

RAF COLLEGE CRANWELL

“MARCH EVENTS”



Events Recorded in College Journals
1920-2020

CONTENTS

This Album forms part of the Cranwell Historical Society's *Feature of the Month* series, in this instance collating extracts from College Journals covering some of the events that have taken place at the College in the month of January throughout the first 100 years of operation. Other albums in the *Feature of the Month* series pay homage to those Cranwellians who lost their lives serving their country and to pivotal historical events and the contributions made by Cranwellians.

Articles from the month of **March** include:

Journal Article - Landing Large Airships	3
Journal Article - The Autogyro	6
Journal Article - Ten Years On	8
Journal Article - Overseas operation	9
Assistant Commandant - JRA Peel	11
45 Entry - Senior Entry 1948	12
March 1950 - 47 Entry Visit	13
Journal Article - French Visit (Mar 53)	14
Journal Article - Me 262	15
Journal Article - Passing Out 90 Entry	16
Journal Article - Passing Out 93 Entry	18
Journal Article - Passing Out of Last Flight Cadet Entry	20
Passing Out 12 GE and 13 GE (Supply)	26
Passing Out 17 and 18 GE (Supply)	27
Journal Article - DGST Awards	28
Journal Article - Navigator Training	29
Journal Article - RPV Warfare	30
Journal Article - Recollections of IOTC 16	31

College Journal Spring 1929 - Lead Article (1)

LANDING LARGE AIRSHIPS AT A MOORING TOWER.

By SQDN.-LEADER R. S. BOOTH, A.F.C.

THE question of long distance communication by means of lighter-than-air craft has received considerable attention since the war, and in 1924 the present airship programme was commenced with the object of building two airships, each of five million cubic feet capacity, to demonstrate the capabilities of this type of aircraft when operating over distances still beyond the commercial capabilities of aeroplanes or seaplanes.

The operation of these ships to India, via Egypt and across the Atlantic to America or Canada, has received general attention in the Press, and it is common knowledge that bases have already been built at Ismailia and Karachi, and that another base is under construction at Montreal.

The ships are expected to fly early in 1929; so that perhaps a general description of handling this type of aircraft, which has a total weight of about 150 tons, with overall dimensions of 720 feet by 130 feet, will be of interest.

From the earliest days of airships one of the greatest difficulties has been handling them on the ground, and many methods have been devised to enable ships to be moored out in the open, or to be handled into sheds under adverse weather conditions. The most obvious solution of the difficulty is to make sheds which will revolve, either by building them on a floating raft or on a gigantic turntable. Both these systems were tried in Germany before the war—a floating shed on Lake Constance, in which the earlier Zeppelins were built, and a revolving shed at Biesdorf, which was built in 1911. Another double-revolving shed was built early in the war at the most important North Sea airship station, and it is interesting to note that the two ships housed in this shed were the only two from this station which were able to accompany the German Fleet on the extended patrol which terminated with the Battle of Jutland.

It will, however, readily be understood that this type of shed is too costly for general use, and it also has the disadvantage that large landing parties are still required to land and manoeuvre the ship on the landing ground. In the war this objection was not of much importance, as man power was cheap, but after the war it was realized, especially in this country, which is handicapped with some of the worst flying weather in the world, that other systems must be devised if airships were to become a commercial success.

Suggestions have ranged from elephants to caterpillars—the former to be recruited from all the wandering fairs in the country, the latter to be of the mechanical species. All systems of handling ships on the ground have, however, the same disadvantage, and that is the enormous force required to hold the ship when broadside to the wind. It can be done by using landing parties up to seven or eight hundred men or by mechanical means, but the ship's hull is then hardly strong enough to stand the strain, and also in very strong winds the ship tends to lie over on her lee side, as the handling guys are attached to the bottom of the envelope or hull.

During the war successful experiments were carried out with the smallest non-rigids moored to short masts, but as it was found that these ships could readily be moored out in valleys or on the lee side of high trees, the results were never utilized on Service stations.



R 33 AT THE CARDINGTON TOWER.

[Photo: Royal Airship Works, Cardington.]

College Journal Spring 1929 - Lead Article (2)

After the war, it was decided to modify the design of R 36 and complete her as a passenger-carrying ship, and it was then realized that some mooring system must be devised to which the ship could be attached, and from which the ship could leave without the use of a large number of men.

Considerable work was done on this problem, and as a result a temporary mooring mast was built at Pulham. Compared with the new mooring tower at Cardington, it was rather a crude affair, but the results obtained in 1921 with R 33 were satisfactory. This ship remained at the mast continuously from February to July, in winds up to sixty miles an hour, and also made numerous flights from and to the mast in winds up to thirty miles an hour. During this period one gas bag was changed and one engine was also changed when actually on the mast. If these experiments had not achieved such success, it is certain that the present programme would never have received parliamentary support, and it is also doubtful whether America would have interested herself in this type of craft.

The photograph shows the elaborate mast or, to give it its correct designation, tower, which has been erected at Cardington. I shall now give a general description of the tower at Cardington, and follow it with a description of landing and leaving a tower by an airship.

The tower itself consists of a rigid steel framework 200 feet high, equipped at the top with two platforms and a conical-shaped tower head. The lower platform is for the landing searchlights, and the upper one to work all controls used in landing the ship, and also for the passengers and crew to embark to and disembark from the airship. At the extreme top of the tower will be noticed a projecting arm, which is mounted on gimbals, allowing it to swing to thirty degrees from the vertical in any direction. The arm is hollow, and is fitted with a female cone on top, into which the cone on the ship's bow eventually fits, being secured by three spring-loaded stops.

The arm is also made telescopic to obviate any shock when hauling the ship in, and it can finally be centralized and locked in the vertical position by a system of wires inside the tower head, operated by a motor on the lower part of the telescopic arm. On the control platform are the distant controls for the winch motors, which are situated in the hut at the foot of the tower. These winches are steam-driven, and can haul up to 15 tons with a speed varying from dead slow to 50 feet a minute at full load, and 500 feet a minute under normal conditions when the load would be about 5 tons.

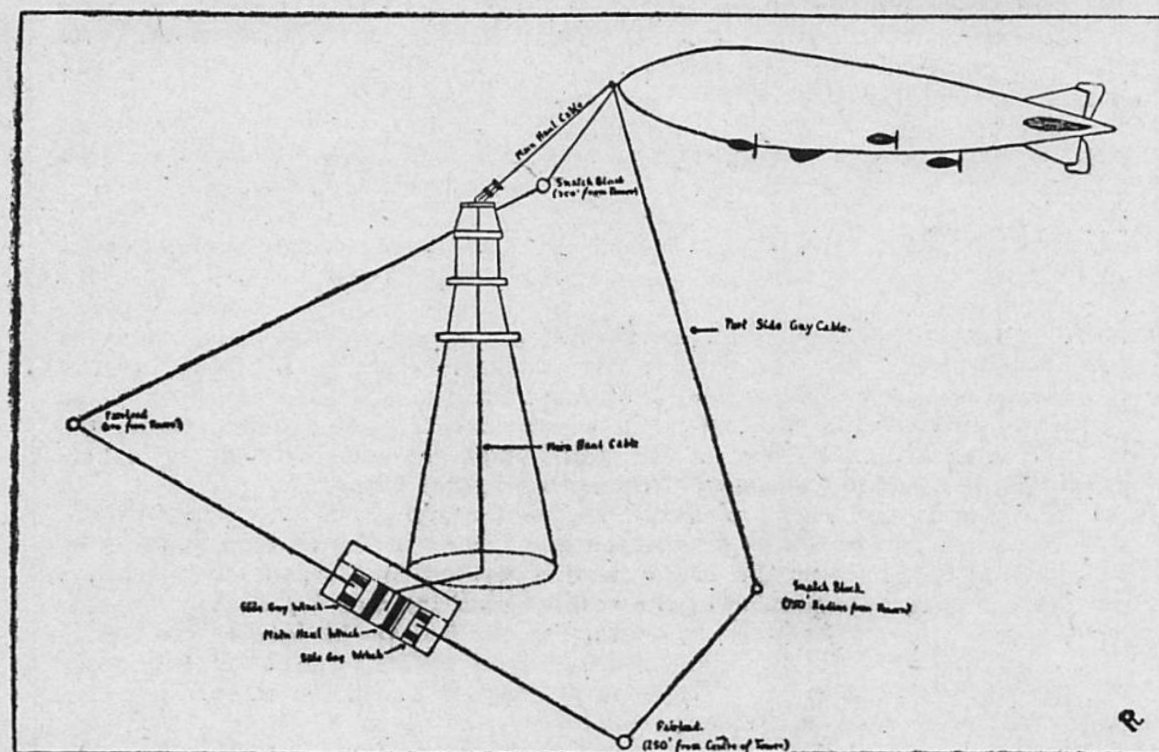
Fuel, water and gas mains are installed in the tower for re-fuelling the ship when moored, and a lift able to carry twelve passengers is available for the convenience of the passengers, tower and ship's crew.

For the attachment of the yaw guys, twenty-four mooring points are placed at equal intervals on the circumference of a circle with radius 750 feet from the base of the tower. Two of these blocks are selected, dependent on the direction of the wind when the ship is about to be landed.

On receiving word that the ship is returning to her base and will land at a certain time, the officer in charge of the tower must make all preparations for her reception. Steam must be raised in the boilers about an hour before the ship is expected, and then the ground wires laid out, depending on the direction of the wind. The main wire is first led from the main winch, up the tower, through the telescopic arm and down on to the landing ground, directly to leeward, the last 100 feet being flaked on the ground about 800 feet from the tower. The side guys, or yaw guys, are taken from the two

side guy winches and led through snatch blocks on either side, and sixty degrees away from the position of the main wire, back to the foot of the tower. The tower is now ready to receive the ship, and the mooring tower officer stations himself on the control platform, together with the three winch operators and a signalman. On the ground are four riggers ready to connect the ground wires to the ship's wires, and in the winch house three engineers standing by the steam winches and one man watch-keeping on the boilers.

While all these preparations are being made on the ground, the crew of the airship are also busy. Half an hour before she is due to arrive at the base, the crew are ordered to landing stations, which means that every man or board goes to his correct station, either in the control car, engine cars,



at special positions along the keel or to the mooring winches in the bow of the ship.

Before the actual landing is made, the ship must be in correct trim and equilibrium. This can be judged roughly by the feel on the elevator wheel, but to get accurate results all engines must be slowed down until the ship is almost stationary in the air. The captain of the ship then estimates how light or heavy the ship is, and, taking the temperature of the ground into consideration, he adjusts the equilibrium and, at the same time, the trim of the ship by releasing water ballast or valving gas. The temperature on the ground is important, as if the ship descends into a warm belt of air she will suddenly lose a considerable amount of lift, and conversely she will become very light if landing into a stratum of cold air. The amount of this gain or loss of lift due to temperature changes is approximately one-third of a ton per

College Journal Spring 1929 - Lead Article (3)

degree Fahrenheit for a ship the size of R 100 or R 101. If landing during the heat of the day with detached clouds in the sky great care is necessary, as the lift of the ship changes considerably when the sun is suddenly obscured by clouds. In this case the gas in the ship rapidly loses super-heat, and as this super-heat may represent anything up to five tons of lift, it is obvious that its sudden loss at a critical moment may seriously embarrass the captain of the ship. For this reason the most convenient times for landing are at dawn or dusk, or during the night when atmospheric conditions are almost stable.

When the ship is "ballasted up" in correct fore and aft trim and slightly light, course is set towards the mooring tower, and the height coxswain is instructed to bring her down gradually to 1,000 feet. One mile short of the tower, which is being approached up wind, word is passed to the duty coxswain at the mooring point to ease out the main wire to within 100 feet of the end. This wire is about 900 feet long, and is kept reeled on a winch in the bow of the ship. It is payed out through the mooring cone attached to the ship, which can be seen in the photograph of R 33 securing to the Cardington Tower.

The ship is now slowly approaching the tower, with the main wire hanging from her nose. If there is little wind two engines are probably running slow astern, and only the after engine is being used to give her headway.

The height coxswain can now bring the ship down to 900 feet, and the steering coxswain keeps her steady on the tower. The speed of the ship is eased off a little more by slowing down the after engine, and, if necessary, by running the wing cars astern, until the ship is stationary over the landing mark which shows the position of the mooring tower wire. The last 100 feet of the main wire is then let go to give the men on the ground some slack in case the ship veers off to one side or the other, and they connect the two wires by a snatch-coupling on the tower wire, signalling that the wires are connected to the ship and tower head.

About half a ton of ballast is now dropped from the bow of the ship to make her trim slightly down by the stern, and also light enough to rise up on the end of the single wire. When this wire tautens the captain of the ship adjusts the trim and equilibrium to his satisfaction, and then signals to the tower that the ship is all ready to haul down. If the ship rises up too fast on the single wire, no jerk is brought on the ship's bow as the main winch is set free to veer, and it can then be braked gradually to bring the ship to rest, and at the same time the long bight of wire, which weighs about three-quarters of a ton, helps to bring the ship up gradually.

As the ship is being hauled down on the single wire, she must be kept head to wind by the steering coxswain, and also about five degrees down by the stern by the height coxswain. If there is a wind, dynamic lift, due to the angle of trim, is added to the static lift, and ensures that she is not carried down towards the tower by any gust of wind.

The yaw guys are paid out from the ship as she is being hauled down, these wires being about 700 feet long and stowed on winches close to the main mooring wire winch in the bow of the ship. As soon as they touch the ground the main winch is stopped, and the yaw guys connected up by snatch-couplings to the ground yaw guys. These guys are then hauled taut so that the nose of the ship is at the apex of a pyramid formed by the three wires.

If using three separate winches for hauling in the ship, it is most important that the yaw guys should be kept taut the whole time, as if the main wire has the strain and the yaw guys are slack the ship may swing from side to side, bringing up with a jerk on each yaw guy in turn.

While being hauled in, the captain of the ship is responsible for the trim and equilibrium, and he can stop the evolution at any moment, if he considers it necessary, by pre-arranged signals from the control car.

When the ship is within about 50 feet of the tower head, the main winch is stopped, and the yaw guys, which it will be remembered are 120 degrees apart, are hauled down until the mark which indicates the distance from the tower head to the anchorage comes to the yaw guy snatch block. These two wires prevent the ship moving sideways or over-riding the tower, and as the stern is still being kept down there is no up and down movement, even in a gusty wind. When the yaw guys are down to the mark, the main wire can be hauled in slowly until the ship's cone engages the cone at the top of the telescopic arm. As soon as contact is made, the ship's cone is securely held by three spring-loaded stops, which engage in a groove cut in the ship's cone.

The telescopic arm can now be centralized and locked in the "in" position, which ends the evolution of landing to the tower. The ship wires are then unrove from the tower winches and reeled up on the bow winches, leaving the ship free to move round the tower head with any change of wind direction.

The ships now under construction will be fitted with a hatchway in the bow, and a convenient gangway, which will then be lowered down to the rail round the tower-control platform to allow the passengers and crew to disembark, their equivalent weight being taken on board by filling up the water-ballast tanks in the vicinity of the passenger accommodation.

The system of landing just described is known as the three-winch method. The same result can be obtained by using two winches, or even one. With two winches the yaw guys are connected to what may be termed a floating wire triangle on the ground. The two yaw guys are led through the ground anchorages to snatch blocks at two corners of this triangle, the third corner is fixed to an anchorage directly to leeward of the tower. The wire round this triangle is connected to one winch, with the result that both yaw guys are hauled in simultaneously. If the ship swings from one side to the other the whole triangle moves over the ground, which prevents any jerk on the bow structure and, at the same time, the ground friction tends to stop the swing. This movement becomes less and less as the triangle grows smaller until when the yaw guys are down to their marks, all the triangle blocks are together, so that any side movement is impossible. A modification to this system has been worked out, whereby all three wires are interconnected, and all worked by one winch. With the ship some distance from the tower head, the apex of the wire pyramid can move freely in any direction, all wires remaining taut; but, as the ship approaches the tower, the system tautens gradually, until the yaw guys are down to their marks, when they are held by a limit wire. The winch then hauls direct on the main wire, and the ship's cone is brought into the tower cone.

Both these systems have obvious advantages over the three-winch system, as they eliminate any possibility of putting sudden strains on the bow structure, and with the single-winch method the ship is moored almost automatically by the single winch once the yaw guys are connected.

When moored at the tower, watchkeepers are always on board to keep the ship in correct trim by taking on board or releasing ballast. On a calm day this is a constant anxiety due to the rapid change in lift, so to assist the watchkeepers ballast weights are slung in the ship at three or four points. Each of these weights can be varied to weigh between a half and one ton, and with the ship horizontal two of them are on the ground and two just clear. Any small change of lift is, therefore, taken by these weights, and ample warning is given to the watchkeepers that a change of lift is taking place.

In bad weather one complete watch is always on board, and a second watch remains in the vicinity of the tower in case it should be considered necessary to slip. This should only be necessary under rare circumstances, and a good indication that conditions are becoming dangerous can be obtained from the electrical strain gauges fitted in the bow structure. These strain gauges will register in the control car, in a position which will be under the eye of the officer of the watch, the actual stress imposed on the bow structure.

Slipping from the tower is a very simple operation, and it can be done in any wind. As soon as the crew are on board and the engines warmed up, the ballast weights are slipped from the ground. The ship is then trimmed down by the stern and about half a ton light as shown by the gauge fitted to ship's cone attachment. While this is being done the tower crew secure the ship by a pendant from the ship's cone down to the telescopic arm to a slip in the tower turret. This pendant is then hauled taut, and the spring-loaded stops in the tower cone, which hold the ship, are screwed back. At a given signal from the ship the slip is released and the ship rises away from the tower, her engines being started up when she is clear.

From this short description of landing at a mooring tower it will be seen how comparatively simple the evolution is compared with landing on the ground, and it is on this simplicity that the future of airships depends. There is every reason to hope that the new towers now erected will come up to expectations; and the trials of the new ships next year will be watched with intense interest by all those who have seriously considered the problems of imperial air communications.

AN AWARD FOR GALLANTRY AT DIGBY.

H.M. THE KING has approved the award of the Medal of the Military Division of the Order of the British Empire to 363339 L.A.C. W. Arnold, for conspicuous gallantry displayed at Digby Aerodrome on June 20th, 1928.

Arnold was a passenger with F./Lieut. J. Marsden in a machine which was wrecked on landing and immediately caught fire. Arnold extricated himself from the burning wreckage, and, although fully aware of the grave risk he was taking, re-entered the flames and succeeded in dragging the pilot, who was unconscious and very seriously injured, to a position of safety. Arnold suffered burns to his face, neck, and hands, and his prompt and courageous action undoubtedly saved the pilot's life, since the burning petrol spread rapidly and rendered any subsequent approach to the wreckage impossible.

We send congratulations to L.A.C. Arnold and to F./Lieut. Marsden. It is good news that they are both restored to health.

College Journal Spring 1929 - Third Article (1)

THE AUTOGYRO.

By FLIGHT-LIEUT. C. E. W. LOCKYER.

A COMPLETE account of the properties of the autogyro would be likely to prove dull reading, since it would involve the introduction of a good deal of mathematics. Consequently, it is my intention in this article to confine the subject-matter to simple explanations of the salient points in which this type of aircraft differs from the aeroplane.

Before launching this attempt, it is of interest to recall the genesis of this remarkable departure from conventional methods of heavier-than-air locomotion. It was not the outcome of a mere desire for novelty, but of the bitter personal experiences of the inventor, Senor Juan de la Cierva, in his early essays with aeroplanes. "The possibilities of losing flying speed and the uncertainties of landing," wrote Cierva, "are the only faults with which we can reproach the aeroplane." It was with the specific idea of attempting to remove these disabilities of the aeroplane, "to find a flying machine with stability entirely independent of its speed," that he began his experiments on the windmill type which has developed into the autogyro of to-day. Whatever other limitations may exist, or be inherent in the design, the inventor has certainly achieved his aim in so far as it is set out above.

Whether the gyrations of a descending sycamore seed or some other such simple phenomenon played the inspiring part of Newton's apple, is not known. The essence of the idea, however, has been simply stated, as follows: "If we wish to reduce the lowest speed of an aeroplane," that is, mitigate the inconveniences to which Cierva refers, "we increase its area or use some device for increasing the stalling angle; slot, or flap or change of section: generally the area is increased. Cierva, instead of adding area, adds speed by virtue of the rotation of his comparatively small sustaining surfaces"; thereby making it possible for the translation of the aircraft as a whole to be slow. It transpires, and this is the gift of the gods in this particular device, that the hinged rotary sustaining elements operate roughly at constant mean lift co-efficient and speed. The result is that stalling, in the sense of the breakdown of flow, has been eliminated.

Once committed to the windmill species, Cierva encountered the first and obvious difficulty, the asymmetry of forces arising from the blades moving in the same sense as the general motion of the aircraft, on the one side, and, on the other, in a sense opposite to the general motion. His first attempt at a solution was to employ two rotor systems, one above the other, turning in opposite senses. Unfortunately, it was found that the lower one, owing to interference between the two, revolved at only two-thirds of the speed of the top one, and the difficulty could not be overcome in this way. It was at this stage of his researches that the most notable conception occurred to him, that of employing a single windmill, and articulating the blades at their roots. The idea underlying this modification was that the greater relative air speed of elements of the advancing blades might be compensated by a smaller relative incidence. For, where the thrust moment would be large in the case of an advancing blade rigidly attached to a central spindle, a hinged blade rises and so causes a reduction of its effective angle of incidence and of its thrust. Thus, in the case of hinged blades rotating clockwise as viewed

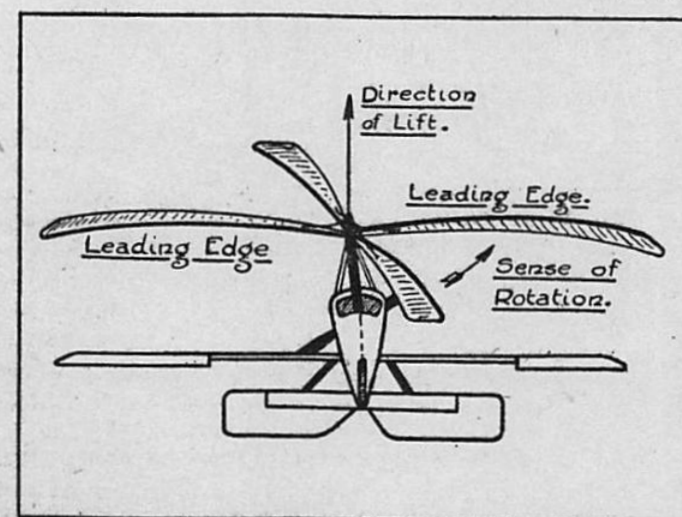
by the pilot from below, the starboard blades will be rising and the port blades falling.

Articulation of the blades swept away most of the mechanical difficulties: since, with articulated blades, the total reaction on each blade, that is the resultant of all air and inertia forces, must pass through the hinge pin. Gyroscopic couples which would be of the severest nature in a rigid system, cannot be transmitted through the flexible attachments of the blades, as these are practically on the axis of the shaft. Therefore, we have a resultant force here as distinct from the precessional couple associated with gyroscopic motion.

While we deal with the mechanical aspect of the rotor, reference should be made to two other mechanical features of its design.

To avoid torsional stresses in the blades themselves, through travel of centre of pressure, and to allow of the use of a single spar, a symmetrical

FIG. I.



section, usually Göttingen 429, has been employed. Again, the blades have a section, concave downwards in the axial plane, designed so that the resultant force at each point is along the blade; thus the single longeron of steel tube is practically in pure tension, allowing of the most advantageous use of material in the spar.

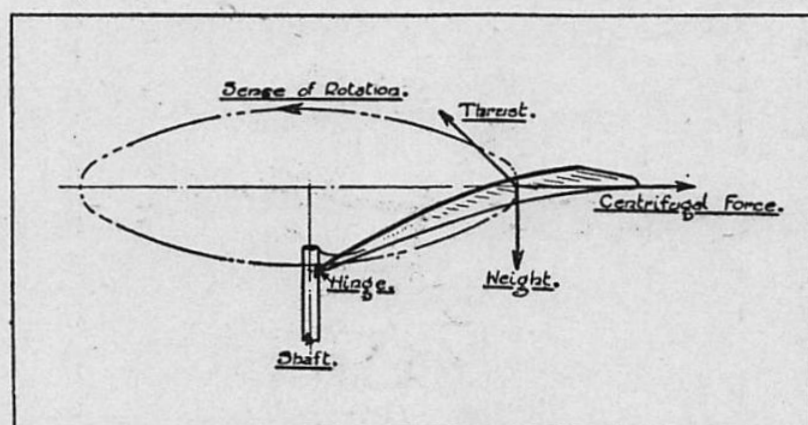
Next, we may consider some of the aerodynamic features. There is nothing mysterious about the aerodynamics of the autogyro, though there are certainly curious phenomena, such as the practically constant rate of rotation at all forward speeds once a certain rate of rotation has been exceeded; and such loose expressions as that the autogyro stalls at high speed in contradistinction to an aeroplane, which stalls at low, do not involve any new ideas of fluid flow. The expression merely means that with increasing speeds the retreating blades will become less and less efficient, for parts of them will then be moving backwards *relatively to the air*; that is, the trailing, instead of the leading, edge of the blade is meeting the relative air current, and the aerodynamic conditions are obviously very inefficient. Thus the loose

College Journal Spring 1929 - Third Article (2)

expression does not imply any sudden loss of lift due to a breakdown of the air flow as in the aeroplane at its stalling angle.

A good deal has been written "why the autogyro rotates in the sense in which it actually does"; for it is in the opposite sense to that in which it would if dropped from rest with the shaft vertical. In fact, Don Juan's windmill rotates in the opposite sense to those at which his famous countryman, Don Quixote, tilted. Now, it is fairly obvious that, if the windmill is at rest and is subjected to an air current perpendicular to the shaft, the port blades of the rotor shown in Fig. 1 would, since their trailing edges are presented to the air stream, have a higher drag than the starboard, and rotation would start in the sense shown. This corresponds with the condition of level flight. It is not easy to give a simple explanation why this sense of rotation is stable for conditions of flight intermediate to level flight and vertical descent, and recourse must be had to analysis of the direction of the

FIG. II.



resultant force on the blade elements; which analysis, incidentally, shows why the pitch angle of the blades must be small. In autogyros this angle is about 2 degrees.

In referring earlier to some of the mechanical features, mention was made of the flapping of the blades in flight, and of the downward concavity of the blades, akin to the droop of the leaves of a palm (Fig. 1). These two features deserve further examination, aerodynamically.

Since the hinged blades cannot transmit any moment about their hinges, there must be a general upward inclination of the blades, the magnitude of this depending on the curvature, weight, and moment of inertia of the blades. In fact, the upward inclination is necessary to obtain a balance about the hinge of a blade of the moments due to the thrust, the weight, and the centrifugal force (Fig. 2), for much the same reasons as an aeroplane has its inner wing lower than the outer on a turn. This angle is independent of the angle of incidence of the windmill, and is approximately 6 degrees. As I mentioned earlier, however, the blades have not a uniform coning angle throughout a rotation, but, in the case discussed, the starboard blades rise as they advance and the port blades will, of course, fall. This motion is

equivalent to a tilt of the plane of rotation backwards, the lowest point being downwind. In addition to this, which is a velocity effect, there is a dihedral effect owing to the general upward inclination, by virtue of which the thrust tends to be high in front and low at the back. By the same argument as before, the blades will rise in front and fall at the back, thus the plane of rotation will be tilted laterally as well as fore and aft. The new plane of rotation will have its lowest point somewhere in the first quadrant measured from the downwind position.

The fore-and-aft tilt produces no asymmetry in the direction of flight; the sideways tilt does, and requires compensation. Since the lateral tilt depends on dihedral effect, it can be modified by adjusting the downward curvature of the blades, as the outer parts of the blades will thus be inclined at a smaller angle to the plane normal to the shaft of the windmill. The asymmetry of forces due to this dihedral can by this means be reduced to small proportions; and, to allow for the remaining side force, the shaft of the windmill is tilted laterally to suit some mean angle of incidence, the base being to starboard for the sense of rotation considered here.

In conclusion, reference should be made to the performance of the autogyro compared with that of an aeroplane of the same weight and horsepower. Certainly, up to the present, the former has not shown up favourably as regards speed and climb. Whether this will always be so is still a subject of controversy, and it should be borne in mind that the autogyro is still in its infancy. One of the arguments put forward to demonstrate why the autogyro can never be as efficient as an aeroplane of the same weight and horsepower is that, in going from "A" to "B," the sustaining surfaces of the former trace out a spiral path, whereas those of the latter travel in a direct straight line. But the argument is not so simple as that. An aeroplane flying at top speed carries more area than it needs, because it requires that area to fly at low speeds. In an autogyro, the area is much less, the extra speed of the lifting surfaces, by virtue of their rotation, compensating for this at low speeds. The body, in each case, travels at the normal speed, and the increased work is in respect only of a small fraction of the total. Moreover, the better aspect ratio of the autogyro supporting surfaces has to be taken into account. So that it may still be premature to give a verdict, and, in view of the ability of the autogyro to land more slowly, pull up more quickly after landing, and to remain stable at large angles of incidence, it seems well worth while to investigate the possibilities of improving its speed, climb and take-off.

College Journal Spring 1930 - Ten Years On

LORD TRENCHARD OF WOLFETON.

SOME have already written, and many will write later of the constant and eminent services in many directions, which have been rendered in peace and war to the Royal Air Force by our departing Chief of the Air Staff, of whom we publish a photograph in this JOURNAL. Some will recall that he was flying in 1912; some that he was the General Officer Commanding the Royal Flying Corps; some will recall the difficult days when he resigned his command and another charge—that of the Independent Air Force—had to be found for him.

At the Royal Air Force College we shall remember him not least as the founder of the College in February, 1920, and we think it not inappropriate to recall the words he wrote in the first issue of the College Journal about eight months later:—

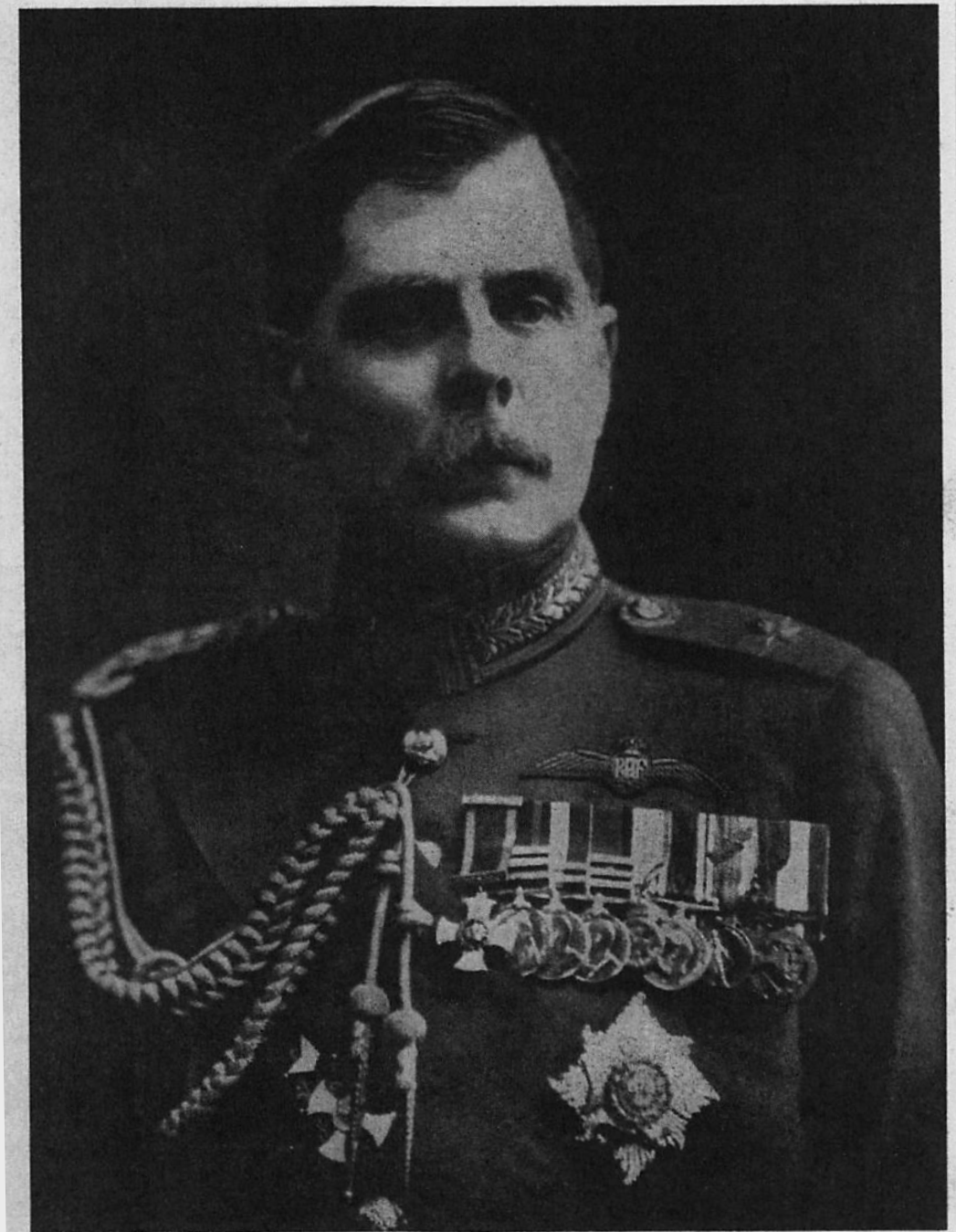
“ I hope this magazine will live and prosper, and be a great help in forming and guiding the destinies of this College.

“ It was decided to form this Cadet College because it was realized from the first that such a College was the essential foundation of a separate Air Service. This College, in conjunction with the School of Technical Training for Boys at Halton, will have the making or marring of the future of this great Service, which was built up during the war by all the gallant Pilots and Observers and other ranks who fought through it, and won a name in the air second to none in the world. It always held, and finally conquered completely, the German Air Service. If it is to continue its great work, which I am convinced we all intend that it shall do, we all realize that it has to live up to its war reputation, and we must ensure by every means in our power that it does so.

“ We have to learn by experience how to organize and administer a great Service both in peace and war, and you, who are at present at the College in its first year, will, in future, be at the helm. Therefore you will have to work your hardest, both as cadets at the College and subsequently as officers, in order to be capable of guiding this great Service through its early days, and maintaining its traditions and efficiency in the years to come.

“ H. TRENCHARD.”

It is our duty to see that these words about the College and the JOURNAL are fulfilled to-day in a manner worthy of a man who, already in the first place, has deserved well of his country, and to whom this country can look confidently for fresh victories in peace or war for many years to come.



By courtesy of "The Aeroplane"

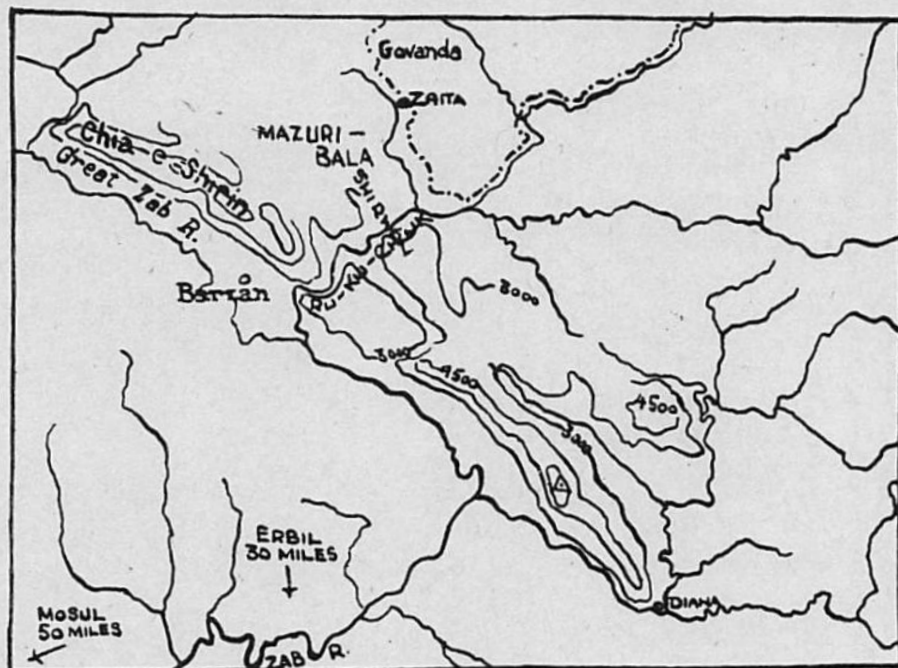
MARSHAL OF THE ROYAL AIR FORCE, LORD TRENCHARD
G.C.B., D.S.O., D.C.L., LL.D.

College Journal Autumn 1933 - Overseas Operation (1)

OPERATIONS IN THE BARZAN COUNTRY (IRAQ) MARCH—JUNE, 1932

BY FLIGHT-LIEUTENANT G. COMBE.

THE Barzan country is part of Northern Kurdistan and is about 60 miles north-east of Mosul. It is a mountainous region cut by many deep ravines and gorges, through which flow fast mountain streams. In the winter the mountains are covered with snow. There are many large caves, and scrub oak abounds. The country resembles Waziristan, in the North-West Frontier Province of India.



The inhabitants are Kurds, who are of small physique compared with the Mahsud, but have the same characteristics. The Kurd is hardy, a determined and fearless fighter, and a good shot. He is skilled in mountain warfare, and is quick to take advantage of an enemy off his guard. Handicapped by poverty, lack of food and ammunition he lives largely by raiding and looting. His main fault is treachery.

The operations were begun by the Iraqi Government to extend their control in this area. Sheik Ahmed and his followers, who numbered about 500 fighting men, had defied the Iraqi Government for some time, and in March, 1932, it was decided to send up an Iraqi column of all arms. The month of March was chosen because the snow has usually disappeared from the valleys by then; this makes it possible for the army to move. It was most important that this operation should be carried through as

quickly as possible in order that police posts and roads should be constructed before the winter.

The general plan of operations was to send up an Iraqi Army column to penetrate the eastern end of Sheikh Ahmed's territory. The advance of this column was to be deliberate and was to be accompanied by the construction of a road and the establishment of police posts. The Iraqi Air Force was to co-operate with the column and thus to receive its first experience of active operations.

It was decided that 30 (B) Squadron, Royal Air Force, Mosul, should also provide close co-operation with the troops, and, in order to be near the scene of operations, one Flight was moved to Diana, the other two Flights remaining at Mosul in reserve.

Shortly after the start of hostilities it was realized that the Iraqi Army and Air Force were against a tougher problem than they had anticipated. Heavy rain and a difficult terrain made the advance of the army slow and tedious. The "Moth" aircraft, with which the Iraqi Air Force was equipped proved to be unsuitable for mountainous country and so the bulk of the co-operation work fell on the Wapitis. The Kurds succeeded in seriously impeding the column (known as "Daycol") and at the beginning of April R.A.F. aircraft saved an awkward situation by prompt offensive action. This was when the bulk of the hired transport of the column was some distance behind the main body and only lightly guarded. The Kurds got amongst the transport and stampeded the mules, the drivers cutting their loads and riding away. Had it not been for the presence of R.A.F. aircraft the Iraqi Army would have been in grave danger as a result of losing all its supplies. After this episode "Daycol" ceased to be a serious active force for a long time.

Meanwhile a second column from the south had reached Billeh, about four miles south of Barzan, without opposition, and had established a camp there. Air and ground reconnaissance showed that Barzan was deserted and undefended, and that only a few small bands of Kurds were on the south side of the natural barrier of the Chia-e-Shirin range, about 6,000 feet in height.

Towards the end of April it was clear that the Iraqi Army and Air Force alone could not finish off the campaign, however much close co-operation was given by the R.A.F. All that had been done during the first six weeks was that the main column of the Iraqi Army had occupied about one half of the Shirwan area, while a second column (named Bazcol) had occupied Barzan village. Moreover, the Chia-e-Shirin imposed a barrier quite impassable for any troops between Bazcol and the heart of Sheikh Ahmed's country to the north-east.

The position now was that as long as an enemy force of even 100 men remained in Mazuri Bala (the area of Sheikh Ahmed's territory enclosed by the Ru-Ku-Chuk and the Chia-e-Shirin) the operations could not be considered as successful. Only if there was no great opposition could the army cross the Chia-e-Shirin and Ru-Ku-Chuk; and only if they surmounted these could they hope to deal with Mazuri Bala. Even if this

College Journal Autumn 1933 - Overseas Operation (2)

area was entered the country is extremely mountainous and the lines of communication of the column would be vulnerable.

After a careful and exhaustive examination of the problem it was decided that there was no way of establishing control in the Mazuri Bala area comprising the heart of Sheikh Ahmed's territory except by means of air operations. The Iraqi Army could do no more than consolidate its position in the Shirwan area on the south-eastern side of the Ru-Ku-Chuk. It was necessary to deal with the area north-west of the Ru-Ku-Chuk by means of air control.

The present article is confined to the work of the R.A.F. in co-operation with the Iraqi Army columns, Daycol and Bazcol.

Communication between aircraft and the ground was made by a simple ground code, by message dropping, and by message picking up. R.A.F. W/T Stations for point-to-point communication on the ground were maintained permanently at Billeh and Diana, and a R.A.F. liaison officer, with a R.A.F. W/T pack set, accompanied each column.

Mountain warfare is slow and tedious, and it is easy to keep in view from the air the situation on the ground. So our aircraft had a small area to watch. The Kurd is an expert at concealment and he blends with the ground. He soon learnt to keep still when aircraft were above him. On the other hand he possessed no anti-aircraft weapons except his rifle, and ammunition which is difficult for him to get. So aircraft were fairly safe in coming down low, although aircraft on many occasions and flying personnel on one or two occasions were hit by rifle fire.

The reliance that the Iraqi soldier placed on the aircraft was the outstanding feature of the co-operation. Aircraft saved the situation at the beginning of April, when a party of Kurds got amongst Daycol's supply column, and from then until the end of the operations the Iraqi Army was reluctant to move without supporting aircraft.

Supply dropping of all kinds was carried out from time to time throughout the operations, although this is not normally an economical use of aircraft. On several occasions critical situations were saved by supply-dropping aircraft.

The casualties inflicted by aircraft upon the hostile tribesmen when Daycol got into difficulties at the beginning of April made such an impression upon the Kurds that an attack in the presence of aircraft was never attempted again. It is worth noting that from this time onwards the Iraqi Army never lost a man through enemy action when aircraft were co-operating. This in itself shows the respect the Kurd had for aircraft.

As with all frontier tribes there was always a shortage of ammunition. Before the commencement of operations the Kurds undoubtedly thought that raids on the supply columns would keep them supplied with ammunition. The fact that so few shots were fired at aircraft after the middle of April is a testimony to the fact that there was a constant shortage.

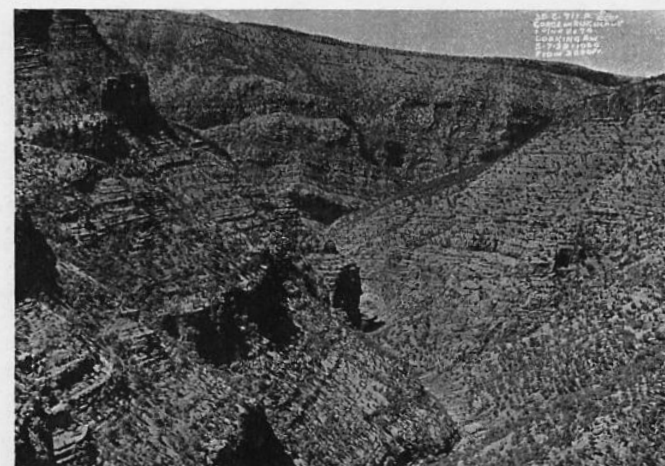
It proved to be essential to have an R.A.F. liaison officer with each

column, especially as the army was inexperienced in the ways of aircraft. Without an R.A.F. officer frequent mistakes occur, the results of which may have serious consequences. The duties of this officer are to advise the Column Commander regarding the support which he may expect to receive from the air, to inform the co-operating aircraft of the Column Commander's plans for each day and of the air support which he would like to receive, and to transmit intelligence reports and situation reports to Air Headquarters each evening.

[With the aid of Group-Captain A. G. R. GARROD, the Editor proposes to continue the discussion of this campaign in the next issue of the Journal.]



[R.A.F. Official Crown Copyright Reserved.]
TROOPS CROSSING THE RU-KU-CHUK INTO MAZURI BALA.



[R.A.F. Official Crown Copyright Reserved.]
RU-KU-CHUK GORGE.

1 March 1947 - New Assistant Commandant



GROUP CAPTAIN J. R. A. PEEL, D.S.O., D.F.C.
ASSISTANT COMMANDANT, 1946-7

45 Entry

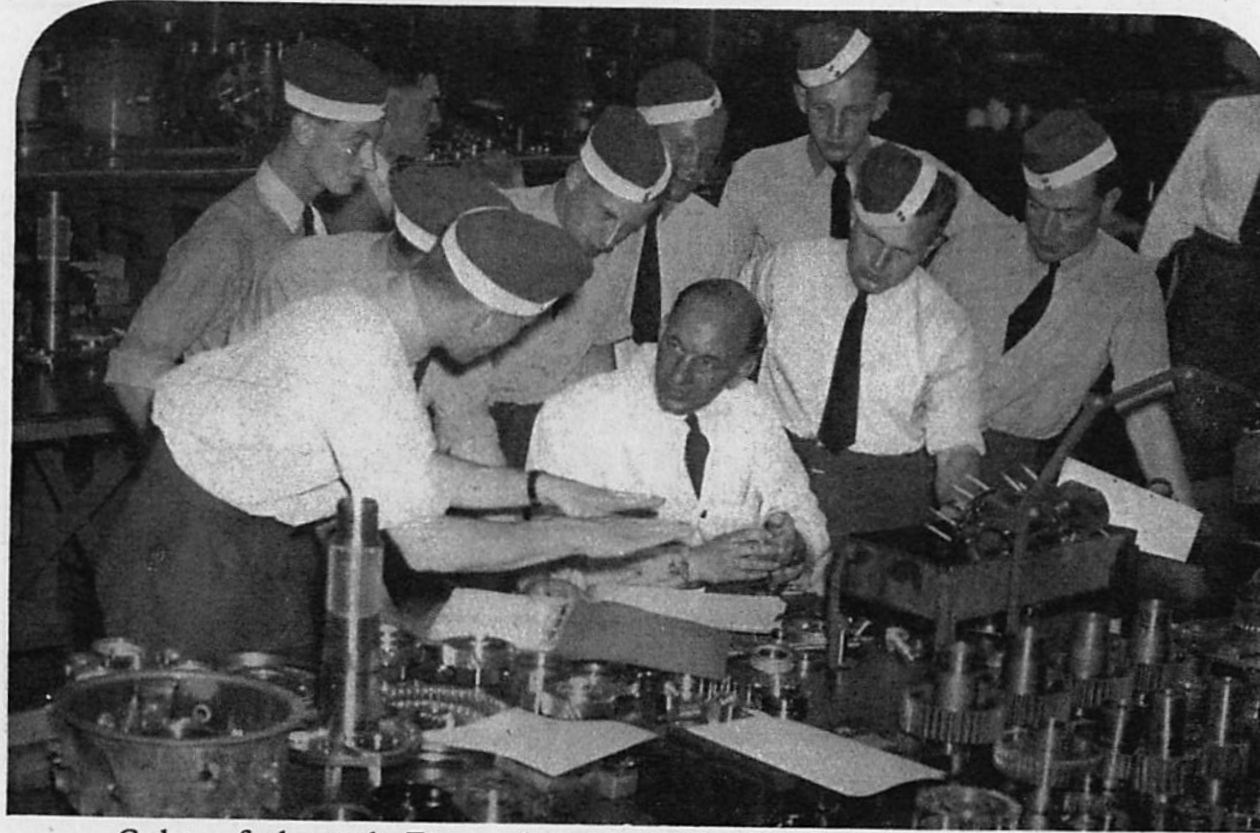


[Photo by Gale & Polden, Ltd.]

SENIOR TERM, MARCH, 1948

Back Row: F.C. Corpls. J. W. Morrice, D. B. D. Hamley, H. R. W. Morris, C. M. Bruce, H. W. Cafferata, A. K. McGrigor.
Front Row: F.C. Sgts. C. F. A. Curtis, C. M. A. Vallance, F.C.U.Os. M. M. J. Robinson, L. S. R. Smith, J. E. Y. King,
F.C. Sgt. R. L. Tavanyar, F.C. Corpl. G. M. Hermitage.

March 1950 - 47 Entry Visit



Cadets of the 47th Entry who visited Hawker Siddeley Group factories studying turboprop production at the Armstrong Siddeley works at Coventry.



College Journal June 1953 - French Visit (Mar 53)

The French Visit

19th - 22nd March 1953

As an earlier page records, the College had the great pleasure of welcoming once again officers and cadets of L'Ecole de l'Air, Salon-de-Provence, in March. Our guests flew from Istres in two French Transport Command Dakotas, and arrived well in E.T.A. A boisterous Guest Night on the first night (the 19th) preceded a tour of the College and a visit to Lincoln Cathedral on the following day. On the 21st, after watching the Ferris Drill Competition in the morning in damp, cold weather (which, incidentally, led to the cancellation of an air display also planned for the morning) our friends became our adversaries on the rugby field and in the gymnasium. A festive evening followed, first at the Lodge and later, variously, at Woodhall Spa, *sous les toits de Sleaford* and elsewhere. Weather, it was hoped, might have delayed the departure of our friends on the 22nd, but both Dakotas took off in low cloud, one making an instrument circuit and diving, in a dramatic farewell gesture, to 50 feet over us as we took a last fearful opportunity to wave our *au revoirs*.



Right: The Commandant greets the Commandant of L'Ecole de l'Air, Colonel de Maricourt (back view), Capitaine Mazaron and Mr Acomb upon arrival. *Centre left:* Colonel de Maricourt with Squadron Leader Thomas in the Museum. *Centre right:* Flight Cadet Close shows a group of French cadets the album containing photographs of the Royal visit of 1948. *Below left:* 'C'est la Cathédral de Lincoln.' *Below right:* The camera-man occasions some mirth on the Admiral's Walk.



College Journal Spring 1962 - Me 262

MESSERSCHMITT 262



On March 18th, 1945, a group of sixteen U.S. Army Air Force Marauders flew steadily into the German hinterland, escorted by Mustang long-range fighters flying high above them, watchful and ready.

Suddenly, a group of four enemy fighters was seen approaching. The two formations closed at terrific speed, and at a range of six hundred yards, the Germans fired salvos of rockets and cannon shells into the American bombers. Three bombers exploded immediately, and five others were crippled and subsequently crashed.

The defensive fighter screen hurled itself down upon the attackers, but the four Germans calmly re-formed and disappeared so quickly that the Mustangs had hardly a chance to fire a shot.

Once again the Messerschmitt 262 Schwalbe, or Swallow, had proved itself in the defence of "das Vaterland." The phenomenal successes which this little-known fighter achieved were, however, too late to have much effect on the war in the air, and the history of the 262 is short, but fascinating.

The Me 262 airframe was first designed early in 1938, and was flown using a Jumo 211 piston engine in 1940. When the aerodynamic qualities had proved satisfactory, two airframes were fitted with early mark Jumo 009A gas turbine units. These two prototypes, the Me 262 V-1 and V-2 flew early in 1942 and fulfilled all expectations.

The great delay between the time of the first propeller-driven flight and the first turbine-powered flight in 1942 was not merely because there were no jet engines available, but simply because of a lack of foresight by the German political leaders.

Four days before the start of World War II, on August 27th, 1939, the first jet aircraft in the world, the Heinkel He. 178 flew in Germany. The first British jet, the Gloster Whittle E.28/39, flew on May 15th, 1941, showing that at this time the Germans were about eighteen months ahead on the British in this branch of research.

In early 1943, General Galland, General of Fighters, flew one of the prototype Me 262s and was immediately convinced that the fullest priority should be given to the production of this fighter, which he himself considered sensational. However, the enthusiasm of the German High Command was only lukewarm, and Hitler himself ordered that there should be no rash development programme, because he was already distrustful of Goering's unfulfilled promises. Besides, even in 1943, Hitler was thinking in terms of a new 'Blitz Bomber' to drive off the forthcoming Allied invasion of Europe, and certainly not of a new fighter. In December, 1943, the Me 262 was demonstrated to Hitler at Insterburg. Hitler asked Goering, "Can this aircraft carry bombs?" The answer was, "Theoretically, yes, my

Führer." Hitler thereupon acclaimed the aircraft as his new 'Blitz Bomber.'

Naturally no one took him seriously, and development of the Me 262 continued as a fighter. American bombing slowed the rate of development, and in 1944, when mass production was just starting, Hitler discovered that his 'Blitz Bomber' was being produced solely as a fighter, and flew into an uncontrollable fury. He forbade all reference to the aircraft as a fighter and ordered all Me 262s to be converted to bombers. The Me 262, however, was completely unsuitable for bombing. With two 1100 lb. bombs, its speed was cut down by 120 m.p.h.

from his post as General of Fighters because of his continued agitation for the Me 262s as fighters. Eventually, when the air situation over Germany became intolerable, Me 262s were changed back to fighters again and production was placed in the hands of the S.S. By now it was too late, and the factories were completely incapable of providing enough aircraft to stem the flood of Allied bombers and fighters.

Only about a hundred Me 262s found their way into service, but they wrought havoc wherever they met the Allies. They were superior in every way, and the only jet fighter unit, J.V.44, reaped a large number



Messerschmitt 262 A. captured aircraft with allied markings.

to within the range of Allied fighters, and its manoeuvrability was greatly restricted. Increased fuel consumption led to inadequate range and there was no provision for bomb sighting at all.

This change from fighter to bomber led to violent repercussions and furious arguments in the Luftwaffe High Command. The training of bomber crews for the Me 262 failed lamentably and Galland was dismissed

of successes. The technical superiority of the aircraft was amply demonstrated when Wing Commander J. E. Johnson's squadron of Spitfire XIVs met a lone Me 262, which, after shooting down one Spitfire, climbed away unscathed from the formation, rolling contemptuously. The Me 262, although possessing excellent handling characteristics, was no novice's aircraft. The throttles had to be coaxed with the utmost caution to

Journal Summer 1967 - Passing Out 90 Entry (1)



Sir Wallace Kyle inspecting 'D' Squadron

THE GRADUATION OF No 90 ENTRY

The Graduation Parade of No 90 Entry was held on the morning of 3rd March 1967 in very windy conditions. The Reviewing Officer was Air Chief Marshal Sir Wallace Kyle, G.C.B., C.B.E., D.S.O., D.F.C., A.D.C., Air Officer Commanding-in-Chief, Bomber Command. The parade was commanded by Senior Under Officer R. M. Joy and the Parade Adjutant was Under Officer K. B. Patrick. The Sovereign's Squadron was commanded by Senior Under Officer E. T. M. Danks, and 'A', 'B' and 'D' Squadrons were commanded by Senior Under Officer A. I. Saggi, Under Officer T. W. Kirkland and Senior Under Officer G. S. Pyle respectively.

As the Reviewing Officer approached the dais a formation fly-past of nine Jet Provosts took place. After the Advance in Review Order the Reviewing Officer presented the Sword of Honour to Senior Under Officer R. M. Joy, the Queen's Medal to Under Officer K. B. Patrick and the Kinkead Trophy to Under Officer S. C. Gruner, and then gave the following address :

Gentlemen :

I'm sure everyone will join with me in congratulating the prize winners, and indeed all who are graduating today. I believe I know how you're feeling and I'm very glad to share that feeling with you.

I'm no stranger here at Cranwell. 36 years ago I stood as you are, hoping incidentally that the reviewing officer wouldn't go on too long ; and I've served as flying instructor, college officer, squadron commander and more recently as Assistant Commandant.

So I know something about these occasions and the preparation that goes into them. In my experience they've always been very good, they've always been stimulating, not only for friends and relations but also for your instructors and yourselves—although I don't suppose you'd be prepared to admit it.

And so it is this time. You have pulled out the extra stop which makes all the difference between a rehearsal and the real thing ; and I can congratulate you sincerely on a first class parade, very well handled and very well executed in very difficult weather conditions.

And this allows me to make my first point. All of us have got that extra stop we can pull out when faced with a special occasion or emergency. And you will find that the Service will judge harshly those who are unwilling to give that extra bit when it's necessary. But it will be generous to those who are willing to give more than they expect to get.

Traditionally your reviewing officer is expected to pass on some message based on his own experience. I will be no exception, but I propose to be rather more parochial than has been fashionable lately.

In the past two or three years at about this time, when Defence matters are debated in public and discussed in the National Press, much emphasis has been put on the need to bring the three Services closer together, for them to understand each other, to be inter-dependent and so on.

Now I wouldn't disagree with that but I don't think there need be all that song and dance about it. I believe that healthy rivalry

between our three Services is a very important and a very good thing, and that we must be careful not to stifle it. Quite frankly I don't remember any occasion, certainly in the field which is what concerns you, when the three Services haven't got on very well.

So I think it is much more important to look through this smoke screen and remind you that the efficiency and well being of your own Service, the Royal Air Force, is your primary concern and responsibility. That you must constantly remind yourselves that it is dependent on the professional ability and proficiency of its own members, particularly its young officers — You.

The only difference now is that in this fast moving, highly technical environment, it's more important and more difficult to keep abreast of developments — and this we must do if we are to maintain our reputation and our high standards. In a nutshell you have got to be better than we were and keep up a faster pace.

So let there be no doubt where your loyalties must lie. Firstly, of course, to your Queen and Country. But then to your own Service.

And you will have enough on your plates for quite a while at any rate, to practise your own expertise — flying, technical, organisational ; and don't let us forget that valuable contribution which the R.A.F. Regiment makes — and weld all these specialisations into an efficient whole.

Because the only reason that the Royal Air Force holds its proud position today is because it is good, because it is professionally highly efficient. And it's up to you to maintain it.

Never forget that our Service has found greatness by its youthful vigour of outlook, its adaptability to the ever-accelerating progress of aviation, and above all by its refusal to be hide-bound by the methods and forms of its earlier successes.

Keep it so.

And my final point is to commend to you the pleasure which pride in achievement can

Journal Summer 1967 - Passing Out 90 Entry (2)

give you. I'm not advocating blowing your own trumpet. I mean the sort of pride that spurs you on to even better things.

We are in the process of bringing into service ten new types of aircraft. A major undertaking by any standards. And I hope and believe you will play a full part in completing this task and at the same time in improving our capability and our efficiency.

This, Gentlemen, is your exciting prospect. I envy you. And I hope you will enjoy the pride that an enthusiastic contribution to it will surely give you ; and I hope too that you will make no secret of that pride.

I shall always be grateful that the Royal Air Force accepted me into its midst ;

because I've had fun, I've had the satisfaction of being part of a forward looking organisation, and taken great pride in making some contribution to it.

But we must keep this in proper perspective.

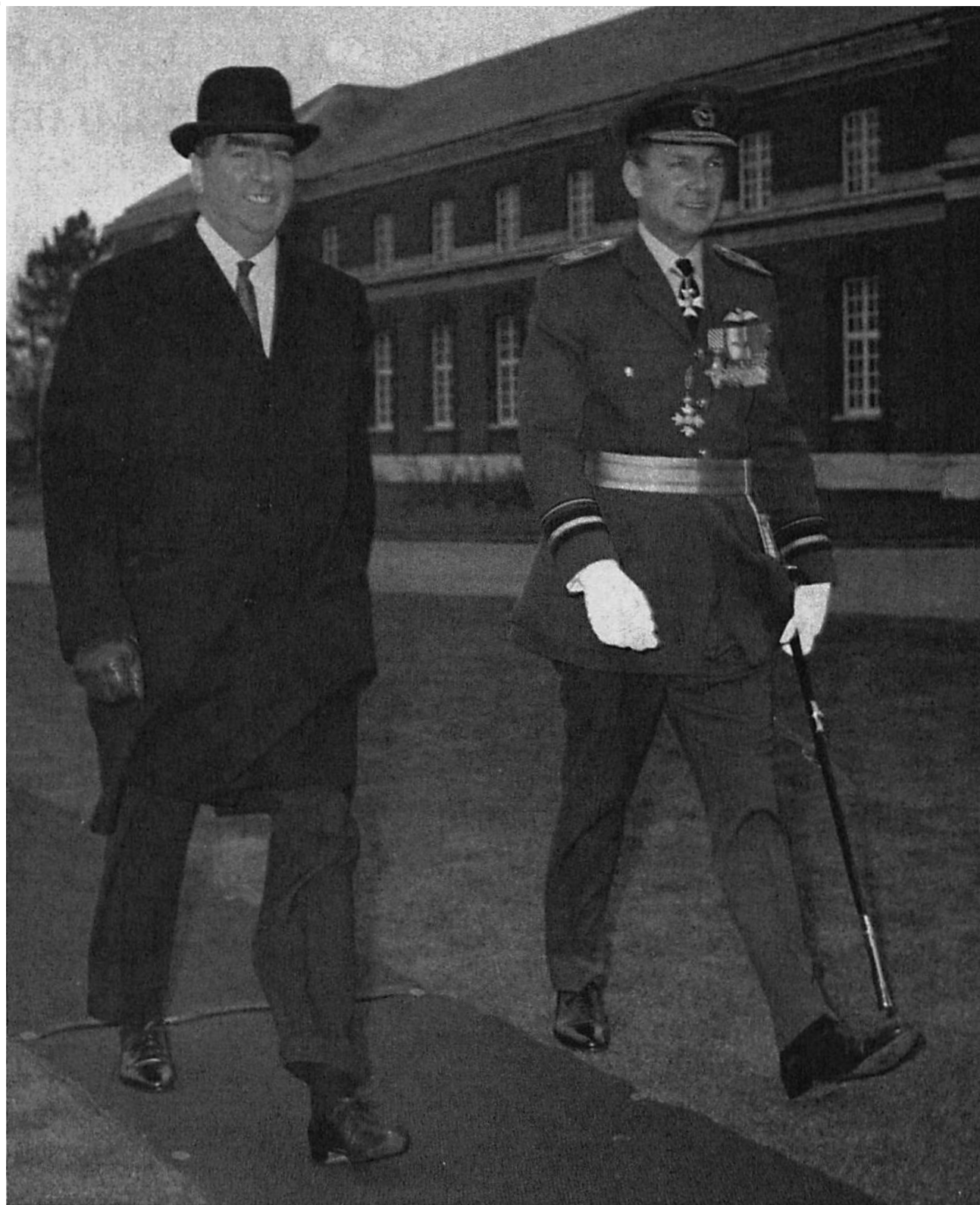
Of course it won't be all a bed of roses. Of course you will have maddening frustrations and sometimes great disappointments. But the very nature of Service life, compared with other ways of life, means that these things will be very temporary and the good and exciting things will far outweigh them.

Gentlemen, the best of luck to you all, and my best wishes for a full, happy and successful career.

*The Reviewing Officer
presenting the Sword of Honour
to Senior Under Officer R. M. Joy*



Journal July 1968 - Passing Out 93 Entry (1)



The Secretary of State for Defence, the Right Honourable Denis W. Healey, M.B.E., M.P., accompanied by the Commandant, Air Vice-Marshal T. N. Stack, C.V.O., C.B.E., A.F.C. at the Graduation Parade of No 93 Entry.

THE GRADUATION OF No 93 ENTRY

The Graduation Parade of No 93 Entry was held on the morning of 1st March 1968. It was a cold, overcast day. The Reviewing Officer was the Right Honourable Denis W. Healey, M.B.E., M.P., Secretary of State for Defence. The parade was commanded by Senior Under Officer D. A. Ray and the Parade Adjutant was Senior Under Officer P. C. Butt. The Sovereign's Squadron was commanded by Senior Under Officer A. W. Cope and 'A', 'B' and 'C' Squadrons were commanded by Senior Under Officer L. J. Anderson, Under Officer G. P. Smith and Under Officer A. Evans respectively.

As the Reviewing Officer approached the dais, accompanied by the Air Officer Commanding-in-Chief, Flying Training Command, Air Chief Marshal Sir John Davis, K.C.B., O.B.E., M.A. and the Commandant, Air Vice Marshal T. N. Stack, C.V.O., C.B.E., A.F.C., a formation fly-past of nine Jet Provosts took place. After the Advance in Review Order the Reviewing Officer presented the Sword of Honour to Senior Under Officer D. A. Ray, the Queen's Medal to Senior Under Officer P. C. Butt and the Kinkead Trophy to Under Officer D. R. Carvell and then gave the following address :

I would like to start by congratulating you on a first class parade. It marks a fitting end to the time you have spent here at Cranwell and the training you have undergone.

I know it has not been an easy course — it was not intended to be. But both for you and the Royal Air Force it has been a very vital one. The performance and efficiency of the Royal Air Force depend in the last resort on the men who man it, above all, the men who lead it.

You have been learning here not just how to become efficient in your particular skill — important in itself as that is — but also how to become leaders. And as leaders in the Royal Air Force you will have not only a degree of technical competence which nowadays puts the young officer in the forefront of all the professions in Britain.

You will also have an all-round ability to more than hold your own in any company — including, let me say from personal experience — the company of politicians like myself.

The role of the Royal Air Force, like that of the other Services, is not static. It is continually changing as the world around it changes. I want to say something to you this morning about the future role of the Royal Air Force and the part you have to play in it.

You will know that the main concentration of our armed forces in the future will be in Europe. In Europe the Royal Air Force will be second to none. It has a vital and indispensable part to play in guaranteeing the security of Britain within the Western alliance. We have just begun a major programme of re-equipment with some of the most modern aircraft in the world.

As the Vulcans and Canberras phase out, the Buccaneers will for the time being take over the strike/reconnaissance role. Some of you will regret as I do that circumstances have compelled the Government to do without the F.111.

In close support for the Army the Hunter is being replaced by the Phantom and the Harrier. The Phantom will remain the most advanced aircraft of its type for the next decade. The Harrier will for several years be the only operational aircraft in the Western World with the ability for vertical take-off. The Phantom will also supplement the Lightning in the air defence role as a fighter and interceptor.

VC 10s, Britannias, Belfasts, Hercules and Andovers will form the bulk of our strategic and tactical transport force. For maritime reconnaissance the Nimrod will take over from the Shackleton, with completely new computerized equipment.

Journal July 1968 - Passing Out 93 Entry (2)

All these aircraft will need trained men not only to fly them but also to provide the increasingly complex and extensive framework of backing and support without which the Royal Air Force could not exist. And these men will need leaders. This is the contribution you will be making when you graduate from Cranwell.

As the technology of warfare becomes ever more sophisticated and expensive — not only in money but in skills as well, teamwork becomes of critical importance both for economy and for efficiency. That is something as essential in the Service as a whole as it is in the single aircraft and squadron.

That is why we are now taking steps to strengthen the unity of the Royal Air Force by integrating its Commands. Bomber and Fighter Commands will this year be amalgamated into one operational arm, Strike Command — which will later take in Signals

and Coastal Command as well. Air Support Command will provide all the transport backing for this force, and later this year we will have one unified Training Command.

This type of teamwork is vital not only inside the Royal Air Force itself but also between the Royal Air Force and the other services. Co-operation between the services has always been important. Today it is indispensable. I have already said that your future role will be chiefly in Europe. That is true of the Royal Navy and Army as well. Your Phantoms and Harriers will be providing support for the Army's forward operational units. Your Nimrods, Buccaneers, and Phantoms will often be working closely with ships of the Royal Navy. The Army and Navy will depend on you as you depend on them.

In a month's time the Royal Air Force will be celebrating the 50th Anniversary of its

foundation. If I look out of my office window in Whitehall, I can see the statue of Lord Trenchard — the founding father. At that time I was still a babe in arms.

Most of you on parade today — all I hope — will live to see the first centenary of the Royal Air Force. Some of you will be retired Air Marshals by then, and I have no doubt that there will be among your number someone who will have been a Chief of Air Staff.

It is still less than 10 years since the first ex-Cranwell cadet held that exalted position. You are going from here to take your place in a Service whose traditions are still new and which has always been among the pioneers in the technological changes which have characterized this century.

The future will be neither simple nor comfortable. Neither was the past. I remember being told that in the early days of the First World War, pilots had to get used to flying

and fighting in a continuous spray of castor oil from their engines. I do not think you will encounter that particular problem. You may feel a continuous spray of Defence White Papers is almost as difficult to cope with.

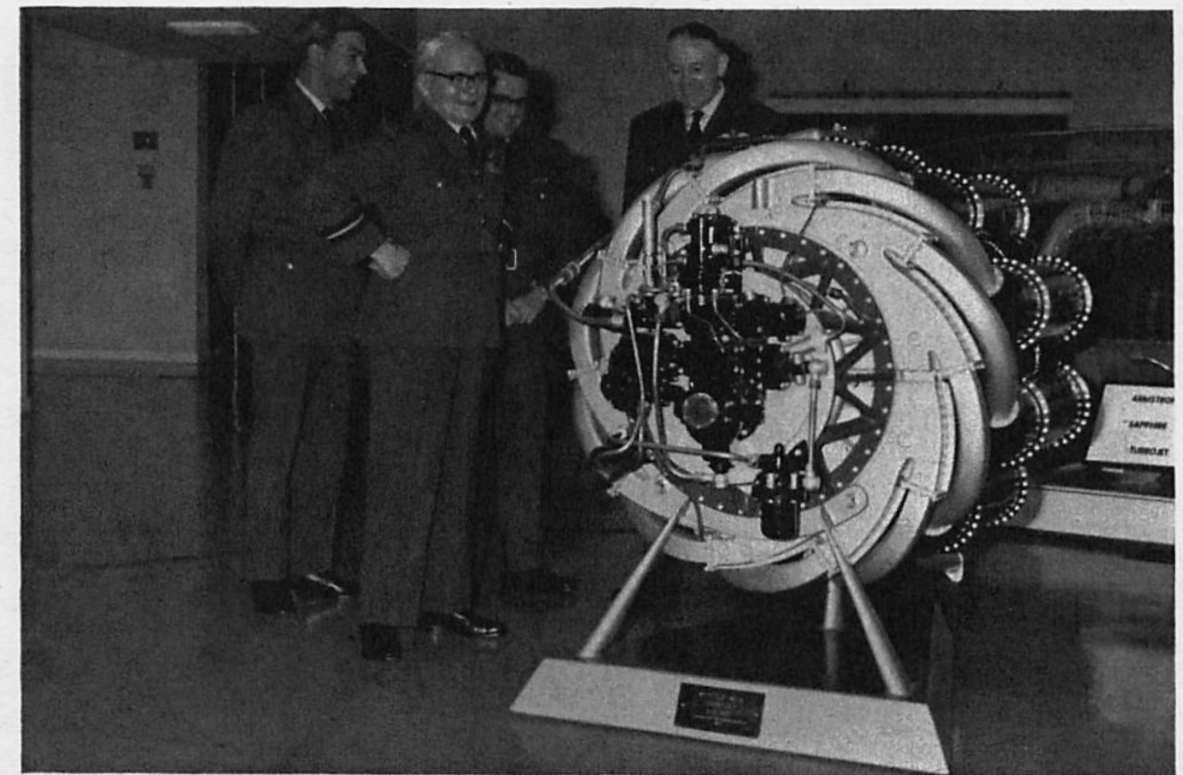
Almost the only statement I can make with certainty about the 50 years that lie ahead is that we cannot be certain precisely what they hold for us.

There is one other. Whatever the future may hold for the Royal Air Force I am sure that in your keeping it will be in safe hands. Now that you have successfully completed this first critical stage in your career let me wish you all success in the rest of it.

The efficiency and well-being of your Service depends on you. And on the efficiency of your Service — and of your fellow Services — depend — and will depend — the security of every man, woman and child in these islands.



Under Officer D. R. Carvell, Senior Under Officer P. C. Butt and Senior Under Officer D. A. Ray with the Secretary of State



Sir Frank Whittle inspecting his engine in Trenchard Hall

1973 - Passing Out of Last Flight Cadet Entry (1)

THE GRADUATION OF No 101 ENTRY

The Graduation Parade of No 101 Entry took place on 16 March 1973. The Reviewing Officer was Air Chief Marshal Sir Denis Spotswood, GCB, CBE, DSO, DFC, ADC, Chief of the Air Staff.

It would be foolish of me to deny that, in addition to the pride and pleasure we have today in your Passing-out from the College, we have in mind that you are the last to do so as a Flight Cadet Entry.

I do not wish to dwell on this latter aspect other than to say that there should be no regret that this is so. Nostalgia — yes. Sadness — no.

Rather it is a clear indication that the Service in which very shortly you will hold The Queen's Commission, is a dynamic one. One which is willing to anticipate the need for development, and to act on that need, rather than one which awaits on events.

That is our tradition, just as it has been until now that the hard-core of our officers has gone through Cranwell as Flight Cadets.

But that is the point. Tradition must be a firm foundation upon which to build. It must not become merely folk-lore, or mystique, which so often in many walks of life is used as an excuse to avoid progressive change. Of this we must never be guilty.

Your training here must have impressed upon you the exciting and dynamic nature of your Service. You will have found that the pace of its thinking has to be such that it keeps in step with, indeed anticipates, the almost incredible technological advances of the age in which we live — and particularly in respect of the element in which we have our calling. Yours is indeed an exciting future, probably more so relatively than it was for those of us whose Service started a lengthy time ago.

But I would put it to you that, whatever technology may offer in the future, man—you—will remain its master, provided you match it with the dynamic professional standards, a continued determination to make the best of our resources, and the imagination shown by your predecessors. They were never shackled by the past, while paying a proper respect for it. See to it that you act similarly.

But to show these qualities you have always to strive for excellence in every aspect of your profession. Nothing less will do.

And this brings me to your place as officers. With your Commissions you obligate yourselves to the service of your Queen and country with honour. You dedicate yourselves to a life — and it is a very rewarding one — which will call for your skill, your judgment and determination and, above all, your qualities of leadership. And note that I use the word leadership, not “management” which, I believe, should properly be subsumed by leadership.

Gentlemen, when this College was founded, Winston Churchill said that “he looked forward to the day when those at the College would make the name of the Royal Air Force feared and respected throughout the world”.

He lived to see that day come. And so we have continued — possibly more widely than you can know now. But — and I give it as but an example — last week I visited the Turkish Air Force in which I saw much to be admired and it was good to find that at least some of its strength came from the fact that this College trained no fewer than thirteen of its present Air Officers — and I can assure you that there are none more loud in their praises for what was given them here. And so it is in many, many parts of the free world.

See to it, gentlemen, and you have it in you or you would not be hearing me now, that you follow this fine tradition in your chosen — well chosen — profession.

You have started well, as is evidenced by your bearing on this first class parade, which marks a most fitting beginning to your honoured place amongst Old Cranwellians. On all this I congratulate you. And on behalf of everyone on the Orange I give you our best wishes for your success and happiness in the future.

You could not have hoped for a better start to a career of discovery, challenge and rewarding experience. Well done.

COMMISSIONING LIST No 101 ENTRY

A D MADDUX, *Senior Under Officer (Pilot); The Sword of Honour and the R S May Memorial Prize.*

P GRIMSON, *Under Officer (Supply); The Ministry of Defence (Royal Air Force) Prize for War Studies and the Royal New Zealand Air Force Trophy.*

T J WATSON, *Under Officer (Pilot); The Philip Sassoon Memorial Prize; The R M Groves Memorial Prize and Kinkead Trophy.*

M S FLEMMINGS, *Under Officer (Pilot).*

A J MALCOLM, *Under Officer (Royal Air Force Regiment).*

C ARMSTRONG, *Senior Flight Cadet (Pilot).*

R C BAILEY, *Senior Flight Cadet (Pilot).*

C R BENN, *Senior Flight Cadet (Pilot).*

R C H BEYER, *Senior Flight Cadet (Pilot).*

J G BURGESS, *Senior Flight Cadet (Pilot).*

G P COOPER, *Senior Flight Cadet (Supply).*

R CULLINGWORTH, *Senior Flight Cadet (Pilot); The Hicks Memorial Trophy.*

R DAVIDSON, *Senior Flight Cadet (Secretarial).*

G I DAVIES, *Senior Flight Cadet (Pilot).*

D EDWARDS, *Senior Flight Cadet (Pilot); The Abdy Gerrard Fellowes Memorial Prize.*

D R E EVANS, *Senior Flight Cadet (Royal Air Force Regiment).*

C J FORD, *Senior Flight Cadet (Pilot).*

W J HAIR, *Senior Flight Cadet (Pilot).*

T A HARPER, *Senior Flight Cadet (Pilot); The Dickson Trophy and Michael Hill Memorial Prize; The Ecole de l'Air Trophy for French.*

J M HERBERTSON, *Senior Flight Cadet (Pilot).*

M J HILL, *Senior Flight Cadet (Pilot).*

P HODGSON, *Senior Flight Cadet (Pilot).*

A P J KIRKUP, *Senior Flight Cadet (Pilot).*

A H LEITCH, *Senior Flight Cadet (Pilot).*

R G LEONARD, *Senior Flight Cadet (Supply).*

A H LITTLE, *Senior Flight Cadet (Pilot); The Battle of Britain Trophy.*

P A W MAYHEW, *Senior Flight Cadet (Pilot).*

P F B PATERSON, *Senior Flight Cadet (Pilot).*

M J RUDD, *Senior Flight Cadet (Secretarial).*

D St J SALISBURY, *Senior Flight Cadet (Secretarial).*

S M S SKINNER, *Senior Flight Cadet (Pilot).*

A C SPINKS, *Senior Flight Cadet (Supply); The Queen's Medal, The Ministry of Defence (Royal Air Force) Prize for Supply Flight Cadets; The Alasdair Black Memorial Trophy and Prize.*

J J T TAYLOR, *Senior Flight Cadet (Pilot).*

C B WALKER, *Senior Flight Cadet (Pilot).*

J WILLIMOTT, *Senior Flight Cadet (Navigator).*

1973 - Passing Out of Last Flight Cadet Entry (2)



The Chief of Air Staff carries out his inspection of No 101 Entry.

1973 - Passing Out of Last Flight Cadet Entry (3)

THE WINGS AND PRIZES CEREMONY

Presentations of Wings and Prizes to No 101 Entry were made by Air Chief Marshal Sir Denis Spotswood, GCB, CBE, DSO, DFC, ADC, Chief of the Air Staff, in the Whittle Hall on 15 March 1973.

Before the presentations, the Commandant, Air Vice-Marshal R D Austen-Smith, DFC, addressed the audience :

Chief of the Air Staff, Commander-in-Chief, Distinguished Guests, Ladies and Gentlemen :

Welcome to the Wings and Prizes Ceremony. I am delighted to see that so many of you — the parents, relatives and friends of No 101 Entry, have been able to overcome the problems of travelling and are with us here this evening — for this is an historic occasion. As I am sure you are well aware, tomorrow brings to a close an era that has spanned 53 years — and for all of us, and particularly the young men of this, the last flight cadet entry, the day will have special significance.

Traditionally, the Wings and Prizes Ceremony has been very much a “family affair” attended only by the staff, the flight cadets, and their guests. On this occasion our family has grown — quite legitimately — to include the Commander in Chief Training Command, Air Marshal Sir Neville Stack, who was Commandant here from February 1967 to March 1970, and who, in earlier days, won the Sword of Honour as a member of the September 1937 Entry.

We welcome also, as our guest, the Air Member for Supply and Organisation, Air Chief Marshal Sir Neil Wheeler, who, as a member of the September 1935 entry, has become the “doyen of serving Old Cranwellians”. He was also the Assistant Commandant of the College from April 1957 to April 1959.

Finally, we extend a special welcome to our guest of honour, the Chief of the Air Staff, Air Chief Marshal Sir Denis Spotswood who will, as you know, be the reviewing officer at tomorrow's parade. Sir Denis was Commandant here from August 1958 to April 1961, and, until recently, was a member of the Cranwell Advisory Panel. He has always taken the keenest interest in the well-being and development of the College and, like our

C in C and Sir Neil, is abundantly well-qualified to be one of what I have termed — ‘the family’ —. I know I speak for 101 Entry when I say that we are all delighted that he has been able to find the time to come to the College to present the wings and prizes this evening.

To give some perspective to this occasion I would like, just for a moment, to glance back over the history of the College. From 1920 until the College closed at the outbreak of the war in 1939, only pilots were trained at Cranwell. Just over one thousand graduated during this period of time and, sad to relate, no less than a half of them lost their lives on active service during the war. Of those who survived, 73 served on to reach air rank.

With the reopening of the College in 1946, training expanded to include the Supply and Secretarial Branches, and later, navigators and the Royal Air Force Regiment — and finally in 1966, the Engineering Branch. With the graduation of No 101 Entry, more than 3,500 officers will have passed through Cranwell and on into the Service.

Tomorrow sees the end of an era, but it does not, as one might expect, herald the start of another. In fact, it was in September 1970 that we saw the birth of the new era, when the first graduate students arrived at Cranwell, and, since that time, no fewer than seven entries have completed their officer and specialist training at the College. The Graduate Entrant Scheme is, therefore, in full swing and has been so for some time and, I am glad to say, it is now firmly established.

The transition over these past two and a half years has not been altogether painless — particularly in the early days — but I am now able to report — and I am sure that 101 will back me on this — that the graduate officers are in every way proving themselves to be

worthy successors to the flight cadets who have gone before. Here I must pay special tribute to the part played by No 101 Entry in handing over the baton. Your numbers may have been small but your influence has been considerable. For the past twelve months a great responsibility has rested on your shoulders and you have risen to the occasion in a most creditable way. Tomorrow you hand over The Queen's Colour to the graduate officers and I feel sure that you will do so confident that they will follow your good example and bear it with the same pride and dignity as yourselves.

Turning now for a few minutes to your own future. You have been given the finest training in the Service, at the oldest air academy in the world, and it will now be up to you to build on that sound foundation. Cranwell is not — and never has been — an automatic passport to success. Indeed it is probable — and understandable — that more will be expected of you than of many other officers : you should accept this as a compliment but, more important, you should regard it as a challenge, to which you must respond by dint of hard work — there is no question of your resting on your laurels if you wish to make a success of your chosen career.

The first word of advice which I offer — and this is a Commandant's prerogative — is that you should recognise the need for professionalism — professionalism in all that you do, whether it be in the cockpit, the office, or in the many irksome duties that will undoubtedly come your way. You are all well-aware of the continuing need for economy and to this end a great deal can be achieved by improving efficiency — and you won't do this without being thoroughly professional in your approach to your work.

It is interesting to note that as far back as 1922 Lord Trenchard said : “Remember the one great thing to which you should at all times apply your thoughts and brain is the expansion of the power of material and personnel without increasing either — that way lies economy.”

The second point which I would like to touch upon for a moment, concerns management, or expressed in more traditional terms — leadership.

During your training you have received instruction in the latest management techniques, but I can assure you that these will avail you little if you are unable to establish the right sort of relationship with your men. Today's airman is better educated, more widely informed and probably more discerning than his predecessor of years gone by. He may give you the impression that he is self-sufficient, fully capable of handling his own affairs and is in little need of guidance, and so he may be, but it is as well to remember that no matter how well educated, every man has his problems of one sort or another, his weaknesses and his strengths. You must therefore make a conscious and continuous effort to get to know the men who work for you — their well being must be your immediate concern.

If you follow this advice you will find that your efforts are amply rewarded by the response which you will get — a response which can make all the difference between success and failure when the going gets tough.

The pilots among you will be involved in training for some time yet and it may be quite a while before you fill your first executive appointment on a squadron. Until that time comes, it is most important that you seize every chance to practise leadership. Don't wait for the opportunities to come to you — go out and find them, and one useful way is to take on an onerous secondary duty either on your squadron or at station level — or both. If you tackle such jobs in a professional and enthusiastic manner, you will gain valuable experience and be well on the way to preparing yourself for command.

To complete my exhortation, it is perhaps appropriate to refer back to the address given by Air Commodore Longcroft to the first flight cadet entry in December 1920. He was the first Commandant of the College and he said : “Constant endeavour is necessary if you are to go on improving and if you are to become worthy of the finest Service in the Empire.” Times have changed ; the Empire has gone, but the spirit of the message still holds true, and it is one that we should all take to heart.

Now I will return to the present and the achievements of the Entry to date. No 101 Entry started at the College 2½ years ago some

1973 - Passing Out of Last Flight Cadet Entry (4)



A symbolic, proud moment from an impressive parade.

1973 - Passing Out of Last Flight Cadet Entry (5)

worthy successors to the flight cadets who have gone before. Here I must pay special tribute to the part played by No 101 Entry in handing over the baton. Your numbers may have been small but your influence has been considerable. For the past twelve months a great responsibility has rested on your shoulders and you have risen to the occasion in a most creditable way. Tomorrow you hand over The Queen's Colour to the graduate officers and I feel sure that you will do so confident that they will follow your good example and bear it with the same pride and dignity as yourselves.

Turning now for a few minutes to your own future. You have been given the finest training in the Service, at the oldest air academy in the world, and it will now be up to you to build on that sound foundation. Cranwell is not — and never has been — an automatic passport to success. Indeed it is probable — and understandable — that more will be expected of you than of many other officers: you should accept this as a compliment but, more important, you should regard it as a challenge, to which you must respond by dint of hard work — there is no question of your resting on your laurels if you wish to make a success of your chosen career.

The first word of advice which I offer — and this is a Commandant's prerogative — is that you should recognise the need for professionalism — professionalism in all that you do, whether it be in the cockpit, the office, or in the many irksome duties that will undoubtedly come your way. You are all well-aware of the continuing need for economy and to this end a great deal can be achieved by improving efficiency — and you won't do this without being thoroughly professional in your approach to your work.

It is interesting to note that as far back as 1922 Lord Trenchard said: "Remember the one great thing to which you should at all times apply your thoughts and brain is the expansion of the power of material and personnel without increasing either — that way lies economy."

The second point which I would like to touch upon for a moment, concerns management, or expressed in more traditional terms — leadership.

During your training you have received instruction in the latest management techniques, but I can assure you that these will avail you little if you are unable to establish the right sort of relationship with your men. Today's airman is better educated, more widely informed and probably more discerning than his predecessor of years gone by. He may give you the impression that he is self-sufficient, fully capable of handling his own affairs and is in little need of guidance, and so he may be, but it is as well to remember that no matter how well educated, every man has his problems of one sort or another, his weaknesses and his strengths. You must therefore make a conscious and continuous effort to get to know the men who work for you — their well being must be your immediate concern.

If you follow this advice you will find that your efforts are amply rewarded by the response which you will get — a response which can make all the difference between success and failure when the going gets tough.

The pilots among you will be involved in training for some time yet and it may be quite a while before you fill your first executive appointment on a squadron. Until that time comes, it is most important that you seize every chance to practise leadership. Don't wait for the opportunities to come to you — go out and find them, and one useful way is to take on an onerous secondary duty either on your squadron or at station level — or both. If you tackle such jobs in a professional and enthusiastic manner, you will gain valuable experience and be well on the way to preparing yourself for command.

To complete my exhortation, it is perhaps appropriate to refer back to the address given by Air Commodore Longcroft to the first flight cadet entry in December 1920. He was the first Commandant of the College and he said: "Constant endeavour is necessary if you are to go on improving and if you are to become worthy of the finest Service in the Empire." Times have changed; the Empire has gone, but the spirit of the message still holds true, and it is one that we should all take to heart.

Now I will return to the present and the achievements of the Entry to date. No 101 Entry started at the College 2½ years ago some



A new generation waiting in the wings.

1973 - Passing Out of Last Flight Cadet Entry (6)

46 strong. A year later 6 flight cadets were commissioned and went to university under the Graduate Entry Scheme. Six other members were lost through voluntary withdrawal or suspension from training. The remaining 34 will be commissioned tomorrow — 2 Regiment, 4 Supply, 3 Secretarial and 25 pilots. Unfortunately, for various reasons 5 pilots will not complete their flying training until later and I know that we all share their disappointment in not receiving their wings this evening.

As an Entry their overall performance in formal instruction can be rated no better than just average — perhaps the loss of 6 flight cadets to university denied them the opportunity of achieving an above average mark. However, it was most encouraging to see that the special subject studies undertaken by individual cadets were of a good standard — a clear indication that there is much talent in their midst.

In their exercises away from Cranwell the Entry reacted very well. Their instructors were impressed with their spirit and fortitude under duress, and their enterprise and initiative were never in doubt, albeit sometimes a little misplaced as happened on one particularly arduous exercise when a team hired a mini coach instead of making the long walk across country. (Aside to CAS): You may agree, Sir, that although the flight cadet has not changed much it appears that his affluence has!

On the parade ground the Entry has maintained the standard of drill and bearing that has always been the hallmark of the College, and in so doing, they have provided an admirable example for the graduate officers to follow. Here I stick my neck out, but I am confident that they will all produce a performance tomorrow that will be entirely in keeping with the occasion.

In spite of their small numbers, the Entry has been a pillar of strength in the athletic world, and it is much to their credit that they have participated in practically every game that is played here, and so have given a lead to all other students at Cranwell. An indication of their wholehearted participation is the fact that 23 of the Entry have been awarded colours, 5 of them, SUO Maddox, UO

Malcolm, SFC's Evans, Rudd and Spinks, gaining colours in 2 separate sports. The Entry can be well pleased with their sporting prowess and I particularly commend SFC Rudd who has represented the College at soccer, cricket, tennis, athletics and golf.

Turning now to the individual branches: the pilot training results have been slightly better than those of 100 Entry. One pilot was assessed as above average, 10 were high average, 7 average and only 2 had low average marks. However, the ground school examination results were not quite as good as we would have liked, being slightly less than those of 100 Entry and the graduate officers. Nevertheless, our congratulations go to SFC Cullingworth who was placed first in the Central Examining Board order of merit and Under Officer Watson who was placed first in the order of merit for flying.

During the course the 4 flight cadets of the Supply Branch completed working detachments at home and overseas — 2 received parachute training at Abingdon and the other two spent time with the Special Air Service. They all did well in their specialist training and our congratulations go to SFC Spinks in particular for winning the Supply Prize.

Only two of the three secretarial flight cadets will graduate tomorrow; the third, SFC Salisbury, who was a late transfer to the Branch, will not complete his specialist training until May. Unfortunately, it has not been possible to award the secretarial prize this year.

Both UO Malcolm and SFC Evans, the two Royal Air Force Regiment cadets, can expect to be flight commanders on operational detachments in the very near future. Their departure signals the end of specialist Regiment training here at Cranwell; a task that we have undertaken since 1960. Both have maintained the high standards expected of their Branch and, in particular, are to be congratulated on the award of their parachutist badges, which will be presented to them in a few moments' time.

I would like to draw your attention to the fact that three of the major awards will not be made this evening. The presentation of these

prizes is a traditional part of the graduation parade itself, but I am sure you would like to join with me now in congratulating the winners. They are:

The Sword of Honour .. SUO Maddox

The Queen's Medal .. SFC Spinks

The R M Groves Memorial
Prize and Kinkead Trophy UO Watson

101 Entry — I congratulate you on your success so far; thank you for the very real contribution which you have made to life at

the Royal Air Force College, and I wish each one of you every good fortune in the very exciting career that lies ahead of you. Before asking the Chief of the Air Staff to present the wings and prizes, I would like to read out a signal from Air Vice-Marshal Hughes, my predecessor as Commandant. It reads:

"All Old Cranwellians in NEAF join me in wishing the 101 Entry long, distinguished and happy careers in the Royal Air Force. Like their predecessors over more than half a century they have been searchingly tested and not found wanting. Congratulations to you all".

The Last Flight Cadet passes into history



1974 - Passing Out 12 GE and 13 GE (Supply)

NUMBERS 12 & 13 GRADUATE ENTRIES

The Passing Out Ceremony of No 12 Graduate Entry (GD and Engineer Branches) and No 13 Graduate Entry (Supply Branch) took place on 15th March 1974. The Reviewing Officer was Air Chief Marshal Sir Denis Smallwood, KCB, CBE, DSO, DFC, RAF.

PRIZE WINNERS

The Sword of Honour and R S May Memorial Prize. Flight Lieutenant A P Couch.

The Philip Sassoon Memorial Prize. Flying Officer G E Willis.

The R M Groves Memorial Prize and Kinkead Trophy. Flight Lieutenant N C A Beasant.

The Hicks Memorial Trophy. Flying Officer A T Hudson.

The Dickson Trophy and Michael Hill Memorial Prize. Flight Lieutenant N C A Beasant.

The Battle of Britain Trophy. Flight Lieutenant N C A Neasant.

The Chicksands Cup. Flying Officer J Brindley.

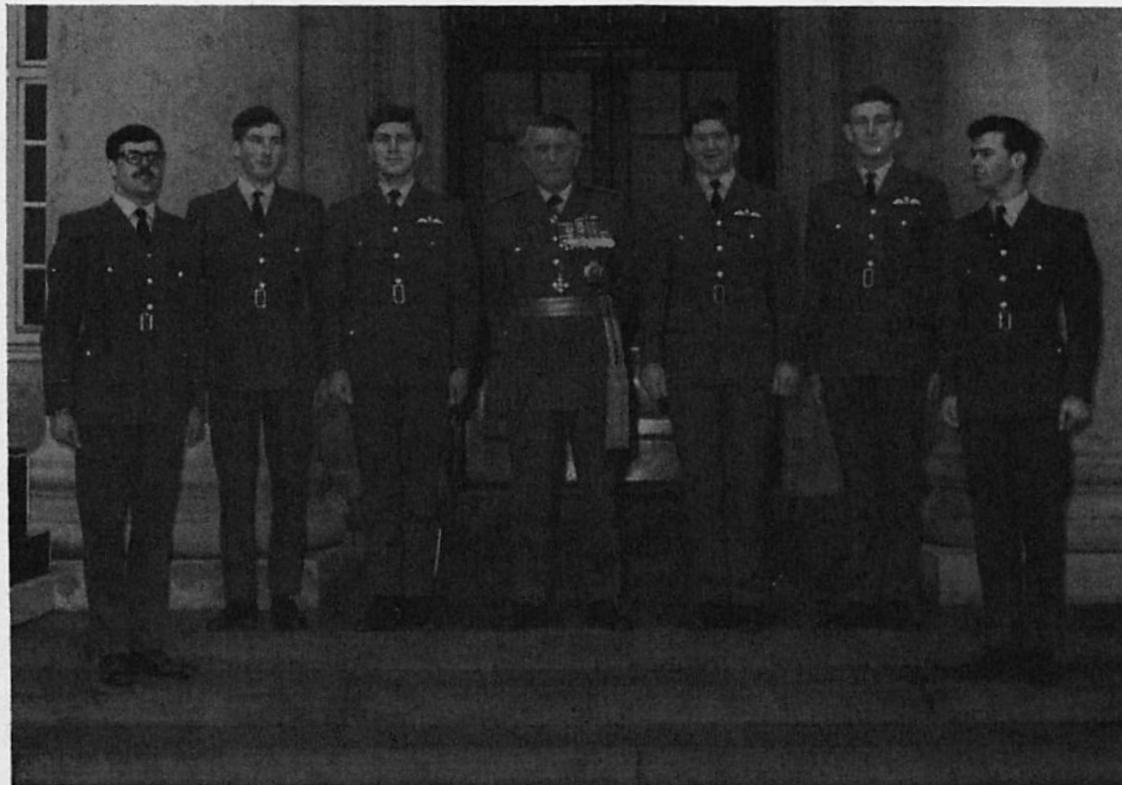
The Prize for Supply Studies. Awarded to the officer who achieved the highest standard in Supply Studies. Flying Officer S A Cartwright.

LIST OF PASSING OUT OFFICERS

General Duties Branch (Pilots). No 12 Graduate Entry. Flight Lieutenants R M Andrews; N C A Beasant; A P Couch; G P Cowling; J L Duckham; I J Foord; R E Holden; K R McCarthy; S Morgan. Flying Officers S Banks; R Hamill; D J T Hickin; A T Hudson; S A Willbourn.

Engineer Branch. Flying Officers J Brindley; I R Hancox; G E Willis.

Supply Branch. No 13 Graduate Entry. Flying Officer S A Cartwright.



The Prize Winners with the Reviewing Officer

1975 - Passing Out 17 and 18 GE (Supply)

NUMBERS 17 & 18 GRADUATE ENTRIES

The Passing Out Ceremony of No 17 Graduate Entry (GD and Engineer Branches) and No 18 Graduate Entry (Supply Branch) took place on 27th March 1975. The Reviewing Officer was His Excellency General Hassan Toufanian, Vice Minister of War for The Imperial Iranian Government.



PRIZE WINNERS

The Sword of Honour and R S May Memorial Prize

Flight Lieutenant R McLellan

The Philip Sassoon Memorial Prize

Flight Lieutenant D W McCready

The R M Groves Memorial Prize and Kinkead Trophy

Flight Lieutenant R McLellan

The Hicks Memorial Trophy

Flight Lieutenant R McLellan

The Dickson Trophy and Michael Hill Memorial Prize

Flight Lieutenant R McLellan

The Battle of Britain Trophy

Flight Lieutenant R McLellan.

LIST OF PASSING OUT OFFICERS

General Duties Branch (Pilots)

Flight Lieutenants M C Kenrick; P J Lander; D W McCready; R McLellan; I Pallister; P R West; K J Horlock; A J Sumner.

Engineer Branch

Flying Officers J N Bennett; G A Straughan.

Supply Branch

Flying Officer R G Williams.

College Journal 1975 - DGST Awards

THE DEPARTMENT OF SPECIALIST GROUND TRAINING

The Era of Higher National Engineering Training in the Royal Air Force

The passing out of No 11 Standard Engineering Diploma Course on 22nd March 1973 marks the end of an era of 23 years of Higher National Diploma Training in the Royal Air Force.

Courses for the Higher National Diploma began in 1952 when the first entry of Technical Cadets began their training at the Royal Air Force College, Henlow. Until 1962 all Technical Cadets studied for the HND in parallel with their engineering studies. After this date, when the Diploma in Technology Courses subsequently to be superseded by CNAA Degree Courses were introduced, the HND training still continued for Technical Cadets as an alternative qualification until 1971.

The first Standard Engineering course was introduced in 1962, to attract the more mature student who was too old for cadet training. This course has continued very successfully for the last thirteen years. However, since nowadays more degrees are being awarded, and rationalization is taking place in civilian education which will eventually lead to the discontinuation of the Higher National Diploma Examinations, the Royal Air Force Course has now been discontinued.

Since 1955, when the first Higher National Diploma Engineers trained by the Royal Air Force completed training, 196 Mechanical and 226 Electrical Diplomas have been awarded. The recipients of these diplomas, taken together with diploma-holders directly recruited, form approximately 20% of the full career cadre of the Engineer Branch.

No 11 Standard Engineering Diploma Course, the last course, completed training on 21 March 1975. Although small in number its efforts both academically and socially whilst at the college have been commendable. Flying Officer P D Rawson who obtained no less than 4 distinctions in his final diploma examinations was awarded, in competition

with candidates in the whole of England and Wales, the HND prize in Mechanical Engineering of the Institution of Mechanical Engineers.

In his address after presenting the prizes the Commandant congratulated the diploma holders, pointing out that future career success depended on both individual and team effort as engineers and managers in post. Modern hardware including operational squadrons of Phantoms, Jaguars, Harriers, Pumas, Gazelle, and Nimrods already in being, and further aircraft in the pipeline, set both opportunity and challenge for the engineer. The efficiency of any fighting service is heavily reliant on the way it utilizes its resources, the aircrew on how they operate the aircraft, and the engineers for the way in which they generate the aircraft for the aircrew to fly. The Commandant closed wishing No 11 Course on behalf of the Royal Air Force College good fortune and happiness in the future.

On the passing of the Higher National Diploma era the *Journal* adds its best wishes to members of No 11 Course and all other engineer officers who gained their HND qualifications within the Royal Air Force during the last 23 years.



*Flight Lieutenant P T Coleman
receiving his diploma*

THE HIGHER NATIONAL DIPLOMA

No 11 STANDARD ENGINEERING DIPLOMA COURSE

Flight Lieutenant P T COLEMAN
Flight Lieutenant R T DIXON

ELECTRICAL

Flight Lieutenant J C HAY

Flight Lieutenant J CONNORTON
Flying Officer J S ALTON
Flying Officer C C CLARKE
Flying Officer P M CLARKE

MECHANICAL

Flying Officer S T DEANE
Flying Officer P D RAWSON
Flying Officer D J ROBINSON
Flying Officer ABU BAKAR SUHAD

PRIZES

The Higher National Diploma Prize in Mechanical Engineering — 1974 : Flying Officer P D RAWSON.

The Mechanical Engineering Studies Prize : Flying Officer P D RAWSON.

The Electrical Engineering Studies Prize : Flight Lieutenant P T COLEMAN.

The Mathematics Prize : Flight Lieutenant P T COLEMAN.

The General Studies Prize : Flight Lieutenant P T COLEMAN.

The Minerva Prize : Flying Officer P D RAWSON.

The Nightscale Award : Flying Officer D J ROBINSON.



Flying Officer P D Rawson receiving his Diploma from the Commandant

March 1997 - Navigator Training

MEMORANDUM OF UNDERSTANDING BETWEEN THE DIRECTORATE OF RECRUITING, SELECTION AND INITIAL OFFICER TRAINING WITH THE GUILD OF AIR PILOTS AND AIR NAVIGATORS



*Captain Clive Elton, Past Master of GAPAN and
Air Commodore Cynthia Fowler ADC RAF pictured at the ceremony*

Learning to fly is an expensive business so an early indication of potential is much sought after. Since 1995, the Guild of Air Pilots and Air Navigators (GAPAN) have run a scheme whereby those considering paying for their own flying training can, before committing themselves, undertake the much respected RAF Pilot Aptitude Tests at The Officer and Aircrew Selection Centre. Not surprisingly, the scheme has attracted interest from various aviation companies faced

with the cost of training their own pilots, so it has been decided to extend the facility to assist with civil pilot selection in general. At a short ceremony at the RAF College Cranwell on 30 January 1997, a Memorandum of Understanding was signed by Air Commodore Cynthia Fowler, Director of Recruiting, Selection and Initial Officer Training for the RAF, and Captain Clive Elton, Past Master of GAPAN, initiating the extension of the scheme.

College Journal May 2012 - RPV Warfare

Complex World, Complex Challenges: The Operation Of Remotely Piloted Aircraft Systems In Afghanistan

Dr Peter Lee, King's College London Lecturer in Air Power Studies, RAF College Cranwell

On 25 March 2011 an attack from a Royal Air Force Reaper, a Remotely Piloted Aircraft System (RPAS) operated from Creech Air Force Base in Nevada, USA, was responsible for the deaths of four Afghan civilians and injuries to 2 others. This was the first Ministry of Defence-acknowledged killing of civilians involving the Reaper since the UK began remotely operating the equipment in Afghanistan in 2007¹. On a larger scale, American Reaper operations in Afghanistan, as well as in Pakistan, regularly result in civilian deaths. Available statistics are highly disputed, with a clear disparity between NATO-sourced reports and Afghanistan/Pakistan-sourced reports. However, it is likely that USAF-operated Reapers in Afghanistan and CIA-operated Reapers in Pakistan have resulted in many dozens, perhaps many hundreds, of civilian deaths.

RPAS operations represent only a small, though increasingly important, proportion of the overall military effect in Afghanistan: a military effort that supports the strategic aims

long-term regional stability. RPAS operations that result in the deaths of civilians make up only a small proportion of the sorties flown but attract a high media profile, both domestically and internationally. However, civilian deaths in this highly complex asymmetric war attract not only unfavourable headlines, but also prompt a number of questions. These include, but are not limited to: Why has the UK government deployed RPASs in Afghanistan? What are the strategic and personal implications of civilian deaths, so called 'collateral damage'? What psychological impact does remote killing have on the Reaper crews, as well as on civilians in areas of operation? To what extent do NATO allies, especially the UK and US, share culpability for each other's actions?

A brief exploration of these questions will highlight the difficulty of conducting complex air operations in a hostile and uncertain enemy environment in the twenty-first century. It will also indicate the degree of sophistication required in current and future RAF training if air force personnel, of all ranks, are to develop the critical analytical skills and global political awareness necessary to successfully support the UK government's strategic aims through the application of airpower.

War is as old as humanity itself and the essence of war through the ages has remained largely unchanged: the desire of one state, tribe or group to impose its political will on another. Technological advances enable killing in war to be conducted on an industrial scale, using weaponry

that would have been beyond the imaginings of scientists and military strategists even a century ago. The RPAS typifies the advances that have been made and present political and military leaders with the ability to kill enemies where covert infiltration on the ground would be impossible, at almost no risk to one's own airmen. However, before specific issues concerning the use of RPASs are identified, let us consider the basis on which they are currently being deployed.

On 12 September 2001, twenty four hours after the Al Qaeda attacks on New York and the Pentagon, President George W. Bush declared a wide-ranging and open ended 'War on Terror'. That same day, in response to a request from the US, NATO invoked Article 5 of its charter, thereby formally involving the UK in any military response:

The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area².

The US and NATO sought no United Nations Security Council resolution authorising military action, adjudging that the principle of self-defence set out in Article 51 of the UN Charter legitimised their response to the attacks. In the weeks that followed, it emerged that the group responsible, Al Qaeda, and its leader Osama bin Laden had conducted their planning and training in Taliban-led Afghanistan. On 7 October 2001, after the Taliban government in Kabul refused to hand over bin Laden and other Al Qaeda personnel, US and UK forces launched an aerial bombardment and the fighting in Afghanistan began.

The extent to which the right to self defence justified the invasion of Afghanistan, when it was not the state itself but a group operating from within its borders that attacked America, continues to be a source of debate. The moral argument appears to be the most permissive and the right to self defence has sat at the heart of the just war tradition for millennia. International law, in the form of the UN Charter, was set out

in the context of inter-state activities and does not easily lend itself to actions between states and sub-state actors such as Al Qaeda. Despite this, on 20 December 2001, the UN Security Council authorised the establishment of an 'International Security Assistance Force' to assist the Afghan Interim Authority in the maintenance of security in Kabul and its surrounding areas³, authority that has been extended multiple times until the present.

Setting aside the intricacies of international law and military operations in Afghanistan, at no point has the UN provided any legal basis for the CIA's RPAS operations in Pakistan. Though mandated by the US government, American use of the Reaper across the Afghanistan/Pakistan border is in clear violation of Pakistan's sovereignty under Article 2 of the UN Charter which states:

All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the UN⁴.

While the UK currently uses the Reaper within the terms of the UN authority granted to ISAF, its close military alliance with the US over the past decade means that in many quarters, both at home and abroad, the UK shares at least some degree of moral culpability for their partner's actions.

At the level of tactical operations all military personnel operate under Rules of Engagement (RoE) that are authorised by their own governments, thereby locating armed forces personnel within their respective domestic legal frameworks. In addition, the UK is a signatory to the Rome Statute and all British Military personnel also fall under the jurisdiction of the International Criminal Court (ICC). Contrarily, the US, amongst others, does not submit to the authority of the ICC and would actively seek to prevent their soldiers, sailors, marines or airmen from facing trial at the Hague.

Further complicating matters is the nature of the insurgency in Afghanistan, fought as it is within civilian communities, with violence aimed at Afghans and ISAF personnel by other Afghans and foreign fighters. The 1977 Protocols Additional to the Geneva Conventions were compiled with the intention of protecting civilians in times of international armed conflict. Article 48 sets out the responsibility held by an attacker, a responsibility that complicates all allied actions, especially RPAS operations.

In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives⁵.

In the murky world of insurgency warfare such as we find in Afghanistan today, even if the Taliban or Al Qaeda choose to fight from amongst concentrations of civilians, the UK, as signatories to the 1977 Additional Protocols, is not released from its legal obligation to apply lethal force in a discriminating manner. Interestingly, the US has not ratified the 1977 Additional Protocols, which raises an ethical dilemma when British military personnel are operating RPASs alongside Americans. For example, a British crew⁶ seconded to the USAF would still operate the Reaper according to UK RoE. However, if presented with a target that fell outside those rules there is nothing to prevent that British crew from temporarily being replaced by an American crew whose more permissive RoE might allow the use of lethal force. In such a circumstance no laws

would appear to have been broken, yet the moral underpinnings of the UK's legal position appears to be somewhat precarious.

There is also a potential moral hazard in the use of unmanned aerial systems. One of the preferred uses of the RPAS is for the 'targeted killing' of key individuals. The lack of physical risk to the crew of the systems can result in the political willingness to undertake operations that would otherwise be avoided because of a high risk of allied casualties and the accompanying opprobrium of the general public. Such thinking necessarily escalates the risk to 'enemy' civilians where operations by conventional forces would otherwise be avoided because of the potential loss of military lives. This moral hazard can only increase as technologically advanced governments and militaries strive for greater and greater autonomy of remotely operated weapons systems.

One final concern to be raised is for those who operate lethal weapons platforms from great distances. Unlike previous generations of aircrew who have faced the dangers of battle (as well as current crews of manned combat aircraft) from within a war zone. RPAS crews at Creech Air Force Base work in a relatively comfortable physical environment and at the end of each day continue a normal domestic existence with family and friends. Studies are already underway to assess the psychological consequences of living with an ever-present dichotomy of peace and war over an extended period. In addition, the RPAS crew can spend much greater time familiarising themselves with a target before killing him or her than is the case with the crew of a fast jet, who might only have a few seconds to acquire and strike a target before departing the scene equally quickly. Subsequently, the RPAS can spend much longer loitering overhead, its crew watching in great detail the physical consequences of the missile or bomb that they have just dropped.

From this brief consideration of events in Afghanistan over the past decade it quickly becomes apparent that complexities and tensions exist from the political justification of the use of force to the military application of lethal violence: exemplified here by the Reaper. There are no easy answers. Conventional warfare of the type seen thirty years ago in the Falkland Islands appears with hindsight to be almost straightforward when compared to the dilemmas posed on the ground and in the air in Afghanistan. Outright military victory against the Taliban appears as distant as Goose Green and Mount Tumbledown; the very notion of 'winning' is being redefined. The challenge that faces the Royal Air Force both now and in the future is to prepare its personnel to operate decisively and effectively in diverse and ambiguous situations, delivering effective airpower while maintaining the legal and ethical standards that the British people demand. RAF College Cranwell will continue to play a vital role at the heart of that endeavour and the Air Power Studies team is proud to make its small contribution.



1. <http://www.defencemanagement.com>, 6 July 2011, 'RAF Reaper strike killed civilians'; accessed 15 January 2012.
2. Article 5, The North Atlantic Treaty, 4 April 1949.
3. UN Security Council Resolution 1386, 20 December 2001.
4. Article 2, Charter of the UN, 26 June 1945.
5. Article 48, Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977.
6. A Reaper crew consists of a pilot and a sensor operator. The former flies the aircraft while the latter controls surveillance equipment and the deployment of weapons.

Journal Article - Recollections of IOTC 16 (1)

Personal Recollections of IOT Course 16 Along With Recommendations of How to be Successful

Officer Cadet Babalola, B Squadron, OACTU, Belize Defence Force

My name is Mark Babalola. I represented Belize Defence Force on Initial Officer Training Course 16. This article is my personal recollection of a worthy journey through Initial Officer Training. The aim is to provide potential international and national cadets whose dream is to get commissioned at RAF College Cranwell an insight of what to expect. Furthermore, this article will provide valuable information and recommendations of how to be successful throughout the Course.

On the 16 March 2009, I stepped off British Airways at Heathrow Airport – my destination RAF College Cranwell. This was a dream come true. I had been longing for this Course ever since I became a member of the Belize Defence Force Air Cadet Corp (BDFACC) in the summer of 2006. The retired Brigadier General Lloyd Gillette initiated BDFACC in order to promote aviation interest in Belize. I would not have been here if it had not been for that vision becoming a reality. The College was the first Military Air Force College in the world; this was enough for me to have remained consistent in my goal of coming to the College.

I arrived at Grantham after a long train ride from Heathrow Airport. Once at Grantham, I made a call to my point of contact in order to be picked up. One thing I did not realize was my visit was prepared for in advance; transportation was already on standby

for me along with other potential officer cadets who were heading to the College. The administration care of my arrival was handled very diligently.

When I arrived at RAF Cranwell I met my point of contact and the other two international cadets, Al-Harthy and Al-Wahshi, who were from the Oman Air Force. From there on, our induction week started. The induction week comprised of several activities. During that week we got a tour of the Station and met Wing Commander Allport who is the Commanding Officer of the International Training Office. Wing Commander Allport gave us a general overview of what to expect during the Course. In addition, he made us feel welcome to a new community and offered us advice on how to cope with things during the Course. I personally appreciated the honesty portrayed toward us during the initial brief and have maintained communication with Wing Commander Allport throughout my time at Cranwell. The first impression I received made me very comfortable to approach him with any problem.

The induction week was a huge advantage from my perspective. Techniques for getting our kit sorted were shown to us over and over again by our host. There was no excuse to have not understood anything we were shown throughout that week. There were only three of us compared to a hundred plus cadets the

following week when Initial Officer Training Course 16 started. As a result of the techniques shown during our induction week and by our Squadron staff, I managed to avoid restrictions! The other reasons the induction week was an advantage was all the other 'admin' we had an opportunity to sort out – all three of us had collected all our kit and were taken to Grantham to purchase mobile phones, toiletries, stationery and cleaning materials which were essential to get our room up to inspection standards.

Flight staff and cadets.



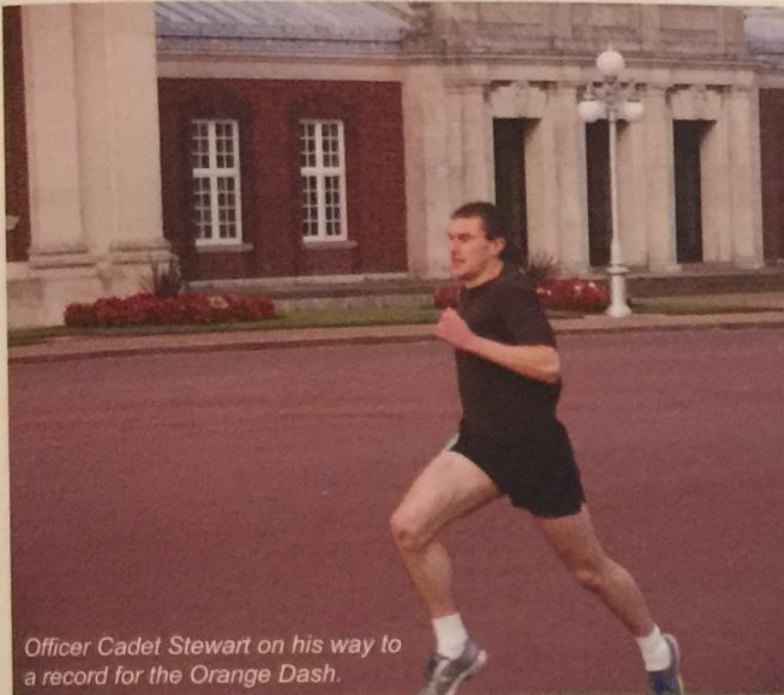
The standards expected for inspection.



Can you spot the cadets?



Journal Article - Recollections of IOTC 16 (2)



Officer Cadet Stewart on his way to a record for the Orange Dash.

On 23 March 2009, IOT 16 under B Squadron started with approximately 130 officer cadets. The Course resulted in forming four flights. Initially, our Squadron Commander was Major Wilkins who was the Army Exchange Officer. He was a very influential Commander who always conveyed the reality about the journey we were all on. He made it clear from the start that the road was not going to be easy but despite that, it was achievable. The Deputy Squadron Commander was Flight Lieutenant Scott. By the end of second term, Flight Lieutenant Scott took over as Squadron Commander and Flight Lieutenant Robson became the Deputy Squadron Commander. The structure is very easy to understand. B Squadron is comprised of one Squadron Commander, one Deputy Squadron Commander, four Flight Commanders and four Deputy Flight Commanders.

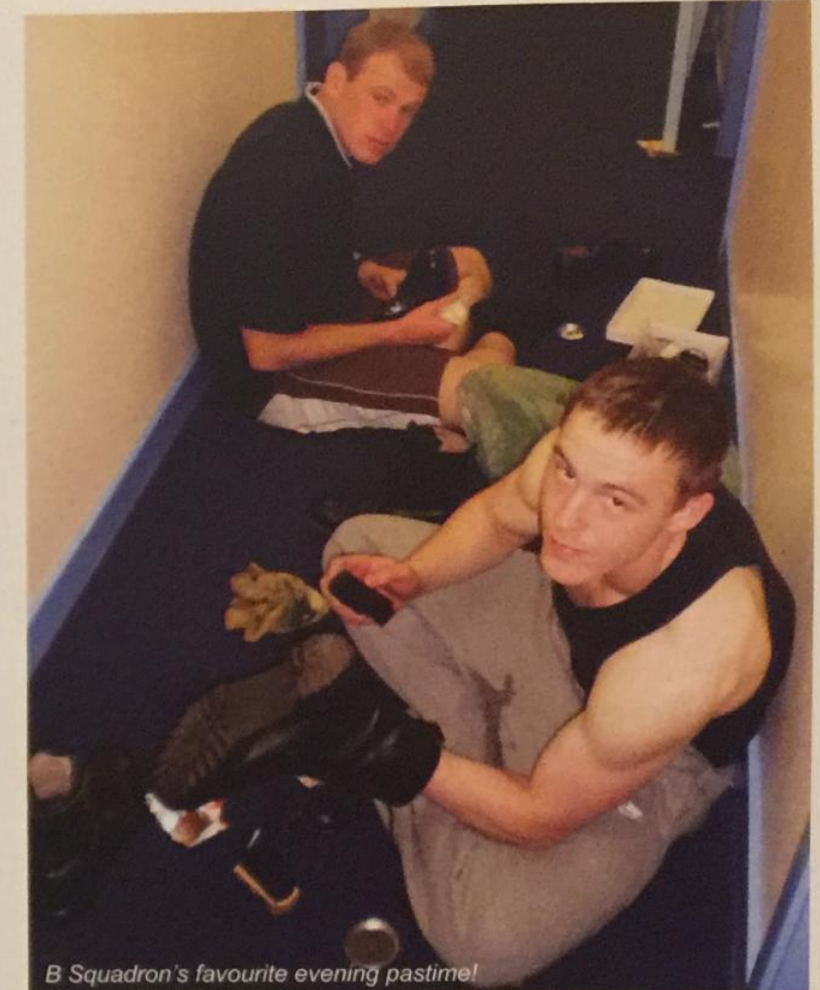
A Flight was "my family to be" for the next 32 weeks. Flight Lieutenant Sheppard and Flight Sergeant Sinclair were my Flight Staff; they nurtured me throughout the Course along with other staff members. I would not have made it through the Course without their support. I must stress that it is very important to keep your Flight Staff informed; doing so will enable them to know where you are struggling and as a result they will be able to help where necessary. My other fellow international cadets went to their respective flights. Officer Cadet Al-Harty went to C Flight and Officer Cadet Al-Wahshi went to D Flight.

I was fortunate to be in A Flight from the start. A Flight won the Squadron's drill competition in Term One. Furthermore, A Flight had Officer Cadet Stewart who was the fastest runner in OACTU. He even managed to set the new record for the Orange Dash at the Inter-Squadron Sports Competition during Term One. Furthermore, he won the Inter-Squadron Sports Cross Country on four occasions. He was the only male on our course to score 300 points on his fitness test. In addition to this, we had Officer Cadet Woodcock who is a member of the Royal Air Force Rugby Team. During the last week in Term Two, he represented the RAF in the International Sevens Tournament held in Denmark. All members of A Flight bonded together very well from the very start.

A lot of cadets found Term One physically and mentally demanding. Our Flight lost two credible cadets due to injury. I was at an advantage due to my Basic Training background. I was used to less sleep, bulling shoes, polishing boots, drill, ironing, block jobs and constant muscle soreness as a result of daily physical education. One thing worth mentioning at this point was how the ex-serving airmen helped a lot of cadets who had no form of military experience. Even though the Flight Sergeants helped with extra lessons, having the ex-serving airmen to aid at any given time made progress easier for a lot of cadets.

During the first five weeks of Term One we spent the bulk of our time with the Regiment Training Flight, Training Support Flight, Leadership Training Squadron and the Physical Education Squadron. Regiment Training Flight is responsible for providing Initial Ground Defence Trg (IGDT) for all IOT cadets, including instruction in First Aid, Weapon Training, CBRN, and Skill at Arms, Recuperation and Live Firing. Training Support Flight instructors were responsible for teaching Land Navigation skills, and for developing the cadets' personal standards regarding their uniforms, equipment and accommodation. All knowledge learned during these periods was put into practice during Fieldcraft Exercises also known as 'Bivvy weekend' at the end of Week 3. The Bivvy weekend was an introduction to the standards expected whenever in the field. In addition to that, we had a chance to practise all the navigation and personal care lessons that we were taught.

By Week 5, we had Ex STATIC which was designed to put all lessons learned in leadership to the test in the OASC Hanger. The rewarding aspect of this exercise was the introduction of Action Plans and group discussion. Each leader had to articulate an



B Squadron's favourite evening pastime!

Action Plan after he completed his lead. The Action Plan was an effective tool to help recognize what had gone wrong, what needs to be improved, and what plan the leader hopes to implement to make things better for future leads. Furthermore, as a result of the group discussion, several things that the leader might have overlooked could be voiced by his followers. This enables the follower to offer the leader advice that can assist in future leads. This technique was used throughout the exercises leading up to Exercise DECISIVE EDGE I. Additionally in Week 5, we had our first Initial Officer Training Fitness Assessment – the IOTFA – which is a 'pass or get re-coursed' assessment. The daily Physical Training sessions had boosted our fitness level.

Force Development Training Centre Fairbourne in Wales during Week 7 introduced me to an important self awareness tool known as Strength Deployment Inventory (SDI). SDI aided my performance throughout my time at Cranwell. The SDI is designed

Journal Article - Recollections of IOTC 16 (3)



The CBRN conga.

to help individuals identify their strengths in relating to their subordinates under two conditions. The conditions are firstly when everything is going well and secondly when they are faced with conflict. SDI can be used so that one's personal strength may be used to improve relationships with others. It is also an inventory for taking stock of motivational values (the basis for how you feel and act in different situations), and I recommend you grasp the understanding at the initial stage because it will help you to be successful in your leads. Having a basic knowledge of how your peers react during different situations will empower you to be able to deal with them effectively.

We concluded Term One with Ex Dynamic II. For the first time, we conducted a 3-day exercise off Cranwell grounds. The most important advice I have is always keep your personal admin squared away. Follow the instruction given by the Regiment Staff at Bivvy Weekend thoroughly, or else you will suffer the consequence at the most crucial time!

Operational Studies are taught in Term One, however the main bulk of the workload is delivered during Term Two. Air Power Studies (APS) are delivered by King's College London staff; Staff Studies are delivered by ex-Service lecturers that are in the RAF Reserves. I must admit that prior to coming to Cranwell I had no sound knowledge of Air Power or the detailed chronology of how the major wars transpired and I now have a sound foundation knowledge. My advice to all potential or present candidates out



A short rest before more activities.

there is put in the maximum effort at all times, avoid distraction during lectures and furthermore, do not hesitate to ask questions. Although I was new to the topics and style of teaching, I did manage to pass all my assessments. Therefore whether you are a foreign cadet or not, there is no excuse to fail!

In Term Two, Officer Cadet Falih from Iraq joined our Course. This resulted in a total of four international cadets. As I mentioned before, the vast majority of the Operational Studies occurs in Term Two. The first weekend after leave, we had Exercise MILAID. I viewed the Exercise as the most exciting exercise compared to all the previous exercises. I do not want to spoil the surprise for you. All I can do is, assure you if you put in the work, you will reap the benefit. Just keep in mind that 'field admin' is very important. You can only be effective if you are healthy!

Term Two was referred to by Flight Sergeant Sinclair as the pressure cooker. If your time is not managed properly, you can be a victim of the system. Whatever you volunteer for or are tasked with, always take time out to organize yourself! You will be surprised how quickly demands are made from all corners. It is up to you to deal with it in an orderly fashion that will suit your schedule. Term Two was indeed a pressure cooker; Flight Sergeant Sinclair was right after all! My Flight lost a total of five people due to failure on Exercise DECISIVE EDGE I (Ex DE I), one due to injury while on Ex DE I, and one more by the end of Term Two due to not meeting the required standard that would



The hazards of exercises.

Ex MILAID - who knows what we will find next



Journal Article - Recollections of IOTC 16 (4)



Officer Cadet Babalola, bottom right, at Grantown-on-Spey.

Amport House.



enable him to progress. The demand is there and as I mentioned earlier, it is up to you, as potential leaders, to be able to deal with ambiguity because at some point in your career, that will arise! Be a team player in everything you do. Help others who are struggling whenever possible, I can guarantee that you are going to need them at some point further down the line!

Term Three flew by pretty quickly. We were all treated as Junior Officers. The daily mentoring and advising had ceased.



Cadets off on another mission.

Everyone was aware of the standard expected therefore there was no excuse for any mistake. "We were all given enough rope to hang ourselves". Basically the only thing stopping you from graduating at this stage is you! The way you present yourself, your actions and most of all, your attitude indicates a lot to the Staff. Weeks 2 to 5 of Term Three were the Carousel phase. The phase consisted of different activities such as Station Visits, Force Development Training at Grantown-on-Spey, Amport House for Care in Leadership training and the Basic Air Warfare Course taught in Trenchard Hall, Cranwell. The entire Squadron was split into four groups for the duration of the Carousel Phase. It seemed odd because it was the only time at this stage in our training that some of us got a chance to work with other members from different Flights. This bonding was necessary because each group consisted of personnel who will be working together in the same Expeditionary Air Wing (EAW) in the Combined Operation Centre (COC) when we deploy to RAF Syerston for Ex DE II in Week 7 of Term Three.

Each group visited selected RAF stations for a familiarization programme. The purpose of the visit was to get a basic understanding of how a Station operates, what life as an Officer in the wider Air Force is like and also to interact with serving personnel either commissioned or non-commissioned. I was overwhelmed with knowledge gained by the end of my group's visit to RAF Wittering. It was a great opportunity to have acquired

such information at first hand. The purpose of the training at Grantown-on-Spey was to practice Mission Command in a risk environment. One cadet was appointed as leader and they had a mission to complete and were able to dissect and disseminate the tasks within the group in order for the optimum performance to be achieved.

The visit to Amport House was very productive. There we undertook the Care in Leadership Course. The Course was geared to empowering us (potential officers) with skills that will help us to look after the wellbeing of our subordinates. We spent a lot of time listening because as an officer, it is a critical skill that will enable a leader to know what his or her subordinates is feeling and how the individual emotional state will affect his or her operational effectiveness. We concluded the Carousel with Basic Air Warfare Course. I truly enjoyed every bit of time I spent over at Trenchard Hall for the duration of the two weeks. I learnt a lot about the capability that the RAF brings to the table. Furthermore, the Estimate tool was reinforced to a comprehensive standard. The knowledge gained completely exceeded my initial expectations.

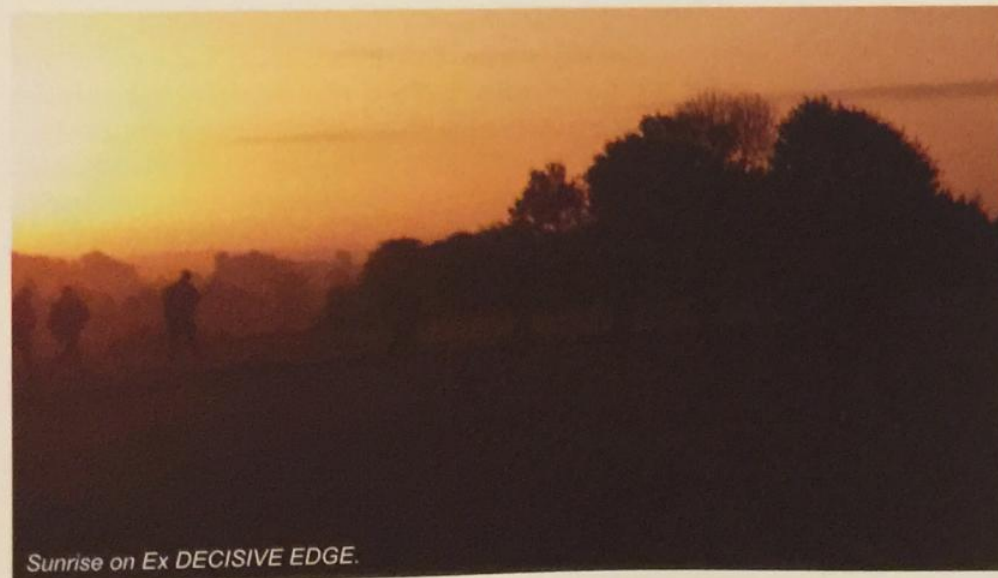
The next big challenge ahead was Ex DE II. What makes it more challenging was the fact that Term Three was responsible for the planning. Everyone had a role in the COC. Due to that role, there was a lot of planning sessions. I thought the operational studies were demanding in terms of personal allocated hours of reviewing

Journal Article - Recollections of IOTC 16 (5)

documents, however I found out otherwise. Term Three took me out of my comfort zone in terms of applying knowledge gained through my personal study. Even though mentors were available, large amounts of information had to be personally acquired and digested. Only through solid preparation can one be productive in the COC. B Squadron was known to execute good exercises and, as a result, everyone worked hard to maintain the standard of the Squadron. I fully enjoyed every bit of time I spent in the COC.

I have been blessed throughout my time at the RAF College. The weather could not have been better; all the exercises had good weather despite a few showers every once in a while and the personal kit provided was excellent. It is worth noting to make proper use of the layering system. There will be times especially in the night while on exercise when it will be very cold. That is when the layering system is very important and necessary in order to be protected. Only through proper maintenance will you be able to carry out your duties appropriately and concisely. It pays to be a team player no matter what situation you find yourself in. There will be times when you feel a bit down, I recommend you talk to your peers. There will always be someone who will be able to help you out directly or indirectly. Honesty is the best policy; that said, do not hesitate to seek assistance, whenever necessary.

Graduation is a couple days away and I cannot wait to be a commissioned officer. I have a long road ahead and I know for sure that I will be an effective leader who can be looked up to by others for inspiration. The training here at Cranwell has laid a solid foundation in my career and my intent is to maintain what has been instilled in me, and continue to grow. I hope by reading this concise article, you now have a better idea of what to look forward to. I would like to conclude with one of my famous phrases "Life is what you make of it, if you put in the work, most definitely will you reap the benefits. Opportunities exist, therefore, it is up to you as an individual to grab what you want and make the most of it!"



Sunrise on Ex DECISIVE EDGE.



Waiting to deploy on Ex DECISIVE EDGE.

Journal Article - Recollections of IOTC 16 (6)

