mechanical Engineering Division of the National Research Council and by the R.C.A.F. in June 1946, it is known as the Flight Research Section of the National Aeronautical Establishment. Its work includes aeronautical research proper, general flight research, and the development of aerial survey methods.

Since Mr. G. S. Levy (who was in charge of all research at the Unit until June of this year, when Mr. S. H. G. Connock took over) arrived at Arnprior five years ago to reopen the former R.C.A.F. Station for flight research purposes, the Unit has grown steadily, until to-day it has a combined staff of more than seventy civilian and

Service personnel. Directly engaged in flight research are ten N.R.C. engineers and fifteen technicians, ably supported by the necessary working staff, while representing the Air Force are three officers and twenty-one airmen. The Service personnel constitute a detachment of the Central Experimental and Proving Establishment, Rockcliffe.

The Flight Research Section is an organization with a character entirely its own. Its general operation is shared by N.R.C. and R.C.A.F. personnel. Maintenance and flying of aircraft, management of the bar, and discipline of Air Force personnel come under R.C.A.F. jurisdiction, while all project work, Station maintenance, and messing arrangements are N.R.C. responsibilities. Such a spirit of co-operation prevails, however, that (to quote only one instance of it) the civilian personnel even assume the responsibility of "duty officer" in their regular turn — and greater love hath no man



R.C.A.F. personnel. Bottom row (l. to r.): LAC's R. Perkins, J. F. X. Coté, H. Voss, J. Starks. Second row: Flt. Sgt. G. Vacola, Flt. Lt. D. R. Brooks, Sqn. Ldr. O. C. Brown, Flt. Lt. C. W. White, W.O. 1 L. C. Ellison, Flt. Sgt. A. Gilpin. Third row: Sgts. G. Hudson, L. Dagenais, D. Scown, S. McCaig, J. Martin, N. Tustin. Back row: Cpls. M. Young, C. McNally, W. Gooding, J. Robertson, D. Matheson, G. Montaigne, L. Hirst, G. Sheridan.

than that! The R.C.A.F. personnel, under Sqn. Ldr. Orville Brown, reciprocate by assisting in the maintenance of buildings and the upkeep of the grounds.

Perhaps the most unusual feature of the Station, however, is the "Staff Club." This is a joint mess shared by civilians, officers, and airmen alike, all of whom enjoy equal privileges therein. Like any Air Force mess, it is the focal point of the Unit's social activities, such as parties, dances, movies, and so on.

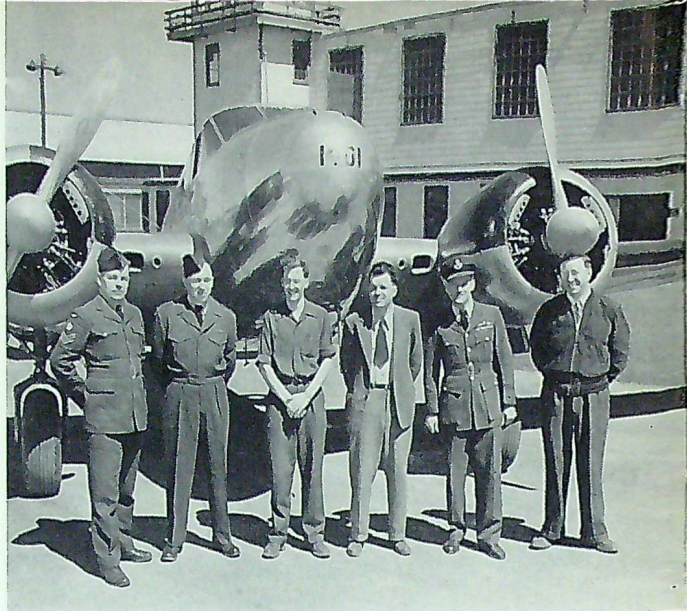
PROJECTS

The Flying Wing

One of the first projects undertaken at the Unit was the Tailless Glider or Flying Wing — the first Canadian project calling for flight instrumentation. Built entirely at the Montreal Road Structures Laboratory for the purpose of investigating flight characteristics and design of tailless aircraft, the Wing was then the only one of its kind in the world. Invaluable flight instrumentation experience was gained which was to be put to good



The "Flying Wind Tunnel". L. to r.: Messrs. K. Sibbitt, E. Moran, Cpl. Robertson, Mr. C. Lyster, Flt. Lt. White, Mr. M. Smith, Sgt. J. Martin.



"Drama" Expeditor and (l. to r.) Flt. Sgt. G. Vacola, Cpl. G. Sheridan, Messrs. L. Godby, H. Stevinson, Flt. Lt. Brooks, Mr. H. A. Hurt.

The Arnprior family.



effect in the Transonic Wing Flow project soon to follow. The project was discontinued when it was learned there were to be no tailless aircraft built in Canada.

Transonic Wing Flow

For aerodynamic study of models at speeds below Mach .95 and above Mach 1.2, two wind tunnels (subsonic and supersonic) are available for use at the N.R.C. Laboratories on Montreal Road. For research at intermediate speeds — i.e. in the transonic range — the present type wind tunnels cannot be used, because throughout this speed range shock waves are formed, deflected by the model to the tunnel wall, and then reflected back into the airstream past the model. The result of this disturbance is a distorted picture of the forces acting on the model. To avoid this complication, it was decided to “put the show in the air.” Thus was conceived the N.R.C. “Flying Wind Tunnel” (Mustang 9553), an experimental aircraft which had precedent only in the United States.

This was, and still is, no ordinary Mustang. Moulded on to each upper wing surface is a highly finished fibre-glass section thirty-two inches wide, which, in order to induce a uniform local transonic field, has a more pronounced camber than the remaining wing area. Various scaled-down aerofoils (or half-models) of up-to-date aircraft can be mounted on this section, called the “bump,” and the forces acting on each model caused by the airflow over the “bump,” are measured in much the same way as they are in the wind tunnel. However, the only “tunnel wall” in this case is the wing surface itself.

Since the air flow over the “bump” is much faster than the forward speed of the aircraft, the resultant model Mach number (M_m), is much higher than the aircraft Mach number ($M_{a/c}$). In fact, by pre-calibration, when $M_{a/c} = .75$, $M_m = 1.2$, or, in other words, the air velocity past the model is appreciably greater than the velocity of sound.

If it is desired to reach the limiting Mach number of .75, the Mustang, by modern standards



Wing model mounted on Mustang “bump.”

a slow fighter aircraft, must be put into a dive of approximately twenty-five degrees. Supposing for the moment that the Mustang is diving at Mach .75, let us examine how the forces of lift and drag and the pitching moment are measured and converted into facts and figures.

The forces themselves are sensed by electrical strain gauge bridges fastened to various components of the metal framework or “balance” holding the model in place. This three-component balance, which, along with other instruments, is housed in the ammunition bays directly below the model, is designed to give separate measurements for lift, drag, and pitching moment. The electrical output of each strain gauge bridge is fed to a galvanometer in a continuous trace recorder. Here the values for lift, drag, and pitching moment become deflections of various traces on a strip of photosensitive paper. The elements in the continuous trace recorder are fitted with mirrors, each of which directs a spot of light from a lamp on to a slit past which the photographic film is moving. By pushing a switch on the control column, the pilot himself puts the recorder into operation. The recorder is fitted with a timer blip solenoid so that all films have a simultaneous time reference every second.

The aircraft speed and model Mach number are calculated from traces produced by pressure capsules connected to small holes on the wing surface and in the wing boom provided for that purpose. The angle of attack of the model can be altered in flight by means of a ratcheting gear or by yawing the aircraft.

* * *

Continuous trace recording, though comparatively new, is used in connection with many projects at Arnprior. With this system, trace recording having been done in the air, subsequent calculation by engineers on the ground translates trace deflections into useful scientific data. It is fast replacing the photo recorder method whereby standard aircraft instruments are photographed by a movie camera.

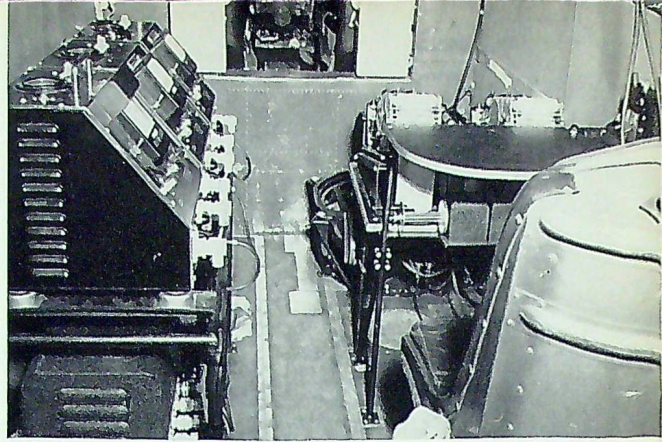
Many and varied are the difficulties present in airborne testing which do not exist in tunnel work. One problem concerned installation of model and instruments. The balance and associated instruments of the Mustang have to be crammed into a few cubic feet of space with inconvenient dimensions. And since no man is either willing or small enough to crawl into the ammunition bay with the instruments in the capacity of operator, the transonic recording apparatus must be automatic. Furthermore, the wing flow method necessitates mounting both model and instruments on a platform subject to all vibration, acceleration and deceleration, and change of attitude usually associated with a diving Mustang. The tunnel method, on the other hand, features the use of fixed models and instruments. And finally there is the problem of compensating for the rapid fluctuations in temperature and pressure engendered by a swift-diving aircraft.

The problems presented by these variable factors, however, have been largely overcome, and much useful information on transonic flow has been obtained, the direct application of which will enable engineers to predict the aerodynamic performance of full-scale transonic aircraft.

"Drama"

If Mustang 9553 can be correctly called "The Flying Wind Tunnel," then Expeditor 1401 might well have been nicknamed "The Airborne Geiger Counter."

The latter aircraft carries in its fuselage equipment which may well play a leading rôle in the drama of Canadian mining. Appropriately enough, the popular name of the apparatus is "drama," a name derived from the official nomenclature, "detector, radioactive materials, air-



"Drama" equipment in Expeditor.



Sqn. Ldr. O. C. Brown and Mr. G. S. Levy.



Messrs. H. Stevinson (left) and S. H. Connock at work in hobby-shop.

borne." The equipment is designed to detect gamma rays, which are short, highly-penetrative X-rays emitted by radioactive substances during their spontaneous disintegration.

The original "drama" set used four ion chamber detectors, but because of interference by cosmic background and of lack of sensitivity, experimentation was begun with geigers, using first a seven-tube and later a twenty-two-tube detector. These sets were found to be considerably more sensitive than ion chamber detectors, and their use occasioned less trouble with cosmic background. During the summer of 1949, a "drama" aircraft, making test runs in the field, flew thirty thousand line-miles, part of which were flown over known pitchblende deposits in northern Saskatchewan, where the equipment was able to detect most deposits of this uranium-bearing ore.

Still striving for perfection, however, N.R.C. engineers began experimenting with scintillation counters instead of geigers. They soon discovered that with this detector the cosmic ray count was practically negligible, and, more important, sensitivity to gamma rays was considerably increased. This was further verified in the field during the summer of 1950, which saw the "drama" aircraft survey another seventeen thousand line-miles.

The general principles of the detector's functioning are as follows:

When the "drama" aircraft flies over a deposit of radioactive mineral, the gamma rays through which it passes impinge on a crystal in the scintillation counter, causing the crystal to give off a flash of light. Closely fitted to the crystal with which it is enclosed in a light-proof shield, is a photomultiplier tube. This tube, being extremely sensitive to light, picks up the flash and converts it into an electrical pulse, which is recorded on a counting-meter which records pulses per minute. A large meter deflection is seen when flying over a deposit of uranium-bearing ore.

All in all, results so far are very encouraging. "Drama" engineers (Mr. Lee Godby especially) believe that their pet will prove itself extremely useful in locating pitchblende or any hitherto undiscovered precious material which emits gamma rays.

Transient Recorder

One of the projects occupying Mr. H. Stevinson is the Transient Recorder. Despite its name, the purpose of this apparatus is not to register the presence of stowaways on aircraft, but to measure, among other things, vertical accelerations produced by high-altitude clear air gusts. A somewhat similar recorder has been used in South Africa for measuring earthquake severity, but nothing like it has ever been developed for aircraft.

Since the effect of a gust may last only one-fifth of a second, the use of a constantly operating recorder (which calls for high-speed recording equipment involving literally miles of paper) has been proven impractical. Furthermore, such gusts would probably be encountered only once in every twenty-five to a hundred hours of flying. As information is desired on these gusts, it has been found necessary to evolve an entirely new method of gust-recording.

Indeed, this method comes close to making time run backwards. Its main recorder is stopped for the greater part of the time. Because of inertia's preventing the machine from reaching full speed in the minutest fraction of a second, it is impossible to catch the gust effect without a special provision. Incorporated in the apparatus, therefore, is a memory unit which runs continuously during flight above 20,000 feet, recording and retaining information for a period of thirty seconds.

This unit consists of a magnetic tape recording system wherein the tape is connected in the form of an endless belt, which runs continuously past three elements. The first element records the intelligence on the tape, the second transfers it to the permanent recorder after a suitable delay, and the third erases the signal from the tape in order to prepare it for repeating the function on its next revolution. Generally the second element is brought into play only in the brief interval during and following the desired gust. This makes it possible to start the permanent recorder, which may take five or ten seconds, and then feed the delayed output to it from the memory unit. Thus, events preceding the occurrence of the gust by as much as twenty seconds can be recorded. The permanent recorder is controlled by automatic

devices, sensitive to acceleration and including time delays, which allow it to start and run for about a minute after a gust over a certain minimum has been experienced.

The advantage of this arrangement is that a single magnetic tape, allowing twenty-five minutes of recording time, can now be used for several months of flying without being changed. When finally removed, every minute of its time length will contain a recording of at least one gust of the type sought. This is an important feature, because no research establishment can justify the expense of flying twenty-five to a hundred hours in search of one gust. The proposal, therefore, is to equip aircraft normally operating in the desired region with fully automatic recorders of the type described, so that a large number of gusts can be recorded with a minimum of expense.

When the permanent recorder tape is filled, it can be shipped to the analyzing office where special equipment will convert the magnetic signals into traces on chart records. These can be analyzed by aeronautical engineers to ascertain the nature of stresses on high-altitude aircraft.

The advantage of gust research is threefold:

- Aircraft can be designed sufficiently strong to withstand gusts.
- Aircraft can be modified to minimize the effects of gusts.
- Pilots may eventually be able to predict when and where to expect gusts and, if necessary, to take evasive action.

The basic advantage of this equipment over previous gust research instruments is that it will obtain complete time histories of the events connected with gusts. Other systems have, in the main, recorded only peak values.

INSTRUMENT AND MECHANICAL GROUPS

The specialized nature of project work necessitates constant development of new and hitherto unheard-of instruments. Responsible for all such equipment is Arnprior's Instrument Group, which is constantly occupied in producing for the Flight Research Section whatever weird and wonderful instruments it may need. They also assist other N.R.C. sections outside the aerodynamic field. An example of the variety of their commitments was

the tide-simulator requested by the Hydraulics Section of N.R.C. for a project designed to improve navigation in the lower reaches of the Fraser River. The purpose of this simulator was to duplicate for the study of experts the Fraser's tides.

Also indispensable to the Section is the Mechanical Group, directed by Mr. Herbert H. Kelland. Any problem involving stress, aircraft installation, or mechanical gadgetry, becomes his personal interest. Meanwhile his group is kept busy making component parts for instruments, installing them in aircraft, modifying aircraft for installation, and generally handling for the Section anything of a mechanical nature.

The Mechanical Group has its own Machine Shop which is equipped with a complete line of modern machine tools. Here are made most of the models, balances, and mechanical apparatus used in flight research. An engineer who requires anything mechanical made to his specifications need only walk across the hangar. There, whether he submits a detailed blueprint or a sketch on the back of an empty cigarette package, his request is promptly and painstakingly fulfilled. Also included in the shop's scope of duties are services for the Air Force, which extend even to the making of aircraft parts.

"If there's anything you want to know about the Mustang's 'bumps'," the writer of this article was advised, "just ask Joe." "Joe" is Mr. Joseph Bennitz, foreman of the Wood Shop. His was the task of smoothing them down to 1/5000-inch requirements to make them conform to a specified profile. This took him four months to complete. The tools used were sandpaper and elbow grease.

Thirdly, there is the Sheet Metal Shop, whose facilities have proved themselves adequate even for such major jobs as modifying the interior of a Canso for accommodation of the Magnetometer.

FLYING AND AIRCRAFT MAINTENANCE

The flying end of the Unit's work is handled by four pilots: Sqn. Ldr. Orville C. Brown, Flt. Lts. D. R. W. Brooks, G. W. Bennett, D.F.C., and W. R. Greene. All four fly any of the various

aircraft used by the Section (which include a Mustang, a Norseman, a Harvard, an Expeditor, three Ansons, and an F-86A).

To acquaint and refresh engineers with pilot problems in general, flying instruction on Harvards has been given to those interested. For three of them it was a simple enough matter. Project-Leader Mr. A. D. Wood is a former Mosquito pilot, Mr. Earl B. McCuish swears by Spitfires, and Mr. Clarence Lyster is an ex-navigator with flying experience. Mr. C. A. M. Smith, Mr. W. Wilson, and Mr. H. Stevinson, all enthusiastic novices, rounded out the class, of whom, significantly enough, five have been associated with the Transonic Project. Instruction has been temporarily discontinued, but the engineers are presently conspiring for its return. Mr. George Connock is himself a qualified pilot — as was Mr. Levy before him. (The latter was justifiably proud of the fact that, while a member of the R.A.F.V.R. at Cambridge University, he was one of the few pilots who could hold a Hawker Hind in an inverted spin. This he modestly attributes to a long undercarriage — on the man, not the 'plane).

Maintenance of aircraft and other Air Force matters are in the hands of seventeen N.C.O.'s and four aircraftmen, headed by W.O.1 L. C. Ellison, C.D. The unusual preponderance of N.C.O.'s is explained by the fact that the specialized work at Arnprior requires experienced N.C.O.'s with high trade groupings. Any rank below that of corporal is therefore a comparatively rare animal here. However, the outnumbered "four horsemen" are quite happy, and consider theirs to be good postings for any airman.

Among Air Force personnel on the Unit, Flt. Sgt. George Vacola, B.E.M., C.D., is the veteran. He saw the Section develop from infancy in 1947, and would gladly watch its progress for a further four years — a possibility which he regretfully admits to himself to be unlikely.

STATION LIFE

The facilities of an excellently equipped hobby-shop are available to everyone. Engineers, technicians, tradesmen, officers, N.C.O.'s, and aircraft-

men — nearly all of them are keen hobbyists, much of their free time being taken up with some constructive pursuit. Many of them, not satisfied with a working-day devoted to various intricate mechanisms, allow their creative instinct to express itself still further out of hours. Each hobbyist has his own key to the shop, and may enter whenever he feels inspired. Upkeep is entirely covered by Staff Club profits.

Mr. Connock, assisted by Mr. Stevinson, has put many a happy hour into constructing a 15 ft. outboard boat. Ever the instrument expert, he has probably built in a secret trout-detector.

Other enthusiastic hobbyists include Sgt. Norton Tustin and Cpl. G. Sheridan, presently collaborating with Mr. H. H. Kelland on a working-model of the F-86. The miniature fighter is powered by a jet engine twenty-two inches long and two inches in diameter, which develops a thrust of four pounds and produces a speed of 90 to 100 m.p.h. Since the mighty mite generates heat up to 1550°F., balsa wood has been found unsuitable for the project. Consequently the threesome is contemplating an all-metal model.

Fishing is another highly popular pastime. The Unit's fishermen have only to take a stroll off the end of No. 17 runway to find themselves on the banks of the Madawaska. For more strenuous anglers there are the fecund waters of White Lake, eight miles away.

The housing problem is only a phrase at Arnprior. Although there were no quarters available when the Flight Research Section was first established there, there are now apartments for thirty-seven families. Much of the modifications to existing buildings were made by the personnel themselves.

* * *

To sum up the atmosphere of the Arnprior Unit, one can only say that it gives the impression of being a little world on its own. It is a village without parochialism, it is a Service unit with the added advantage of close contact with civil life. Meaningless though the words too often are in the mouths of the world's back-slappers, the men and women of Arnprior do indeed constitute "one big happy family."

Personnel Movements

September 1951: Officers

- S/L J. F. Allan — A.F.H.Q. to Staff Coll., Toronto.
S/L C. A. S. Anderson — A.M.C.H.Q., Ottawa, to C.J.S. Washington.
S/L T. G. Anderson, A.F.C. — C.J.S. Washington to 4 A.C.W.U., Uplands.
S/L J. W. P. Baril — T.C.H.Q., Trenton, to Staff Coll., Toronto.
S/L W. K. R. Batty — R.C.A.F. Stn. Trenton to R.C.A.F. Stn. Edmonton.
S/L E. L. Baudoux, D.S.O., D.F.C. — E. & P.E., Rockcliffe, to C.E. & P.E., Rockcliffe.
S/L E. H. Beaton — R.C.A.F. Stn. Goose Bay to A.M.C.H.Q., Ottawa.
S/L T. Benson, A.F.C. — A.F.H.Q. to Staff Coll., Toronto.
W/C V. L. Berg — 1 F.T.S., Centralia, to R.C.A.F. Stn. Centralia.
S/L A. W. Bishop — R.C.A.F. Stn. Centralia to Staff Coll., Toronto.
W/C H. J. Bright — A.F.H.Q. to I.A.M., Toronto.
A/C J. G. Bryans, C.B.E., C.D. — A.F.H.Q. to 14 T.G.H.Q., Winnipeg.
W/C G. D. Caldbick — A.F.H.Q. to C.J.S. Washington.
S/L G. C. Campbell, D.F.C. — C.J.S. Washington to A.D.C.H.Q., St. Hubert.
S/L W. Clark, D.F.C. — T.A.G.H.Q., Edmonton, to R.U., Winnipeg.
G/C S. G. Cowan, O.B.E., C.D. — A.F.H.Q. to A.M.C.H.Q., Ottawa.
S/L A. G. Dagg — 405 (M.R.) Sqn., Greenwood, to Staff Coll., Toronto.
S/L J. I. Davies — C.J.S. London to A.F.H.Q.
W/C W. F. Davy — A.F.H.Q. to Staff Coll., Toronto.
S/L L. A. Draper, D.F.C. — T.A.G.H.Q., Edmonton, to Staff Coll., Toronto.
W/C J. Dunn — T.A.G.H.Q., Edmonton, to A.D.C.H.Q., St. Hubert.
S/L H. G. P. Dymond — R.C.A.F. Stn. St. Hubert to 14 T.G.H.Q., Winnipeg.
A/C J. A. Easton, O.B.E., C.D. — 12 A.D.G.H.Q., Vancouver, to A.F.H.Q.
S/L J. F. Flemming, C.D. — 5 S.D., Moncton, to C.J.A.T.C., Rivers.
S/L R. D. Forbes-Roberts — 442 (F) Sqn. (Res.), Sea Island, to Staff Coll., Toronto.
S/L C. L. V. Gervais — 400 (F) Sqn. (Res.), Toronto, to Staff Coll., Toronto.
S/L E. W. S. Gilbert — A.F.H.Q. to R.C.A.F. Stn. Sea Island.
W/C W. P. Gouin, M.B.E. — A.T.C.H.Q., Lachine, to A.F.H.Q.
W/C H. G. Graham — T.A.G.H.Q., Edmonton, to A.D.C.H.Q., St. Hubert.
S/L N. Grant — R.C.A.F. Stn. Rockcliffe to Staff Coll., Toronto.
S/L A. F. Green, D.F.C., A.F.C. — E. & P.E., Rockcliffe, to Staff Coll., Toronto.
S/L G. E. Grindlay, M.B.E. — 1 A.R.O.S., Clinton, to Staff Coll., Toronto.
S/L K. B. Handley — R.C.A.F. Stn. Saskatoon to Staff Coll., Toronto.
S/L L. A. Harling — T.A.G.H.Q., Edmonton, to R.C.A.F. Stn. Edmonton.
S/L C. E. Harris, D.F.C., C.D. — 121 C. Flt., Sea Island, to A.D.C.H.Q., St. Hubert.
S/L W. L. Hodgson — T.A.G.H.Q., Edmonton, to A.F.H.Q.
S/L J. D. Hopkins, D.F.C. — T.C.H.Q., Trenton, to Staff Coll., Toronto.
S/L K. W. House — R.C.A.F. Stn. Greenwood to R.C.A.F. Stn. Trenton.
S/L A. B. Howell, D.F.C. — 1 S.D., Weston, to Staff Coll., Toronto.
S/L G. R. M. Hunt — T.A.G.H.Q., Edmonton, to Staff Coll., Toronto.
S/L E. G. Ireland, D.F.C. — 1 (F) O.T.U., Chatham, to A.D.C.H.Q., St. Hubert.
W/C J. R. Jackson — T.A.G.H.Q., Edmonton, to R.C.A.F. Stn. London.
S/L J. A. King, D.F.C. — T.C.H.Q., Trenton, to R.U., Toronto.
W/C J. E. N. Labelle, M.B.E. — 1 S.D., Weston, to A.D.C.H.Q., St. Hubert.
S/L J. L. G. Lacombe — 1 A.N.S., Summerside, to 2 A.N.S., Winnipeg.
W/C J. H. L. Lecomte, D.F.C. — A.F.H.Q. to A.A.S., Trenton.
W/C J. H. C. Lewis — A.F.H.Q. to R.C.A.F. Stn. St. Hubert.
W/C A. H. Lief — A.F.H.Q. to A.M.C.H.Q., Ottawa.
S/L E. S. Light — C.J.A.T.C., Rivers, to A.F.H.Q.
S/L L. W. C. Limpert — 1 A.N.S., Summerside, to Staff Coll., Toronto.
S/L J. M. MacArthur — 11 S.D., Calgary, to 1 F.W.H.Q., U.K.
S/L A. R. McIver — R.C.A.F. Stn. Edmonton to T.A.G.H.Q., Edmonton.
S/L D. L. S. MacWilliam, A.F.C. — A.F.H.Q. to Staff Coll., Toronto.
W/C W. R. Mann — A.M.C.H.Q., Ottawa, to Staff Coll., Toronto.
S/L W. Y. Martin — M.G.H.Q., Halifax, to Staff Coll., Toronto.
W/C G. M. Mathieson — C.J.S. London to T.C.H.Q., Trenton.
S/L W. V. McDonald, C.D. — A.M.C.H.Q., Ottawa, to M.G.H.Q., Halifax.
S/L L. J. McLeod — A.F.H.Q. to 3 F.T.S., Claresholm.
S/L W. McLeod — T.C.H.Q., Trenton, to Staff Coll., Toronto.
G/C E. M. Mitchell, D.F.C., C.D. — A.F.H.Q. to 14 T.G.H.Q., Winnipeg.
S/L A. H. Moody — 103 R. Unit, Greenwood, to Staff Coll., Toronto.
S/L W. K. Muir — A.M.C.H.Q., Ottawa, to A.F.H.Q.
W/C M. J. Nolan, C.D. — A.T.C.H.Q., Lachine, to A.F.H.Q.

S/L H. R. Norris, A.F.C. — 1 R.C.S., Clinton, to Staff Coll., Toronto.

S/L E. S. Perkins, C.D. — 25 A.M.B., Calgary, to A.M.C.H.Q., Ottawa.

G/C D. G. Price, C.D. — A.F.H.Q. to R.C.A.F. Stn. Claresholm.

S/L L. W. Queale, D.F.C., C.D. — 426 (T) Sqn., Dorval, to Staff Coll., Toronto.

W/C D. L. Ramsay — 402 (F.B.) Sqn. (Res.), Winnipeg, to C.J.S. Washington.

S/L A. R. Ross — M.G.H.Q., Halifax, to Staff Coll., Toronto.

S/L L. C. Scott — A.D.C.H.Q., St. Hubert, to 14 T.G.H.Q., Winnipeg.

W/C A. B. Searle, A.F.C., C.D. — M.G.H.Q., Halifax, to A.F.H.Q.

W/C E. H. Sharpe, M.B.E. — T.C.H.Q., Trenton, to Staff Coll., Toronto.

S/L E. G. Smith, D.F.C. — T.A.G.H.Q., Edmonton, to 441 (F) Sqn., St. Hubert.

S/L E. J. Smith — A.F.H.Q. to Staff Coll., Toronto.

W/C W. M. Smith, M.B.E., C.D. — C.J.S. Washington to A.F.H.Q.

S/L B. G. Stibbards — R.C.A.F. Stn. Centralia to C.J.A.T.C., Rivers.

S/L N. J. Thompson — C.J.A.T.C., Rivers, to R.C.A.F. Stn. Sea Island.

W/C R. M. Trites, M.B.E., C.D. — A.F.H.Q. to Staff Coll., Toronto.

W/C S. Volk., C.D. — A.F.H.Q. to R.C.A.F. Stn. St. Johns, P.Q.

W/C A. G. Watson — A.F.H.Q. to C.J.S. Washington.

W/C P. Wilkinson, A.F.C. — T.A.G.H.Q., Edmonton, to T.C.H.Q., Trenton.

S/L G. J. Williams, D.F.C. — R.C.A.F. Stn. Goose Bay to T.C.H.Q., Trenton.

S/L W. J. Wills — R.C.A.F. Stn. London to R.C.A.F. Stn. Clinton.

S/L E. A. Wilson — A.T.C.H.Q., Lachine, to Staff Coll., Toronto.

S/L E. R. Wilson — R.U.F. (U. of Manitoba) to Staff Coll., Toronto.

S/L R. C. Wilson — 1 Grp. H. Q. (Res.), Montreal, to 1 (F) O.T.U., Chatham.

S/L J. H. Woods, D.F.C. — R.U.F. (U. of Alberta) to T.A.G.H.Q., Edmonton.

A/C L. E. Wray, O.B.E., A.F.C., C.D. — Staff Coll., Toronto, to A.F.H.Q.

September 1951: Warrant Officers

WO2 B. F. Bettin — 426 (T) Sqn., Dorval, to R.C.A.F. Stn. Macdonald.

WO1 E. B. Brackenbury — S.S.M., Trenton, to R.C.A.F. Stn. London.

WO2 E. F. Bullis — 2 K.T.S., Aylmer, to R.C.A.F. Stn. Camp Borden.

WO2 K. G. Coleman — A.F.H.Q. to C.J.S. London.

WO2 B. A. Dawson, C.D. — 2 T.T.S., Camp Borden, to 11 T.S.U., Montreal.

WO1 S. J. Frith — S.S.M., Trenton, to R.C.A.F. Stn. London.

WO1 H. M. Goode, C.D. — 25 A.M.B., Calgary, to 1 F.W.H.Q., U.K.

WO2 W. J. Gravelle — A.F.H.Q. to R.C.A.F. Stn. Aylmer.

WO2 R. S. Hughes — T.C.C. & R. Flt., Trenton, to R.C.A.F. Stn. Claresholm.

WO2 A. H. S. Huycke — 1 A.N.S., Summerside, to 12 T.S.U., Weston.

WO2 J. L. Lachance, C.D. — 1 R.C.U. (Res.), Montreal, to 410 (F) Sqn., St. Hubert.

WO1 J. A. Lapensee, C.D. — 2 T.T.S., Camp Borden, to R.C.A.F. Stn. Winnipeg.

WO2 J. R. J. McKenna, C.D. — 3 F.T.S., Claresholm, to R.C.A.F. Stn. Claresholm.

WO2 J. M. Morrison, C.D. — R.C.A.F. Stn. Whitehorse to 1 M.L.U., Winnipeg.

WO1 B. P. Polec, C.D. — 111 C. & R. Flt., Winnipeg, to 2 A.N.S., Winnipeg.

WO1 E. M. Rossell, C.D. — 2 F.T.S., Gimli, to 12 T.S.U., Weston.

WO2 R. F. Stephenson — T.A.G.H.Q., Edmonton, to R.C.A.F. Stn. Claresholm.

WO2 A. W. Stewart — 12 A.D.G.H.Q., Vancouver, to A.F.H.Q.

WO2 O. E. Vanziffle, C.D. — C.J.A.T.C., Rivers, to R.C.A.F. Stn. Edmonton.

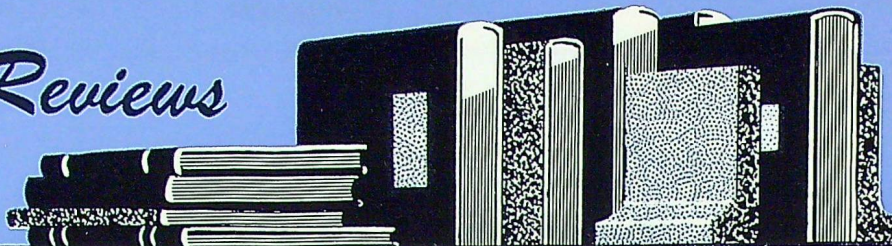
WO2 W. D. Walker — A.T.C.H.Q., Lachine, to T.C.H.Q., Trenton.

Weighty Warfare

For each member of the Armed Forces serving overseas during World War II, more than 6½ tons of clothing, food and equipment had to be shipped each month. Between D-Day and V-E Day, 30,000,000 tons of supplies were delivered to General Eisenhower's forces in Europe.

(“Army, Navy, Air Force Journal”: U.S.)

Book Reviews



"The Brass Hat": Group Captain A. H. Stradling, O.B.E. (R.A.F.: ret.). Gale & Polden Ltd., Aldershot, Hants., England: six shillings. Reviewed by the Directing Staff, R.C.A.F. Staff College.

The author of this little book (101 pages) is a contemporary of most of the members of the present Air Council of the United Kingdom and has a first-class R.A.F. background in staff work. He retired from the R.A.F. at the end of the Second World War, on medical grounds, and was shortly afterwards appointed as editor of "The Royal Air Force Quarterly." His position as such keeps him in very close touch with the Service.

The book contains much valuable advice about staff positions generally and the responsibilities that go with a staff appointment. For example, there is no doubt that all personnel staff officers would benefit particularly from reading Chapter 2, which deals with the selection of personnel for staff appointments — and deals with this complex subject very well. Similarly, the chapter on staff officers' visits to units might be read with great profit by *all* staff officers, regardless of their category. (It could also be added that the more senior the officer, the more carefully he should read it.)

Although, after reading the first chapter of "The Brass Hat," it becomes evident that the book was written primarily for use by officers of the R.A.F., the principles expounded hold none the less true for all other Services, including the R.C.A.F. A lot of the advice given is, of course, nothing but straight common sense; but, after all, Dale Carnegie's "How to Win Friends and Influence People," which reputedly made for its author a million dollars, contains nothing more than just that.

"The Brass Hat" is written in simple, easily understood, language; and the author shows his background of practical experience in all he writes. The style is refreshing and the text is replete with much of the vernacular of the Service. The author has thus done a first-class job of adapting his work to the type of audience to which it is directed. It is possible, however, that some readers may consider that its title might have been better selected. By its own definition, the book is designed for "junior staff officers and those likely to be appointed to staff duties": it does not concern itself solely with the staff work carried out by an officer who wears a brass hat.

It is not recommended that the R.C.A.F. buy enough copies of it to issue one to all staff officers, whether they want it or not; but the book does most definitely rate the status of recommended reading for all the Services' office workers. Perhaps the most eloquent tribute that the reviewers can give the book is to state that Staff College has ordered two copies of it for the College library and has placed it on the list of recommended reading for all prospective students.

* * *

"Fellowship of the Air." Pub'd by Iliffe & Sons Ltd., London, England, and obtainable from the British Book Centre, Inc., 122 East 55 St., New York 22, N.Y. Seven dollars.

The story of the Royal Aero Club of the United Kingdom, which celebrated its fiftieth anniversary on October 31st, is to a large extent the story of private and sporting aviation in Britain.

"Fellowship of the Air," published especially to mark the occasion of the Club's jubilee, tells a remarkable story in full and fascinating detail. It starts on a far-off afternoon in 1901, long before

the first powered machine had ever left the ground, when a young woman riding in a balloon high over the English countryside impulsively proposed the founding of the Club. After that strange and fateful beginning, we meet the elegant aeronauts of the Edwardian hey-day, whose balloon ascents were society occasions, part of the glittering social scene. Then, heralding the new era of the aeroplane, the Wright Brothers and the great British and French pioneers of aviation come striding on to the stage. The fabulous stories of the early flights of those pioneers are recounted, with much new light thrown on them as the result of patient research in the Club's own records — for the Royal Aero Club played a prominent part in almost all those historic occasions.

Charles Rolls (of Rolls-Royce fame), the brilliant engineer; "Colonel" Cody, the flamboyant American whose daring flights made him a British national hero; Grahame-White, Handley Page, Sopwith, A. V. Roe, Blériot, Paulhan, Farman — such names, now world-famous, through these

pages. Then came the First World War, and the vast development of the aircraft industry that resulted. There followed the years between the wars, years of ever-increasing mastery of the new element. The dramatic part that the Club played in the Schneider Trophy races is recalled, as are the epic flights of the twenties and thirties (originally inspired by the Atlantic crossing of Alcock and Brown) made by Charles Lindbergh, Bert Hinkler, Jim Mollison, Alan Cobham, Amy Johnson, Jean Batten, and many more. And so to the Second World War, with the Club's rôle in this new war in the air, to be followed by its work of reconstruction in the field of private and competitive flying.

"Fellowship of the Air" is heartily recommended to all our readers who are interested in aviation history. It contains 229 pages, many remarkable photographs, and an introduction by Lt. Col. Lord Brabazon of Tara, P.C., M.C., whose name has been given to the world's largest passenger aircraft of to-day.

PERSONNEL

Personnel, though in theory they are men and women, have only to be called personnel to lose their full status as human beings.

They do not go, they proceed.

They do not have, they are (or more often are not) in possession of.

They do not ask, they make application for.

They do not keep things or give them up, they must retain or surrender them.

Want (it is true) they do not know, nor need, but deficiencies and requirements can be just as inconvenient.

They do not eat, they consume.

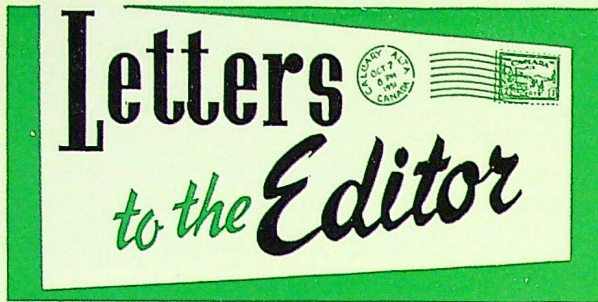
They perform ablutions.

Instead of homes, they have place(s) of residence, in which, instead of living, they are domiciled.

Their minds, in so far as they are deemed to have minds, are stocked, not with the glories of knowledge, but with irrelevant and unmemorable statistics, such as their fathers' nationality at birth and the date on which they were last inoculated against yellow fever.

They are not cattle, they are not ciphers, they certainly are not human beings. They are personnel.

(*"Plain Words,"* by Sir Ernest Gowers: U.K.)



THE LONG AND SHORT OF IT

(The two letters printed below were received by one of our recruiting officers in a remote part of Canada. On investigation, both applicants proved to be excellent types of young men and perfectly sincere. The writer of the first letter is needless to say, a very new Canadian.

— EDITOR.)

Dear Sir:

I am dropping you a few lines to let you know that I received your letter thanking you a lot for letting me know I want to ask you something that means you can put me in anything I real like to joint up right now the R.C.A.F. that means I can not joint up the R.C.A.F. right now I real like to joint up right now thank you

(Name withheld.)

Sirs:

Is there any future in the R.C.A.F.? If so, then what is it?

(Name withheld.)

"DRILL IS SO BRACING"

Dear Sir:

I have just come across a copy of the July-August edition of "The Roundel", and after reading no more than the first sentence of "Drill is So Bracing", am able to enlighten you as to the identity of its author.

The story was written by Sgt. Eric Nicol in 1945 for Trenton Station's magazine, "CONTACT", and was published under the heading "Markers Can Be People". At that time, I was editor of "CONTACT" and Nicol was stationed at Trenton with No. 1 Air Command as a public relations writer. During Eric Nicol's stay there, I was able to wheedle an article a month from him, any of which would make excellent reading to-day for "Roundel" readers. I can provide you with the lot, and a number of others written since, if you wish.

It will be of interest to you and your readers to know that this same ex-Sgt. Eric Nicol won the Stephen Leacock Award for Humour in 1950 and is to be presented with an appropriate medal at an important Leacock Anniversary celebration being held in Orillia, Ontario, on September 14th. His prize-winning book, "The Roving I", was illustrated by another ex-Air Force type, Pat Lee, creator of the O'Lee girl who appeared so frequently in the wartime editions of "Wings."

W. Sargent (ex-Sgt., R.C.A.F.)

("The Roundel" has thanked Mr. Sargent for his information, and has requested his permission, as editor of "Torch," the Canadian Corps Association's official organ, to reprint more of Eric Nicol's work.

— EDITOR.)

HISTORY

Human history becomes more and more a race between education and catastrophe.

(H. G. Wells)

TOO FAT TO FLY

The (U.S. Army) Air Force has issued a new medical . . . directive which declares that overweight officers on flying status will be grounded until they lose the extra poundage. When an officer is found overweight, he will be placed on a diet by a flight surgeon. The regulation provides that a continued condition of overweight could result in "severe measures" against offenders.

(*"Army, Navy, Air Force Journal"*: U.S.)

The Aeroplane

No eagle flies with freedom like to mine;
Owls want such eyes to pierce the night's unknown;
The butterfly's frail beauty lacks my line;
The power of Leviathan's my own.

The clouds fog not my radar-sharpened sight,
Nor still the silent heights my mighty drone.
I roar the victory of human flight;
I soar the skies, and rise, and rise alone.

Into th' eternity of space; and there
I try my strength, as might old Thor the Strong;
And, while I ride the endless plains of air,
I shout, at Heaven's high gates, a man-made song!

Sqn. Ldr. A. J. Simpson, D.F.C.

