

this period our machines came down to as low as 50 and 20 feet, and fired into convoys and bodies of troops. Exceptional targets presented themselves in the closely packed transport, and independent evidence, testifying to the enormous casualties and damage inflicted, is contained in telegram received by Advanced G.H.Q. from Advanced 16th Corps.⁷⁷

The telegram referred to attributed the 'indescribable confusion' that marked the Bulgar retreat directly to the activities of the RAF. In the narrow defiles through which the mountain roads passed, congestion was unavoidable, and after a few hours of bombing and strafing a brave and resolute enemy, retreating undefeated from a front against which the British had hurled themselves unavailingly for years, had been reduced to a panic-stricken mob. It was a harsh conclusion to the Macedonian campaign. On 30 September hostilities ceased on this front.

The Ludendorff Offensives, 1918

Germany's last great effort to win the war, and her last real opportunity, came in the spring of 1918. That such was the case was as evident to the Allies as it was to the German High Command. By the winter of 1917-18 Russia, torn by revolution and internal dissension, was all but out of the war. Germany was in a position to deploy in the West divisions that could be released from the Eastern Front, an access of strength that would give her an advantage over the Allies. This advantage, however, could only be temporary; once the full weight of American deployment was brought to bear, the German opportunity would be gone. During the winter, therefore, the German High Command made preparations for a supreme effort on the Western Front in the spring, while at the same time the Allies addressed themselves to the problems of defence against an onslaught they knew to be inevitable.

It was the concept of defence-in-depth to which British GHQ turned. The chief architect of this form of defence during the First World War was Colonel von Lossberg, Chief of Staff of the German First Army. He had been appalled by the casualties suffered when holding linear defences against the British attacks of 1916, and had in consequence devised a defence system in which the bulk of German forces were held back beyond the initial range of enemy artillery. Allied assault formations thus had to contend not only with interlocking machine-gun fire from carefully sited forward strong points and with a heavy defensive barrage, but once through the advance positions, they had to attack trench systems virtually untouched by shell fire or gas. Should they penetrate these lines, they would then have to withstand immediate counter-attacks from German forces held yet further back. Von Lossberg's ideas were taken up with enthusiasm by Ludendorff when the latter moved to the Western Front, and became accepted doctrine for the German army.

The British had learned the effectiveness and economy of these German measures at Passchendaele. This costly experience, in addition to the unwillingness of Whitehall to authorize further increases in the strength of the British Expeditionary Force, the need to reinforce the Italians after the rout at Caporetto, and the acceptance of another twenty-eight miles of French front by the BEF, would have dictated a resort to defence in depth even had a major German offensive not been so obviously in the offing.¹ To convert the BEF to the defensive after three years of

offensive warfare was not an easy task, however. The existing front line marked, for the most part, the ultimate limit of past advances and not necessarily the best tactical positions. Behind the front line protective belts of barbed wire were not extensive, switch lines were virtually non-existent, and reserve trench systems had fallen into decay. In many places the French peasantry 'had actually begun to fill in and clear away some of the back lines in order to restore the land to cultivation.'¹²

It was a question of men and methods as well as of material. The new defensive techniques, calling for mental flexibility and a considerable measure of confidence and self-reliance on the part of small groups under attack, placed heavy demands upon a BEF trained in the principles of static warfare and in the formal, well-rehearsed frontal attack. Too little practice had lowered the quality of musketry among the infantry, and too much close supervision by higher levels of command had sapped the tactical flexibility and initiative of regimental officers. Staff officers had been selected for their adeptness in the meticulous preparation of series of set-piece attacks, which seemed without end, an exercise which ill-fitted them to adjust to the balanced stance and quick counter-attack capability which were the nub of the new tactics. Commanders, who all too often owed their rank to the mental toughness which enabled them to go on committing men to a succession of hopeless assaults, also found the transition to the subtler principles of defence-in-depth difficult to make.¹³

Yet Sir Douglas Haig had no choice. He would have to face a German attack of unparalleled ferocity, and he must prepare for it. In mid-December he issued a 'memorandum on Defensive Measures' which emphasized the need for economy of effort and organization in depth. Two translated German documents, 'The Principles of Command in the Defensive Battle in Position Warfare' and 'General Principles of the Construction of Field Positions' were recommended to commanders as 'thoroughly sound' and worthy of careful study.¹⁴

No such fundamental change was contemplated for the RFC. A memorandum, 'The Employment of the Royal Flying Corps in Defence,' issued in January 1918, laid down that the first duty of the RFC was to detect through reconnaissance the initial stages of logistical build-up, and then to hamper it through sustained bombing attacks. Once an enemy offensive had begun the principal duty of the RFC was 'to render our artillery fire effective.' Beyond that, the corps was (in order of importance) to attack enemy reinforcements a mile or two behind the assault line, to attack de-training points, road transport, artillery positions, and reserves, and finally to send 'low-flying machines, on account of their moral effect, to cooperate with the infantry in attacking the enemy's most advanced troops.' All these defensive roles were dependent upon maintaining ascendancy in the air. This memorandum was probably prepared by Trenchard before he left to take up his appointment in England as Chief of Air Staff on 27 December 1917. It presented a perceptive assessment of what the RFC could do against a German offensive, though it failed to recognize the importance of the physical as well as the moral effects of forward ground support operations in open warfare. The RFC's new commander, Major-General J.M. Salmond, fully supported his predecessor's philosophy: 'This can only be done by attacking and defeating the enemy's air forces. The action of the Royal Flying Corps must, therefore, always remain essentially offensive ...'¹⁵

Whenever the German offensive came the RFC would be better prepared than ever before to fulfil its responsibilities. During the winter the corps had expanded rapidly, and so had the number of Canadians in it. In the period from 1 September 1917 to 1 March 1918 the total number of Canadian airmen grew from 223 to 319. On 1 January 1918 there were fifty-seven squadrons on active service with the BEF and under RFC command, with an average of slightly less than four-and-a-half Canadians per squadron.* By 1 March the average number of Canadians per squadron had risen to rather more than five; in other words, nearly one-quarter of the airmen with the BEF at this time were Canadians.†

After the closing down of active operations at Cambrai in December, air activities had settled into a winter routine. Corps squadrons maintained the monotonous grind of line patrol, reconnaissance and artillery observation whenever weather permitted, while above and beyond them, often many miles to the rear of German lines, fighter patrols from the army squadrons endeavoured to keep the skies clear of enemy scouts.‡ George Owen Johnson, an RFC lieutenant (and later an RCAF air marshal) flying SE5as on the Fifth Army front at the time, recalled nearly half a century later that: 'Throughout the winter of 1917-18 we were located in front of St. Quentin, employed primarily on high altitude (18 to 20 thousand feet without oxygen) offensive patrols 15 to 20 miles behind the German lines. It was a tiresome job as many of the patrols did not encounter any enemy aircraft ...'§ He might have added that to fly at those heights in an open cockpit, at temperatures far below freezing, taxed endurance and resolution to the limit.

Corps squadrons, which operated at much lower levels, did not face weather conditions quite so rugged but did have to endure the harassment of ground fire. The work of 16 Squadron, attached to the Canadian Corps, was typical. In January the squadron was able to fly on only twelve days, but on those days eighty operational sorties were made, even though visibility was often so poor that only the general position of targets could be distinguished. During the month the squadron made fifty-six artillery registration flights, forty-one of which were termed 'successful.' Lieutenant F.A. Nicholson of St Stephen, NB, and his observer, Lieutenant R.H. Carter of Truro, NS, ranging a hostile battery for the artillery on the 13th, defined their shoot as 'unsuccessful' because in three hours no more than twenty-five rounds were ranged.¶ Only four hits were registered within twenty-five

* Two RNAS squadrons, 8 and 16, were under RFC command. In all there were twenty-three single-seater fighter squadrons, eighteen corps squadrons, eleven day- and night-bomber squadrons, and five fighter-reconnaissance squadrons.

† This estimate is based upon an establishment of twenty-four pilots for Sopwith Camel squadrons, eighteen for other single-seater fighter squadrons, and thirty pilots and observers for all other squadrons.

‡ A Canadian, 70 Squadron's F.C. Gorringe of Prince Albert, Sask., was credited with the first combat victory of 1918 when he claimed one of two enemy aircraft which his patrol encountered on New Year's morning. Another member of his patrol was G.R. Howsam of Port Perry, Ont. (WIA 24 March 1918). Other Canadians in the squadron on 1 January 1918 included F.W. Dougherty of Montreal (POW 22 Jan. 1918), A. Koch of Edmonton (WIA 27 March 1918), F.G. Quigley of Toronto (WIA 27 March 1918), and W.E. Wood of Vancouver.

§ As of New Year's Day other Canadians with 16 Squadron included B.E. Gilbert of Paris, Ont., A.C. Gilmour of Saint John, NB (KIA 6 March 1918), J.A. Hutchison of Fordwich, Ont., R.O. McMurtry of Montreal, and D.J. Nickle of Kingston, Ont. (WIA 23 April 1918).

yards of a gun pit, while in the subsequent 'fire for effect' no direct hits were observed. Visibility was so poor that at one point firing had to be interrupted for twenty minutes. But if the ranging and shooting and weather were all something less than satisfactory, Nicholson and Carter were still able to return with useful information about rail movements behind the enemy front. On the 25th Nicholson ranged for 9 Canadian Siege Battery. Visibility was better and registration more precise, so that 'fire for effect' included at least three direct hits. Again the crew was able to return with a tabulation of enemy train and aircraft activity in the vicinity.⁷

During January 16 Squadron's single casualty was an observer wounded by ground fire. Though the airmen often reported enemy aircraft in their neighbourhood, German scouts only interrupted their work twice. The fact that corps squadrons like No 16, flying their unwieldy and underpowered RE8s, could operate so freely over enemy lines is a measure of the air superiority held by the British fighter squadrons at this stage of the war.* Their methods are brought out in a letter written by the commanding officer of a Fourth Army anti-aircraft section, complimenting the Camel pilots of 11 (Army) Wing's 65 Squadron. He noted that 4 January had been 'a very clear day and they were apparently on patrol the whole time,' and continued: 'Though at times the enemy opened very heavy Anti-Aircraft fire on them they continued their patrol, all the time roughly over the German front line at about 8,000 ft and practically prevented every enemy machine, except those flying at about 20,000 ft, from crossing the line at all. They ... harassed the enemy's patrolling machines considerably. On several occasions I observed enemy fighting patrols of 5 to 9 machines approaching our lines, but almost every time they were turned by the Sopwith Camels before they came within the range of my guns.'⁸

The price of supremacy was still blood, however; 65 Squadron lost two of its pilots that day while so successfully keeping the skies clear over their own lines. About mid-morning a flight of four Camels dived on a formation of 'about 12' German aircraft and claimed to have shot down six of them in the ensuing dogfight. Second Lieutenant R.E. Robb of St Thomas, Ont., who had joined the squadron only two days earlier and was flying on his first operational sortie, was shot down behind the German lines and severely wounded, dying of his wounds the next day. Lieutenant E.C. Eaton of Montreal, another member of the patrol, downed two of the six Germans claimed by the squadron. Later that same morning the squadron lost a second pilot, not to combat but, as so often occurred, during a simple training exercise. Captain George Baxby Syddall of Toronto, who had been with the squadron since mid-November, was practising formation flying when a wing of his machine collapsed. He died in the crash. The day's occurrences and the squadron's achievements and misfortunes were quite typical of those of fighter squadrons along the length of the Western Front in the winter of 1918.¹⁹

* No 84 Squadron's SE5a pilots, at the other end of the front, were complaining that enemy machines 'refused to engage.' No 84 SRB, Jan. 1918, Air 1/1795/204/155/2

† Other Canadians with the squadron at this time were A.A. Leitch of High River, Alta., E.F.W. Peacock of Montreal, and H.L. Symons of Toronto.

By the end of January aerial reconnaissance had located many new airfields, supply dumps, railway sidings, and hospital sites behind the German lines opposite the British Third and Fifth Armies. Sir Hubert Gough, whose Fifth Army was destined to bear the brunt of the assault, had learned meanwhile that General von Hutier, the victor of Riga, had taken command of the German Eighteenth Army which opposed him. Shortly afterwards General Otto von Below, described by British GHQ as 'probably the best Army Commander in the German Army,' was reported in command of a new Second Army, inserted into the German front between the Seventeenth and Eighteenth Armies. This evidence convinced both Gough and Salmond that the German attack would be launched along the Somme. In March Salmond ordered his IX (HQ) Brigade's reconnaissance and fighter squadrons to concentrate on the area opposite the southern wing of the British front. He expanded the Fifth Army's own reconnaissance squadron by eight machines; subsequently, reports were brought in almost every day of heavy train movements opposite the fronts of the Third and Fifth Armies.¹⁰

On 6 March 1918 headquarters squadrons had been regrouped to form IX Brigade made up of 9 (Day) Wing and 54 (Night) Wing. The former included 25, 27, 62, 73, 79, and 80 Squadrons, the latter 58, 83, 101, and 102 Squadrons. Until 26 March, however, 9 Wing continued to operate under the direct orders of RFC headquarters. Meanwhile, Salmond was concentrating the operations of IX Brigade's bombing squadrons in this area. Bombing operations were designed to inhibit the German build-up and to depress the morale of German assault troops now moving into rear-area billets. It was not a particularly successful programme, physically or morally. Night bombing especially was still at an elementary stage. Results were uncertain at the best of times, the number of aircraft and their bomb-delivery potential were Lilliputian in proportion to the scale of the enormous German build-up, and in any event the night-bombing squadrons were allocated too many targets for their resources. No 102 Squadron,* for example, was able to bomb on only five nights between 5 and 21 March, dropping a total of 1404 bombs of twenty-five pounds each on airfields and billets opposite the Third Army front. The Germans made little response to these pin-pricks, since it was their policy to restrain their own air elements during the period of build-up and conserve their men and machines for the decisive moment.¹¹

The lull in German fighter activities was to be broken a few days before the great offensive began. The growing reputation of Canadians as combat flyers was enhanced, even during the lull, by the activities of a number of previously unheralded pilots.[†] Lieutenant F.R. McCall of Calgary, with 13 Squadron, drew

* As of 1 January 1918 Canadians with 102 Squadron included J.P. Alexander of Toronto, H. Fall of Montreal, F.I. Livingstone of Winnipeg, A.B. Whiteside of Inverness, Que., and G.L. Zeigler of Hamilton, Ont.

† During this period W.G. Barker was in Italy and W.A. Bishop in England on the staff of the School of Aerial Gunnery. Raymond Collishaw, appointed to the command of 1 Brigade's 3 (Naval) Squadron on 11 February 1918, was too busy to do much flying. Canadian flyers with 3(N) Squadron when he took over included O.P. Adam of Westport, Ont. (KIA 1 April 1918), F.C. Armstrong of Toronto (KIA 25 March 1918), L.D. and D.L. Bawlf (KIA 21 April 1918) of Winnipeg, W.H. Chisam of Edmonton, J.A. Glen of Enderby, BC (WIA 8 April 1918), D.A. Haig

attention to himself when credited with four victories while flying the inoffensive RE8.* Frank Quigley of 70 Squadron also claimed four victories in January. The period encompassed most of the meteoric career of 56 Squadron's Lieutenant K.W. Junor of Toronto.† Junor joined the squadron on 15 December 1917, and was credited with his first successes on 20 January when his patrol engaged a formation of Albatros 'v' Strutters northwest of Wambaix. He sent one of them down in flames and another out of control. On 17 February he claimed an Albatros down in flames near Moeuvres and nine days later was credited with an LVG at Awoingt and another Albatros out of control near Sains-les-Marquion. Four more victories followed before he was promoted captain on 22 April and awarded an MC. A day later he was posted missing in action.

Another Canadian 'ace' began his career rather differently during this same spring. Donald Roderick MacLaren had not left his father's fur trading post in Alberta's Peace River country until the spring of 1917 and it was only in November that he joined 46 Squadron in France.‡ Another month went by in squadron practice before he was allowed to fly operationally, and for nearly three months, from 15 December until 5 March 1918, the only things to distinguish Second Lieutenant MacLaren from most of the other Sopwith Camel pilots of the Western Front were his age – he was then twenty-five, old for a fighter pilot – and the fact that he had not yet either shot down an enemy plane or been shot down himself.

MacLaren had obviously learned a great deal, however, and on 6 March he began his spectacular transformation into one of the war's most skilled and dangerous combat pilots. On that day he was credited with shooting down out of control a 'double tailplane scout – w of Douai.' Four days later he claimed an Albatros, the second success of a career that eventually saw him credited with forty-eight victories in eight months, won him the DSO, MC and Bar, and DFC,

of Agincourt, Ont., H.M. Ireland of Toronto, K.D. MacLeod of St Anne de Bellevue, Que., W.A. Moyle of Paris, Ont. (KIA 22 March 1918), L.A. Sands of Moncton, NB (KIA 22 March 1918), and A.T. Whealy of Toronto. No 11 Squadron's A.E. McKeever, the top-scoring two-seater ace with thirty victories credited to him, went back to England as an instructor in late January. When he left 11 Squadron on 26 January those Canadians remaining with it included A.R. Browne of Collingwood, Ont. (WIA 30 Sept. 1917), F.H. Cantlon of Toronto (KIA 18 March 1918), E.C. Gilroy of Sarnia, Ont., H.E. Hall, address unknown, H.R. Kincaid of Ottawa (WIA 17 May 1918), A.P. Maclean of Toronto (KIA 18 March 1918), E.A. Magee of Kennay, Man. (POW 5 June 1918), G.H.L. Ray of Vancouver, and A. Reeve of Toronto (KIA 27 March 1918).

* Other Canadians in 13 Squadron included F. Belway of Richmond, Ont., R.F. Browne of Toronto (WIA 8 Oct. 1918), A.G. De Young of Dartmouth, NS (KIA 12 Jan. 1918), S. Grossberg of Hamilton, Ont. (WIA Jan. 1918), R.R. Millar of Winnipeg, and K.W. Murray of Vancouver (KIA 1 July 1918).

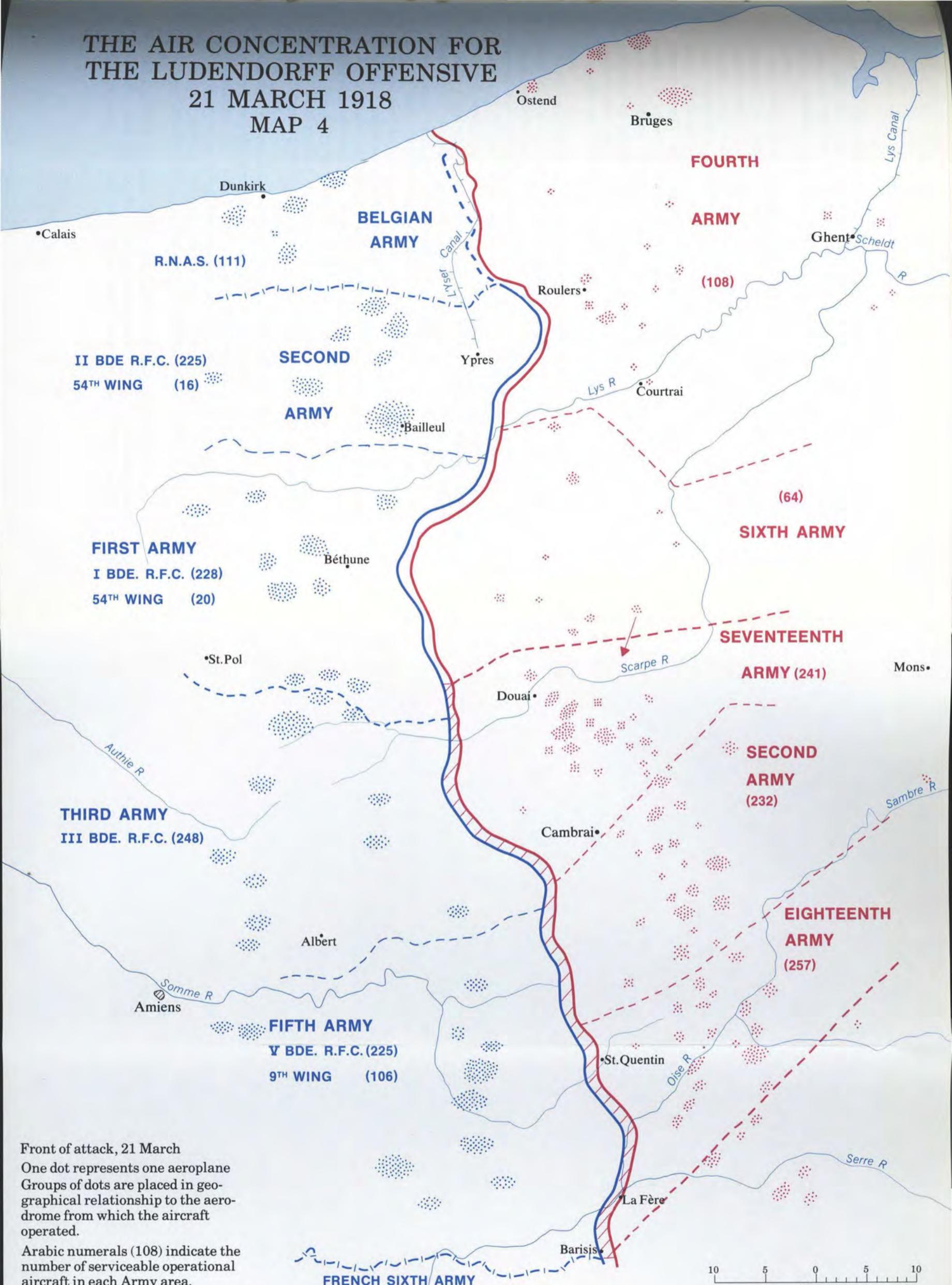
† Among Canadians with 56 Squadron in this period were H.J. Burden of Toronto, L.R. Charron of Ottawa, A.M. Clermont of Toronto, W.E. Gilbert of Cardinal, Ont. (WIA 2 May 1918), W.R. Irwin of Ripley, Ont. (WIA 15 Sept. 1918), B. MacPherson of Montreal, C.E. Morgan of Aultsville, Ont., J.G. Moore of Toronto, W. Porter of Port Dover, Ont. (KIA 24 March 1918), R.J.G. Stewart of Hayfield, Man. (WIA and POW 3 Jan. 1918), and L.J. Williams of Vancouver.

‡ During the first three months of 1918 Canadians in the squadron besides MacLaren included H.F. Dougall of Winnipeg (POW 26 Feb. 1918), G.D. Falkenberg of Quebec City (whose brother was serving with 84 Squadron and who was shot down and taken prisoner on 12 March 1918), R.K. McConnell of Victoria, J.K. Shook of Tioga, Ont. (POW 2 Oct. 1918), J.H. Smith of Campbellford, Ont., and W.A. Watson of Verona, Ont.

THE AIR CONCENTRATION FOR THE LUDENDORFF OFFENSIVE.

21 MARCH 1918

MAP 4



Front of attack, 21 March

One dot represents one aeroplane
Groups of dots are placed in geo-
graphical relationship to the aero-
drome from which the aircraft
operated.

Arabic numerals (108) indicate the number of serviceable operational aircraft in each Army area.

Figures based upon H.A. Jones *War in the Air*, Vol. IV. Appendices XV and XVI and disposition map

Notes

The figures for the following squadrons are not included on this map.

No. 17 Naval Squadron

No. 12 Naval Training Squadron

No. 15 Naval Squadron (Forming)

Nos. 6 and 42 Squadrons (H.Q.R.F.C.)
which were posted to 1 Bde. 22 March 1918

Total of British on Battle Front	579
Total of German on Battle Front	730
Total of aircraft shown on B.E.F. Front	1179
Total of German aircraft opposing	1020

The figures for German aircraft are approximate and are from Air Ministry

File extract 557339/24. The actual strength of a German air unit is calculated as being 2/3 of its nominal strength.

South of the Somme 471 German aircraft were deployed against a build-up of French machines, which by 1 April 1918 had reached approximately 2063.

gave him command of the squadron he had joined as a second lieutenant, and left him the third-ranking Canadian 'ace' of the war. Among his fellow Canadians only Bishop and Collishaw, both of whom had been flying operationally before MacLaren had even made his first flight, were credited with greater scores.¹²

MacLaren's talents in deflection shooting and as a fighter-leader were perfectly adapted to the form that aerial combat was now assuming. Air fighting, which had begun merely as a clash between individual pilots and then evolved into formation combats between flights numbering from three to six machines, was becoming an affair of squadron actions by the winter of 1917-18. Occasionally even whole wings would become involved in battles that took up cubic miles of air space when, on each side, individual squadron-sized sweeps became sucked into *mêlées*. In January 1918 an additional aeroplane had been added to the strength of each RFC fighter squadron in order that units might be led into battle by their commanding officers, whose functions up until that time had been primarily administrative; early in February the establishment of Camel squadrons was raised by another six machines in order to meet the need for stronger combat formations.¹³

In the early spring of 1918 squadron-strength patrols were becoming commonplace and the RFC was experimenting with multi-squadron formations. At first three squadrons were sent out together, the squadron formations being in a triangular relationship both laterally and vertically – for example, Sopwith Camels flying at 15,000 feet, front and centre, SE5as at 16,000-17,000 feet to the right rear, and Bristol Fighters 18,000-19,000 feet, behind the SEs and to the left of the Camels. But it was soon found that the enemy, faced with such a formidable force, was reluctant to accept battle. As soon as these large formations crossed the lines the German fighting patrols drew off east and continued to fly in that direction as long as they were followed. Then, when the British turned west again, the Germans would turn too and hover around the flanks of the formation, firing at long range and trying to pick off stragglers.

A second plan was therefore tried. Three squadrons, some or all of them carrying bombs, were instructed to fly by widely divergent routes to a specified enemy airfield, ten to fifteen miles east of the lines. At that point they would drop their bombs and then adopt the 'stepped triangle' formation and make a wide return sweep from east to west in an attempt to trap any enemy machines between them and the lines.

The first of these massive sweeps took place on 9 March 1918, when a total of fifty-three machines participated in an attack on enemy airfields at Busigny, Bertry, and Escautfort, three closely grouped aerodromes opposite the Fifth Army front. But the eighty-eight bombs they dropped did little harm, and the Germans chose not to react; nothing was caught in the return sweep, so that many of the pilots ended up 'contour-chasing' as they machine-gunned ground targets on the way home.¹⁴

The Germans, however, were beginning to concentrate single-seater scouts in the locality, ready for the offensive scheduled to start on the 21st. For reasons both of concealment and morale they did not want a large number of British machines

overflying the area with impunity. The tactical restrictions previously imposed on their own aircraft as part of their offensive preparations were relaxed and the next few sweeps brought German fighters out in force. No 62 Squadron, which had brought its Bristol Fighters to France in a 'fighter reconnaissance' role only two months earlier, was one of the squadrons used to provide top cover between 11 and 14 March. Reporting on the work Lieutenant Percy R. Hampton of Toronto* wrote that 'this squadron has done the hardest day's fighting ever known to any squadron' – a claim that might well have been questioned by airmen who had been at the front longer. He continued:

the first day we got six Huns, the second day six, the third day five and the fourth day eight ... and all the fighting takes place from fifteen to twenty miles over Hunland. The day we got five Huns I accounted for two of them in this way. I was leading our top formation of three machines, and it was my business to prevent Huns getting above our fellows fighting below and then diving on them; two of them did get above and dived, so I dived after them with my engine on and opened fire. I fired two hundred [rounds] in the first one before he went down and a hundred into the second one; I shot both down within a minute of each other, but of course it was a very easy target. Diving on another machine which is also diving is much the same as shooting at a stationary target. It is a great sight to watch one's tracers go into the other machine. The Hun pilots can see them too. I saw both pilots look round at me a couple of times, as we were quite close together.¹⁵

Hampton's version of his squadron's score is clearly exaggerated when contrasted with the enemy's admitted losses. On 11 March the Germans lost two aircraft over the British front; on the 12th, nine, on the 13th, six, and on the 14th none at all, according to their official history.¹⁶

On St Patrick's Day a sweep which was baited with a flight of DH4 day-bombers from 5 (N) Squadron[†] saw Captain F.E. Brown of Quebec City, leading a flight of 84 Squadron's SE5as which included G.O. Johnson, claim two enemy planes shot down out of control and another, which was actually seen to crash in the village of Becquigny, was credited to a third member of his formation. A second flight of the squadron also claimed two enemy machines destroyed – one by J.V. Sorsoleil of Toronto[‡] – and two down out of control, although German records show only two aircraft lost on this front during the day.¹⁷

On the following day, the 18th, both sides were in the air in force and spoiling for a fight. Nine of the DH4s were directed to attack a single target – the airfield at

* There were five other Canadians besides Hampton known to be flying with 62 Squadron in March 1918: H.B.P. Boyce of North Battleford, Sask. (POW 12 March 1918), J.A.A. Ferguson of Unionville, Ont. (POW 12 March 1918), K.B. Forster of Red Deer, Alta., E.T. Morrow of Toronto (WIA 22 Aug. 1918), and W.K. Swayze of Lindsay, Ont. (POW 4 Sept. 1918).

† Only one Canadian, C.B. de T. Drummond of Montreal, is known to have been serving in the squadron at this time.

‡ No 84's pilots also included N.G. Bray of Oshawa, Ont., W.H. Brown and L. de S. Duke (WIA 23 April 1918) both of Victoria, C.F. Falkenberg of Quebec City (WIA 10 May 1918), and R. Manzer of Oshawa, Ont. (POW 8 Aug. 1918). Together with F.E. Brown (WIA 3 May 1918), Johnson, and Sorsoleil they earned eight decorations for gallantry among them by the end of the war, several of them won during the coming March offensive.

Busigny – while 54 and 84 Squadrons provided direct cover and 62 Squadron's Bristol Fighters from 9(HQ) Wing were also ordered to patrol the area. They were met over Busigny by a stronger force of more than fifty German single-seaters, including the whole of von Richthofen's *Jagdgeschwader 1* thirty strong, led by the *Rittmeister* in person. The result was the biggest air *mélée* yet seen, large enough, confused enough, and profound enough in its implications to have been subsequently entitled the Air Battle of Le Cateau. Richthofen described it thus: 'The outcome was a tremendous turning-combat. It was no longer possible to think of maintaining wing formations. Everyone pounced on the nearest opponent. The result was a pell-mell of individual dogfights. Frequently it was impossible to tell friend from foe. The air was criss-crossed by the white ribbons of tracer-ammunition, in between one could see burning or disabled aircraft plunging towards the ground.'¹⁸

Most of the aircraft 'plunging towards the ground' were British. Not only were numbers against them but they were fighting the *élite* of the German air force. No 54 Squadron lost five of its Camels, including one flown by Lieutenant E.B. Lee of Kearney, Ont.,* who made a forced landing on the wrong side of the lines and was taken prisoner. The other three squadrons lost two machines each, making a total of eleven British aircraft lost, while the Germans only lost four. Further experimentation was brought to a stop for the time being, first by a deterioration in the weather and then by the opening of the German offensive.

Throughout February and the first half of March British GHQ had apparently remained unconvinced that the major attack would come on the Somme, partly because the Germans had constructed dummy aerodromes, dumps, and sidings on other fronts and partly because they had masked their intentions by diversionary attacks against the French and by stepping up the tempo of trench warfare on the Second Army front. GHQ, moreover, was obsessed with the threat of a major assault in the north, where, with the vital Channel ports only thirty or forty miles to the rear, the BEF would have dangerously little room for manoeuvre. The evidence for an attack on the British right, obtained from air reconnaissance, prisoner interrogation, and analysis of wireless traffic, was piling up as March began. GHQ, however, remained all but impervious to it; on 2 March its appreciation was that the Germans in that sector were planning nothing more than the pinching off of the Cambrai salient.¹⁹

A week later GHQ claimed that there were no indications of an attack south of St Quentin. Only on 19 March did Haig's intelligence chief concede that the weight of the impending offensive was to fall upon the Third and Fifth Armies. On the eve of the offensive, therefore, the main strength of the British Army was still held in the north. In the south Gough's Fifth Army, holding a front of forty-two miles, disposed of twelve infantry and three cavalry divisions with 1566 artillery pieces, the cavalry and one infantry division being his only reserve, while Sir Julian Byng's Third Army held twenty-eight miles of front with fourteen divisions and 1120 guns. Opposite them, in and behind the German line, were massed seventy-four divisions with enough artillery to place ninety guns to the mile.²⁰

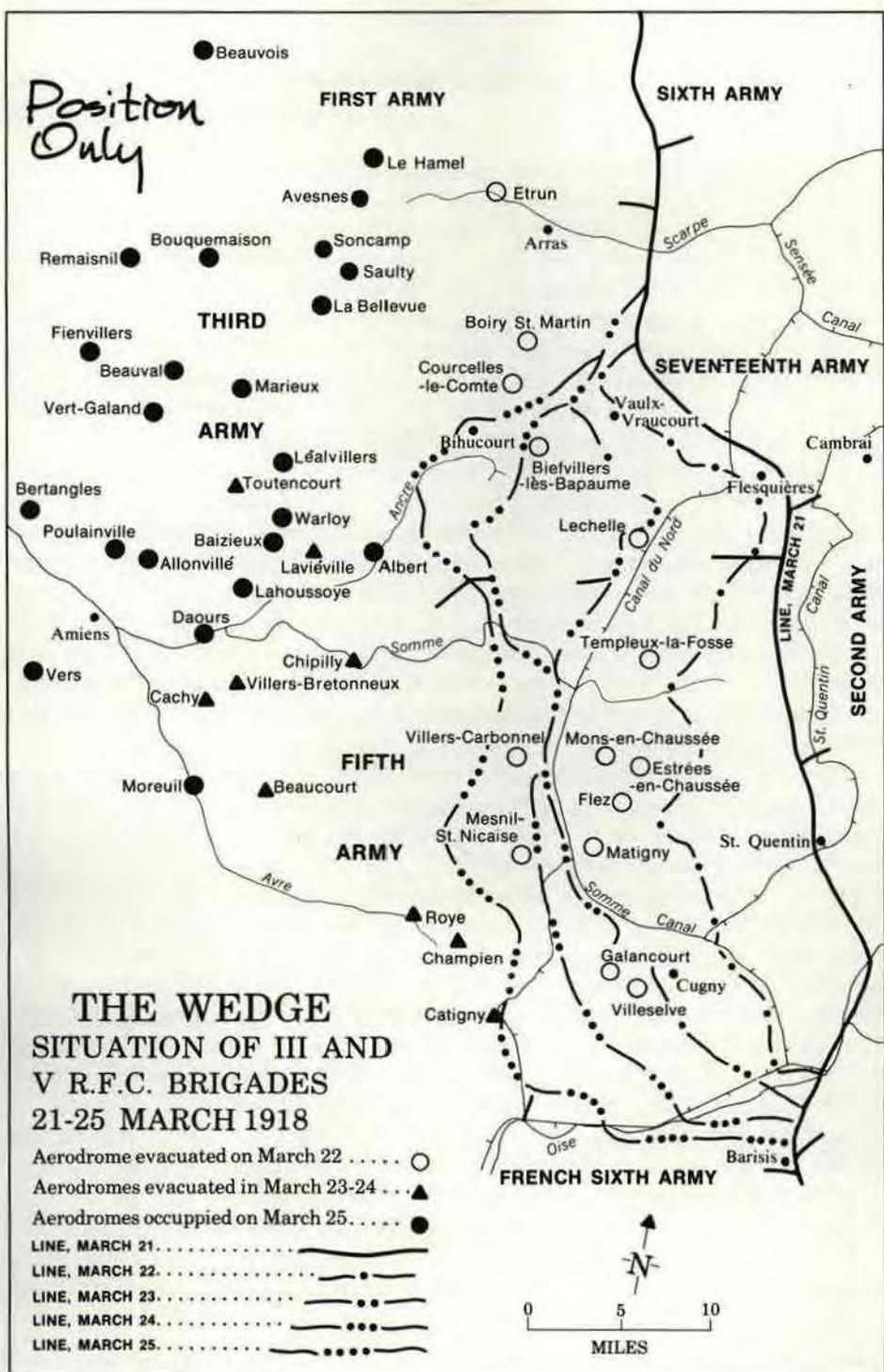
* Two other Canadians, C.S. Bowen (WIA 22 April 1918) and N.M. Drysdale (WIA 22 March 1918), both from Vancouver, were also flying with 54 Squadron on this day.

Because of the RFC's numerical superiority over the whole British front – 1255 aeroplanes against 1020 – and their comparative ease and speed of deployment since no machine was more than an hour-and-a-half's flying time from any part of the line, the situation in the air over the Third and Fifth Army areas was not perhaps quite as serious as that which prevailed on the ground. There were thirty-one squadrons available in the area south of Arras with a total of 579 serviceable aircraft among them, 261 being single-seater fighters. Against them were ranged 730 German planes of which 326 were single-seater scouts and 108 belonged to the *Schlachtstaffeln* – fast, well-armed two-seaters, some of them armoured and carrying grenades and bombs, which specialized in close ground support operations.* North of Arras, where the Germans were not going to attack, 489 British aircraft were facing 172 Germans, and on the French front a total of up to 2590 French aircraft were confronted by no more than 471 German. Although from the Channel to the Swiss border the Allies outnumbered the opposing forces by nearly three to one, at the point of decision the enemy possessed a local superiority of nearly 30 per cent.²¹

Though the Royal Flying Corps reconnaissances and line patrols had successfully reported the long-range German preparations for the great offensive in the west and quite accurately predicted the location of attack, the RFC was less effective in providing precise information as to the imminence of the assault. On the 19th and most of the 20th poor weather made aerial reconnaissance impossible all along the Fifth Army front, but by the early evening of 20 March 8 and 82 Squadrons were able to fly over the line. 'No unusual movement' was reported, and it was left to the front-line ground troops to secure specific information concerning the timing of the attack from German deserters and prisoners taken by patrols.²²

The failure of air reconnaissance to find any significant activity behind the German front on the evening of the 20th pays tribute to the calibre of German planning, discipline, and organization. At 0440 hrs on 21 March nearly 6500 artillery pieces opened *Die Grosse Schlacht in Frankreich* by deluging the Third and Fifth Army fronts, between Chérisy and La Fère, with gas and high explosive shells. 'A tremendous, roaring cataract of noise made the solid dug-out shake ... The air screamed as if in pain, or on the point of reaching some wild transport of sound beyond human comprehension ...' recalled one survivor. 'Fierce red glares, springing from the ground near at hand, told of shells bursting dangerously close, but their explosions were lost in the gigantic clamour. A thousand railway engines

* A German account states that 'From the total of all formations in being, by 21 March one third of all Field Flights, all ground support squadrons and more than half of the fighter and bomber forces had been marshalled with the three Armies of attack. An aerial force of 49 Field Flights, 27 bomber squadrons, 35 fighter squadrons and four bomber wings (with a total of 12 bomber squadrons) was to accompany the attack of the ground forces ...' In this author's opinion the German air commitment might have been decisive 'if instead of one third of all Field Flights, and one half of all fighter and bomber forces, right from the start three quarters of all Field Flights, and all fighter and bomber squadrons, had been marshalled for the decisive battle.' [H.] von Bülow, *Geschichte der Luftwaffe*, 2d ed. (Diesterweg 1937), 103, 110, DHist SGR 1 196, Set 89



roaring and screaming over a thousand girder bridges might have equalled the noise – or passed unnoticed.²³ Against the dazed and shell-shocked recipients of this unparalleled barrage the specially trained German assault troops soon began to seep forward, through a thick ground mist that stretched all along the battlefield from the Oise to the Sensée rivers.

The mist – in many places it was thick enough to be described as fog – complicated the battle on the ground for both sides. The British found that it largely neutralized the complex patterns of interlocking machine-gun fire on which their forward defence zone depended. The Germans, on the other hand, soon realized that it made even more difficult the intricate problems of command and control associated with their new 'fluid' offensive tactics in an era when communications still depended primarily upon aural and visual means. The fog, moreover, diminished the advantage that the Germans' carefully arranged local air superiority had given them. Their ground support squadrons, which had 'important tactical tasks' to carry out, could not immediately be deployed. The new offensive tactics expected the first thin line of assault troops to probe for weak spots in the British line and keep advancing, while the second line would both feed the first with replacements and, with close air support from the battle flights, clean up any strong points or isolated pockets of resistance which were left. But the fog kept the *Schlachtstaffeln* on the ground all morning. What they might have done, had they been flying from first light, can only be guessed at. In writing of events later in the day German historians have attributed much of their army's success in taking such stubbornly defended strong-points as the village of Roupy, in front of St Quentin, to an initial 'softening-up' carried out by the *Schlachtstaffeln*. The British have also recorded that as soon as flying was possible the German 'low flying contact patrols, aiding the attack, found our new fronts too swiftly; and their use of signal flares came from careful practice.' The Royal Munster Fusiliers, for instance, found that 'heavy infantry attacks on the front and low flying aeroplanes enabled the enemy to envelop and capture Malassise Farm.'²⁴

During the morning the fog became patchy and thinned somewhat towards the north of the battlefield, in the Third Army area. But the British were not significantly more successful in halting the initial onslaught. Visibility in the Lagnicourt area had improved sufficiently by 0630 hrs for an early reconnaissance of 59 Squadron to follow the German bombardment along the whole front of IV Corps. That particular flight was cut short quite suddenly by a shell which whipped through the fuselage of the RE8, cutting loose some of its control wires, but later patrols from the same squadron, including machines piloted by Lieutenants L.R. Brereton of Winnipeg and C.L. Hilborn of Alexandria, BC,* were able to add further information concerning the development of the attack during the morning. Both Canadians drove off attacks by enemy aircraft, Hilborn and his observer managing to take some sixty photographs of the main battlefield before noon.²⁵

The initial German penetration, spectacularly successful by the offensive standards of the previous two years, was another measure not only of the weight and

* Other 59 Squadron Canadians flying on this day included J.E. Hanning of Fredericton, NB, W.B. Powell of St Catharines, Ont., and I.D. Smith of Toronto. M. Sworder of Edmonds, BC, had been killed on 18 March 1918.

precision of the attack but also of British confusion that occasionally verged on panic. By noon on the 21st four more aircraft of 59 Squadron had overflowed the battlefield on their corps front and sent down a number of zone calls for counter-battery fire, all of which had been ignored. From a sky infested with enemy scout planes Lieutenant J.E. Hanning of Fredericton, NB, vainly called for neutralizing fire on different enemy batteries eight times in twenty minutes. Shortly after noon he even sent an 'LL' call - '... only to be used in case of really important targets' and demanding '... as powerful a concentration of fire as the situation permits' - against a mass of infantry, estimated to be two battalions strong, on the Pronville-Quéant road, but that also was ignored. Hanning and his pilot were able only to fire two hundred rounds into the enemy mass from 900 feet, release their six 25-lb bombs, and return to base by way of IV Corps Headquarters, where they dropped a message bag reporting the location of the German concentrations. Later, however, another flight of 59 Squadron did get an effective response to their 'LL' call on 'a large number of the enemy advancing in the open' west of Lagnicourt.²⁶

On the Fifth Army front the fog was so thick that no flying was possible before 1000 hrs and the five corps squadrons - 8, 35, 52, 53, and 82 - were not able to carry out more than three artillery co-operation patrols each by 1600 hrs. Since their airfields were closer to the original line than those of the army squadrons, several of them were ordered to move back during the morning, and the administrative problems of organizing the evacuation of aerodromes now in the combat zone over roads already jammed with retreating troops interfered with their operational efficiency. No 8 Squadron pilots, based only four miles behind the old front line and so ordered back to Chipilly, twelve miles west of Peronne, at 1100 hrs, found that, while they simultaneously moved and flew operational sorties, 'the battle was obviously getting very much closer, batteries were firing from the edge of the aerodrome, tanks were rallying back from the fight, just beside us, shells were exploding close ...'²⁷

On the southern flank of the Fifth Army, 82 Squadron's Armstrong-Whitworth machines were unable to get into the air until 1300 hrs, when Captain G.I. Paterson of Regina (pilot) and Lieutenant T.I. Findley of Toronto (observer)* found the sunken roads south and west of Urvillers 'packed with enemy troops' and German artillery in action in the open, alongside the roads. Other guns were limbered up on nearby roads and they could see 'batteries all over this region of country,' but their repeated calls for fire on specific targets went unanswered. A second patrol, flying some forty-five minutes later, had much the same experience, although British guns certainly were in action because the airmen could see heavy fire coming from field batteries behind the St Quentin canal. But in one case at least 'our own artillery fired short, smashing our already weakened defences.' Two later flights resorted to dropping message bags at the appropriate spots. This reversion to pre-electronic air-to-ground communications may well have affected the ground battle. Enemy infantry, reforming on the high ground just west of

* Paterson and Findley were flying together on 2 April 1918 when Paterson was killed and Findley badly wounded. Findley was awarded the MC for his work during the March offensive and was invalided out of the service in October.

Moy, reported that, shortly after a lone British aeroplane had overflown them, 'already the hitherto planless British artillery fire is being concentrated on this height.' As a result of this concentration the Germans retreated quickly, if not very far or for very long.²⁸

However, it remained true that much of the long-range destructive potential of artillery against troops in the open was not put to use by the British artillery during the first few days of the German offensive. The commanding officer of 8 Squadron doubted if many of the zone calls sent down were ever answered and certainly his own squadron found that very few were successful. Consequently, on the morning of the 22nd he dispatched his squadron wireless officer, together with all the spare radio equipment he could transport, in an attempt to locate IV Corps' batteries and re-establish air-to-ground communication. Not one of the batteries his specialist could find even had an antenna up. 'As soon as the retreat had started all idea of cooperating with aeroplanes seemed to have been abandoned. Many batteries had simply thrown their wireless equipment away, others had retained the instruments only ... Under these circumstances little use was made of the zone calls which were sent down ...'²⁹

If the artillery thus played a rather lesser role than it might have done in slowing or stopping the German advance, the air arm did its best to make up the deficiency. Earlier RFC planning for the allocation of fighter resources in the event of an attack had called for the Camel squadrons to engage in a substantial amount of low-level strafing and ground support work while the SE5as had been scheduled to concentrate on providing fighter cover for the other air activities. It quickly became clear, however, that the ground forces were going to need all the support they could get. Almost immediately the SE5as were ordered to provide additional ground support whenever and wherever possible.³⁰

Consequently, although V Brigade reported thirty-eight combats during the day, their losses were limited to one Armstrong-Whitworth of 8 Squadron and five pilots wounded, four of them by ground fire. III Brigade engaged in thirty-two combats with one Camel lost and two RE8 pilots wounded, while IX Brigade had no casualties at all and I Brigade reported four enemy aircraft destroyed on the Third Army front without loss to themselves. The German air force along the same length of front lost a total of eight machines from either ground fire or aerial combat. Four of them may have fallen to Canadian airmen: 56 Squadron's Lieutenant H.J. Burden of Toronto – Bishop's brother-in-law – was credited with his first victim on this day, while Lieutenant V.W. Thompson of 64 Squadron claimed a second and Donald MacLaren of 46 two more as well as a balloon.^{*31}

Low-level bombing and strafing by aircraft had not proved, in the past, to be of much practical value against entrenched troops. Now, however, the enemy was

* Both British and Germans consistently claimed and credited in 1918 far more victories than were actually scored. On the 21st, in fact, the British claimed a total of twenty-five enemy aircraft either crashed or 'completely' out of control. The Germans, on the other hand, claimed nineteen British downed along the same stretch of front. The true figures appear to have been eight and two. Brigade work summaries, 21–22 March 1918, Air 1/838/204/5/285; Deutschland, Oberkommandos des Heeres, *Der Weltkrieg 1914 bis 1918*, Band XIV *Beilagen: Die Kriegsführung an der Westfront in Jahren 1918* (Berlin 1944), Beilage 40

mostly in the open, and the fast and nimble British scouts, unhampered by the need to defend themselves against aerial attack, could often achieve tactical surprise. They were especially successful against artillery and supply columns whose horsedrawn equipment left them peculiarly susceptible to surprise attack from the air. One unit complained that 'everywhere grievous losses occurred ... at the limbers, too ... there were palpable losses of men and horses.' British strafing was to make this a common German refrain over the next few days. 'Troops would scatter into the fields, leaving men lying prostrate in the road; wagons and horses would be thrown into confusion and overturned,' recalled Sholto Douglas, whose 84 Squadron flew SE5as, and whose pilots at that time included eight Canadians. 'Pilots for the first time in their experience ... were presented with perfect ground targets - troops marching in fours along the roads, batteries and ammunition wagons moving across the open ...' The only effective defence against these low-flying fighters was a concentration of entrenched machine-guns. Time and circumstance usually prevented the Germans from assembling such defences during their big push, so that 'the fire directed at one from the ground was sporadic and innocuous. Tragic as was the great retreat to other arms, to the air force it was something of a picnic.'³²

Perhaps the *Jagdflieger* approach to the question of aerial combat, which had permitted the British to operate unhindered, was conditioned to some extent by the attitudes of their General Staff. German theories on the employment of air power had been significantly influenced by the success of their ground-support operations in the Cambrai counter offensive of 30 November. In February a memorandum on the 'Employment of Battle Flights' had stipulated that 'the systematic participation in the battle of massed flying formations [battle-flights] against ground targets is of extreme importance.' Their fighter squadrons, too, 'as far as fighting in the air will allow ... must also participate in the battle, diving steeply and firing both their machine-guns at the enemy on the ground.' Such imprecise instructions may have encouraged many fighter pilots to develop reservations about wholeheartedly adopting either role. Certainly German fighter forces did not play a part commensurate with their strength on the first day of the offensive. *Jasta 23* was flying 'at least four sorties a day' and it is likely that the other German fighter squadrons were doing much the same, but the principal emphasis seems to have been on ground attack. Although 'large formations' of enemy scouts were reported patrolling at heights between 3000 and 7000 feet and 'great numbers' of aircraft were all over the front by mid-afternoon, air combats were comparatively few. The entire British force was generally engaged in close ground support, but the German fighters seemed reluctant to pick a quarrel unless the direct support of their own battle-flights demanded it. Squadron record books and brigade work summaries suggest that only 23 Squadron's Spads were seriously troubled by enemy aircraft while strafing German troops and transport along the Vendhule-Marcoing line that bracketed the boundary between the Third and Fifth Armies.* Richthofen's adjutant, Karl Bodenschatz, remembered that, in the

* This was in the area for which Richthofen's *Jagdgeschwader 1* was responsible for fighter cover. G.P. Neumann, ed., *In der Luft unbesiegt* (München 1923), 228, DHist SGR 1 196, Set 72

Circus's area, 'The British airmen were notably reserved. Commitment of individual German squadrons sufficed to protect the reconnaissance elements over the battle-field ...'³³

At a higher tactical level, however, the RFC responded less successfully to the initial emergency. As early as 0930 hrs RFC Headquarters had ordered 9 Wing of IX Brigade, which included at least forty Canadians, to attack the vital railway junctions at Le Cateau, Wassigny, and Busigny. During the afternoon and early evening all three points were bombed, Wassigny by nine DH4s of 25 Squadron, under the command of Halifax-born Major C.S. Duffus,* and Le Cateau and Busigny by seven DH4s of 27 Squadron.[†] Between them they dropped nearly 4000 pounds of high explosive bombs in the vicinity of the junctions, but since they bombed in each case from heights of 14–15,000 feet (in accordance with an HQ instruction of August 1917 designed to limit losses of the valuable DH4s) little damage was done. The same problem beset 5(N) Squadron of V Brigade's 22 (Army) Wing, which spent the afternoon trying to hit key bridges over the St Quentin canal around Honnecourt, Vendhiule, and Le Cateau. A total of 176 25-lb and six 112-lb bombs were dropped but none of the bridges was broken. With the primitive bomb-sights of 1918 such targets could only be hit from 15,000 feet by sheer chance, and the exigencies of the situation on 21 March clearly demanded low-level attacks, even at the cost of heavy losses. But no one at Headquarters had thought to rescind the seven-month-old instruction that inhibited effective bombing, and apparently no one at the tactical level was prepared to ignore it.³⁴

At dusk on the 21st the enemy had made gains averaging more than a mile-and-a-half all along their front of attack. In the vicinity of Essigny, just south of St Quentin, they had penetrated nearly four miles into the British defences. Their advance continued throughout the night while bombers from IX Brigade's 54 (Night) Wing attacked an aerodrome and a railway junction well to the north of the battlefield. Flying on their first operational mission six FE2bs of 83 Squadron, which included at least six Canadians on its flying roster,[‡] bombed the junction at Don and shot up transport on the Lille-La Bassée road, beyond their First Army front. The 'old hands' of 58 Squadron, meanwhile, with four Torontonians on strength in the persons of Lieutenants J.F. White, M.C. Healey, and the brothers H.T. and W.A. Leslie,[§] struck the German airfield at Ramegnies Chin, eleven miles west of Lille. Nevertheless, by dawn of the 22nd the Germans had driven another four miles into the British line opposite St Quentin.³⁵

* No 25 Squadron's flying personnel at this time also included M.L. Doyle of River Louison, NB, E.W. Gordon of Ottawa (KIA 31 July 1918), J.E. Pugh of Stoney Plain, Alta, E. Waterlow of Regina (KIA 16 July 1918), and A.J. Wright of Barrie, Ont.

† Flying personnel included B.I. Johnstone of Tara, Ont. (WIA 24 March 1918), J.A. McGinnis of Battleford, Sask., A.F. Millar of Rapid City, Sask. (KIA 14 Aug. 1918), and G.E. Wait of Ottawa.

‡ G.G. Bell of Ottawa, G.W. Higgs of Kemptville, Ont. (WIA 20 April 1918), N.S. Jones of Toronto, L.B. Palmer of Ottawa, G.E. Race of Montreal, and C.S. Stonehouse of Wallaceburg, Ont.

§ W.A. Leslie (WIA 5 Oct. 1918) was one of the few pilots who had flown at least seventy-five operational bombing and reconnaissance missions when he was awarded the DFC in October 1918.

On the second day of the offensive heavy mist again blanketed the battlefield until midday and kept both sides out of the air. Fighting was intense on the Third Army front but there the British were now giving ground in comparatively good order, so that when flying did become practicable III Brigade was able to use its squadrons in their proper and pre-determined roles. By 1330 hrs the corps squadrons were busy with line patrols, artillery registration, and photography despite the dislocation caused by the need to withdraw to reserve airfields. As for the fighter squadrons, No 46's Sopwith Camels were the only single-seaters used exclusively for low-flying ground attacks on the 22nd. While 70 Squadron (Camels), as well as Nos 56 and 64 (SE5as), concentrated on offensive patrols with occasional support from 1 Brigade's 3 (N) Squadron, there was a noticeable increase in the tempo of air combat. Lieutenant Hank Burden 'sat up at 18,000 feet for over an hour and didn't get a shot at a Hun. Came down with a rip-roaring headache.'³⁶ Some of his colleagues, however, had a very different experience in the vicinity of Havrincourt.

On the German side the Havrincourt area was within the responsibility of Richthofen's fighter wing, *Jagdgeschwader 1*. When twelve Camels of 70 Squadron, led by Captain F.G. Quigley of Toronto, along with a flight of SE5as from 56 Squadron, met about forty-five Fokker triplanes and Albatros D.Vs over Havrincourt Wood a major *mélée* developed. It resulted in Quigley being credited with two victories and Lieutenant W. Porter of Port Dover, Ont., and Second Lieutenant A. Koch of Edmonton with one each. III Brigade* lost two aircraft, one corps machine for 12 Squadron and a Camel of 45 Squadron, while recording twenty-five 'decisive' victories that day. Donald MacLaren was also credited with two of III Brigade's claimed victories. Both were gained against LVGs, reflecting the low-level ground support role allotted 46 Squadron. His squadron carried out only three patrols during the day, however, and none of the flights involved more than six aircraft.³⁷

German machines were considerably more numerous and much more prominent, as far as the British ground forces were concerned. A South African officer serving with the 1st Royal Scots Fusiliers, then holding the line in the Wancourt region on the centre of the Third Army front during the 22nd and 23rd, recalled: 'During the two days that we held the line the enemy had the mastery of the air, in our quarter at any rate, and they were extraordinarily active, swooping over us at a low altitude in flights of fifteen to twenty machines at a time, machine-gunning as they came, and hovering over British batteries in the rear, dropping flares to guide their artillery.'³⁸ On the Fifth Army front, where much of the army was now in full retreat, things were even worse. The German operations here were mainly directed towards securing bridgeheads across the Crozat Canal, rather than gaining any available ground, but in the early afternoon the observers of 82 Squadron were noting 'many abandoned British field gun positions ... Much movement of transport at the trot Westwards.' They found that roads and communication

* The Germans lost possibly as few as three and certainly no more than six machines on the Third Army front, two of them downed in the British lines by anti-aircraft fire. *Der Weltkrieg 1914 bis 1918*, XIV Beilagen, Beilage 40; RFC war diary, 22 March 1918, Air 1/1186/204/5/2595

trenches around Urvillers were packed with German troops moving forward. Isolated British parties were apparently still holding out 'in very good spirits,' but by 1630 hrs an Armstrong-Whitworth piloted by Second Lieutenant H.S. Morton of Victoria was bombing German infantry at Dury, a mile west of the westernmost point of the Crozat Canal. An hour-and-a-half later 52 Squadron's Lieutenant T.E. Logan of New Glasgow, NS,* flew his RE8 over Contescourt, east of St Quentin, finding the village plugged with German transport. He dropped eight bombs from 350 feet 'with excellent effect' and returned westwards along the Contescourt-St Simon road, flying at a hundred feet and finding it, too, 'blocked with transport and infantry' moving forward. His observer had pumped some 250 rounds into them before Logan was wounded three times by ground fire,† but despite his wounds he succeeded in landing behind the British front. His observer was able to report to a passing staff officer the progress of the German advance.³⁹

By the evening of the 22nd every component of V Brigade, including the brigade headquarters, had had to move back. The inevitable administrative dislocation critically hampered air operations. One commanding officer recalled that several squadrons were seriously handicapped by the lack of fuel, oil, and bombs on 22 and 23 March: '... we had to supply the nearest squadron to us, which would not have been able to carry on otherwise.' Because of their proximity to the original front the corps squadrons suffered most severely and V Brigade's 15 (Corps) Wing could only report two-thirds of their eighty available pilots actually flying during the day, although they had eighty-six serviceable aircraft in hand.⁴⁰

No 22 (Army) Wing was in better shape, with all but four of its 106 pilots[‡] flying during the day. But the situation on the ground was so critical that every squadron was concentrated on close support duties again, and although 'many combats took place in the air' these were almost incidental. The work of 23 Squadron's Spads was typical, with the whole squadron, including two machines flown by Lieutenant M.S. MacLean of Winnipeg and Second Lieutenant R.J. Smith of Kingston, Ont.,[§] putting its primary effort into bombing and strafing the Clastres-St Simon-Grand Seraucourt triangle, on the south-central sector of the Fifth Army front. They dropped more than sixty 20-lb bombs on infantry, artillery, railways, and road transport in the area and followed up the bombing with machine-gun attacks from heights as low as 150 feet. Their one successful air combat of the day came when two aircraft, returning from one of these sorties, attacked and shot down an enemy reconnaissance plane behind the British front.⁴¹

* Other Canadians flying with 52 Squadron on 22 March 1918 included P.E. Biggar (WIA 1 Oct. 1916) and A.D. Pope (POW 28 March 1918), both of Ottawa, and T.J. Wilson of Edmonton. H.P. Illsley of Westmount, Que., joined two days later.

† The 22nd was a particularly bad day for the Canadians, four of them becoming casualties: N.M. Drysdale of Vancouver (WIA), G.B. Knight, address unknown (WIA, and died 7 April 1918 as a result of these wounds), T.E. Logan of New Glasgow, NS (WIA), and W.A. Moyle of Paris, Ont. (KIA).

‡ Including at least twenty-five Canadians.

§ B.S. Johnston of Courtright, Ont., E.G.S. Mortimer of Ottawa (KIA 3 April 1918), and V.R. Pauline of Victoria (KIA 8 May 1918) were among other Canadian pilots serving with 23 Squadron on 22 March. Smith was wounded on 28 March 1918.

Although most of the Third Army front was holding up reasonably well, the Fifth Army defences were bulging ominously by nightfall on the 22nd. The army's left wing was being forced back at a steadily increasing rate south of the Flesquieres Salient, which was now in the process of being 'pinched out' by the Germans. Over 30,000 lbs of high explosive were dropped that night and many thousands of machine-gun rounds fired at billets and railways behind the German front by the four night-bombing squadrons of IX Brigade,* but the effect was negligible.⁴² On the 23rd the Germans resumed their advance, to make their biggest gains yet on the Fifth Army front and the southern flank of the Third Army, where a British stretcher bearer noted in his diary:

... as we left the cross-country track, and hit the roadway at Ytres, we became submerged in a medley of troops all moving towards the rear ... There was disorder everywhere, men of many different units were hopelessly intermixed - some were without equipment or rifle ...

On every face was a kind of hopeless look, nowhere did I discern a smile, and to my eyes, at the time, it looked certainly like a rout. It seemed everyone's aim to get as far away from the battle as possible, and it was surprising how, soon after being amongst the crowd, we appeared to be obsessed with the same idea ...⁴³

That description was probably applicable to most of the Fifth Army as well. The remainder of the Third Army, however, was more or less holding its own and its overall balance enabled III Brigade, desperately endeavouring to strengthen the southern flank by developing a real air supremacy, to concentrate its machines on the threatened wing and deploy them in their scheduled roles. As the fighter squadrons returned to their proper duties 117 air combats were recorded, nearly triple the number of the previous day, with thirty-seven of them being marked down as 'decisive' victories. Twenty-one German aircraft were reported as 'crashed.' Donald MacLaren was credited with one of them as well as two out of control, while Second Lieutenants J.H. Smith, from Campbellford, Ont., and R.K. MacConnell, from Victoria, claimed one each. No 64 Squadron's Captain E.R. Tempest of Perdue, Sask.,[†] had a Pfalz D-III confirmed by other pilots; Frank Quigley and Alfred Koch of No 70 were also credited with one enemy aircraft each. Dumps and detraining points behind the German front were bombed by the DH4 day-bombers of 49 Squadron.[‡] Altogether the army wing of III Brigade dropped 149 25-lb bombs during the day and fired nearly 7000 rounds from their machine-guns at ground targets while the corps wing flew five photographic missions, eleven artillery co-operation flights, and five contact patrols; four hostile batteries were 'engaged for destruction' and seventeen neutralized.⁴⁴

* For operational purposes 101 and 102 Squadrons were attached to V and III Brigades, respectively.

† Tempest was now a flight commander with 64 Squadron, which also numbered W.C. Daniel of Toronto (WIA 18 May 1918), H.G. Ross of Montreal, and V.W. Thompson of Ottawa among its Canadian pilots on 23 March 1918.

‡ No 49 Squadron's crews included G.A. Leckie of Vancouver, E.B.G. Morton of Barrie, Ont., A.V. Price of Toronto, H.L. Rough of Victoria, and E.H. Tredcroft of Kamloops, BC.

In the brigade as a whole 228 pilots were used out of the 232 available, at least seventy-five of them being Canadians. During the day the brigade was reinforced by the arrival of 22 (Bristol Fighter),* 43 (Sopwith Camel),† and 60 (SE5a)‡ Squadrons from the north. No 40 Squadron (SE5a),§ although remaining under 1 Brigade's command, also began to operate exclusively on the Third Army front during the 23rd. Even 1 Brigade's corps squadrons were pulled into the battle. An English observer with the Canadian Corps' squadron has recorded his experience:

Sixteen Squadron was sent into the air to a man and a machine. For the first time I saw something like war as the picture books show it. Instead of the lifeless lunar landscape of the trenches, masses of Germans moving forward in the open. The air was so packed with aeroplanes that sardines in comparison seemed to be lolling in luxury. The cloud ceiling was low, about 2,000 feet and in that narrow space hundreds of machines swooped and zoomed, spitting fire at each other and at the troops below.

Nickle, my Toronto pilot [Lieutenant D.J. Nickle was actually from Kingston, Ont.] dived on German troops marching along a road, machine-gunning them furiously through the airscrew, and as he turned to regain height I continued with my gun. Black anti-aircraft shells burst on all sides; and the flaming onions, green incendiary projectiles that rose as if tied together on a string, came groping towards us. Aeroplanes flashed by on all sides, friend and foe almost impossible to distinguish.

We dropped our bombs on a German battery ...⁴⁵

On the Fifth Army front the situation was becoming chaotic. v Brigade, its operational efficiency as much impaired as that of most other elements of the army by the speed and weight of the German advance, worked desperately hard to stem the tide. In the brigade work summary the columns for tabulating offensive and line patrols for army and corps squadrons respectively were typed over with the blunt words 'Counter Attack' to characterize 136 of the 195 operational missions flown during the day, the balance being made up by artillery co-operation, contact, and reconnaissance missions. The RFC, clearly, was emphasizing those aspects of

* Canadians serving with 22 Squadron at this time included B.C. Budd and W.G. Bulmer of Toronto, H.F. Davison of Forfar, Ont. (WIA 13 April 1918), O. St C. Harris of Toronto, W.S. Hill-Tout of Abbotsford, BC (WIA 12 March 1918), D.M. McGoun of Westmount, Que., H.F. Moore of Winnipeg, G. Thomson of Celista, BC, G.N. Traunweiser of Grand Forks, BC (KIA 15 April 1918), and F.M. Ward of Victoria (KIA 22 April 1918).

† No 43 Squadron's Canadian pilots at this time included A.C. Dean of Chatham, Ont. (POW 12 April 1918), J.A. Grenier of Quebec City, H.S. Lewis of Orangeville, Ont. (POW 6 April 1918, died of wounds 16 April 1918), M.F. Peiler of Montreal (POW 6 April 1918), W.J. Prier of Brantford, Ont. (POW 28 March 1918), and C.S. Sheldon of Winnipeg (KIA 27 June 1917).

‡ Canadians in 60 Squadron included J.N. Bartlett of Winnipeg, K.P. Campbell of Brandon, Man. (WIA 27 June 1918), W.J.A. Duncan and H.A.S. Molyneux of Toronto, J.W. Trusler of Camlachie, Ont., and R.K. Whitney of Abbotsford, Que. (WIA 11 Aug. 1918).

§ Only two Canadians are known to have been serving in 40 Squadron at this time: H. Carnegie of Port Perry, Ont. (WIA 10 April 1918) and W.L. Harrison of Toronto (WIA 12 April 1918). When he was wounded Harrison had been with the squadron less than nine months and he was quoted as saying that, in that time, the squadron personnel had changed completely three times. Only he and the equipment officer remained of those who had been there when he joined. Canadian Associated Press release, nd, W.L. Harrison biographical file, DHist

the air battle which most effectively supplemented the efforts of the ground forces to stop the onslaught. 'During this period there were sometimes a dozen or more German aeroplanes over our aerodromes at a height of 10-12,000 ft but we did not attack them as they were doing no harm there and all our aeroplanes were required to help meet the emergency that had arisen on the ground,' recalled the commandant of the postwar RAF Staff College.⁴⁶

Although 'many combats took place in the air' – the same phrase had been used on the previous day – this time only three 'decisive' fights were recorded. The SE5as, which were intended to provide high-level cover, were working nearly at ground level and finding targets for themselves. 'For several days,' wrote the historian of 24 Squadron, 'the Squadron practically operated on its own, carrying out low bombing attacks all day and concentrating mostly on the bridges across the Somme, at Pargny and Béthencourt.' He went on to recall that 'during part of this period [the March offensive] all communications were cut ... We were dependent entirely on our own reconnaissance for ascertaining the position of the enemy ...'⁴⁷

Three pilots of 24 Squadron, including Lieutenant G.B. Foster of Montreal who had joined it on his first operational posting only two weeks earlier, caught a column of German troops at lunch on the road just outside Croix Moligneaux. Although hampered by enemy aircraft, they scattered the column with machine-gun fire, keeping it 'under cover for a considerable period.' A formation of 84 Squadron which included the Canadians Sorsoleil, Falkenberg, W.H. Brown, and Duke fired off 4000 rounds on their morning patrol alone, inflicting 'severe losses' on three large columns of enemy infantry in the vicinity of Matigny, where the squadron had been based only two days before. 'They attacked them for about twenty minutes and kept them at a standstill ... Hostile field guns were taking shots at them all the time' as the SE5as strafed from as low as one hundred feet.⁴⁸

Since the British fighters were concentrating on delaying the German ground advance rather than shooting down enemy aircraft, the German pilots were having good hunting: 'On the third day of the battle,' General von Hoeppner has recorded, 'the German ground attack squadrons found excellent targets in the retreating British columns of route. Thus their attack in the afternoon on the straight as a line Roman Road (from Roupy to Ham) caused traffic congestions lasting for hours. Teams of horses went wild, every one was seeking cover in the trenches to the left or right, or panic-like raced from the road into the open fields.'⁴⁹ On the evening of the 22nd the artillery of the 9th (Scottish) Division found 'throng of hostile aeroplanes flitting above them which sprayed the teams with bullets and engaged our infantry.' Their fate, even so, was perhaps happier than that of the Lowland Brigade of the same division, which found itself 'greatly harassed by bombs and machine gun fire from aeroplanes flying low and bearing British colours' on the morning of the 24th.⁵⁰ There were bound to be mistakes with such a fluid front, a badly strained command organization, and so many pilots unfamiliar with both the topography of the area and the techniques of close ground support.

Later that evening fog kept the night bombers of Fifth Army on the ground and protected targets opposite their front, but to the north the bombers of Third Army and IX Brigade's 54 (Night) Wing were back at work. No 102 Squadron dropped 663 bombs and fired nearly 14,000 rounds into billets behind the front of the

German Seventeenth Army,* while twelve machines of 58 Squadron attacked dumps at Iseghem and Bissegem and started fires which were visible from Clairmarais aerodrome, about forty miles away. No 83 Squadron spent half the night trying to hit the long-range gun which the Germans had mounted on railway tracks at Meurchin, opposite the Canadian Corps' front, and then bombed an ammunition dump on the Carvin-Carnin road and set it on fire. The bombers were out every night, making every effort to disrupt German logistics, but the nature and circumstances of their work made them comparatively ineffective.⁵¹

Dawn on the 24th brought no easing of the German pressure. As the Third Army more or less held its ground in the Flesquieres Salient while the Fifth was pushed further and further back, a line of weakness developed along their common boundary which Ludendorff was quick to exploit. The Third Army's flank was being left 'in the air' and the enemy began to push into the gap between the two armies, driving the one southwest and rolling the other back towards the northwest, so that a wedge aimed towards Albert appeared in the British front with a deep bulge opposite St Quentin to the south of it.

To counter the grave danger posed by this wedge, Salmond ordered III Brigade's squadrons and as many planes as could be spared from further north to this point. 'We managed to concentrate 100 machines on the threatened line,' he told Trenchard. 'They had orders to fly low and take every risk;[†] nothing was to count in carrying out their duties. I had news from the 1st Bde.[‡] that our machines were so thick over this point that there was every danger of collision in the air ...'⁵²

If Salmond's was an apt description of air activities on the 24th from a command standpoint, then the war diary of 3 Squadron,[§] flying its Sopwith Camels out

* The effectiveness of this form of attack is hard to assess. Obviously the physical damage would be minimal and not worth the effort expended, but the effect on troop morale may have been significant. On this same night German bombers were busy over the British lines and artilleryman Arthur Behrend found that 'German planes were humming overhead all night long, and bombs were dropping north, south, east and west. It was the worst and noisiest night yet ...'

Arthur Behrend, *As From Kemmel Hill* (London 1963), 89.

† Some of the pilots obeyed orders to the letter. H.A. Jones, *The War in the Air: being the story of the Part played in the Great War by the Royal Air Force*, IV (London 1934), 316, cites a bugler of the 8th Grenadier Regiment, caught in the open by British fighters. 'My company commander, Lieutenant Nocke, had to fling himself flat on the ground, but for all that he was struck on the back by the wheels of one machine ... Not far from me an aeroplane appeared at about one metre above the ground, making straight for me and for the moment I did not know in what direction to throw myself: the pilot appeared determined to run over me. At the last moment I was able to spring clear as the machine whizzed past me and through the firing-line.' However, the real value of Salmond's orders should be assessed against Raymond Collishaw's criticism that 'Orders for fighter squadrons to participate by attacking German troops were issued in the vaguest terms and it was extraordinarily difficult for fighter pilots to discern who was who on the ground ... Fighter pilots ... were sent more than a 100 miles to intervene ... where they could scarcely identify friend from foe.' *Cross & Cockade Journal*, VIII, summer 1967, 148-9.

‡ Salmond was 'temporarily out of touch' with III, V, and IX (HQ) Brigades at this time. See Salmond to Trenchard, 25 March 1918, Air 1/475/15/312/201.

§ At this time something of an Ontario preserve as far as Canadians were concerned, with six of them on the squadron strength: W.H. Boyd of Campbellford, R.F. Browne of Toronto (WIA 8 Oct. 1918), V.H. McElroy of Richmond (KIA 2 Sept. 1918), L.H. McIntyre of Peterborough (KIA 21 Aug. 1918), T.F. Rigby of North Bay (KIA 27 March 1918), and H.E. Stewart of Seaford (WIA 27 March 1918).

of Warloy, a few miles east of Albert, exemplified the battle at the 'sharp end': '9.30 am. Low Work. 10 machines. Enemy troops and transport bombed and machine gunned ... 1.40 pm. Low Work. 11 machines. Great havoc worked by all pilots on close masses of enemy during the attack on VRAU[LX] VAUCOURT. Very successful bombing and machine gunning ... 5.0 pm. Low Work. 6 machines. Good work done again on close masses of enemy.'⁵³ As for the recipients of this onslaught, they recorded that 'like swarms of angry hornets British aircraft are circling around the German troops moving from the height of Biefvillers towards Bihucourt,' while a little farther south '... low-flying enemy planes were delaying the advance with bombs and machine gun fire, especially at the road Le Transloy-Lesboeufs. Anyone trying to get across the road was shot down.'⁵⁴

This was all aimed against the wedge driving towards Albert. Further south, where the Fifth Army line was sagging back towards Amiens,* every effort was being made by v Brigade, with more than forty Canadians on its flying strength, to prevent the Germans crossing the Somme canal. No 23 Squadron's M.S. MacLean of Winnipeg was one of several to bomb and machine-gun enemy troops on either side of the canal at Béthencourt. Kingstonian R.J. Smith 'dropped 4 bombs on bridge at Béthencourt. One seen to burst just off end of bridge, others not observed,' while another Spad of the same patrol claimed a direct hit 'amongst infantry crossing' the bridge. Later in the afternoon Smith was back, bombing the village again and strafing artillery and infantry in the vicinity, while MacLean was scoring a direct hit on the canal bridge at Pargny, a mile or so to the north. All along the battlefield other squadrons were busy at the same kind of work, so that even in the extreme south, where French reinforcements were now intermingled with the British as the Germans fought their way past Cugny, the latter reported 'enemy planes constantly buzzing around them.' All these, of course, are subjective descriptions of the fighting, and although they indicate its nature, they do little to explain the degree to which the ground support battle was intensifying.⁵⁵

A few figures may help here. On 21 March some 28,000 rounds were fired at ground targets by the RFC and fifteen-and-a-half tons of bombs were dropped during the day and night. The next day 41,000 rounds were fired and twenty-one tons of bombs dropped; on the 23rd, 44,000 rounds and thirty-three tons of bombs were expended. But on the 24th the expenditure of ammunition rose to 82,000 rounds, although the tonnage of bombs dropped only increased by three-and-a-half tons.⁵⁶

This marked increase in the intensity of ground support operations by the British brought about a parallel intensification of the air fighting when the German army staffs reacted to the increasing number and effectiveness of British aircraft intervening in the ground battle. Their assault troops were now complaining about British strafing, von Below's Second Army Headquarters telling the commanders of its fighter wings that their troops were being 'incessantly harassed by enemy

* '5th Army has practically broken down ... The worst show since the beginning of the war. Troops and transport of all kinds have been streaming past the aerodrome all day,' recorded Burden of 56 Squadron. 'A copy of the 1918 Diary of Captain Henry John Burden, DSO, DFC,' Burden biographical file, DHist

† These figures applied to the whole of the Western Front but by far the greater part of the action was occurring south of Arras.

aircraft' and demanding that this be stopped. The *Jagdgeschwadern* promptly abandoned their high-level patrolling and came down to seek combat.⁵⁷

'Owing to the low altitude at which fighting was carried out, there was little time for enemy machines to manoeuvre, and consequently more than the usual proportion were crashed,' noted III Brigade's daily work summary in the course of claiming twenty-one enemy aircraft destroyed during the day. V Brigade reported thirteen victories and IX Brigade eleven, while I Brigade's operations on the Third Army front added two more, for a total claim of forty-seven machines. The RFC admitted losing fifteen of their own aircraft but most of them were probably brought down by ground fire. Canadians shot down included 53 Squadron's Captain R.H. Martin of Viking, Alta., and Second Lieutenant Wilson Porter of Port Dover, Ont., from 56 Squadron, both of whom were killed, while Lieutenant C.W. Cook of Guysboro, NS, Martin's observer, was taken prisoner.* Three other Canadians were credited with destroying enemy machines, Lieutenant W.L. Harrison of 40 Squadron and Second Lieutenant W.S. Stephenson of 73 Squadron[†] and F.H. Taylor of 41 Squadron[‡] each claiming one victory. Lieutenant H.F. Moore of Toronto, an observer in a Bristol Fighter of 22 Squadron, was credited with participating in the destruction of a fourth.^{§8}

Not only did the Germans fail in their attempt to limit or prevent the massive deployment of RFC resources on ground-support operations, but their air effort was also being undermined by serious logistical and command problems. As their armies advanced German air units needed new airfields as close as possible to the moving front, but good locations were few on the trench-furrowed and shell-pitted Somme battlefields. Because the German air force had adopted an essentially defensive posture on the Western Front their designers had paid more attention to aircraft performance than endurance. The standard German fighters in the spring of 1918 (Albatros D-V and Pfalz D-III) could stay aloft for only one-and-a-half hours as against two-and-a-half hours for the equivalent British machines (SE5a and Sopwith Camel). Consequently aircraft had to be over-concentrated on the useable forward fields, which were then subjected to intensive attack by the RFC, and the more remote air formations came to be from their command headquarters, the more difficult communications became. 'Fighter groups and Wings which quite correctly had moved forward quickly, for days on end received no directives from Army Headquarters located far to the rear. Therefore they ... lacked the possibility of co-ordinating their activities as to time and place with the events on the ground. Thus it happened that frequently at the decisive point and at the critical time the troops failed to receive fighter support.'^{§9}

* Other Canadian flying personnel in 53 Squadron on 24 March 1918 included W.M. Emery of Ottawa, W.R. McCoo of Montreal (wia 11 April 1918), E.L. O'Leary of Richibucto, NB, J.J. Quinn and W.D. Stroud, both of Ottawa.

† Stephenson hailed from Winnipeg. Other Canadians serving in 73 Squadron included W.H. Collins of Chatham, Ont., J.H. Drewry of Victoria, E.J. Lussier of Medicine Hat, Alta., and J.J. McDonald of Sydney, NS (wia April 1918, pow 15 Sept. 1918).

‡ Taylor was a Torontonian. His compatriots serving in 41 Squadron on 24 March 1918 included E.F.H. Davis of Oxbow, Sask., W.J. Gillespie of Daysland, Alta., A. Goby of Avonlea, Sask., and S.A. Puffer of Lacombe, Alta.

The British, too, had often found themselves in these critical days without adequate air support. But for troops fighting on the defensive, usually from cover and sometimes from prepared positions, the absence of air cover was not so serious as for troops who must keep attacking incessantly. To attackers, moving in the open, it was vital that their aircraft keep the enemy from the skies overhead and compel defending forces to keep their heads down. The Germans, however, were losing the air battle: 'on 24 and 25 March the ... situation of our pilots in the battle zone was worsening constantly ... Numerically the enemy had already reached superiority again.'⁶⁰ This loss of air superiority was to have a material effect upon the ground battle.

Nevertheless, the German advance flowed on. When, on the 24th, the drive towards Albert came virtually to a standstill, pressure was shifted southwards. On the 25th the Germans began to align their main effort along the St Quentin-Amiens axis, pushing hard against the junction between the Fifth Army and elements of the French Third Army now taking over the southern end of the Fifth Army's front. By nightfall on the 25th, after five days of fighting, the Germans had gained more than four hundred square miles of territory and their advance, probing constantly for weak points in the British line and shifting direction and weight as circumstances suggested, showed no signs of flagging.

In the air, however, they had now lost their initial advantage. On the Fifth Army front, after five hectic days, the tempo of German air activity was reported as 'normal' on the 25th; in confirmation of this claim, 15 (Corps) Wing of V Brigade was able to carry out a total of forty-two reconnaissance flights during the day without losing a machine. Only two decisive combats were recorded in the whole brigade, both Germans being sent down in flames by 84 Squadron's W.H. Brown, a former bank clerk from British Columbia, who gained a Military Cross in recognition of his day's work. III Brigade found 'hostile activity strong but nothing like the same intensity as on the previous day of the battle,' with eleven out of thirty-two combats claimed as 'decisive.' As for I Brigade, it reported that 'E.A. activity was slight ... a very few machines seen on Third Army front.'⁶¹

All the low-flying offensive patrols took full advantage of the opportunity presented them by the slackening of German activity. Twenty-six of 22 (Army) Wing's 108 aircraft were unserviceable after their herculean efforts of the previous four days, but every machine that could still fly was pressed into service. One hundred and thirty-one sorties were flown and because they were less threatened from the air, RFC pilots were able to wreak even more destruction on the ground. No 84 Squadron's early patrol, including Sorsoleil and Duke, found a 'massed formation of Huns' on the Peronne-Albert road and fired two thousand rounds into them from a hundred feet 'with good results.'⁶² Duke's diary reported the attack from a more personal perspective which adds colour to the bald prose of the official record: 'I went down low to look at some troops marching along the Peronne-Albert road. I got down low and saw they were Boche. They turned machine guns galore on me, and shot my lower left longeron clear through, besides the rear spar in the r[igh]t hand plane and several other holes, machine is a "write off" so I'll get a new one.' Things went better for him on the afternoon patrol, however. 'Went out at 5 o'clock on a low-strafing patrol with Shutley,

Brown and Falkenburg. I dropped bombs and shot up Boche troops on the Nestle-Curchy road. It was good sport and they all scattered to the side of the road.⁶³

To the north I and III Brigades, operating on the Third Army front, were enjoying equally satisfactory conditions. Setting an example were two Canadians from 70 Squadron, Frank Quigley, who already had an MC and Bar, and Alfred Koch, both of whom were to find references to this day's work in their citations for the DSO and MC, respectively. Quigley started his day by strafing German transport near Le Sars and then, on his second sortie, 'dropped 2 bombs on transport from 500 ft. He then fired on it [the transport] disorganizing it. Afterwards he fired from 500 ft on enemy [infantry] advancing in open order.' Koch had an even better time, 'thoroughly' dispersing an entire battalion of infantry which he found marching in close column on the road to Irles, bombing another column marching west between Bapaume and Avesnes-lès-Bapaume and strafing a third column 'which scattered and did not reform.'⁶⁴

Since every available pilot in I, III, and IX Brigades was doing his best to emulate Quigley and Koch and was operating under nearly optimum conditions, the cumulative effects (92,000 rounds were fired at ground targets) were significant despite the immensity of the war machine that Ludendorff's staff had deployed along the Somme. Indeed, German historians have recorded the increasing effectiveness of the RFC role in stemming the offensive. At the tactical level the 14th Bavarian Infantry Regiment, pushing towards Sapignies, found their advance 'rendered more difficult by the presence overhead of several British air formations.' The German official history, describing the air situation on 25 March, records that 'low-flying enemy planes attacked time and again,' while the German infantry 'urgently requested protection against enemy aircraft' on their Second Army front.⁶⁵ Even the high-level day bombers made their presence felt at an immediate tactical level. During the morning, as the 100th Leibgrenadier Regiment was moving into assembly positions at Athies:

... suddenly at the greatest height enemy aircraft appeared. They had been noticed too late, and already groups of bombs were crashing into the midst of the units, inflicting heavy casualties. Within a few seconds, 8 officers and 125 men were incapacitated, and in addition also 28 horses ...

As a result of the heavy loss of horses, some vehicles had to be left behind at Ennemain. The MG Coy had only five vehicles left for the continuation of the advance.⁶⁶

During the afternoon the 52nd Reserve Infantry Regiment, near Thiepval, despondently recorded that '... enemy aircraft abound. We count 30 of them above our heads at one and the same time. But when the long hoped-for German planes appear ... they disappear in no time. Only a few accept combat, and they are shot down.'⁶⁷

On the 26th the importance of the air in slowing down the Germans became even more pronounced as the RFC command and logistics organizations re-stabilized. The number of machine-gun rounds fired at ground targets more than doubled to 228,000. Moreover, they were probably fired to better purpose because British airmen had now formulated a special technique for this kind of work. The Camels

and Bristol Fighters came in low and stayed low, strafing key roads and bridges and the small bodies of enemy troops which formed the spearheads of the attacking forces. The commander of 22 (Army) Wing told his pilots to 'first identify one's front line then fly up and down it at 50 feet to encourage the troops. Then ... turn east and fly up and down the Hun line at 50 feet and shoot them up, to encourage them.' The SE5as, fulfilling the double function of providing air cover and engaging in ground attack, specialized in transport, artillery, and the larger troop formations found slightly farther back behind the line.⁶⁸ Sholto Douglas described their technique:

The method of attack that we evolved against these ground targets was first of all to fly over the enemy, always in formation, at a height of between eight and ten thousand feet. At that height we presented to the enemy guns fast-moving targets that were difficult to hit, and we were too high for their machine-guns to be effective. On the other hand we could scan wide stretches of country in search of suitable ground targets. Having selected his target, the leader would dive at it, but not too steeply: more flying down to it from a distance with engine full on. When we were within range we opened up with our machine-guns; and at about two hundred feet away from the target we dropped our bombs.

Immediately after our attacks we zoomed up as hard as we could go, usually turning at the same time. In the dive we would be doing between one hundred and fifty and one hundred and eighty miles an hour, and in the zoom that followed we rocketed up to about a thousand feet. We would go on repeating this performance until we were out of bombs and ammunition; and so much practice did we have against those live targets that we were able to plant our bombs with an accuracy that, being fighter pilots and not bombers, surprised even us.⁶⁹

The corps squadrons and the northern brigades were also doing their bit. German infantry found that 'enemy air reconnaissance was extremely lively and obnoxious' on the 26th: '... they accompanied our troops flying brazenly low and dropping bombs on the marching column. That they were in touch also with their artillery we were to feel shortly, for we had hardly reached our assembly position in an old British billet and had installed ourselves more or less comfortably, when a hail of shells and shrapnel bombs hit us like a thunderstorm.'⁷⁰ 1 Brigade's 10 (Army) Wing, with at least thirty-five Canadian airmen on strength, and aided by thirty machines from 11 Brigade (1, 19, and 20 Squadrons with another twenty or so Canadians) was still attacking ground targets around Bapaume: 'Troops and transport were scattered and many casualties caused. Excellent targets were obtained. Bombs were dropped on troops in close formation ... from a low height. Direct hits were obtained and troops scattered in all directions.'⁷¹

Cataloguing all the individual sorties would soon become monotonous, but one example may be selected to show the variety of work carried out. In the course of one mission Second Lieutenant Roy Kirkwood McConnell* of Victoria, who had enlisted as a nineteen-year-old schoolboy in February of the previous year and had been flying Sopwith Camels with 46 Squadron since receiving his first operational

* McConnel won a DFC for his five credited victories by the end of the war.

posting in mid-November, dropped two 20-lb bombs on a 'group of officers having a conference.' He then fired twenty rounds at them, apparently killing two and wounding another with his bombs and bullets and scattering their horses. Finding a German observation balloon in action he fired another twenty rounds at it, 'causing the observer to jump out.' He then returned home, strafing and dropping his remaining two bombs on troops in Ervillers on the way.⁷²

The evening of the 26th saw the Chief of the French General Staff, *Général* Ferdinand Foch, appointed by mutual agreement to 'coordinate the actions of all Allied armies on the Western Front.' This was a much needed and long overdue reform of the allied command structure, made especially necessary by the German drive against the junction of the French Third and British Fifth Armies. Although it nominally increased French air participation in the battle, the effect on the RFC and on the air war was not significant, for the French, despite their nominal air strength, were a relatively negligible force in the spring of 1918. Between 26 March and 5 April 1918, inclusive, the Germans only lost five aircraft along the whole length of the French front.⁷³

One of Foch's first instructions as supreme commander concerned the strategic conduct of the air war. The essential principle laid down in his order was the much needed one of proper concentration. Until Foch took over the British alone had been dealing with nearly fifty specific bombing targets. Now both air forces were allotted a total of eight, Foch pointing out that 'the essential condition of success is the concentration ... on such few of the most important of the enemy's railway junctions as it may be possible to put out of action with certainty, and to keep out of action.'* The principle was sound, even if the technology of the time made the objective virtually impossible to attain.⁷⁴

Général Foch's instructions about air fighting and the tactical handling of aircraft during the current emergency were just as specific and no less correct. He directed that 'the first duty of fighting aeroplanes is to assist the troops on the ground by incessant attacking with bombs and machine guns on columns, concentrations or bivouacs. Air fighting is not to be sought except as far as it is necessary for the fulfillment of this duty.' In this case the RFC had nothing to learn, for that same evening Major-General Salmond reported to Trenchard in London that his squadrons had done 'really magnificent work.' He went on to say: 'When I was in GHQ tonight I heard a telephone message ... saying that without a doubt the concentration of aircraft in the south had frozen up the attack there temporarily. Similarly, Cox (Intelligence) told Davidson† that he considered the concentration of aircraft west of Bapaume had had the same effect.⁷⁵

These contemporary assessments of the situation have since been supported by the German official history, which, although primarily a narrative of ground opera-

* This instruction was dated 1 April 1918 and directed to *Général* Fayolle. James E. Edmonds, *Military Operations: France and Belgium, 1918*, II (London 1937), app. v, 506-8. However, *ibid.*, 117, reports that it was forwarded to British GHQ with Foch's 'General Directive No. 2' of 26 March 1918.

† Brigadier-General E.W. Cox, Haig's Chief of Intelligence, and Major-General J.H. Davidson, his Chief of Operations.

tions, admits that on the 26th: 'Quite particularly and probably most strongly felt was the shift in the strength ratio in the air ... Enemy air formations of up to 60 aircraft – as recorded by Seventh Army on that day – pounced on the infantry with great élan and attacked them with bombs and machine gun fire. Against this enemy numerical superiority the German airmen had a hard time ... it was ... impossible to meet the demands of the troops for continuous air protection.'⁷⁶

On 27 March, as the Germans drove to within fifteen miles of Amiens, the RFC continued to press its assault against their ground forces. This day saw the culmination of the British effort at close ground support. III, V, and IX Brigades were reinforced by ninety-seven machines of I Brigade and 30 of II Brigade and, along the length of the British front, the RFC discharged 313,000 rounds of machine-gun fire and fifty tons of bombs at the enemy. Using pilots of locally-based squadrons as patrol leaders because of their knowledge of the front, even I and II Brigade's fighters made an average of four flights each and some machines of Raymond Collishaw's 3(N) Squadron made as many as six sorties during the day.⁷⁷

That the cumulative effect of the RFC operations was beginning to tell is revealed by the pilots' comments that targets were 'not quite so good as yesterday as the main roads were not being used to the same extent.' Nevertheless, 'heavy casualties' were claimed and British air supremacy was becoming more pronounced as patrols were 'splitting up' and proceeding 'individually to attack enemy troops and transport.' The Germans on their Second Army front found that '... already in the early hours of the morning enemy aircraft caused a considerable number of casualties in the most forward lines.' Infantry in the south, near Lassigny, reported 'Much fire from French artillery, but above all the Corps was seriously troubled by enemy aircraft now obviously having superiority in the air.'⁷⁸

The RFC was suffering – besides actual losses of men and machines, a fifth of the machines of III and V Brigade's army wings were now unserviceable – but the German air force was suffering more. Although V Brigade, directly facing the main weight of the German assault once again, described enemy activity as 'above normal,' I and III Brigades found it only 'slight.'⁷⁹ The RFC by delivering such a quantity of ammunition and bombs against the enemy, in weather conditions that were something less than satisfactory, demonstrated that the German air force had been outnumbered and was now being outfought.

The spirit which Trenchard had inculcated and which had enabled the RFC to attain this air supremacy was once again superbly demonstrated on 27 March by Second Lieutenant Alan Arnett McLeod (one of whose initial exploits has already been recorded in an earlier chapter),* and his observer, Lieutenant Arthur Hammond. With six other Armstrong-Whitworth FK8s of 2 Squadron, McLeod and Hammond took off that morning to bomb and strafe German troop concentrations around Bray-sur-Somme, near Albert, but limited visibility soon left them separated from their colleagues and unable to locate their targets. Hampered by low cloud, they eventually landed on 43 Squadron's field. After repairing damage to the machine's tail skid which had resulted on landing the

* See 447 above.

heavily-laden machine, McLeod and Hammond took off again, determined to reach their target. Despite the poor weather, they finally located it and were about to bomb an artillery battery when they spotted a Fokker triplane below them.

The FK8 was not designed as a fighter but it was a strong machine and easy to fly. Flying with another observer, McLeod had already used one to shoot down a German scout in January and now he turned on the triplane. Hammond promptly shot it down but, almost immediately, seven more fighters belonging to the Richthofen *Geschwader* dived on them. One was sent down in flames but then the British machine was raked by a burst from one of the Fokkers which came up from below and behind. Both McLeod and Hammond were hit and the gas tank punctured, setting the machine on fire. They were then at about 2000 feet and, as McLeod put the machine into a dive to try to reach the ground, the floor fell out of the rear cockpit and forced Hammond to climb out onto the cockpit coaming, where he continued firing as best he could. Flames then enveloped the pilot's cockpit and McLeod climbed out onto the lower left wing and worked the controls from there, putting the machine into a side-slip to draw the flames away from himself and Hammond, who had by now been wounded several times. As McLeod struggled to maintain control they were followed down by a third enemy machine which continued to fire at them and wounded both McLeod and Hammond again. Somehow McLeod kept control, flattening out his dive just before hitting the ground in 'No Man's Land'.⁸⁰

The FK8, still bearing eight bombs and a thousand rounds of ammunition, was now blazing fiercely. Hammond had received six wounds and was badly burnt; he was virtually helpless but McLeod, despite his own five wounds, managed to drag him from the wreckage, receiving one more wound from an exploding bomb. Under heavy enemy machine-gun fire he then dragged Hammond towards the British line and, after again being wounded, collapsed only a short distance from the forward trenches. They were rescued by South African troops and sixty years later one of them recollected: 'We attended their wounds but could not safely get them away until dusk. Both were burnt and in a bad way. Captain Ward and I cheered them as best we could until dark enough for our bearers to carry them back to a dressing station. In trying to cheer McLeod I said "You will be in Blighty [England] in a few days." He said, "That's just the trouble, I would like to have a crack at that so-and-so that brought me down." The observer was too bad to talk; both smelt terribly of burnt flesh.'⁸¹ Subsequently Hammond received a Bar to his MC and McLeod was awarded the Victoria Cross, the second Canadian airman to win it.⁸²

The Germans continued to advance on the 28th along the eighteen miles of front between the Somme and Montdidier, where they moved forward some six miles during the day. They were to gain a maximum of six more miles, just south of Amiens, before the offensive was finally halted on 5 April, bringing them at that point within eight miles of the city centre. Before then it was already becoming

* McLeod returned to Canada in September 1918. In late October he contracted influenza and died in Winnipeg in November. Hammond, like the observer who had flown with McLeod before him, Reg Keys, emigrated to Canada after the war.

clear that they could not break cleanly through the allied line or even take Amiens. 'The enemy's line was now becoming denser, and in places they were even attacking themselves,' wrote Ludendorff, 'while our armies were no longer strong enough ... the ammunition was not sufficient, and supply became difficult. All troops, especially mounted troops, had suffered heavily from bombing by hostile airmen.' Ludendorff's account is buttressed by the German official history which records that, on the 28th, General von Kuhl, the Chief of Staff of Crown Prince Rupprecht's Group of Armies, had reported the Second Army's supply difficulties, the considerable number of casualties suffered in the attack on Albert, and 'the very disagreeable enemy air activity, which had caused about one half of all casualties suffered.'⁸³

Whether the RFC was, in fact, responsible for anything like such a high proportion of the German casualties is questionable. As Napoleon was fond of pointing out, however, in war the moral is to the physical as three is to one, and the important thing is what von Kuhl believed to be the case. It led the German General Staff, perhaps, to over-emphasize the importance of British air supremacy, an opinion which was becoming increasingly shared by the troops under their command. From 28 March on unit battle reports indicate that they found the sky above them more and more the exclusive domain of the RFC. 'From 39 Reserve Corps, located close by [the Richthofen *Geschwader*] there were continuously reports on low-flying British aircraft severely harassing our infantry.' On the 30th the 243rd Division, spearheading the German attack, found its 'dense marching columns attracted numerous enemy air units which attacked with bombs and machine guns' in the Moreuil area. 'With improved weather and good visibility numerous enemy planes were constantly and without hindrance circling above our positions ...' while 'some British aircraft were passing so closely over the woods that one could think that they would graze the tree tops ... the enemy planes were attacking ever more boldly.'⁸⁴

Conversely, British battle reports and reminiscences make fewer references to German air activity each day, until, by 3 April, the attack south of Arras had ground to a complete halt, both on the ground and in the air. Enemy planes were still over the battlefield in substantial numbers on occasion, but they had largely reverted to their practice of the first days of the battle, flying in massed formations at high altitudes, where they caused little inconvenience to British aircraft which were intervening in the ground operations. Rarely did the enemy choose to seek combat, and when he did – on 3 April, for example, some thirty came down to engage twenty-seven Camels and SE5as of 65 and 84 Squadrons – he was badly mauled. An entry in the record book of 84 Squadron[†] for the 3rd summed up the general situation at the end of the battle. It reported an engagement at about 1500 feet over the German advanced landing ground at Rosières, which was more than twenty-five miles west of the old front line which had been broken two weeks

* Author's emphasis.

† Its Canadian contingent was now reinforced by the addition of Roy Manzer of Oshawa, Ont. who had joined the squadron on 19 March 1918 and won a DFC before being taken prisoner on 8 August 1918.

before. No 84's pilots claimed five enemy aircraft shot down without loss in the course of 'fighting continuously for an hour. In the end our patrol and a patrol of 65 Squadron were left in possession of the sky.'⁸⁵

The predominant impression left by the March offensive, in so far as the air was concerned, is that the Germans did not employ their air arm with the skill which they displayed on the ground. The further from the ground combat situation their air operations were, the less well they were handled. The *Schlachtstaffeln* and the reconnaissance and artillery observation flights did excellent work directly over the front, but they did not take much advantage of the opportunities for intensive tactical bombing offered by long, straight, narrow French roads jammed with retreating British columns.⁸⁶

The RFC, on the tactical level, showed an exceptional degree of flexibility and versatility, with the corps squadrons focussing on their accustomed roles of reconnaissance and artillery observation and, in addition, doing some work as 'battle-flights,' while the army wings, which were rightly concentrated upon a ground support role to which they were largely unaccustomed, not only accomplished it brilliantly but also managed to assert and subsequently maintain a combat superiority.* Moreover, the concentration of RFC machines at decisive points was competently handled, despite the communications problems of the first days. Thus, on 26 March, thirty-seven out of the sixty-nine squadrons on the Western Front were involved in the Bapaume area alone. But, like the Germans, the RFC's command and control efficiency deteriorated badly in those aspects of the air battle more remote from the ground fighting. Neither day- nor night-bombing operations seem to have been adequately thought out at this stage. On the 25th, for example, the DH4s of 27 Squadron were employed on 'Bombing (Roving Commissions)' and on the 26th and 27th they bombed and machine-gunned troops and transport around Bapaume and Albert. They should surely have been dropping heavier bombs on key rail junctions and bridges. They were now, however, bombing from heights as low as one thousand feet.⁸⁷

Ludendorff decided to cut his losses south of Arras and launch his Sixth Army against the junction of the British First and Second Armies, striking towards the vital Channel ports. Such an attack had been proposed by Crown Prince Rupprecht's staff when the 1918 strategy had first been considered, but had been rejected in favour of an attack upon the weakest part of the British front. Now German morale had been weakened and efficiency impaired – particularly in the air – by the strategic failure of the southern attack, while the British, though they had suffered severely,

* Air fighting was a very specialized skill, demanding outstanding physical and mental attributes on the part of successful practitioners. To be a good pilot and shot was not enough; even good pilots needed the confidence and tactical skills that only much combat experience could give to become superior air fighters. Experienced and talented leaders were therefore essential operationally, both to achieve results and to coach and encourage novices. But the chancy nature of anti-aircraft fire and the frequent inability of either skill or judgment to affect the outcome of close ground support operations, as far as the individual aircraft was concerned, tended to eliminate the experienced leader and the neophyte without distinction and was thus potentially capable of destroying, in a matter of days, the fighting value of a force carefully built up over a period of years.

had learned the hard way to meet the new German tactics. Moreover, Haig had toughly resisted the temptation to weaken his key positions in the north unduly, although it had been necessary to reinforce the Somme front.

The Battle of the Lys was, on a smaller scale, virtually a replica of the March offensive. Even the weather conformed; as the Germans launched their initial assault against the northern flank of the First Army on 9 April they moved forward through a thick fog which blanketed the battlefield and reduced visibility to forty yards. The Portuguese division which held a part of XI Corps' front broke almost immediately and disappeared from the battlefield. The Germans quickly began to exploit this gap, swinging north on the flank of the British 40th Division towards the Lys at Bac St Maur. By evening German troops were across both the Lys and the La Lawe rivers and in the suburbs of Estaires, having penetrated more than four miles into the British line on a front of ten miles.⁸⁸

As a result of the chaos brought about by the speed and momentum of the German advance, 208 Squadron at La Gorgue, on the banks of the Lys some three-and-a-half miles behind the original front, quickly lost touch with all higher authority.* The arrival of the Germans on the airfield was erroneously reported to be imminent and the squadron's Camels were earthbound by the fog, so seventeen machines were burnt in one enormous bonfire and the squadron moved back to Serny on its ground transport. It is a measure of the capacities of the Royal Air Force, as it now was, that within forty-eight hours the unit was fully re-equipped and shooting down enemy aircraft.⁸⁹

The fog did not lift until 1400 hrs, but as soon as it did the RAF made its presence felt, using the same techniques which had worked so well in the Somme battle. Twenty Camels of Collishaw's 203 Squadron, five from 40 Squadron and fifteen from 210 Squadron,[†] began to bomb and machine-gun German infantry in the neighbourhood of Bac St Maur, Estaires, and Festubert with persistence and accuracy. The historian of the enemy's 51st Reserve Regiment, assembling just north of Estaires, stated:

With great punctuality the strong formations reappeared every $\frac{1}{4}$ hours above the stretched out columns and covered everything richly and plentifully with high explosive bombs. The bomber attacks continued with regularity until evening ...

There was no counter-action; our flak was still far to the rear, the fighter squadrons presumably busy elsewhere; in our area they appeared only in the evening when the British pilots tired from continuous flying had called it a day.⁹⁰

* Among the pilots of 208 Squadron were W.E. Cowan of Hamilton, Ont. (POW 16 May 1918), H.H.S. Fowler of Bowmanville, Ont., D.C. Hopewell of Ottawa (POW 7 April 1918), M.C. Howell, address unknown, A.R. Knight of Collingwood, Ont., R. McDonald of James River Station, NS, and E. Taylor of Regina.

† RNAS squadrons had 200 added to their old RNAS squadron number when the RFC and RNAS were amalgamated into the RAF on 1 April 1918. Thus Naval Ten became 210 Squadron: Canadians in the unit included W.M. Alexander of Toronto, W.A. Carter of Calgary (POW 1 June 1918), H.J. Emery of Edmonton, F.C. Gorringe of Prince Albert, Sask., E.N. Gregory of Lindsay, Ont., J.G. Manuel of Edmonton (KIA 10 June 1918), and M.T. McKelvey of Holmfeld, Man. (POW 11 April 1918).

RAF airmen found that German fighters were not numerous, but they claimed to have shot down five two-seaters for the loss of one of their own machines. Indeed, in contrast with the skill and determination of German ground forces, the German air force was now showing the effects of the battle of attrition that the British air arm had been pressing upon them for the past three years.* On the Somme the British had won in the air despite losing two aircraft to each of the enemy's one; on the Lys, the proportions were reversed and the result even more decisive.⁹¹

On 10 April, when the Germans widened their attacking front to include part of the British Second Army's sector, the weather was again foggy in the morning and the ceiling remained at a thousand feet for the rest of the day. Under these conditions the army wings of both First and Second Armies were used exclusively for close ground support. Even the DH4s of 18 Squadron were bombing from four to six hundred feet along the Estaires-La Bassée and Estaires-Merville roads.[†] On the 11th the Germans took Merville in the north and Nieppe in the centre, pushing the First Army back into Messines on the southern flank, but their gains were far short of those on the first day. The British retirement was orderly, unlike the confused retreat of the Fifth Army three weeks earlier. With clear weather in the afternoon, the squadrons of 1 Brigade were able to drop four hundred 25-lb bombs and fire fifty thousand rounds at ground targets. More significantly, they were reinforced during the day by 22 (Bristol Fighter) and 41, 46, and 64 (single-seater fighter) Squadrons.⁹²

The 12th was the critical day, when Haig, apparently made nervous by the proximity of the Channel coast, issued his famous 'backs to the wall' order. Fortunately for the British, the day was fine so that full advantage could be taken of their air superiority. Air reconnaissance reports made German movements and intentions utterly clear, and artillery aircraft signalling important targets of opportunity found a ready response from British batteries. Thirty-seven enemy artillery batteries were engaged for destruction with air observation and thirty-six of them were neutralized, the work of an Armstrong-Whitworth of 2 Squadron piloted by Second Lieutenant H.I. Pole, a prewar English immigrant who had enlisted in Winnipeg, being particularly noticeable. During a flight of four-and-a-quarter hours Pole and his observer registered twenty-three of thirty-nine ranging rounds of howitzer fire within fifty yards of a hostile battery and during the subsequent 'fire for effect' watched 160 further rounds put down either directly on or very close to the target. 'Position well covered,' they recorded. 'Northern pit hit during ranging. Two explosions caused during ranging. One huge explosion during fire for effect. Fire caused early in ranging, and was still burning when machine left line.'⁹³

* The German Fourth and Sixth Armies had available for this attack two bomber wings, twenty-eight field flights, seventeen ground support squadrons, and twenty-five fighter squadrons, a total of 492 aircraft. By 25 April and the attack on Mount Kemmel, the culminating point of the offensive, their strength had been lessened by fourteen field flights, one ground support squadron, and eight fighter squadrons, and the total number of aircraft available had been reduced by 174 machines to 318. *Der Weltkrieg 1914 bis 1918*, XIV, 270, 294

† On 10 April 18 Squadron had at least three Canadian airmen on strength. They were A.C. Atkey and R.C. Bennett (WIA and POW 27 Sept. 1918), both of Toronto, and J.G. Gillanders of Highgate, Ont. D.W. Gordon of Toronto had been wounded the previous day.

On this day the RAF flew more hours, dropped more bombs, and took more photographs than on any day since the war had begun. A subsequent RAF *communiqué* summarized accurately the scale and nature of the air operations:

During the whole of the day, pilots of the 1st and 2nd Brigades were employed bombing and machine-gunning, from a low height, the enemy's attacking groups between Wytschaete and La Bassée Canal. Pilots flew from anything between 2,000 and 50 ft. At the same time, machines of the 9th Brigade flew at a height to fight hostile machines. Machines of the 1st Brigade dropped about 800 bombs and fired 15,000 rounds. Very low reconnaissances were also carried out by the machines of these Brigades, very useful information being brought in as to the position of our own and the enemy's troops. Especially useful reports as to the location in which hostile troops were massing were brought in, enabling our guns to engage them and our low-flying machines to go out and attack them with their machine-guns and drop bombs on them.⁹⁴

Canadians of the RAF were deeply involved in all these activities. The Sopwith Camels of 73 Squadron, twelve strong and led by Captain W.H. Hubbard of Toronto, found 'all villages between Merville, Estaires, and Locon on fire.'^{*} Lieutenant E.T. Morrow of Toronto, flying a Bristol Fighter of 62 Squadron,[†] reported 'large masses of Huns and transport on La Bassée-Estaires road.' Setting an example closely followed by many of the other squadrons involved, the sixteen available pilots of 201 Squadron, at least five of them Canadians,[‡] logged a total of eighty-nine hours of operational flying during the course of 'a very hot day's work.' The phrase was S.W. Rosevear's, the Port Arthur man who was one of the Squadron's three Canadian flight commanders. He reported catching German infantry 'on the march along a road and swept them three times leaving many of them lying on the road. The others jumped into ditches and I gave them some more.' Another Camel squadron with a sizeable Canadian complement, Collishaw's No 203, dropped 196 bombs and fired 23,000 rounds during the day.[§]

Enemy aircraft were still in the air;[§] Burden of 56 Squadron, flying high above the battlefield in his SE5a, found that 'The whole country NW of Arras to St. Omer

* Six of the twelve were Canadians. Aside from Hubbard (WIA 26 Dec. 1916), they were A.N. Baker of Rodney, Ont. (KIA 25 April 1918), W.H. Collins, J.H. Drewry, E.J. Lussier, and Winnipegger W.S. Stephenson. In seven months at the front Stephenson was credited with eight-and-a-half enemy aircraft, not the twenty often attributed to him: the citations for his MC (10 April) and DFC (11 Aug.) emphasized his work against ground targets rather than air combat. On 28 July 1918 he was shot down in error by a French pilot and taken prisoner by the Germans. His postwar career was in business and (1940-5) espionage, under the code name 'Intrepid.' In 1946 he was knighted for his Second World War services. W.S. Stephenson biographical file, DHist

† Other Canadians in 62 Squadron included A.W. Blowes of Mitchell, Ont., L. Campbell of King, Ont. (KIA 9 Oct. 1918), E.G. Grant of Edmonton (WIA 3 May 1918), P.R. Hampton (POW 3 May 1918), and A.V. Sutton, both of Toronto, W.K. Swayze of Lindsay, Ont. (POW 4 Sept. 1918), and L.M. Thompson of Balgonie, Sask. (WIA 21 April 1918).

‡ They were J.H. Forman of Kirkfield, Ont. (WIA 28 July 1917, POW 4 Sept. 1918), G.A. Magor of Montreal (KIA 22 April 1918), S.W. Rosevear of Port Arthur, Ont. (KIA 25 April 1918), A.G.A. Spence of Toronto (WIA 8 Nov. 1917), and H. le R. Wallace of Lethbridge, Alta.

§ The RAF claimed fifty-one enemy aircraft 'brought down' and twenty-five more 'driven down out of control.' RAF *communiqué* no 2, DHist 75/414. The Germans actually lost sixteen. *Der Weltkrieg 1914 bis 1918*, XIV *Beilagen*, Beilage 40

is in flames. Worse than the first days of the Somme show 3 weeks ago ... but didn't see a Hun in the sky.⁹⁶ R.G. Lye of Toronto, who had joined 19 Squadron on 17 March, 'didn't see a Hun in the sky' either, as he flew an early morning offensive patrol on 19 April, the day he was wounded in action. His experience graphically illustrates several of the problems which confronted a fighter pilot of the First World War and helps to explain why the life expectancy of a novice pilot was so short: '... I noticed an Allied Camel in the sun. I took no particular notice of this machine and kept up with my formation. Less than a minute after this, there was a loud explosion in my cockpit, this was the first indication I had of being fired at. I felt paralysed all over my body and could not turn round to look for the Camel or even to make sure whether or not it was the Camel which had fired at me.'⁹⁷ Lye, with a bullet wound in his neck, finished his 33rd and last day as an operational fighter pilot in a casualty clearing station after being dragged from his wrecked machine by ground troops.

There is no doubt that the Germans were becoming more and more hesitant about their air commitment on the Lys. According to the adjutant of the Richt-hofen *Jagdgeschwader*, left on the Somme front but expecting to be sent north: '... orders and counter-orders were arriving in quick succession; now we were leaving, now we were staying; this went on for several days ... and on 15th April the Wing was ready and standing beside the machines for the flight to the north. Richthofen was just putting on his fur-lined boots when a despatch rider arrived: – everything was cancelled.'⁹⁸

Indeed, after 12 April, though the German Fourth Army continued to make some progress on the northern flank of the Lys front, the impetus of the offensive began to slacken. From the 12th to the 15th the weather was wet and misty, but it would seem that more than the weather bore on the decision not to move Richt-hofen's unit. Bailleul fell on the 15th, but on 17 April the Germans failed to storm Kemmel Hill. By this time the German High Command no longer had any illusions about a breakthrough in the north, although the hill was taken on the 25th. At that point the second of the Ludendorff offensives ground to a halt.

Four days earlier the German air force had suffered an irreparable loss, psychologically even more than physically, with the death in action of Manfred von Richthofen. By that time the 'Red Baron' had eighty victories marked against his name and had established himself as the greatest air fighter of the war on either side. Since the end of 1916 when, with fifteen enemy aircraft credited to him, he had taken command of the *élite* Boelcke *Jagdstaffel*, his record of success had gone far to neutralize single-handedly the psychological advantage given to the British flyers through the aggressive fighting spirit so painstakingly enforced by General Trenchard. Now he was dead, apparently killed in aerial combat by a Canadian flight commander of 209 Squadron, Captain A. Roy Brown of Carleton Place, Ont.*

* Other Canadian pilots in 209 Squadron on 21 April 1918 included A.W. Aird of Victoria (KIA 23 May 1918), C.G. Brock of Winnipeg (WIA 5 Sept. 1918), S.T. Edwards of Carleton Place, Ont., J.S.T. Fall of Hillbank, BC, W.J. Mackenzie of Port Robinson, Ont. (WIA 21 April 1918), W.R. May of Carberry, Man. (WIA 8 Aug. 1918), and M.S. Taylor of Regina (KIA 7 July 1918).

'Apparently killed,' because this notable success was also claimed by Australian anti-aircraft machine-gunners firing from the ground. Von Richthofen had been flying very low over the front lines in hot pursuit of Lieutenant W.R. May of Edmonton, a novice pilot in Brown's flight, and a number of guns had fired virtually simultaneously on the same 'pure red triplane' which Brown recorded shooting down in his logbook entry for that day. A week later the Canadian reported, in a letter to his father recounting the fight, that 'We shot down three of their triplanes ... Among them was the Baron whom I shot down on our side of the lines.' Awarded a Bar to his Distinguished Service Cross for this victory, Brown was morally certain that he had accounted for the 'Red Baron'; the fledgling RAF, well aware of the propaganda value of having the great German ace shot down by one of their fighter pilots, was quick to report 'Captain M von Richthofen ... shot down and killed behind our lines near Corbie by Capt. A.R. Brown.' Popular histories crudely but vigorously supported the RAF claim after the war and it was subsequently given scholarly recognition in the British official history. Australian official historians, understandably, have taken a different view and more recent research and analysis has confirmed beyond a reasonable doubt that one or other of the machine-gunners on the ground fired the actual bullet that killed Richthofen.*⁹⁹

The capture of Kemmel Hill by the Germans brought a general slackening of the tempo of operations on that portion of the Western Front held primarily by the British armies and the RAF. Ludendorff regrouped once again and then launched a series of major attacks against the French, along the Aisne, the Matz, and the Marne during May, June, and July, respectively. Each of them in turn was brought to a stop without achieving any significant strategic advantage, and, like the two earlier offensives, they cost the Germans dearly in first-line troops.

In the air over Flanders both protagonists took advantage of the lull to recuperate and to train their novice pilots and observers in the harsh realities of the air war. Those realities, for British airmen, still included facing up to the possibility that they would one day have to choose between burning to death in a falling torch constructed largely of wood and 'doped' fabric or jumping without a parachute. Lieutenant C.A. Crysler of Welland, Ont., who had joined 23 Squadron[†] on 30 March, found himself separated from his flight in the course of an engagement just north of Villers-Bretonneux on 20 May. Attacked by three triplanes he shot one down and then – his own Sopwith Dolphin being on fire – rammed a second one,

* Specific studies of the circumstances of von Richthofen's death often lean heavily towards a romantic and imaginative interpretation of the peripheral events. In each case, however, they appear to have been well researched on the essential points. It is now difficult to argue that Roy Brown killed Richthofen. See P.J. Carisella and J.W. Ryan, *Who Killed the Red Baron? The Final Answer* (Wakefield, Mass. 1969); Dale M. Titler, *The Day the Red Baron Died* (New York 1970); F.R. McGuire, 'Who killed von Richthofen?' *Cross & Cockade Journal*, IV, summer 1963, 158–67; DHist files on von Richthofen's death.

† No 23 Squadron had turned in its Spads and had been re-equipped with the new Sopwith Dolphin by April. Besides Crysler, H.N. Compton of Westholme, B.C., A.B. Fairclough of Toronto, and K.D. MacPherson of St Thomas, Ont. (wia 5 July 1918) had joined the squadron since March.

so that both triplane and Dolphin fell blazing to the ground. Torontonian Percy Hampton, in 62 Squadron, was luckier when his 'Brisfit' caught fire two weeks earlier, and he lived to write about it from a German hospital:

I was flying south from Ypres-Menin Road, and about Armentières I dived from 15,000 feet to about 12,000 feet to attack some enemy aircraft. I was almost within range when an Archie shell burst under me, hitting my front petrol tank and wounding my observer in the thigh. The petrol then caught fire, and I unfastened my belt and got almost out to jump from the flames, but got back [in] again and put the machine into a violent side-slip. I couldn't breath and my leather coat, boots and gloves started to burn, and then my own ammunition, about eleven hundred rounds, started exploding. Five enemy machines followed me, shooting all the time. They hit my bus alright but didn't hit me. They hit my instrument board in front of me and I became unconscious several thousand feet from the ground, but my observer prevented a very bad crash. When we hit, my bus went on its nose and I was thrown out, also my observer.¹⁰⁰

A week later another letter reported that 'I have now recovered from the shock but the burns are not healed yet. My nose, which was knocked almost flat between my eyes and a little to one side, is now back to its normal position ... My burns are not real serious; my right big toe and left ankle lightly burned, and also my right thumb and arm, but nothing to worry about.'

Meanwhile, the balance of air power continued to swing even further in favour of the RAF as the German airmen began to suffer from the serious logistical problems which were now affecting the entire German economy. The naval blockade had long prevented any significant seaborne importation of oil into Germany, and the dislocation in their Balkan supply brought about by Romania's entry into the war against the Central Powers in 1916 and her subsequent defeat in 1917 was now making itself felt directly. An armistice had been concluded with Romania on 9 December 1917, but, 'since Rumania's geographical situation made it impossible to extend German rule over her directly,' and 'the Rumanians resisted the ... heavy economic demands of Germany and her allies most obstinately,' a peace treaty which gave Germany a dominating influence over the production and development of Romanian oil was not signed until the first week in May 1918. Stock-piles were running low and the reorganization of the Romanian industry so as to provide an adequate flow of oil once more would take time.¹⁰¹

As early as March 1918 some sort of informal rationing scheme may have been introduced and 'At the beginning of June the monthly fuel quantity (of the German air force) was reduced to 7,000 tons. At the same time the High Command gave orders to avoid all unnecessary flights, above all to curtail photo reconnaissance; in the home area to use only Benzol ['ersatz' fuel] ... inspection tests were reduced to random checks.'¹⁰² Fighter squadrons were rationed to 14,000 litres (3080 gallons) per month. The new Fokker D-VII fighters, which were issued to front-line squadrons from May onwards, had a consumption rate in excess of ten gallons per hour, and an airborne endurance limit of one-and-three-quarters hours, so that, from June on, the fighter squadrons were virtually limited to less

than ten individual flights per day.* Skilled ground crew were being taken from the squadrons for service with other arms and the aircraft production stream was drying up, so that some German squadrons found that they must wait as long as three weeks for their replacements because additional aircraft of the requisite types were not available. All these logistical difficulties had their effect on German morale, which was only given a temporary boost by the introduction of the Fokker D-VII.¹⁰³

This machine, which had been adopted as the standard German production fighter for 1918 after an open competition held in January in which most of the top German aces had participated, has often been described as the outstanding fighter aircraft of the First World War. The Allies thought it so good that the Armistice terms specifically ordered the surrender of all D-VIIs. Three versions were produced, but most effective was the 185-hp BMW-engined version. This aircraft had a better rate of climb and higher operational ceiling than either the Sopwith Camel, the SE5a, or the Sopwith 5F1 Dolphin which was just beginning to come into service with the RAF. It was not quite so fast as the British machines but exceptionally manoeuvrable above ten thousand feet and gave its pilots a significant edge in high-level combat, other things being equal.[†] But other things were rarely equal. Numbers and morale more than compensated for the technical superiority of the Fokker. As each RAF squadron came up against the D-VIIs, there were only a few bad days before the RAF pilots reasserted their psychological dominance and restored the *status quo*. The historian of 64 Squadron, flying SE5as out of Le Hameau,[‡] recalled that 'During June and the first half of July we expended much petrol looking for Huns but they had disappeared from our front – apparently they were recalled to learn to fly Fokker biplanes. These appeared during the latter half of July and some fierce fighting took place. One Flight was practically wiped out in a week, 3 missing (2 dead), 1 died of wounds, 1 wounded; they got plenty of Fokkers but it left a gap.'¹⁰⁴

This was the pattern of the early summer as Haig arranged his forces for the hammer blow at Amiens which he hoped would have the effect on the Germans that Ludendorff had intended his spring offensives to have on the Allies.

* In practice, according to W.R. Puglisi, the ration was not averaged out among all the pilots of a squadron, but was distributed mainly amongst those individual fliers who had proved most successful. Puglisi to Collishaw, 27 Oct. 1966, Raymond Collishaw Papers, DHist 78/132, 2-A, folder 14b. This suggests that most replacement pilots would have got very little operational flying experience even after reaching the front.

† For a detailed performance comparison see W.M. Lamberton, *Fighter Aircraft of the 1914–1918 War* (Letchworth, Herts, 1960).

‡ Canadian pilots flying with 64 Squadron at this time included W.J. Cockburn and W.C. Daniel (WIA 18 May 1918), both of Toronto, F.L. Gall of Montreal, B.N. Garrett of Toronto (POW 14 July 1918), G.W. Graham of Shuswap, BC (KIA 1 Nov. 1918), W.R. Henderson of St Catharines, Ont. (POW 25 July 1918), M.L. Howard of Cranbrook, BC (KIA 25 July 1918), H.G. Ross of Montreal (KIA 25 July 1918), and E.R. Tempest of Perdue, Sask. (KIA 25 July 1918).

Amiens

Amiens was important not solely because it inaugurated what became the allied victory campaign, but also because the battle itself was tactically innovative and set the pattern for the remainder of the war. However, despite its initial success, achieved by stressing the effective combination of infantry, cavalry, armour, and aircraft, at the operational level Amiens was still a flawed battle. Surprise permitted allied assault troops to break into the German defences and quickly seize assigned objectives, forcing enemy infantry and artillery to abandon their prepared positions. On the first day the attackers advanced some six to eight miles on a wide front; the disorganized Germans streamed eastwards, easy targets for the swarms of low-flying RAF aircraft that were in close support of the ground forces. Then, after a particularly successful first day, the attack ground to a halt, partly because allied commanders were confused about the extent and purpose of the operation. It was a symptom of this weakness that in the middle of the battle the role of the RAF squadrons was changed and they were unable to seal off the battlefield from German reinforcements.

When the Germans had been stopped at the Second Battle of the Marne it was apparent that Ludendorff had failed to achieve the decisive victory he had been seeking. Equally significant, there remained few replacements for the million casualties inflicted on his battered armies. In early August the enemy was able to muster 201 infantry divisions on the Western Front, 106 of which were considered by British Intelligence as unfit for battle. In comparison, the 206 allied divisions in the field were still being reinforced at the rate of 250,000 men every month as fresh American troops arrived to join the million in France. With German morale crumbling, the time was ripe for the Allies to take the offensive. French counter-attacks in the Compiègne area began the process and early in July Sir Douglas Haig had issued instructions to his army commanders to prepare offensive plans in the north.

On 17 July Sir Henry Rawlinson, Commander of the British Fourth Army, submitted a proposal for a limited attack to push the Germans from the salient they had gained in the spring offensive, and from which their artillery threatened Amiens and the vital railway line connecting that city with Paris. His plan was developed from the initially successful Cambrai assault in the previous year and a smaller operation earlier in July, when Australians cleared the village of Hamel

directly east of Amiens. In both, surprise had been obtained by replacing the customary prolonged preparatory bombardment with the striking power of massed tanks.

The Fourth Army's objective was the line of the old outer defences of Amiens, between Méricourt and Hangest, which was to be occupied and prepared as a new defence line. To enhance security Rawlinson wished to keep the attack solely a British operation, but Haig decided to enlarge its scope. He met with Foch on 24 July, and proposed a combined Anglo-French operation which would include the French First Army on Rawlinson's right. Foch agreed and *Général* Debeney's First Army was placed under Haig's command for the offensive. Although the aim of the attack – to disengage Amiens and its rail link with Paris – remained the same, the objective was now set some seven or eight miles to the east and south-east of the old Amiens defence line, towards Chaulnes and Roye. On 29 July Haig issued his operation order to Rawlinson and Debeney, directing that the line should be quickly seized and made secure. As soon as this was accomplished the French First Army, its right on the Avre, would press towards Roye, while the Fourth Army with its left on the Somme would continue the attack towards Chaulnes, the Roye-Amiens road forming the boundary between the two armies.

Haig met with Foch again on 3 August to discuss plans for the offensive and the latter, convinced that German morale was breaking, urged that the coming attack be exploited as fully as possible, suggesting that the final objective be set south and east of Chaulnes. Haig replied that he had named Ham, fifteen miles beyond Chaulnes and across the Somme, as his final objective. Two days later Haig met with Rawlinson and Debeney to confirm plans and emphasize the extended nature of the operation. Haig recorded that

I thought that the Fourth Army orders aimed too much at getting a *final* objective on the old Amiens defence line, and stopping counter-attacks on it. This is not far enough, in my opinion, if we succeed at the start in surprising the enemy. So I told Rawlinson (it had already been in my orders) to arrange to *advance as rapidly as possible* and capture the old Amiens line of defence ... and to put it into a state of defence; *but not to delay*; at once reserves must be pushed on to capture the line Chaulnes-Roye. The general direction of the advance is to be on Ham ... I said that the cavalry must keep in touch with the battle and *be prepared to pass through anywhere between the River Somme and the Roye-Amiens road*. Also that a cavalry brigade with a battery R.H.A. and some whippet tanks are to be placed under General Monash's orders ... for pursuit and to reap the fruits if we succeed ...¹

Three additional British divisions were placed in reserve close behind the front to exploit any early success.

Despite Haig's personal intervention, it does not seem that his principal commanders fully understood the manner in which the forthcoming operation had been both modified and extended. The years of trench warfare had not prepared commanders and staffs for a quick change to mobile operations and the fact that changes were introduced very late in the planning process no doubt fostered some confusion. Moreover, the ultimate purpose of the offensive was stated in such general terms that commanders could easily place differing emphasis on either the

set-piece battle at the beginning, or the exploitation which was expected to follow. Although in his meeting with Foch, Haig had specified that Ham was the final objective, his orders to Rawlinson and Debeney were considerably less precise, simply stating that after taking the Amiens defence line, 'The next object is to push forward in the general direction of the line Roye-Chaulnes *with the least possible delay*, thrusting the enemy back with determination in the general direction of Ham, and so facilitating the operations of the French from the front Noyon-Montdidier.' Nevertheless, Haig's emphasis was on the forward aspects of the plan; he considered that now 'it is probable that in the event of an initial success the battle will develop into one of considerable magnitude.'²

The primary emphasis in Rawlinson's Fourth Army Headquarters, however, was not on the exploitation phase but on the initial battle. Although Fourth Army Headquarters repeated Haig's orders, the successive enlargements which these incorporated were considered merely as 'minor modifications'* to Rawlinson's original plan. At least one of his corps commanders had a similar view. 'The objective of the Battle of Amiens,' in the mind of General Currie, commanding the Canadian Corps, 'was the old Amiens outer defence line, a position eight miles within the German lines on the morning of August 8.'³ These differing views on the nature of the battle to be fought were to have an important effect upon its development.

For the attack General Rawlinson deployed the Canadian Corps on the right between the Roye-Amiens road and the Villers-Chaulnes rail line, the Australian Corps in the centre between the railway and the Somme, and III British Corps on the left between the Somme and the Ancre. Three Canadian, two Australian, and three British divisions were to mount the assault, supported by the massive firepower of almost 1400 field guns, 684 heavy artillery pieces, 324 heavy tanks, and ninety-six Whippets. There were another Canadian and two more Australian divisions in reserve. Four heavy tank battalions were allotted to each of the Canadian and Australian Corps, one to III Corps, and one was held in reserve. In addition, the Cavalry Corps, supported by two Whippet tank battalions, was placed under Rawlinson's command to assist the infantry assault and then drive forward to cut the German communications.⁴

The Allies were able to count on a local margin of superiority of about three to two over the Germans. The enemy, however, had more than twenty-five additional divisions in reserve in the north, some of which could be shifted quickly to the battlefield if needed. Forestalling the movement of the German reserves,

* This was the description of Major-General Sir Archibald Montgomery, Rawlinson's chief of staff, in *Story of the Fourth Army in the Battles of the Hundred Days, August 8th to November 11th 1918* (London 1918), 7, 11. Using Montgomery as his principal source, the British official historian, Sir James Edmonds, echoes this view, describing the final plans as differing 'only slightly from that suggested to Sir Douglas Haig by General Sir H. Rawlinson on the 5th July,' *Military Operations: France and Belgium, 1918*, IV (London 1947), 3. On the other hand, it was the view of the then Wing Commander J.C. Slessor in *Air Power and Armies* (London 1936), 150, that the changes promised 'the most far-reaching results and aiming at a penetration little inferior in depth and importance to the great German break-through on the Fifth Army front, in the previous March.'

therefore, was most important to the success of the offensive. Security was vital, and in the preparatory stages the allied logistical buildup had to be carefully concealed. It was no easy matter to mask the movement of almost three hundred special trains which were required in addition to normal supply runs. The movement of the Canadian Corps from its location on the British First Army front to its assault positions with Fourth Army was particularly difficult, Rawlinson's headquarters taking great pains to stage an elaborate deception to maintain security.⁵

On 1 August General Salmond submitted proposals to Haig for the employment of the air force. In the preparatory phase the RAF's principal task was to help maintain security for the forthcoming operation. This meant preventing German reconnaissance of the allied positions, as well as patrolling behind the Fourth Army front in order to report on any abnormal movement which might also be visible to the enemy. Bad flying weather during the first week of August, however, greatly restricted German air reconnaissance and even when they were able to fly, German pilots and observers saw little to arouse their suspicions. They reported active traffic behind Fourth Army lines on 1 August but considered it normal. When the weather cleared during the late afternoon of 7 August German reconnaissance aircraft took to the air but RAF interference was so effective that the enemy observed nothing of significance. German airmen reported heavy flying activity at the Bertangles and Bovelles airfields on the 7th, 'But any positive indication that a large scale attack against the front of the German Second Army was being prepared or was immediately at hand, did not come to hand.'⁶

Eight hundred British aircraft were made available to support the ground attack. Assembling such a force required considerable redeployment and Salmond instituted his own deception plan, stepping up patrols elsewhere along the First and Fifth Army fronts while preventing any undue air or communications activity in the area of the Fourth Army. The formation most immediately involved, V Brigade, was placed at the disposal of Fourth Army, and substantially reinforced for the attack. No 5 Squadron,* which had worked previously with the Canadian Corps, was moved with it from the First Army to join the five other corps squadrons in V Brigade's 15 Wing. Three additional Camel squadrons were transferred to 22 (Army) Wing of V Brigade to join the five fighter, one fighter reconnaissance, one day- and one night-bomber squadrons already there. Under the direct command of RAF headquarters and supporting the attack were sixteen squadrons of IX Brigade, seven of III Brigade, and one each from I and X Brigades. IX Brigade, which formed the GHQ reserve, was moved from the Reims front

* The squadron contained fourteen Canadian pilots: G.I. Carr, address unknown, E.P. Eveleigh of Sussex, NB, L.H. Eyes of Brandon, Man. (WIA 27 Sept. 1918, POW 29 Oct. 1918), W.T. Fothergill, address unknown (KIA 20 Aug. 1918), C.F. Galbraith from Manitoba (WIA 15 Sept. 1918, POW 16 Sept. 1918), N. Goudie of Kamloops, BC, C.F. Grant of Bella Coola, BC (KIA 10 Aug. 1918), R.W. Jackson of Ilderton, Ont., W.C. Lynch of Port Robinson, Ont., L. Oertling, address unknown (KIA 8 Aug. 1918), G.W.H. Parlee of Stewiacke, NS (KIA 20 Aug. 1918), A.C. Pollard of Victoria, E. Shamper of Kingston, Ont., and W.H. Webber, address unknown (MIA 10 Aug. 1918).

where it had been flying in support of the French. For security purposes squadron moves were delayed until just before the attack and unit markings were switched to prevent accurate identification.

By the eve of the battle the available air support comprised:⁷

V BRIGADE	SQUADRON	AIRCRAFT	
15 (Corps) Wing	Corps Squadron	No 3 AFC No 5 No 6 No 8 No 9 No 35	RE8 RE8 RE8 AW RE8 AW
22 (Army) Wing	Fighter Squadron	No 23 No 24 No 41 No 65 No 80 No 84 No 201 No 209	Dolphin SE5a SE5a Camel Camel SE5a Camel Camel
	Fighter- Reconnaissance	No 48	Bristol Fighter
	Day Bomber	No 205	DH4
	Night Bomber	No 101	FE2b
IX (HQ) BRIGADE	Fighter Squadron	No 1 No 32 No 43 No 54 No 73 No 151	SE5a SE5a Camel Camel Camel Camel (night fighter)
	Day Bomber	No 27 No 49 No 98 No 107	DH9 DH9 DH9 DH9
	Night Bomber	No 58 No 83 No 207 No 215	FE2b FE2b Handley Page Handley Page
	Fighter- Reconnaissance	No 25 No 62	DH4 Bristol Fighter

THE BATTLE OF AMIENS

8-11 AUGUST 1918

MAP 5

Front line, morning 8 August	
Front line, evening 8 August	
Front line 11 August	
German aerodromes	
Canadian Corps advance, 8-11 August	
Railways	

**FOURTH
ARMY**

COBPS Morlancou

US
BPS

CDN
CORPS

**FRENCH
FIRST
ARMY**

Line patrols flown by fighter squadrons

or 1 B.H. Brigade, 4.30 - 6.00 p.m. 9 A
Line patrol flown by 62 Squadron

Line patrol flown by 62 Squadron
of 9 Wing, 5.00 - 5.30p.m. 9 August

**SHORT RANGE BOMBING TARGETS
ATTACKED BY THE ROYAL AIR FORCE
DURING FOURTH ARMY ADVANCE, 8-11 AUG**

TYPE OF TARGET	COLOUR CODE	PLACE BOMBED	SQUADRONS EMPLOYED	
			DAY	NIGHT
			8 AUG	8/9 AUG

Aerodromes	St. Christ	98	
	Bouvincourt	205	
	Foucaucourt	205	
	Estrées	205	
	Meudinge	57	

	Moissons	37	
Bridges	Peronne	27:98	
Road	Brie	107:205	83
Rail	Béthencourt	49	83
	Voyennes	27	
	Offoy	27	
	Python	27	
	St. Christ	205	
	Cappy		102
	Eclusier		102
	Feuillères		102
	Falvy		83:151

			85.151
Village	Harbonnières	107	
Railway Sta.	Bray Station	49	
Dumps	Chaulnes	205	
	Etaples	57	

		9 AUG		9/10 AUG	
Bridges Road Rail	Flavy	49		83	
	Voyennes	27			
	Béthencourt	27		83	
	Éclusier	98:107		102	
	Feuillères	98		102	
	Brie	107:98:205		101	
	St. Christ	205		101	
	Peronne	57		102	
	Cappy			102	
	Peronne			207	

Peronne		207	
		10 AUG	10/11 AUG
Bridges	Brie	205	101
	St. Christ	205	101
	Flavy		101
Railway Sta.	Peronne Sta.	27:49:57:103:18	83:207

Siding	Equancourt Sta.	107.98	102
11 AUG			
Railway Sta. Sidings	Equancourt	107	
	Clery	98	
	Cambrai	27	
	Peronne	49:205	
	Bapaume	57	
	Tincourt	57	

III BRIGADE	SQUADRON	AIRCRAFT
Fighter Squadron	No 3	Camel
	No 56	SE5a
	No 60	SE5a
	No 87	Dolphin
Fighter- Reconnaissance	No 11	Bristol Fighter
	No 57	DH4
	No 102	FE2b
I BRIGADE	Day Bomber	DH4
X BRIGADE	Day Bomber	DH9

The French also reinforced their air arm for the offensive. The *Division aérienne*, which had a general reserve function similar to that of IX Brigade, was placed under the command of *Général* Debeney and its machines increased French air strength to about 1025 aircraft.*⁸ The allied total of more than 1800 fighting aircraft vastly out-numbered those available to the Germans. The British official history states that there were 365 aircraft, of which only 140 were fighters, with German armies on the front opposing the allied forces. German accounts of their air strength indicate an even smaller total. On the eve of the battle there were only 106 serviceable aircraft available, the others having been withdrawn for rest after uninterrupted combat duty since March. The apparent result was overwhelming allied air superiority. The Allies had already concentrated their squadrons, however, while the bulk of the German air force was still located in the Champagne area. There, with the German Sixth and Seventh Armies, were about 850 aircraft, including 430 single-seater fighters, which could easily and quickly be shifted to the Amiens battlefield.⁹

The RAF's overriding concern, once the battle had begun, was to assist the ground attack. More than in any previous battle of the war, Amiens was to feature planned co-operation of the closest kind between the air and ground forces. Besides hindering German air reconnaissance, the RAF was required to fly contact patrols with infantry, cavalry, and tanks, co-ordinate artillery shoots, provide an unprecedented degree of close ground support for the assault troops, neutralize enemy aircraft, and interdict the battlefield.

General Salmond believed that bombing the German airfields would greatly diminish the effectiveness of the enemy's air force. The first targets for his bombers, therefore, were the enemy aerodromes at St Christ, Ennemain, Bray

* H.A. Jones, *The War in the Air: being the Story of the Part played in the Great War by the Royal Air Force*, vi (London 1937), 435, gives a figure of 1104.

station, and Moislains, which would be attacked at daybreak at low level. Only in the evening, if surprise had been achieved, would enemy ground reserves begin to join the battle. Then the bombers were to switch their efforts to the outlying centres through which German reserves might be expected to flow. The main targets were the railway stations at Peronne, Chaulnes, Marcheletot, Villers-Carbonnel, and Etricourt. After dark the night bombers would take over, continuing the attacks on the rail centres, as well as on billets and road and rail movement. The Amiens-St Quentin road was to receive particular attention between Foucaucourt and Mons-en-Chausée and Peronne and Cambrai. Meanwhile the fighter squadrons of IX and III Brigades were ordered to 'hold the ring' by flying high offensive patrols to protect the low-flying aircraft of V Brigade which would be working in direct support of the ground troops.¹⁰

The brigade commander, Brigadier-General L.E.O. Charlton, allotted his six corps squadrons to the attacking Canadian, Australian, III British, Cavalry, and Tank Corps and one was assigned to resupply ammunition to machine-gun detachments of the Australian and III British Corps. The squadrons were responsible for their usual duties of ground co-operation and artillery co-ordination and, in addition, 5 and 9 Squadrons were to lay smoke screens at selected points on the Australian and Canadian fronts. Special markings for the corps machines were devised to facilitate identification and a scheme of signals was arranged between aircraft and tanks. V Brigade's fighter squadrons in 22 Wing, similarly assigned to specific attacking formations, provided additional ground support. For control purposes the front was divided into Northern, Central, and Southern Sectors corresponding with the corps boundaries. Nos 80 and 48 Squadrons were assigned the Northern Sector, 201, 84, and 41 Squadrons the Central and 209, 23 and 24 Squadrons the Southern Sector. No 65 Squadron was allocated to the Cavalry and one flight of 48 Squadron was detailed to provide low-altitude reconnaissance of the front. V Brigade's day bomber squadron, No 205, was assigned the German aerodrome at Bouvincourt as its target for a dawn attack.¹¹

The command arrangements for the air battle were not the most effective. Both Salmond and Charlton were directly involved, the latter under command of the Fourth Army, the former responsible for the operational direction of IX Brigade, as well as the additional supporting squadrons made available from I, III, and X Brigades. Salmond was also given authority by GHQ to deal directly with General Rawlinson on matters pertaining to the battle. Unfortunately, it is not possible to trace how and where the lines of command crossed, or to describe precisely how they functioned in practice, because most of the staff work was conducted verbally. By this time staff officers apparently believed they had mastered procedures to an extent that made written orders largely unnecessary. The appointment of an overall air commander for the battle might have produced a clearer conception of the RAF's role. As it was, a primary operational objective for the air arm was never clearly defined on paper and confusion resulted. Like General Currie, Charlton assumed that the attack was a limited one and he designed his plan accordingly, for a one-day battle only.¹²

Charlton defined the strategic objective of the attack simply: to disengage Amiens and its rail network, this to be achieved by seizing the Amiens defence

line. As he saw it, the task of his squadrons was 'not only to help the infantry directly to their blue line objective, [the old Amiens defence line] but to help every other arm as well, Cavalry, Artillery, and Tanks, to help the infantry.' Ironically, at the same time that Charlton was limiting the scope of the attack, Haig was pressing his ground commanders to prepare for a vigorous pursuit beyond the initial objective, a task which the air forces were admirably equipped to support. Charlton was either not informed of the changes made to the original plan or, like others in Fourth Army, remained unaware of their significance. Equally important, only passing reference to air operations was made in army orders and these lacked any clear definition of the specific objectives which the RAF was expected to attain. Consequently, while his squadrons were assigned tasks for 8 August, their employment on subsequent days, when a sustained mobile battle might have been expected, was not made clear.¹³

Low clouds and driving rain made flying extremely hazardous during the night of 7-8 August. Nevertheless, two pilots in 207 Squadron, Captains G.A. Flavelle of Lindsay, Ont., and W.J. Peace of Hamilton,* managed after several attempts to get their Handley Page bombers off the ground. Flying through the black night on compass heading at dangerously low levels they reached the lines where they flew an exhausting three-hour patrol to drown out the noise of British tanks being assembled for the attack, an effort which won them both Distinguished Flying Crosses.¹⁴ By 0330 hrs other aircraft were in the air. Fifty minutes later a deafening artillery barrage opened up and the Fourth Army's assaulting infantry and tanks moved across their start line. The Germans were taken completely by surprise.

The effect of this surprise assault was enhanced in the early stages by the inevitable heavy ground mist which masked the forward movement of tanks and infantry. The same mist, however, diminished the effectiveness of the air support, just as it had done for the Germans in March. The fourteen bombers of 27 Squadron escorted by Bristol Fighters of 62 Squadron were unable to find their primary target, the enemy aerodrome at St Christ. Instead they dropped their 25-lb bombs in the area of Peronne. No 98 Squadron, escorted by twelve Camels of 43 Squadron, was switched to St Christ when its original target at Ennemain was discovered to be unoccupied. It managed to find the aerodrome, but by then the Germans had dispersed their machines and the squadron dropped its bombs with little effect on the hangars and landing field.¹⁵

Neither 98 nor 43 Squadron met any opposition, but in its attack on the aerodrome at Moislains 57 Squadron did come under attack. Second Lieutenant H.S. Musgrove of Canmore, Alta., and Lieutenant J.F.D. Tanqueray from British Columbia each claimed an enemy aircraft driven down as the objective was successfully bombed from low altitude, but Lieutenant L.L. Brown, from Westmorland Point, NB, was shot down and later reported a prisoner of war.[†] Other

* Other Canadians with 207 Squadron included R.K. Brydon of Toronto and J.H. Johnson of Kenora, Ont.

† Other Canadians with 57 Squadron included E.M. Coles of Vancouver, J.B. Cunningham of Ottawa (kia 22 Aug. 1918), L.K. Devitt of Brougham, Ont., W.H. Kilbourne of Winnipeg (pow 16 Aug. 1918), J.A. Mackay of Oakville, Ont., F.G. Pym from Alberta, J.L. Standish of Lacombe, Alta., and O.M.I. Turnbull of Galt, Ont. (kia 21 Sept. 1918).

squadrons had mixed results. No 49 Squadron dropped almost one hundred bombs on Bray station; 107 Squadron caused some damage among the houses and dumps in Harbonnières village and silenced some anti-aircraft guns which fired at them; 205 Squadron found targets at Bouvincourt aerodrome and the station at Chaulnes. The morning mist over many targets not only limited the effectiveness of their bombing, but also prevented accurate assessment of bombing damage.¹⁶

Until the mist lifted, at around 0900 hrs, the corps machines were unable to observe neutralizing fire, nor could they effectively establish their contact patrols. However, once visibility improved the artillery patrol aircraft performed valuable service. The infantry and tanks, pressing the initial assault with great speed, quickly went beyond the range of their supporting artillery. The guns had to leap-frog forward to maintain continuous support, but a scheme had been devised which enabled the air patrols to keep in direct touch with the guns during the advance. Information written on strips of white canvas placed on the ground, identifying the battery, the number of guns in action, and the amount of available ammunition, was relayed by message-dropping patrol aircraft to the artillery commanders farther back, who were then in a position to co-ordinate the fire and movement of the guns. This supplemented the use of wireless to range and correct shoots on previously selected targets and effective support was maintained throughout. When the assault troops overran the enemy front line they also forced the Germans to abandon their prepared artillery positions for new ones, often visible only from the air. Neutralizing fire calls from the patrol aircraft proved the best means of engaging these new, unregistered gun positions. In addition, air photographs, developed quickly and then passed to artillery commanders, enabled counter-bombardment staffs to plot new tasks for the guns.¹⁷

Despite the fog, 5 Squadron, working with the Canadian Corps, sent up four of their RE8s at 0400 hrs. The pilots, by flying at very low altitudes, were able to locate some of the enemy whom they bombed and machine-gunned. Ground fire was heavy and, by the time the early patrols were relieved at about 0730 hrs, the battle had become extremely confused. Both allied and German troops were on the move in the open and hundreds of aircraft filled the air. Contact patrols had much difficulty in locating the front positions of their own men because of the fluid nature of the fighting. The troops were reluctant to use Very flares to mark their positions because that marked them for the enemy as well.* Thus, contact patrol aircraft often found allied troops by a process of elimination, first being fired upon from German-held positions and then circling back until they could identify their own forces. To quicken their response time 5, 6, and 9 Squadrons worked out of an advanced landing field at the old Amiens drill ground where the aircraft picked up ammunition, bombs, and fuel. The advanced field was later shifted forward to Caix as the front moved east.¹⁸

* Allied aircraft also found it easy to locate enemy positions when German units used flares to identify themselves to GAF machines. HQ RAF, 'Notes on Corps Squadrons Work on the First and Third Army Fronts during Recent Operations,' 14 Sept. 1918, Air 1/725/97/2; 'No. 5 Squadron Work under Command of Major C.H. Gardner from July 18 to November 11th 1918,' Air 1/1313/204/13/96

Besides their primary tasks of co-ordinating artillery fire and contact patrolling, the corps squadrons also were called upon to lay smoke screens and attack targets of opportunity with their 25-lb bombs and machine-guns. Captain N. Goudie of Kamloops, BC, and his observer, flying an RE8 of 5 Squadron, forced about one hundred German troops, massed in a sunken road and holding up the advance, to surrender by keeping them under continuous machine-gun fire. They then kept the Germans under observation until infantry could collect them. Goudie was awarded the Distinguished Flying Cross. So was another Canadian in the squadron, Captain C.F. Galbraith from Manitoba, for outstanding work in attacking the enemy, reporting important information, and taking low-level photographs.¹⁹

No 8 Squadron* was responsible for developing aircraft-tank co-operation for the battle at Amiens. Commanded by Major T.L. Leigh-Mallory, the squadron had been attached to the Tank Corps on 1 July and immediately began a period of intensive training. Flights were assigned to specific tank units and tank officers were taken up in the air for familiarization flights, while pilots and observers were introduced to the close confines of the tanks. During the battle for Hamel in July, 'C' Flight had operated with the tanks and both units gained valuable battle experience. Although they had held trials with wireless, it was not possible to provide direct radio communication with the tanks before 8 August. Instead, reliance was placed upon a system of directional signals involving variously shaped discs swung out from the fuselage on iron rods. Theoretically they were visible to about four thousand feet, but in the smoke and heat of battle tank crews were not always able to see them. It was extraordinarily difficult to see anything at all from the interior of a First World War tank, much less an aeroplane which would only be in the field of vision for a few seconds at the most and whose sound was completely drowned out by the noise of the tank engine. The aircraft were able to send wireless information to the tank unit headquarters and assist the tanks' forward movement by bombing and machine-gunning enemy strong points.²⁰

Pilots and observers, however, had great difficulty in locating German anti-tank guns, and, as allied tank casualties on 8 August showed, protection from these guns was vitally important. By the morning of the 9th only 145 tanks (of 415) remained fit for action. Brigadier-General Charlton subsequently stated on 14 August that it was 'not too much to say that without the Anti-Tank gun the advance of our line would be irresistible.'²¹ Charlton ordered that offensive action against enemy anti-tank gunners be given the highest priority by both corps and fighter aircraft. Smoke screens seem to have been the most effective means of controlling the anti-tank guns, as the Germans themselves commented: 'British low-flying planes rendered valuable service to their own tank units by laying smoke screens between advancing tank units and strongly defended German points of resistance.'²²

* Canadians with 8 Squadron included J.E. Cave from British Columbia (KIA 14 Aug. 1918), A. Grundy of Merritt, BC, J.R.R.G. McCallum of Toronto (KIA 23 Aug. 1918), C.W. Prynne of Calgary, W.F.R. Robinson of Davidson, Sask. (MIA 24 Sept. 1918), and F.A. Whittall of Montreal.

Inadequate equipment along with low clouds and German opposition made liaison extremely difficult in such fluid conditions. The battle was a valuable testing-ground for air-ground co-operation. Flares and panels were helpful, but the most important factor remained the skill and initiative of individual pilots. During the confusion of the ground battle they had to talk to the ground troops as best they could by dropping messages, landing in open fields, and in various other ways. Lieutenant W.C. Lambert, an American who had joined the RFC in Toronto, was flying close support missions with 24 Squadron on the morning of 8 August when he spotted a column of British motor transport, accompanied by a light tank, moving forward. As Lambert recalled the scene:

At 200 feet, I fly over the road to see what might be down there ... I catch a reflection from some sort of metallic object. What is it? Everything seems too quiet. Back on my stick and up to 300 feet. I make a fast 180 degree turn, head back to our convoy and approach them at 50 feet. I rock my wings and kick my rudders to attract their attention. The wind almost tears my left arm off as I try to wave them to a stop but they continue to roll forward. I must stop that convoy until I can find out what is in front of them! Then a thought strikes me ...

I head straight across the bows of the leader with my wheels almost on the ground and fire a short burst about 50 feet ahead of him. This does the trick and they come to a dead stop ... Now to find out what is in that hedge. My head is out to the left with my eyes peering into the hedge. Within seconds I see the strangest gun. A contraption like a very large rifle ... I had heard of their 'Anti-tank' gun. This must be one of them and in good place to ambush our convoy ... pulling ... up to about 300 feet, I turn and come in on the gun, pressing the button for both guns. One of the men has disappeared and the other is preparing to leave, when my burst changes his mind. My bullets strike all over their gun. I go around for another look. No activity. The remaining body is sprawled, head down, in a sort of a hole behind the gun.²³

Scouts were based at advanced flying fields from which they could reach the front quickly. When a patrolling corps machine spotted a likely target it would fly to the advanced field and lead the fighters to the enemy position. Nos 6 and 9 Squadrons employed this technique on two occasions, on one of which cavalry was able to capture Le Quesnel Wood after it had been held up for a time by strong German resistance. Having scouts on call at advanced fields also enabled them to be directed to enemy strong points indicated by artillery fire requests from the corps machines.²⁴

The principal danger to the six corps squadrons during the battle was from ground fire, most of the thirty-one casualties they suffered between 8 and 11 August coming from that source. Air attacks could not be discounted, however. Late in the morning of the 8th Lieutenant J.R.R.G. McCallum of Toronto, with 8 Squadron, was attacked by five enemy scouts during a tank contact patrol. His observer was badly wounded, and McCallum made a forced landing, striking a shell hole, completely wrecking his aircraft. Australian infantry found them and brought both back to safety. Three Canadians with 5 Squadron were killed: Lieu-

tenant L. Oertling, address unknown, on 8 August and Second Lieutenants C.F. Grant of Bella Coola, BC, and W.H. Webber, address unknown, on 10 August.*²⁵

The fighter squadrons of 22 Wing had the major responsibility for providing close ground support for the attack. As soon as the morning fog cleared their fighters were sent out in pairs at half-hour intervals to attack enemy targets with their machine-guns and 25-lb bombs. In the confusion caused by the surprise and ferocity of the initial assault and with an open mandate to hit any target which presented itself, the fighters attacked enemy infantry, guns, transport, ammunition dumps, and trains from near ground level. 'Our planes seemed like things possessed ...' a member of the Canadian Corps commented. 'The air was thick with them, and never an enemy plane to be seen.' In the air continuously, except for refuelling and rearming stops at advanced aerodromes, the fighter squadrons were able to exert tremendous pressure on the Germans and there was 'no question but that the action of the low-flying fighters was a factor of immense importance in the overwhelming success of the initial attack ...'²⁶

The efforts of 24 Squadron, flying SE5as in support of the Canadian Corps, were perhaps typical. On 8 August Lieutenant W.C. Sterling, address unknown, dropped four 25-lb bombs on a locomotive which was leaving the village of Rosières. He then attacked horse transport in the area with machine-gun fire, 'piling up the leaders and halting the whole lot.' Lieutenant C.M. Farrell of Regina dropped his bombs on an ammunition dump at Foucaucourt and later attacked a train and other targets in the area of Marcelcave. Farrell's fourth sortie of the day was with a patrol of five aircraft, including Lieutenant E.P. Crossen of Sunderland, Ont. They were attacked by nine Fokker biplanes near Lihons. In the resulting *mélée* Crossen 'was driven down and had a good deal of indecisive fighting' and Farrell was shot down. Farrell was able to return to flying operations on 10 August and was subsequently awarded the DFC for his work on the 8th. Second Lieutenant F.E. Beauchamp of Meyronne, Sask., was not so lucky; forced down that day, he was taken prisoner.²⁷

Pilots in other squadrons had similar experiences. Lieutenant J.L.M. White of Halifax was leading a formation of 65 Squadron which was attacked by eight Fokkers. The Camels turned west and climbed, but on meeting another flight of 65 Squadron, White led the combined force back against the enemy. He promptly shot one Fokker down and then began to chase another west. The whole formation got on the tail of the enemy machine and forced it to land behind British lines.²⁸ Partly for their efforts during the day White was awarded a Bar to his DFC and Captain A.A. Leitch of High River, Alta., and Lieutenant J. MacLennan of Whitehorse received DFCs.[†]

Meanwhile, the action over the Australian sector was equally hectic. The pilots of 41 Squadron, twelve of whom were Canadian, were in continuous action. At

* The three were the only Canadian fatalities with the corps squadrons during the battle. RAF war diary, 8-11 Aug. 1918, Air 1/1187/204/5/2595

† Leitch had already received the MC. MacLennan is believed to be the only recipient of a First World War DFC to fly on active operations with the RCAF in the Second World War.

noon Captain F.O. Soden, from New Brunswick,* shot down in flames a bright yellow biplane which had just forced down a British machine. The other SE5a squadron in the area, No 84, attacked enemy kite balloons, bombed troops and transport, and provided other close support. Captain R. Manzer bombed enemy troops northeast of Proyart and then began to strafe them until he was hit by ground fire and forced to land near the German trenches. He was taken prisoner. Lieutenants C.F. Falkenberg of Quebec City and A.C. Lobley of Winnipeg each carried out three missions bombing and strafing the enemy trenches and transport.[†] Despite such a high rate of activity in this very dangerous low-level work, 41 and 65 Squadrons lost only three pilots on the 8th.²⁹

There were seven Canadians flying Camels with 201 Squadron in the Australian sector. Lieutenant N.O.M. Foggo of Vernon, BC, was forced down over enemy territory and made a prisoner on the 8th. Lieutenant M.S. Misener of Toronto[‡] successfully attacked an inviting target – three trains south of Harbonnières, one of which might have carried the long-range railway gun which had been used by the Germans to bombard Amiens. Later, Misener drove off a group of enemy troops attacking a downed aircraft which had landed in no-man's land. His own aircraft was so badly riddled with shrapnel that it was written off after he landed. Misener was killed in action the next day. On the 9th Lieutenant J.M. Mackay of Vancouver was attacked from behind while hotly pursuing a Fokker and, with his aircraft badly damaged, was forced to land in the midst of the battle. As he made a dash for safety he met a British tank into which he climbed. When he realized that the tank was about to go into action, however, he wisely withdrew and made his own way back under heavy machine-gun fire.³⁰

The surprise and ferocity of the allied assault on 8 August cracked the crust of the enemy defences. Within a few hours seven German divisions had been badly battered. The first British objective, the Demuin-Marcelcave-Cerisy-Morlancourt line, was quickly reached and while the leading troops paused, the immediate reserves with cavalry and tanks passed through to press the advance. By dusk an advance of six to eight miles had been achieved and the Amiens defences had been taken except for Le Quesnel in the south, which was captured before dawn the next day. The initial attack had been a classic example of inter-arms co-operation, and in it the air arm had played a significant part.

The Allies' very success also presented the possibility of opening up a wider battlefield where German disorder could be exploited to the full. From about noon on the 8th the enemy situation seemed precarious. The Allies dominated the air,

* Other Canadians with the squadron included W.G. Claxton (POW 17 Aug. 1918), and F.W. Douglas (KIA 12 Aug. 1918), both of Toronto, W.J. Gillespie of Daysland, Alta, A. Goby of Avonlea, Sask., J.A. Gordon of Wallaceburg, Ont. (KIA 12 Aug. 1918), W.E. Huxtable of Victoria, F.W.H. Martin of Regina (KIA 9 Aug. 1918), F.R. McCall of Calgary, W.E. Shields of Lipton, Sask., F.B.K. Sleightholm of Toronto, and H.C. Telfer of Westmount, Que. (POW 28 Sept. 1918).

† Other Canadians with 84 Squadron included H.C. Anderson of Winnipeg, D. Carruthers of Kingston, Ont., J.A. Jackson of Dunnville, Ont., and R. Manzer of Oshawa, Ont.

‡ The other Canadians in 201 Squadron were W.A.W. Carter of Fredericton, C.E. Hill of Collingwood, Ont., W.A. Johnston of Barrie, Ont. (POW 14 Sept. 1918), and F.T.S. Sehl of Victoria.

and the bulk of the German defenders had been forced either to surrender or fall back in headlong retreat towards safety over the Somme. It seemed that if the momentum of the assault could be maintained, and if the escape routes across the Somme could be blocked, the whole of the German force west of the river might be destroyed. The break-in had been an unqualified success; the break-out was at hand.

The Australian official historian has summed up the problem at the end of the first day: 'everyone's thoughts turned to what had been done rather than to the next step.'³¹ Once the first day's objectives had been seized, the confusion within the allied command about the scope and ultimate purpose of the operation caused the attack to slow down and then grind to a halt. Sir Arthur Currie, commanding the Canadian Corps, later recalled that no one really expected that the old Amiens Line would be taken on the first day and, when it was, there was no clear idea of what to do next: 'I also know that senior staff officers hurried up from GHQ to see me and to ask what I thought should be done. They indicated quite plainly that the success had gone far beyond expectations and that no one seemed to know just what to do. I replied in the Canadian vernacular: "The going seems good: let's go on!"'³² When the attacks finally were resumed along the front they were inadequately co-ordinated and lacked the vigour and momentum of the initial assault.

The British estimate of a ten-to-twelve-hour delay before the enemy would be able to reinforce his front-line troops proved to be too optimistic. Ludendorff claimed that 'By the early hours of the forenoon of August 8th I had already gained a complete impression of the situation.' He immediately ordered reinforcements forward. Remnants of the seven battered divisions which had borne the brunt of the morning's attack, along with the four others still in relatively good shape, began to receive help from the neighbouring Eighteenth and Ninth Armies as well as from Crown Prince Rupprecht's Army Group in the north. Elements of five fresh divisions joined the battle during the day and on the 9th parts of six more began to arrive.³³

The air commanders of all the German armies had previously made arrangements to reinforce immediately any sector which came under attack and by noon on the first day of battle there were fifty-seven machines employed on army co-operation duty; eighty-six fighter, nineteen ground attack, and sixteen bomber aircraft had been made available to the Second Army from nearby fronts. During the afternoon entire wings and groups began to arrive, including the Richthofen *Jagdgeschwader*, now commanded by *Hauptmann* Herman Goering, who was away at the time, leaving the unit in charge of *Leutnant* Lothar von Richthofen, the younger brother of Manfred. Goering's wing, made up of four fighter *Staffeln*, moved into the aerodromes at Ennemain and St Christ and was operational by 1630 hrs. In all, by the evening of 8 August, 294 additional machines, including thirty-four night bombers, had been assigned to support the German Second Army.³⁴ Of this total, thirty-six fighters were not transferred to the Second Army, but operated over the battlefield from their bases in neighbouring army areas.

The key to sealing off the battlefield appeared to be the obstacle of the Somme and the interdiction of its numerous crossings. In the sector which contained the fighting eleven different road and rail bridges provided access to or from the battle.

From Amiens the Somme twisted eastwards and was bridged at Bray, Cappy, Eclusier, and Feuillères before swinging south through Peronne, Brie, St Christ, Falvy, Bethencourt, Voyennes, and Offey. An extremely tempting target thus presented itself to allied commanders. If the RAF could destroy the bridges the enemy would be trapped in a pocket enclosed on two sides by the river and a local retreat might be transformed into a full-scale disaster for the shaken Germans. The possibility was discussed by allied commanders in a number of telephone conversations on the 8th and, around noon, General Salmond cancelled all existing bombing plans and ordered that every effort be directed against the Somme bridges. The bombers and fighters of IX Brigade, supported by other available bomber squadrons, were to attack 'until the bridges are destroyed'.³⁵

The airfields where the bulk of the German air strength was concentrated – Moislains, Ennemain, and Foreste – were all within five miles of the southern Somme bridges which were the principal targets of 9 Wing. During the afternoon of the 8th the protection of the bridges became the principal object of the German air arm. The result was an exceptionally intensive air battle and RAF casualties began to mount.³⁶

The first attack on the bridge at Brie, which carried the main Amiens-St Quentin road, was made during the early afternoon of the 8th in the middle of a driving rainstorm. Eight DH9s of 107 Squadron and eleven Camels of 54 Squadron attempted to drop their bombs on the bridge. No direct hits were recorded and each unit lost one aircraft while returning. Later that afternoon Captain W.H. Dore of Arichat, NS,* led another attack on Brie by the same squadrons; this time they reported that they had inflicted some damage near the middle of the bridge. A third bombing attack was made on Brie in the evening by eight day bombers of 205 Squadron. Sixteen 112-lb bombs were dropped from 12,000–14,000 feet and, although a direct hit was claimed, clouds prevented close observation so that no confirmation was possible. Another flight attacked the bridge at St Christ through a gap in the clouds but, again, no hits were recorded. Seven German scouts attacked this formation as it was returning; when one was shot down in flames, however, the others left. A final raid on St Christ was carried out by four Camels of 54 Squadron. They dropped twenty 25-lb bombs from 7000 feet. German fighters had intercepted all the raids and shot down four Camels and one DH9.³⁷

DH9 bombers of 98 Squadron, accompanied by the Camel and SE5a fighters of 1 and 43 Squadrons, mounted three raids against the road and rail bridges at Peronne. Sergeant E.R. MacDonald of Matheson, Ont., and his pilot claimed a direct hit on the northern end of the railway bridge on the second attack but no

* Dore was a flight commander in 107 Squadron. Other Canadians with the squadron included A.W.H. Arundell of Winnipeg, F.M. Carter of Orillia, Ont., S.L. Dunlop of Ottawa, J.H. Grahame of Stony Mountain, Man., A.B. Holden of Victoria, F.C. King of Ottawa, F. Player of Moose Jaw, Sask. (KIA 4 Sept. 1918), J.V. Turner of Brockville, Ont., and P. Willis of Calgary (MIA 9 Aug. 1918). Canadians in 54 Squadron were H.R. Abey of Kaslo, BC (POW 2 Nov. 1918), A.H. Belliveau of Fredericton (POW 27 Aug. 1918), A.S. Compton of Toronto, J.V. Dallin of Peterborough, Ont., H.B. Lockwood of Long Branch, Ont., E.J. Salter of Mimico, Ont., G.M. Saunders of Toronto, and R.E. Taylor, address unknown (POW 8 Aug. 1918). In 205 Squadron were W.B. Elliot of St Catharines, Ont., and F.O. MacDonald of Penticton, BC.

additional hits were reported by the bombers on the other raids. The attackers met opposition on all three occasions. On one, McDonald fired a short burst at a Pfalz scout before his gun jammed. He fired a Very light flare at the German to keep him at bay while clearing his weapon, and then shot him down. Another observer, Second Lieutenant N.C. McDonald of Bluevale, Ont., was credited with a Halberstadt two-seater, while a third, Captain G.H. Gillis of Halifax, claimed a Fokker triplane. Captain F.G. Powell of Toronto was lost.*³⁸

The bridges in the southern sector, at Bethencourt and Voyennes, were allotted to 9 Wing. Bethencourt was attacked twice in the afternoon by 49 and 32 Squadrons. In the first attack ten DH9s and twelve SE5as took off shortly after 1400 hrs, but the formations were separated by enemy fighters so that six of the bombers, prevented from reaching their objective, dropped their bombs on various other targets in the area. Two DH9s were shot down. During a second attempt seven bombers were attacked by ten Fokker biplanes as they were diving on the bridge from a thousand feet. Another DH9 was lost. As dusk fell the bridge at Bethencourt still stood, and the enemy was reported to be building a footbridge one kilometer to the north.³⁹

The DH9s of 27 Squadron and the Camels of 73 Squadron were ordered to destroy the bridge at Voyennes. In their first raid six bombers attacked the bridge from under five hundred feet, claiming one direct hit. Six others attacked the railway bridges at Pithon and Offoy from a similar height; one bomber was shot down. At the same time ten of the fighters, including six flown by Canadian pilots, were attacked by eight enemy machines and two Camels were lost, one of them being that of Lieutenant G.W. Gorman of Edmonton. Another attempt on the Voyennes bridge was made late in the afternoon, but the DH9s were attacked by enemy fighters on the way in, and the formation split up. The bomber pilots were prevented from coming in low over the target, one being chased back to the lines while another was shot down, and the ten 112-lb bombs that the squadron dropped were not seen to do any damage. Eight Camels of 73 Squadron, five flown by Canadians, met little opposition over the target but one enemy two-seater was claimed near Nesle by Lieutenant E.J. Lussier of Medicine Hat, Alta.,† and two other pilots. Their light bombs also failed to hit the bridge.⁴⁰

During the same afternoon the original night operation order for 8-9 August was cancelled. The new order confirmed Salmond's telephoned instruction that it was 'of the first importance that the bridges over the river Somme should be destroyed behind the retreating enemy.' In accordance with this directive fifty

* Other Canadians with 98 Squadron included J.M. Brown of Vancouver, H.J. Fox of Toronto, and I.V. Lawrence of Kingston, Ont.

† Lussier was credited with seven enemy aircraft during the operation, three of them in one day, and was awarded the DFC. Other Canadians with 73 Squadron included E. Barker of Newboro', Ont., W.A. Brett of Dugald, Man. (KIA 21 Sept. 1918), G.C.L. Carr-Harris of Kingston, Ont., S.A. Dawson of Saint John, NB (KIA 10 Aug. 1918), J.H. Drewry of Victoria, H.V. Fellowes of Grimsby Beach, Ont. (POW 1 Oct. 1918), W.H. Hubbard of Toronto, O.T. Moran of Winnipeg, D.B. Sinclair of London, Ont. (POW 2 Sept. 1918). With 27 Squadron were H.M. Broun of Hamilton, A.V. Cosgrove of Winnipeg (KIA 25 Sept. 1918), F.C. Crumby of Toronto, W.J. Dalziel of Wapilla, Sask., M.L. Doyle of River Louison, NB, H.W. Hewson of Clarenceville, Que., E.J. Jacques of Battleford, Sask., and A.F. Millar of Rapid City, Man. (KIA 14 Aug. 1918).

FE2bs and Camels of 83, 101, 102, and 151 Squadrons attacked with nearly six tons of bombs in the late evening, but the bridges remained intact and German reinforcements continued to cross. The RAF lost forty-five machines during the day and another fifty-two had to be struck off strength as a result of the day's fighting – a wastage rate of more than 13 per cent. About thirty of those lost were destroyed in attacks on the bridges and it seems probable that about the same proportion of those that were struck off strength would have been damaged on sorties against the bridges, too.⁴¹

When the attacks were resumed the next morning the heavy casualties taken on the first day, when the bombers had been left without fighter protection because the fighter squadrons themselves were attacking with their loads of 25-lb bombs, brought a tactical change. The operation order for the 9th noted that, on the previous day, 'E.A. scouts molested our bombers by diving on them from the clouds and preventing them carrying out their mission effectively.' The squadrons were now told to 'detail scouts for close protection of bombers to ensure that the latter are not interfered with by E.A. while trying to destroy bridges. This is the sole duty of these scouts who will not, therefore, carry bombs.'⁴²

The bomber squadrons of IX Brigade divided their operations between southern sector bridges at Falvy, Béthencourt, and Voyennes and the northern bridges between Cappy and Brie. The southern attack did not go well when fighter escorts from 73 Squadron, assigned to 27 Squadron, failed to appear for the morning raid. The DH9s were scattered by enemy fighters and only a few of them attacked Voyennes, the others dropping their 112-lb bombs on a variety of targets. The escorting Camels also apparently failed to meet 49 Squadron and only a few bombers were able to reach the bridge at Falvy. None of the DH9s was lost, although at times they were involved with formations of up to twenty German fighters. The bombers claimed to have shot down several enemy aircraft, one crew from 49 Squadron claiming five.⁴³

Attacks on the northern bridges did bring more casualties. When six DH9s of 98 Squadron, escorted by five Camels of 43 Squadron, bombed Feuillères bridge from 3000 feet, they were attacked over the objective by a formation of Fokker and Pfalz scouts, and E.R. Macdonald and his pilot were among those lost. The most disastrous losses occurred early in the morning over the bridge at Brie when 107 Squadron lost five machines. The first flight of four DH9s, led by Captain F.M. Carter of Orillia, Ont., was attacked by twelve enemy aircraft about two miles west of the objective. Carter fired off a red Very light and a Camel from the escorting squadron, No 54, came to their assistance as Carter turned on a Fokker with his front guns and brought it down in flames. The flight lost one of its DH9s. The second flight of four was also attacked on its way to Brie, and when its flight commander, W.H. Dore, 'in a wonderful piece of pluck and daring,' turned on a formation of twelve Fokkers, he was shot down himself. The third flight of five DH9s had four Camels as escorts, but three of the bombers were lost over enemy

* However, the fighter squadrons did, with the exception of aircraft so detailed, continue to carry out bombing attacks on the bridges. IX Brigade Summary, 8-9, 9-10 Aug. 1918, Air 1/977/204/5/1135

lines and another crashed on the British side while the escort also lost two aircraft.⁴⁴

Lieutenant S.L. Dunlop of Ottawa, a Canadian observer, won an immediate DFC on this occasion. His citation recorded that he and his pilot, Lieutenant G. Beveridge of Westmount, Que., were attacked by seven or eight enemy aircraft almost as soon as they crossed the German lines. The formation was broken up but they held to their course. One German dived on their tail and Dunlop shot it down in flames; while over the objective another enemy scout flew in front of the DH9 and Beveridge sent it down out of control; they were then attacked again from all sides by a large number of enemy machines, one of which Dunlop managed to shoot down. Beveridge, however, was wounded, fainted from loss of blood, and slumped onto the controls. The aircraft went into a steep dive until Dunlop reached over, pulled Beveridge back, and managed to get control of the machine. Still holding Beveridge, he connected the controls in his own cockpit and flew the aircraft west, somehow continuing to fire on attacking enemy aircraft. Beveridge revived over the British lines and together they safely crash-landed the machine.⁴⁵

At 0700 hrs two flights of 205 Squadron, V Brigade's day bombers, went after the bridges at Brie and St Christ. Again, clouds and bad visibility obscured the results. At the same time two flights of III Brigade's 57 Squadron took off to bomb the bridges at Peronne but their escorting flight of five Bristol Fighters from 11 Squadron got into a fight with eight Fokkers between Bray and Peronne and lost contact with the DH4s. The leader of the bombers decided that it would be inadvisable to attempt a low-level attack on the bridges, so they dropped their bombs from 12,000 feet over the railway sidings while still under attack from the enemy fighters. One DH4, with Second Lieutenant H.S. Musgrove of Canmore, Alta., as observer, went missing (Musgrove was made prisoner), while four other bombers had to land away from their base.⁴⁶

No 205 Squadron appears to have been the only day-bomber squadron which carried out a raid in the early afternoon of the 9th, two flights, each of seven machines, once more attacking the bridges at Brie and St Christ. On the flight to St Christ the DH4s encountered ten German aircraft over Rosières but the enemy kept his distance; DH4s which held a tight formation were not easy pickings. The bombers, several of which were damaged by heavy ground fire, subsequently claimed a direct hit on the western end of the Brie bridge. At 1800 hrs the squadron bombed both bridges from 12,000 feet, and once again enemy fighters were seen but did not attack. Two direct hits were claimed at St Christ but could not be confirmed, and for the most part damage was confined to the area around the bridges. The skill and endurance of the eighteen crews of 205 Squadron, including Captain W.B. Elliott of St Catharines, Ont., and Lieutenant F.O. MacDonald of Penticton, BC, is noteworthy; they spent over five hours each in the air on the 9th and dropped five-and-a-half tons of bombs on the bridges without, unfortunately, inflicting any serious damage.⁴⁷

A further directive issued during the early afternoon on the 9th ordered a major, concentrated attack for the early evening. All available IX Brigade bombers were ordered to be over their assigned targets precisely at 1700 hrs. As the morning's