1. CF-100 pilots and navigators "scramble" at an operational station "somewhere in Eastern Canada" to meet an expected attack. Flying Officers Boyce and Waite whom we shall backtrack through their training are left and second from the left.

2. WOULD-BE RCAF AIRCREW RECRUITS, their identity gone, undergo Personnel Selection Unit tests.

They Fight to

By Ross Willmot

EYES squinting ahead through the overcast, Flying Officer Al Boyce unconsciously strained forward against the straps of his CF-100 ejection seat harness as he followed the directions of his radio navigator, Flying Officer George Waite over the RT. He in turn was being guided to "an unidentified object" by the various radar stations of the Pinetree Group across the north of Canada which were tracking this blip on their screens.

"Tally ho," cried Al as he sighted a dark shape in the cloud several hundred yards ahead. He immediately closed to make sure identification and discovered it was a RCAF North Star transport. He pressed the button of his cine camera guns

5. AIRMANSHIP LECTURE attended by Boyce and NATO trainees as part of their initial flight training.

6. BOYCE listens to instructor as he explains Harvard in which he solos and makes early flights.

7. CF-100 FLIGHT SIMULATOR is Boyce's next stage after T-33 jet training.

3. FLEDGLING PILOT Al Boyce tries his hand at flying the PSU link trainer.

4. TEAM PLAY AND ORGANIZATIONAL ABILITY are checked during one of the many PSU tests.

Fly... and Fly to Fight!

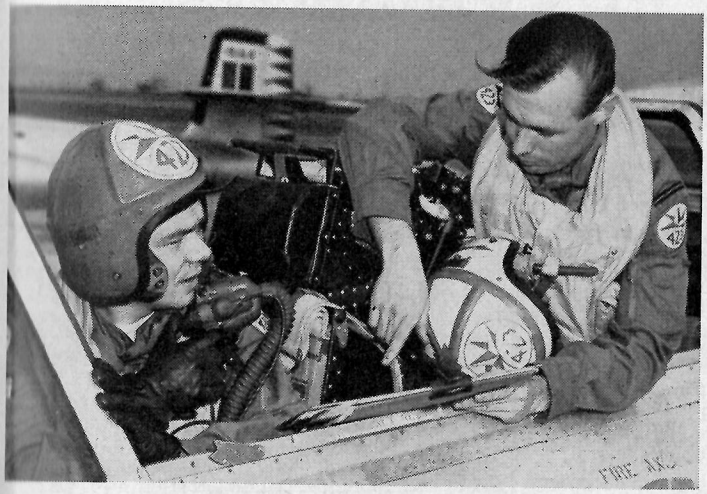
and returned to base, still guided by various devices.

He and Waite had been "scrambled" with other crews for this particular exercise just several weeks ago. So far as Boyce and Waite knew when they had run out to their aircraft this was the real thing. At this very moment as you are reading this you may be sure that similarly-alert aircrew of the RCAF are patrolling our aerial frontiers or sitting in their flying clothes ready for a scramble. Scattered in strategic sites across the country are an ever-increasing number of CF-100 squadrons whose duty it is to intercept with the help of new radar chains any attacking enemy bombers. For these are the days and nights of an uneasy cold war apt at any minute to develop despite our earnest wishes into unprovoked atomic attack by Soviet long range bombers.

Every "scramble" which the aircrew of RCAF Air Defense carry out is considered to be the answer to an actual attack. If Boyce had identified the North Star as an enemy bomber it would have been a comparatively simple matter for him to throw a couple of switches and instead of shooting a photograph he would have shot hot lead or rockets. And according to the photographic record of his cine camera on this occasion, there would have been one less bomber.

(Continued on page 118)

CF-100 TEAM: Navigator Waite and Pilot Boyce are typical of today's RCAF aircrew, who perform a vital role in the defense of Canada.



8. PILOT BOYCE AND NAVIGATOR WAITE give map a last-minute check before take-off, after squadron briefing (right).

A Living Memorial For Norwegian Airmen

TODAY a different generation of Norwegian airmen from those seen here in the last war are in Canada receiving their flight training under the NATO training scheme. One of the World War II Norwegian training camps near Huntsville, Ontario, now operated successfully as Camp Kiwanis, stands as a symbol of the continuous ties between two peoples.

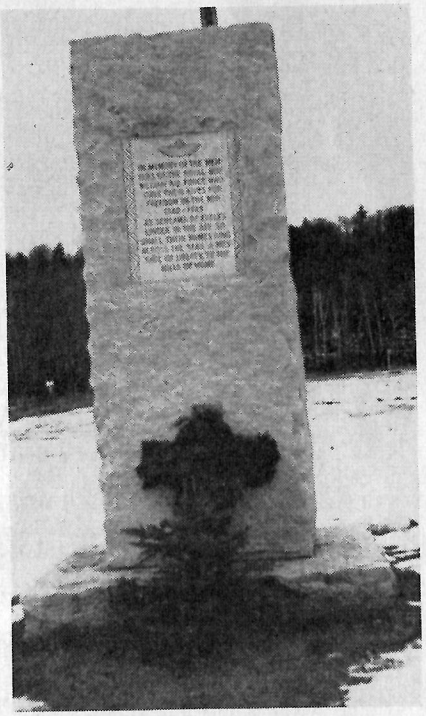
After the German attack on Norway, the Royal Norwegian Air Force was re-established and reorganized in Canada, and hundreds of Norwegians left their occupied country with Canada as their destination. Some came across the North Sea in small fishing boats, others took the long way across Russia and the Far East, but they all wanted to get to Canada and join the new Norwegian Air Force.

The three most important centres for the Norwegians were Little Norway at the bottom of Bathurst Street in Toronto; Little Norway, Muskoka at Gravenhurst, and Vesle Skaugum, the beautiful camp at Interlaken north of Huntsville, Ontario. Some 3,000 men passed through these camps after having been screened by Recruiting Officer Major O'Mejer, the present Norwegian Consul for Ontario.

On September 30, 1947, Major O'Mejer closed this extraordinary chapter in Norwegian military history as the RNAF's last C.O. in Canada with the Order of the Day No. 1071, extending his thanks to the RCAF and all Canadians for the services they had rendered the allied and Norwegian cause.

Thus the story of the Royal Norwegian Air Force in Canada would have been closed, if it had not been for the Kiwanis Club of Toronto. When the camp at Interlaken, Vesle Skaugum, named after the Norwegian Crown Prince's residence outside Oslo, was put up for sale, this service organization bought it and turned it into a summer camp for boys and girls from Toronto. And as such it lives on as a living memorial of the Norwegian boys who spent so many days in training, recreation and exile here.

As a Norwegian, I was highly impressed by the great care the Kiwanis had taken in preserving the



MEMORIAL to the Norwegian fliers at Camp Kiwanis.

atmosphere of the camp. As much as possible it is as it used to be.

In front of the main building there is erected a cenotaph, a gift from the Norwegian Commander Unger-Vetlesen of New York. It is here that the Toronto boys and girls gather during the summer for a solemn memorial service, at which the famous Norwegian war-poem "All for Norway" is read in English translation, and this new generation steps forward and places their hand-made wreaths after the Norwegian national anthem is played.

Thus the name Vesle Skaugum keeps its significance to these children and become really a "message of Liberty, carried to the hills of home," as the inscription on the cenotaph reads.

CF-100 CREW

(Continued from page 41)

Just two years ago Boyce, whose home is in Toronto, was a salesman for Sinott News in various Ontario centres. His navigator Waite was working in the stores branch of Canadian Pacific Airlines in Vancouver. They did not even know of the existence of each other, and though they individually were keenly interested in flying they had never done any.

Today or tonight, no matter what the weather, they fly together as a highly trained team in a very complicated flying machine. As aircrew fairly typical of the thousands of their comrades, they are the king pins in a vast air power organization of more than 45,000 men and women. These aircrew who are being trained in Canada by the RCAF at the rate of more than 3,000 annually fly some 3,000 modern aircraft, most of which have been manufactured in this country. Boyce's training cost us $90,000 and Waite's $75,000. They form the backbone of the multi-million dollar organization Canada has built up during the last few years to assure its defense when the Communist world gave evidence of its aggressive intentions by starting the Korean War.

Al Boyce and George Waite, 24 and 25 years of age respectively, and other young Canadians like them, will be the first to engage the enemy should they be so ill advised as to attack us. Theirs obviously is a very responsible job.

How were these two chosen and trained for this mission and are they and their comrades worthy of this high responsibility?

"Believe me, we don't want a fight, but if somebody else does we are ready," said Boyce quietly. He spoke as Billy Bishop in World War I or Ernie McNabb in World War II would have spoken if asked about their duty. In a sense this is but natural for the aircrew of today are the culmination of a process that started 30 years ago when the RCAF was formed.

Life in the RCAF has changed greatly from the early days when there was only a peacetime strength of less than 400 whose aircrew flew in open cockpit Vickers Vikings, DF-4's and HS2L's. As well as flying home-designed and produced CF-100's, fellow aircrew graduates of Boyce and Waite take pride in such modern types as Orenda-powered Sabres, Silver Stars and Comets. The RCAF's original six units have expanded to more than 70 major up-to-date establishments like the squadron home of this CF-100 team, including bases in the Canadian Arctic. RCAF aircrew are serving from Japan to Germany, all engaged in the defense of Canada.

Of all the complicated jobs today's RCAF has undertaken probably none

is more vital and more exacting in its new requirements than that of defending North America across the comparatively unexplored wastes of the roof of the world. It is a distinctly Canadian job and so it is most fitting that it should be the responsibility of young men trained with Canadian methods and using Canadian designed and produced equipment. Like so many other present-day duties of the RCAF it is international in character for the USAF shares this role with the RCAF. The Korean airlift, the air defense of Western Europe, sea-lane patrols in the Atlantic and Pacific and such world-wide transport flights as that of the Prime Minister, these like CF-100 Arctic scrambles, are a far cry from the RCAF's original jobs.

Men like Boyce and Waite are trained by Canadian methods which have been perfected from lessons learned in two world wars when Canadian aircrew established names for themselves as being among the best of aerial fliers and fighters. This reputation holds good today. The 20 Canadian fighter pilots who served in Korea destroyed eight Russian MIG's, probably destroyed one and damaged eight others with no casualties sustained. These Korean veterans in addition to a good proportion of World War II aircrew hold vital positions in today's RCAF. During the last war our training methods were so good that 30 German pilots were lost to every one of ours.

Both Boyce and Waite were originally Royal Canadian Air Force Cadets which today is performing valuable service in providing a pool of 20,000 potential aircrew for the RCAF. In air cadet squadrons in their respective home towns they studied during their evenings for several years such ground school subjects as navigation, aero engines, airmanship and aircraft recognition. At a RCAF summer camp they had their first flight which whetted their desire to fly themselves.

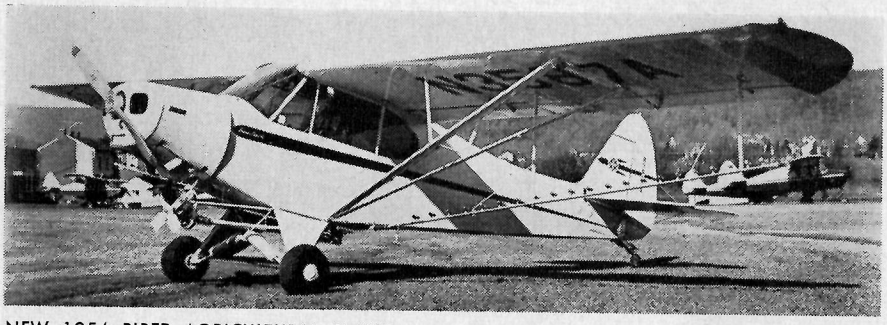
Boyce and Waite are in the RCAF on the short service basis, which was devised to furnish Canada with an ever-ready pool of aircrew. At the end of five years service and the period of their training, they will become eligible for a permanent commission. This they want just as much as they at one time wanted their wings.

Why do they like life in the RCAF and why did they join in the first place?

"Where else could fellows like ourselves get the opportunity to travel and meet people we get," explained Waite thoughtfully. "The training we are getting continually money could not buy. Even if we are not selected for permanent commissions we feel that we have much you just couldn't get elsewhere. Our flying training, for example, cannot be duplicated.

"If we are not fortunate enough to get permanent commissions we get a generous gratuity amounting to a month's pay and allowances for every year of service. We also have money from our deferred pay which would go into our pension provided we stayed in the RCAF. All this money will tide us over until we get other jobs in civilian life. The RCAF is also now starting a scheme whereby they make a serious attempt to get us jobs in civilian aviation."

Al and George have remained single since joining up, although a fair proportion of their fellow graduates married after receiving their training. They live in very comfortable quarters at a salary scale of $270 a month with medical care and many



NEW 1954 PIPER AGRICULTURAL PLANE can be used for dust or spray or when equipped with convertible combination unit can be quickly changed for either operation. Powered with a 135-horsepower Lycoming engine, it is equipped with a large tank wth capacity for 110 gallons of spray or 18 cubic feet of dust. Safety features include shoulder harness and wire cutters on landing gear. Shown above in sprayer configuration, new 1954 version has larger capacity wind-driven pump relocated forward in prop blast. Booms swing back in case a ground object is struck. 24 nozzles are supplied as standard with booms drilled and tapped for 22 additional nozzles to boost coverage to 15 gallons per acre when desired. PA-18-A is only agricultural airplane in volume production in the world.

Piper's 1954 Agricultural Model

A number of changes and improvements have been incorporated in the new 1954 Piper PA-18-A agricultural plane. The new improvements came as a result of continuing work on the part of Piper's agricultural development department and involve a number of suggestions received from the field.

Quick Dump Valve

Most significant addition is a quick dump valve for emergency use in case of forced landing under full load conditions in unfavorable terrain. By a pull of a lever in the cockpit the pilot can "pull the plug" on the double-gated bottom of the 110-gallon tank, dumping a full load in 7 seconds time.

Higher Volume

The new PA-18-A is now designed so that it can be readily used for high density application of chemicals at the rate of up to 15 gallons per acre. Heretofore, for such high volume, increased pump capacity and special booms had to be specified at extra cost. Now standard on the Piper sprayer is a 1-inch fan-driven centrifugal pump located under the nose in direct line of the propeller blast. The spray booms, with 24 nozzles included as standard equipment, are drilled and tapped to receive 22 additional nozzles for high density application.

Improved Dry Chemical Flow

Improved flow of dry chemicals has also been incorporated in the new 1954 PA-18-A which is convertible for dry or liquid application. When used with dust the baffles in the tank which are necessary to keep liquids from sloshing around, can be quickly removed providing unobstructed downward flow of the chemicals to the agitator. This flow is further improved by a large forward facing air scoop which directs a blast of air downward and prevents dust from remaining banked up on the sides of the hopper.

In Use in 34 Countries

The Piper PA-18-A is virtually the only airplane in the world which is in volume production by an aircraft manufacturer. An adaptation of the doughty Piper Super Cub, it has remarkable performance especially from short fields. Powered with a 135-horsepower Lycoming engine it has many safety features such as wire cutters on the landing gear.

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other benefits provided. Their life is pleasant, interesting, and purposeful, they have plenty of leave and they have many opportunities to travel and better themselves.

They both have vivid memories of joining up. After signing up, receiving a physical check-up and an elementary intelligence test at respective recruiting units at Toronto and Vancouver, Boyce and Waite were sent at the RCAF's expense to the Personnel Selection Unit at London, Ontario. If they had wanted ground-crew trades, they would have been sent to St. John's, Quebec.

To become eligible for aircrew training, they had to prove they were British subjects or under certain circumstances American subjects, 18 to 25 years of age, physically fit, they had reached junior matriculation standard and they were single.

At London, still as civilians, they were subjected to a gruelling nine-day series of written and practical tests and interviews. If the prospective aircrew candidate doesn't make the grade, and there is a good proportion who do not, their return fare home is paid. If they are selected, they proceed to an Officer's School at the same station with the rank of Flight Cadet and pay of $170 a month. If they have personal business to clear up, they can get leave of 90 days without pay to do so.

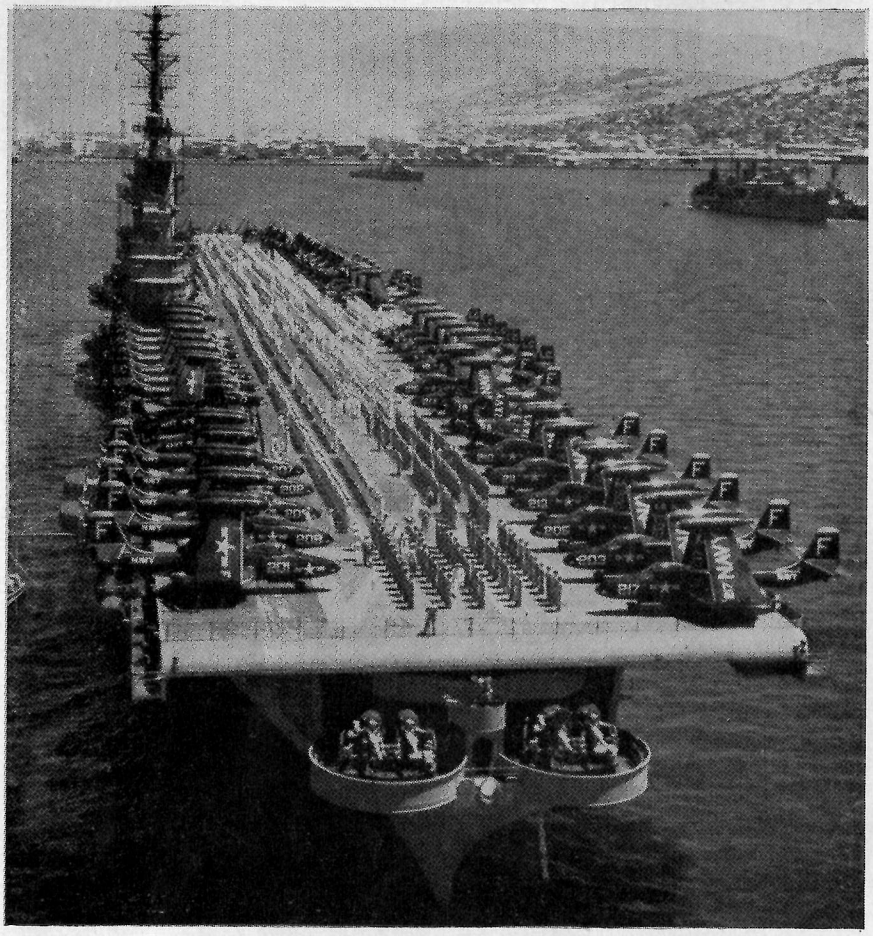
Boyce joined up in June of 1952 and Waite had already been in the service two months. They describe their session at CSU as "an ordeal" because of the strain of having to pass a long series of visual link, sensory motion machine, statistical and mathematical and instrument reading tests. During this period they lost their names and were only referred to as a number. They were dressed in coveralls so their examiners would not be influenced by appearances.

They were broken up into groups of eight called "syndicates" and with two officer examiners they discussed current affairs and various problems. This, they learned afterward, was to pick out leadership qualities in the candidates. Then they had to undergo a mental obstacle course where they in turn became leader of the group in assessing a particular problem and dealing with it.

This method of selection has worked out so well in practice that very few candidates are washed out in later training. The candidates are allowed to say what aircrew trade they wish to assume but this does not necessarily have any bearing on what they become.

Fortunately both Boyce and Waite made the grade and in their own separate service careers were posted for a six weeks course of officers training. Here they studied RCAF history and organization, service law, administration and ethics, public speaking, current affairs, citizenship and public relations, leadership, sports and drill. They were issued an airman's uniform with a pilot officer's stripe and traditional white cap flash, were introduced to their first mess dinner as part of their training and had a full-dress gradua-

McDONNELL F2H BANSHEES—*Outstanding Navy Fighters*



tion party and parade on completion of their examinations. The development of qualities of leadership, initiative, reliability and character essential to an officer is continued throughout the remainder of the aircrew's training course and indeed throughout his career. From Officers School aircrew instruction is divided in three distinct phases: ground school, air training and officer development training. Failure in any one of these phases is enough to wash out a candidate.

From London, pilots, navigators and radio officers go their respective ways to crew up again when their flying training is complete.

Boyce had been selected as a pilot and so was posted to the Calgary Flying Training School where he spent close to 200 hours in the air learning to fly on Harvards. He soloed in 27 hours, about the average time. He thought Officers School hard but on top of an extension of all the courses he took there he found himself sweating away at such other ground school courses as theory of flight, aero engines, navigation, meteorology, flight instruments, armament, aviation medicine, air regulations, service writing, aircraft engineering and development and radio procedures including morse. In what spare time he had he found himself taking a very active part in sports and ground defense training. He recalls one classmate who carried a photograph of Zaza Gabor with him constantly. When asked why he said he would never make it were it not for her inspiration. Thirty-six jam-packed weeks later Al was commissioned and he gladly went through the traditional ceremony of breaking in his officer's hat to make it look operational.

Single engine training was then chosen for Boyce and so he moved to an Advanced Flying School at Portage La Prairie where he logged 60 more hours on Harvards with the emphasis on more complicated and accurate flying. In addition to carrying out various basic operational exercises, trainee pilots at AFS are required to meet higher standards of accuracy and reliability in carrying out simulated fighter squadron rapid landing procedure, formation flying, acrobatics, high altitude, high speed cross country flights, air interception, VHF homings and fighter tactics. Nowadays Boyce would not have gone to AFS as a pilot officer but would have received his commission on completion of his course with his wings. He also would have trained on jet-powered Silver Stars. Boyce's nine weeks course (12 weeks

now) ended up with his much-desired wing's parade.

As Boyce was now definitely picked as fighter pilot material, he spent another nine weeks at a Pilot's Weapons School at Macdonald just north of Portage where he had about 70 hours practice shooting machine guns and rockets. He found that while emphasis is placed on air-to-air fighting, the methods of making effective ground strafing, live bombing and rocket attacks were also taught. He was also instructed on the use of small arms such as rifle, revolver and shotgun, and spent much time on aircraft recognition. Then came home leave in Toronto for a couple of weeks and a survival course of three weeks to get him back in shape.

Boyce found himself now posted to the All Weather Operational Training Unit at North Bay, the sort of training many pilots would choose themselves. If he had been selected for day fighter duties, he would have gone to the OTU at Chatham, New Brunswick. At North Bay he put in 18 weeks of concentrated flying, mostly on a Silver Star, but a good proportion of it on a CF-100. Much of his time was spent in the CF-100 flight simulator where he was subjected to conditions of Arctic flying, complete even to the noise of the engines. As a result of all this training he got his instrument ticket.

By this time Boyce had met Waite, who was also training at North Bay, and struck up a firm friendship. Their superior officers approved their decision to crew up and so they were given joint instruction in a Mitchell flying classroom. They were then judged capable of flying alone in the CF-100 as a team.

After leaving the London Officers School, Waite had been posted to the Air Navigation School at Summerside, Prince Edward Island. Here he spent nine studious months under veteran instructors on navigation, dead reckoning, map reading, airmanship, meteorology, Morse, aerial photography, the operation of such operational equipment as Loran and other radar aids and officer development. Like Boyce he underwent a rigorous sports and ground defense program. After about 200 hours in the air both night and day in Expeditors and Dakotas (now exclusively in Expeditors) and innumerable hours in the synthetic navigational trainer, he received his coveted wings.

Waite might have gone to a Maritime OTU to train in search and rescue and coastal navigation or to a Transport OTU where he would have learned long range navigation but fate and the examining committee decided to send him to the All Weather OTU at North Bay where he met Boyce. There he spent 18 weeks learning the radar and other specialized equipment used in the CF-100. The first six or eight weeks of this course he spent in Mitchell flying classrooms learning the operation of the equipment.

After crewing up, the CF-100 team of Boyce and Waite then spent 18 weeks training together at North Bay practicing interception of other aircraft with the aid of the Comet jet transport. They were then posted to a CF-100 squadron "somewhere in Eastern Canada," one of 40-odd squadrons in the RCAF today. There they are today, still in training to all practical purposes, although they are fully prepared to go operational on a moment's notice.

They are happy in their work and very satisfied with the aircraft, feeling certain by their own investigations that it is the best of its type in North America. They will continue on in squadron service for a period, then perhaps be given some other type of training before their final selection committee which will decide whether they may get that much desired permanent commission.

AIR POLICY NEEDED

(Continued from page 39)

quired to defend American shores from a full-scale invasion, then the mission of the Army as it is understood today should be re-examined. There will need to be similar attention to the missions of the Navy and Air Force, especially those relating to the safeguarding of the sea lanes for the movement of the Army overseas, and the provision of tactical air power for army forces deployed in the field."

Too many of us in the Canadian aviation field have been content to assume that air power strategy is peculiarly a province of the professionals. We are only too willing to leave the formation of such policy to others who only in the broadest sense are responsible to us. Little attempt seems to be made to seek the opinions of those in aviation who have been directly responsible for the actual build-up of our present air power. And yet this aviation policy is what directly affects our