

APPENDIX No. 6.

ORGANISATION OF R.A.F. IN FRANCE.

The Royal Flying Corps (later Royal Air Force) was divided into brigades, wings, and squadrons.

A brigade, R.A.F., consisted normally of three wings—the army wing, the corps wing, and the balloon wing (consisting of a balloon-company for each corps in the line). One R.A.F. brigade was attached to each army.

The army wing usually included about six squadrons. There were one or two long-distance bombing-squadrons (usually D.H.4 or D.H.9 machines), one or two long-distance reconnaissance-squadrons (usually Bristol Fighters), and two or more squadrons of fast single-seater fighting-machines (fighting scouts). Towards the end of the war an extra army wing, consisting solely of fighting scouts, was added to the brigade. The types of scouts varied, for new machines were continually being introduced. No. 2 and No. 4 Australian Squadrons were army scout-squadrons. No. 2 Squadron flew, first D.H.5's. and then (December, 1917) S.E.5.a's. No. 4 Squadron used Sopwith Camels until October, 1918, when it was equipped with the new Sopwith Snipes. The principal work of the scout squadrons was offensive-patrols and low-flying bombing-patrols over the enemy's forward areas, these patrols being always carried out in formation. Offensive-patrols were designed to attack and destroy as many enemy machines as possible. The objective of the fighting scouts was to keep the air clear of the enemy, in order to make possible the utmost opportunity for uninterrupted reconnaissance by the corps squadrons. Machine-gun attacks and bombing-raids on enemy positions became in emergency the duty of all classes of machines. Such raids might be great or small. Sometimes as many as sixty or seventy machines were employed on this duty, as in the great bomb-raids on Lille towards the end of the war. Or, again, there was the form of low-flying harassing attack like that employed by No. 4 Squadron on the Lys before the German retreat, when small patrols of two or three machines would fly continually over the enemy's rear lines to disturb work at his supply-dumps and on his lines of communication, and to worry his infantry in village rest-billets. At times corps machines also performed bombing-raids, individually or in small formations, and sometimes on this work they carried, instead of an observer, 150-lbs. weight of sandbag-ballast (flying ballast) in the rear cockpit or two iron bars on the tail-plane, one on each side of the rudder (flying tail-weight).

Long-distance bombing, e.g., into Germany, was the duty of special bombing-squadrons, and even of a specially organised service of the R.A.F., the "Independent Air Force."

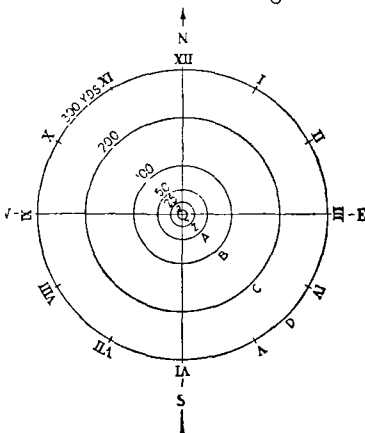
The duties of the scouts were fairly constant; those of the machines in the corps wing covered a much wider range, though more confined as regards locality. The scouts, being in an army wing, ranged the entire army front; at times they searched beyond it in liberal interpretation of their duty to seek out and destroy the enemy air forces. Each British army had generally two, sometimes more, corps in line on its battle-front. Each corps had a squadron of two-seater machines attached to it for work detailed by corps headquarters. Such a squadron used either R.E.8 or A.W. machines, often in the latter part

of the war with one or two Bristol Fighters attached for long-distance reconnaissance. No. 3 Australian Squadron was a corps squadron attached to the Australian Corps, and flew R.E.8's.

The work of a corps squadron included detailed reconnaissance of its corps front, artillery observation, photography, and emergency low-flying patrols. The squadron was a vital part of the corps intelligence-service. Whenever the weather was fit for flying—and often when it was not—at least one machine was kept out on artillery-patrol. Its duty was to watch for enemy batteries firing, enemy transport, and other good targets for the corps artillery, and to report them to that artillery by wireless. These wireless messages were known as "zone calls." The enemy area opposite was divided into zones of fire (of about 3,000 yards square), and in trench-warfare each British battery had its allotted fire-zone.

Artillery observation was the most important branch of the corps squadron's offensive-work in stationary warfare. It entailed the current recording from the air of "counter-battery shoots" (bombardments of enemy batteries) or bombardments of other targets. Generally there were attached to the squadron one or two officers on loan from heavy-artillery batteries, called "artillery liaison officers" (A.L.O.). A counter-battery programme was issued each evening by the "counter-battery staff-officer" (C.B.S.O.) to battery commanders and the A.L.O. The A.L.O. kept a file of aeroplane-photographs of all known enemy batteries on the corps front, and prepared for each pilot a photograph of his target, marked with circles around the ranging-point to aid him in making corrections. The pilot also obtained from the battery, or the A.L.O., the number of guns to be used, the time of flight of the shell, positions of ground-strips, and any other information required. "Shoots" were practically always recorded by the pilot, and not by the observer, as were also photography- and artillery-patrol reports. The observer's time was fully occupied in looking out against attacks from enemy aircraft, against which his machine-gun was the machine's main defence. Thus of 515 bombardments carried out by No. 3 Squadron in 1917-1918, only six were conducted by observers.

In artillery "shoots" observation of the fall of each round fired by his battery was signalled back by the pilot by means of the "clock-face."



Sketch illustrating "clock-face" method of checking artillery fire upon enemy batteries. In observing artillery fire, the fall of the rounds was noted with reference first to the smallest circle within which they were contained, and secondly to clock hour to which they were nearest. Thus a shot which fell 90 yards east of the target would, according to this code, fall at B 3, that is, within the B or 100 yards circle and towards 3 o'clock.

system. That is to say, the target was regarded as a clock-face, with due north taken as 12 o'clock. Distance of shots from the centre of the target was then reported by code, thus:—

O.K.—Exact centre.	A.—50 yards out.	D.—300 yards out.
Y.—10 yards out.	B.—100 yards out.	E.—400 yards out.
Z.—25 yards out.	C.—200 yards out.	F.—500 yards out.

Aeroplanes were fitted with wireless instruments for sending, but not for receiving, and all signalling from guns to the machine was, therefore, done by means of ground-strips—large white strips of cloth laid out beside the battery wireless-station. In winter, at such times as the ground was covered with snow, the strips were of red or black cloth.

For photography the camera, a long sheath-box arrangement, was, in early types of aeroplane, carried at the side of the machine, handy for the pilot's use. From 1916 onwards the camera was carried in a camera-fitting built in behind the observer's cockpit. It was operated by various mechanical devices from the pilot's seat. The observer changed the plates. Photographs were of two sorts—oblique and vertical. Oblique (bird's-eye-view) photographs were taken by corps squadrons from a height of 1,000 to 1,500 feet. They provided an excellent picture of a large area of country. Vertical photographs were taken from a height of 5,000 to 8,000 feet and as far as 4,000 yards behind the enemy's front-line. Photographs of areas farther in the rear were made by army machines (Bristol Fighters and D.H.'s) from heights up to 20,000 feet. Vertical photographs for mapping purposes were normally taken with a wide-angle lens at from 8,000 to 10,000 feet, in order to include as wide an area, and as many "fixed points," as possible. Photographic distortion was found to be less pronounced from the higher altitudes. Both kinds of photograph were of great value in acquainting the infantry with features of the enemy's front-line defences, and in confirming locations, obtained by ground-observation and sound-ranging instruments, of hostile batteries.

Low-flying patrols, a regular duty of a corps squadron, included:—

(1) Close special reconnaissance of the enemy's trenches, performed by the "infantry flight" or "trench flight" of the squadron.

(2) Contact-patrols during an infantry attack upon the enemy, keeping in touch with the infantry advance and notifying distant command-posts of the positions reached. A contact-patrol machine could fly over the attacking troops and sound a series of "A's" (in Morse code) on a Klaxon horn. The arranged response of the infantry was to light flares in trenches or shell-holes (so as to hide the signals from the enemy); or to show bright tin-discs or white cloths. Another ground-signal was the laying of rifles, muzzles outward, on the parados (opposite side from the parapet) of a captured trench.

(3) Counter-attack patrols, patrols maintained over the line during and after an infantry attack on the enemy in order to watch for signs of any infantry counter-attack. If any massing of the enemy was observed, the counter-attack machine would send back an S.O.S. signal for a general bombardment by all supporting artillery within reach. Besides the S.O.S., there were other calls arranged for minor emergencies.

In No. 3 Squadron "A" Flight was known as the artillery-flight, and "B" Flight as the counter-attack flight. During stationary warfare both these flights were engaged in artillery-patrols and artillery-observation, and "B" Flight in counter-attack patrols. "C" Flight was the infantry-flight or trench-flight. All flights were available for photography, though photography was usually undertaken by pilots who showed a special aptitude for that work.