

**THE OFFICIAL HISTORY OF  
AUSTRALIA IN THE WAR  
OF 1914-1918**

**VOLUME VIII**

**THE AUSTRALIAN FLYING CORPS**



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THE  
AUSTRALIAN FLYING CORPS  
IN THE  
WESTERN AND EASTERN THEATRES OF WAR  
1914-1918

BY  
F. M. CUTLACK

*With 32 maps and 54 illustrations*

*Eleventh Edition*

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1941

*"The heavens are their battlefields. They are the cavalry of the clouds. High above the squalor and the mud . . . . their struggles there by day and night are like a Miltonic conflict between the winged hosts."*—MR. LLOYD GEORGE on the Vote of Thanks to the Flying Service in House of Commons, November, 1919.



## PREFACE

THE main source of information for this war history of the Australian Flying Corps has been the official diaries of the four Australian flying squadrons in the archives of the Australian War Museum. Yet those diaries do not supply an adequate story. The records of the Half-Flight in Mesopotamia, for instance, can hardly be said to exist at all. The author is greatly indebted, as regards that part of his narrative, to the excellent notes written for his guidance by Captain T. W. White, second-in-command of that unit.

For the war-theatre of Egypt and Palestine (No. 1 Squadron), particularly during the early twelve months of the squadron in the desert east of the Suez Canal, the author has had access to the private diaries of Lieutenant-Colonel R. Williams, who served in that unit as flight-commander and squadron-commander. This personal record has proved very helpful. He also owes great thanks to Colonel Williams, the late Lieutenant-Colonel W. O. Watt, and Major A. Murray Jones, sometime flight-commanders in the squadron, and to Major T. F. Rutledge, sometime squadron-commander, who read his manuscript and helped him with their comments.

In the European section, containing the story of Nos. 2, 3, and 4 Squadrons, he is indebted to the late Lieutenant-Colonel Watt, Major Murray Jones, and Lieutenant E. R. Dibbs, of No. 2 Squadron, to Major D. V. J. Blake, of No. 3 Squadron, and to Captain G. F. Malley and Captain A. H. Cobby, of No. 4 Squadron, for reading the manuscript and for their notes, which were of great value, on obscure points. The author had the advantage of personal acquaintance with some of the work of the three squadrons in France during 1918.

Captain Andrew Lang's invaluable notes on types and development of aircraft in the British, French, and German services are published in a special appendix. To Lieutenants H. Johnston and J. J. Malone are due the notes on the development of the use of wireless telegraphy in aircraft.

The books published on the war in the air from the earliest days in 1914 till the beginning of the defeat of the German armies on the western front are already numerous. They are in no sense histories, but, being personal narratives by prominent airmen, British, French, American, and German, they contain some amount of historical material. Among those which the author has consulted he would mention:—*The Royal Flying Corps in the War*, by "Wing Adjutant"; *Aviation in Peace and War*, by Major-General Sir Frederick Sykes, late Chief of the Air Staff; *The Romance of Aircraft*, by Laurence Yard Smith; *Winged Warfare*, by Lieutenant-Colonel W. A. Bishop, V.C., D.S.O., M.C.; *Five Years in the Royal Flying Corps*, by the late Major J. T. McCudden, V.C.; *Guynemer, Knight of the Air*, by Henri Bordeaux; *The Red Air Fighter*, by Baron von Richthofen (edited by C. G. Grey); *With the French Flying Corps*, by Carroll Dana Winslow; *In the Air: Three Years on and above Three Fronts*, by Lieutenant Bert Hall; *Captain Ball, V.C.*, by W. A. Briscoe and H. Stannard; *Tails Up; Everyday Life of Our Airmen*, by Edgar Middleton; and *The German Air Force in the Great War*, compiled by Major Georg Paul Neumann.

F. M. C.

SYDNEY,

1st January, 1923.

#### NOTE BY THE EDITOR

The emergence of many distinguished airmen from among the Australian members of the British air services has necessitated an addition on pp xix-xciii of the third and subsequent editions. With this exception the text remains practically unaltered.



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## INTRODUCTION

### THE FLYING ARM IN WAR

THE world is now familiar with methods of war vastly more scientific than it ever knew before 1914. In the half-century before the late world war broke out, mankind had already become acquainted with the destructive power of submarine mines and torpedoes, and of artillery firing over ranges of many miles. It was known that a few dozen men with machine-guns could hold at bay many times their number equipped even with the best of rifles. The conflict of 1914-1918, however, was remarkable not only for a tremendous increase of gun-power in battle on land and sea but also for the use of three entirely novel agents—poison-gas, submarine fighting ships, and war in the air.

None of these new forms of warfare was actually unforeseen. All the chief Powers of the world had anticipated their possibilities, and the Hague Peace Conference of 1907 expressly barred the use of poison-gas, attacks by submarines on merchant ships, and bombardment by airships and aeroplanes of open towns. The late struggle afforded a cynical commentary on the binding force of such agreements in the ultimate issue between nations in arms, for not one of these three agencies of destruction was successfully prohibited by the Hague embargo. The use of fighting aeroplanes in the field as distinct from air attack on civilians, was of course a development sufficiently legitimate. In the struggle which closed in 1918, war in the air, for long imagined and described by latter-day prophets with much ingenious detail, became a reality, and thereby a new arm was added to the forces of all nations.

This volume forms but a small contribution to that historical record of military air fighting which is now being carefully compiled in every country. A scientific or technical work it does not pretend to be. No attempt is here made to lay down the proper tactics of fighting in the air. Nevertheless, as the leaders of aeroplane formations steadily sought out some guiding principles, certain proved methods of attack and defence did become recognized, and these will in due course be as far as possible described and explained. At the beginning of the war the existing aeroplanes on either side

were but elementary machines. They carried no armament, and were regarded chiefly as auxiliaries to cavalry for purposes of reconnaissance. They were still largely at the mercy of any unfavourable breeze. Their flying speed was not great; their climbing speed, judged by the performances of 1918 types, was ludicrous. At that date there was no sign of any appreciation of distinct and limited duties for this or that type of machine. One pilot, with or without an observer, might be sent out on no special commission at all except to "see what is happening," or with an impossible list of duties, such as to locate guns, discover the enemy's main line of attack, estimate his available fighting strength in half-a-dozen places, and, if it appeared opportune, throw out some handfuls of steel darts upon hostile troops.

Fighting tactics were evolved as pilots grew in experience of air warfare, and, under the influence of accepted tactics, distinctive classes of aeroplanes were developed. Competition enforced improvement of design; special types appeared for special work; and each department of air warfare demanded its peculiar skill. Reconnaissance work became divided into "strategic" reconnaissance—a rapid and constant survey of general dispositions over the enemy's rear areas—and "tactical" reconnaissance, or close scrutiny of the immediate front line and trench works, in which every machine-gun position was located and the strength of every outpost calculated. Photography was introduced to illustrate and confirm intelligence reports thus obtained. Bombing raids from the air were carried out both by day and by night, and in each case evoked special measures for attack and defence. These, again, might be either forward-area bombing attacks or distant raids upon factories and other places far behind the enemy's line; here, too, the types of machine and the special capacity demanded of pilots varied in important particulars.

Above all, the demand was for excellence in the fighting scout. It was improvement in the fighting scout which governed development of tactical ability and fluctuations of the fortunes of warfare in the air towards this side or that. The battle-patrol pure and simple was the assigned province of single-seater machines of small size, high speed, rapid manœuvring ability, and equipped ultimately with forward



armament of double machine-guns. Perhaps the most difficult task of all was that of fitting machine-guns to fire forward through the propellers of aircraft. The Germans succeeded first in producing an "interrupter" mechanism whereby each discharge of the gun was controlled by the revolutions of the propeller. Air fighting included also co-operation of aeroplanes with infantry against hostile forces on the ground. The two chief forms of this co-operation were known as "contact" patrols, assisting an infantry attack, and "counter-attack" patrols, assisting a defence. Both entailed low flying, and low flying against machine-gun fire from the ground was perhaps the most dangerous work demanded of airmen. In this special form of fighting the airmen would often perform lightning evolutions over tree-tops or village house-roofs, or skim the very ground itself while delivering blasts of fire upon the enemy's infantry or guns.

It will be easily realised that this new field of war in the air offered considerable scope to the daring and initiative of the individual. Curiously enough the best pilots were not always physically the most robust. Guynemer, the Frenchman, probably the greatest fighting airman of the whole war, was a young man of delicate health. The supreme qualities demanded of a pilot were youth, sound senses, and good nerves; thus equipped, he might, if he lived, acquire all else needful from flying experience. Both Britain and Germany found that the best raw material for the making of an air pilot was the accomplished horseman. The demand for good heart, good hands, and a quick eye is the same in each case. On the other hand, a safe pilot was not necessarily a good fighting airman. Besides the pilot's ordinary qualifications, there was required for the fighting airman just that little more which may best be described as "devil." It means not so much recklessness as nice judgment of the moment's risks while simultaneously flying and fighting; sustained courage and determination, without hot-headedness; unruffled confidence founded in perfect knowledge of his machine's capacity, estimation of the enemy's ability, and assurance of his own. There was probably no better example of what a fighting pilot should be than the Australian, Ross Smith. Like many of the successful airmen of the Australian Flying Corps, Ross Smith came from the Australian Light Horse.

The air services on each side in the war observed throughout a special chivalry. Air fighting is individual fighting. Combat between formations resolved itself, after initial manoeuvres and the opening attack, into a series of duels at close quarters. Each individual engagement was a matter of life or death to either opponent; the one showed the other no mercy, and pursued his foe, if necessary, and where possible, to the ground, shooting at him till the end. But where any flying man was taken prisoner, he was treated by his late adversaries with respect and consideration. The star airmen of the opposing armies regarded each other with a curious mixture of personal esteem and deadly hostility. The Royal Air Force, while thirsting, so to speak, for Richthofen's blood, frequently drank his health at celebration feasts in London. With British men air fighting, though deadly enough, was still in general observance a form of sport. The best German pilots seemed to possess some of the same spirit. But the French airmen, gay and daring as many of them were, fought with no such prepossession. Their gaiety was the ecstasy of soul born of devotion to their country and a high consciousness of the glory of asserting it. They burned with hatred at the very sight of a German machine, and life itself, it seemed, was worthless to many of them if the foe was also to be permitted to live.

The methods of reckoning totals of "hostile aircraft destroyed" in the British, French, and German Armies afford some insight into the human characteristics of their respective flying services. The British, a name which, of course, includes Australians, reckoned no enemy machine destroyed unless the victorious pilot's report were confirmed by at least a second pilot or by some other satisfactory evidence; the British fought always on the enemy's side of the line, and the occasions when German machines were destroyed within the British area—and when the victory could therefore be established beyond any possible doubt—were relatively few. The French command was exceedingly strict, and was for long reluctant to count a defeated enemy as destroyed unless the remains of his machine could be actually recovered; that was one reason why French airmen preferred to engage the enemy over their own army areas, rather than over the German. With

the Germans, however, individual claims of hostile aircraft destroyed were admitted often on the flimsiest evidence, and it seems clear that they frequently claimed as victories combats which were no more than successes of the moment. Many a machine fell away "in a spin" from an air-fight not because it was hit or beyond recoverable control, but merely in order to escape from an unequal duel or from a bad manœuvring position. While the line was stationary in trench warfare, the Germans could easily establish the numbers of Allied aircraft shot down, since, on the British front at least, nearly all air fighting took place over German territory—"Hunland," as it was called by British airmen; but during British advances in the late winter of 1917 and the summer of 1918, German reports of British aircraft losses were often based on the wildest guesses.

When war broke out, the equipment of the British Royal Flying Corps and its available numbers of trained men were markedly inferior to those of either France or Germany. By 1918, however, the British flying service, thanks to the principles on which it was trained and developed, led all others. The new arm of war in the new element had to evolve its own fighting tactics, and, for want of corps tradition, its own standard of performance in action. The offensive training of the British air force sought from the first to inculcate the spirit of the British Navy. After all, the tactics of sea and air fighting are not essentially different. It was recognised that the primary duty of an air battle-squadron, as of a battle-fleet at sea, is to seek out the main hostile force and destroy it; and the primary duty of each fighting pilot is to lay himself as speedily as possible alongside the enemy. To this end the enemy's units shall be attacked whenever met, and no victory shall be deemed really complete while a single enemy escapes. This is the Royal Navy's gospel of faith and service, and the Royal Air Force adopted it. The analogue of advantage of steaming power—formerly sailing power—on the sea is, in the air, advantage of flying speed and height; manœuvring ability there, as at sea, is of supreme importance, and its rapid attainment is the finished art in action of the well-built aeroplane and the resolute airman.

It is necessary for the proper perspective of this narrative

to introduce a short account of the Royal Flying Corps, later merged with the Royal Naval Air Service into one arm as the Royal Air Force, of which the Australian Flying Corps formed a part. In 1911 what had previously been the Balloon Company, Royal Engineers, was (according to Major-General Sir F. H. Sykes<sup>1</sup>) superseded by the Air Battalion, R.E., consisting of Headquarters, No. 1 Company (airships), and No. 2 Company (aeroplanes). But investigation of the progress of the air arm in other European countries convinced the Committee of Imperial Defence of the necessity of further measures, and in May, 1912, Sykes was instructed "to organise, recruit, train, and command the Military Wing of the Royal Flying Corps." Thus did the Royal Flying Corps come into existence. For the next two years there were two wings, one naval and one military; but on 1st July, 1914, just before the outbreak of the war, the Royal Naval Air Service was formed, and so named, as an organisation separate from the military. The central flying school at Upavon, Wiltshire, continued to be the training institution for both forces.

With the formation of the Royal Flying Corps, flying stations were established at Farnborough, Montrose, Gosport, and Lark Hill, all of which, together with many others, became in course of time well known to Australian airmen. The first British-built military aeroplane was S. F. Cody's—Cody was for long a hero with the British public—while he was in the employment of the British Government. Cody, however—as one authority<sup>2</sup> remarks—did not, until he had left the Government service, succeed in building a machine which could be guaranteed to leave the ground. The early machines were few in number and of what would now be considered very primitive types. Pilots were but infrequently allowed to fly them, for fear the machines might be damaged or destroyed. They were for the most part Caudrons, Farmans, Blériots, and Bristol box-kites. Britain was learning as fast as possible from the experience gained by the resolute pioneers of France.

It is unnecessary here to tell in detail the story of that French pioneering, which received its strongest impulse from

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<sup>1</sup> *Aviation in Peace and War*, by Major-General Sir F. H. Sykes.

<sup>2</sup> "Wing Adjutant"; *The Royal Flying Corps in the War*.

the demonstrations of the brothers Wright, of the United States. It is an entrancing story, of which some outline is to be found in Laurence Yard Smith's *The Romance of Aircraft*. As early as 1794 the French used balloons in war against the Austrians, and balloons were of considerable assistance to armies on the ground in both the American Civil War and the Franco-Prussian War—when the French even dropped “propaganda literature” on the Germans. Yard Smith describes how the Franco-German competition developed between 1909 and 1911, Germany putting her faith in the dirigible airship, and France putting hers in the more mobile aeroplane. The third great Rheims air meeting in 1911—two had been held in previous years—completely opened Germany's eyes, and incidentally Britain's as well, to the vast progress made by France in the development of the aeroplane. Germany saw that her concentration upon the Zeppelins was narrow and mistaken, and the Germans “at once began a policy of construction by which they hoped soon to outstrip their brainier French neighbours.” They standardised their adopted aeroplane design “down to the last bolt,” and proceeded to turn out flying machines from their factories in great numbers. It is stated that in August, 1914, Germany possessed over 1,000 trained pilots and 800 military aeroplanes. They were for the most part the famous Taubes of the early days of the war. The French, on the other hand, had at the same date “a motley array of aeroplanes of every size, shape, and make, and this versatility of invention and experiment caused much early confusion. Spare parts of one type of machine would not fit another. The German machines, also, were richer in equipment of speed and climbing gauges and other accessories. But the French airmen had the real *flair* for this new science, and the Germans did not long retain their advantage.”

At this stage, the outbreak of war, the Royal Flying Corps consisted of four complete squadrons—each squadron containing three flights, and each flight four machines and two in reserve.<sup>3</sup> Two of these squadrons were equipped with

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<sup>3</sup> *Aviation in Peace and War*. A beginning had also been made to form three more squadrons. Sykes gives the total strength of the Royal Flying Corps (including, presumably, machines and personnel of the naval wing) in 1914 at 150 machines and 1,844 officers and men, and notes that by the end of the war it had expanded to 201 squadrons and 22,000 machines in use, and 300,000 officers and men.

B.E.2's, and two with Blériots, Henri Farmans, Avros, and B.E.8's. The Farman brothers were British subjects, though manufacturers in France, and they had won great success at the Rheims meetings. The B.E. was the best British machine, and there were several types of it in use; it possessed natural stability, mounted either a 70 horse-power Renault or an 80 horse-power Gnome engine, and could fly at about sixty-five miles an hour, if the wind were not adverse. The Farman machines flew at about fifty-five miles an hour, as did also the Caudrons and Shorts among the seaplanes. To climb 3,000 feet in ten minutes was in those days thought to be a wonderful performance, and at that height a machine was considered safe from ground gun-fire. The aeroplane's radius of action was limited to about 130 miles. It is startling to compare these records with those of 1918, when fighting scouts flew at 150 miles an hour or more, could climb 10,000 feet in five minutes, and were sometimes damaged by anti-aircraft gun-fire when flying at a height of 20,000 feet. "Our machines," says Bishop,<sup>4</sup> "were not only called upon to fly faster by far than the swiftest birds, but to do 'stunts' that no birds ever thought of. Whoever heard of a bird flying upside down?"

McCudden<sup>5</sup> tells some quaint stories of the early fighting. The aeroplanes with the first British Expeditionary Force went up loaded with hand-grenades, "as the intention then was to bring a hostile aeroplane down by dropping bombs on it." They were also provided with *fléchettes*, or small steel darts, which were thrown out upon the enemy in handfuls. The observer's seat in the early B.E. machines faced the tail, so that the observer could obtain a good view of the unobscured portion of the ground. McCudden relates how on 22nd August, 1914, at Maubeuge, a Taube appeared, and a Henri-Farman from No. 5 Squadron, Royal Flying Corps, took off to meet it in the air. "Half-an-hour after the German had departed this machine was still climbing steadily over the aerodrome at about 1,000 feet in a strenuous effort to catch the Boche."

The Farman machines were soon replaced by the Morane Parasol monoplane (a French design), and the

<sup>4</sup> *Winged Warfare.*

<sup>5</sup> *Five Years in the Royal Flying Corps.*

Avro. These types, with the French Nieuport, gave the Allies some temporary air-fighting superiority, and air combats became common. In September, 1915, the Germans brought out the first of the famous Fokkers, an imitation of the Morane, but with wings specially strengthened for the form of attack which the Fokkers used. The Fokker method was to swoop down from the upper air, like a hawk, upon a hostile machine; either the enemy, so tackled, was shot down in the stream of bullets from the forward gun of the Fokker, or, if the attack missed its object, the Fokker continued on in its dive earthward to avoid its opponent's counter-attack, and so sped away to safety. This was the method of attack standardised for German airmen by the renowned Boelcke and Immelmann, and slavishly copied by their immediate disciples. One of these was Richthofen, whose fame in the end eclipsed that of his masters. But undeniably the men who first revealed the possibilities of air fighting, and who created the high *esprit de corps* of the German air service, were Boelcke and Immelmann. Fighting airmen studied their tactics for inspiration, and indeed were compelled so to do. Boelcke's scheme of attack was not only masterly in itself, but demanded high quality in defence, and the requisite defence manoeuvre was given to the flying world by Immelmann, with his classic "Immelmann turn."

The 1915 Fokker, as McCudden notes, was slightly faster than the Morane. Both were fitted with machine-guns to fire through the propeller. The Morane, possessing no interrupter-gear to prevent bullets from hitting the propeller, had steel deflectors fitted to the propeller blades. These, however, reduced the efficiency of the propeller by almost 30 per cent. The Fokker, on the other hand, was fitted with a mechanical interrupter-gear. "About the middle of September Lieutenant Immelmann became famous because he appreciated the possibilities of this single-seater firing through the propeller, and also the advantages of a roving commission over localities where enemy machines were known to visit. The enemy was fortunate in finding two such pilots as Boelcke and Immelmann, who apparently were gifted with the necessary foresight and imagination to use these machines to their best advantage on a roving patrol, which gives the skilful and intelligent pilot all the opportunities he desires."

The British withheld their reply to the Fokker for a short time, in order to produce it as a surprise for the Somme offensive of July, 1916. The new British machines were for the time being highly successful. They were the F.E.2.b, which "swept the Germans off the front,"<sup>6</sup> and the D.H.2, a fighting scout which speedily became popular, and "was very nice and light."<sup>7</sup> It was in a fight against a F.E.2.b that Immelmann was shot down and killed by a young and newly-trained British pilot named McCubbin.<sup>8</sup>

The Fokker biplanes were further improved in answer to the D.H.2, and there appeared also the Albatros, one of the best designed of German fighting aeroplanes. These were the machines with which Richthofen's "circus" first made its name. It became noticeable in all the armies at this time that, with the rise of star airmen—"aces" the French termed them—types of machines steadily improved. Insistent demands made upon the designers and manufacturers by Richthofen and his comrades brought out better and faster types of Fokker and Albatros, and in 1918 came the small and swift Pfalz scout. So, too, Guynemer, in the French flying service, improved the Nieuport and inspired the creation of the wonderful Spad; and, in the British air force, McCudden,<sup>9</sup> Ball,<sup>10</sup> and Bishop<sup>11</sup>—three crack Royal Flying Corps pilots, who had each a long list of victories—demanded ever better and better machines and constant improvements in technical details. While the French were fashioning the Spad upon the improved Nieuport, the British produced the Martinsyde and the Bristol Fighter two-seater (both used by No. 1 Australian Squadron in Palestine), and, as fighting scouts, the Sopwith Camel (used by No. 4 Australian Squadron) and the S.E.5 (used by No. 2 Australian Squadron). Fokker triplanes and Sopwith triplanes appeared almost simultaneously in early 1918. The triplane was originally designed by the Sopwith Company in England, but the first two of these machines sent to France alighted, by some mischance,

<sup>6</sup> *The Royal Flying Corps in the War.*    <sup>7</sup> *Five Years in the Royal Flying Corps*

<sup>8</sup> Capt. G. R. McCubbin, D.S.O.; R.A.F. Student; of Johannesburg, S Africa, b. Cape Town, 18 Jan., 1898.

<sup>9</sup> Major J. T. B. McCudden, V.C., D.S.O., M.C., M.M.; R.A.F. (previously R.E.). Of Gillingham, Kent, Eng.; b. Gillingham, 28 March, 1895. Accidentally killed in France, 8 July, 1918.

<sup>10</sup> Capt. A. Ball, V.C., D.S.O., M.C.; No. 56 Squ., R.F.C. (previously Sherwood Foresters) Engineer; of Nottingham, Eng.; b. Lenton, Notts, 14 Aug., 1896. Killed in action, 8 May, 1917.

<sup>11</sup> Lieut.-Col. W. A. Bishop, V.C., D.S.O., M.C., D.F.C.; R.A.F. (previously Canadian Cavalry). B. Owen Sound, Ontario, 8 Feb., 1894.



behind the German lines, and the enemy thereby received a present of the new design, which was immediately turned to use. Again, one of the earliest constructed giant Handley-Page bombers, being flown across to France, was landed at a German aerodrome near Laon by a pilot who had lost his bearings. Whether or not this prize assisted the enemy in his plans for the big, twin-engined Gotha is not established.

After the coming of the Spad fighting scout, the Allied air forces never lost their supremacy over the Germans; and towards the end of the war, when, subsequently to the Pfalz, there appeared the Roland—known as the German Spad—the British replied with the Sopwith Snipe, whose performances at great heights amazed and dismayed the German airmen.

The present history covers the records of four Australian air squadrons. It should be remembered that these by no means included all the Australian airmen who served in the war. There were many Australian pilots in the Royal Air Force, just as there were New Zealanders, Canadians, and South Africans. The famous airman, Bishop, came from Canada. The percentage of oversea men among the British pilots has never yet been authoritatively stated, but it was remarkably high. It is said that in the earlier part of the war the number of airmen from all oversea dominions amounted to over fifty per cent. in both the Royal Naval Air Service and the Royal Flying Corps. The fortunes of the Australian airmen who served therein cannot be followed in a history of the purely Australian Flying Corps. But it may be mentioned that they included Lieutenants C. E. Kingsford-Smith,<sup>\*12</sup> H. J. L. Hinkler,<sup>13</sup> and E. W. Percival\*,<sup>14</sup> Colonels A. M. Longmore<sup>15</sup> and W. G. S. Mitchell,<sup>16</sup> Lieutenant-

<sup>12</sup> Air Commodore Sir Charles Kingsford-Smith, M.C., A.F.C.; No. 23 Sqn., R.F.C. (previously Aust. Signal Service). Electrical engineering apprentice, of Neutral Bay, Sydney; b. Hamilton, Brisbane, 9 Feb., 1897. Lost on 8 Nov., 1935, between Rangoon and Singapore, while flying from England to Australia.

<sup>13</sup> Sqn. Leader H. J. L. Hinkler, A.F.C., D.S.M.; No. 28 Sqn., R.A.F. (previously R.N.A.S.). Mechanic, of Bundaberg, Q'land; b. Bundaberg, 8 Dec., 1890. Accidentally killed, in Italy, 7 Jan., 1933.

<sup>14</sup> Lieut. E. W. Percival; R.A.F. (previously Aust. Light Horse). Farmer, of Richmond, N.S.W.; b. Albury, N.S.W., 23 Feb., 1897. (Later designer of "Percival" machines.)

<sup>15</sup> Air Marshal Sir Arthur Longmore, K.C.B., D.S.O., (previously R.N.) Commanded No. 1 Sqn., R.N.A.S., 1914; No. 1 Wing, 1915; served in H.M.S. *Tiger*, 1916, commanded No. 6 Wing, R.N.A.S., 1917/18, Adriatic Group, 1918, Commandant R.A.F. College, 1929/33, Commandant, Imperial Defence College, since 1936. Of Sydney; b. St. Leonard's, Sydney, 8 Oct., 1885.

<sup>16</sup> Air Marshal Sir W. G. S. Mitchell, K.C.B., C.B.E., D.S.O., M.C., A.F.C.; R.A.F. (previously Highland Light Infy.) Commanded No. 10 Sqn., 1916, No. 12 Wing, 1917/18, No. 1 Wing, India, 1920/23, Director of Training, Air Ministry, 1929/33; Commandant, R.A.F. College, 1933/34. Of Sydney; b. Sydney, 8 March, 1888.

\* Transferred from Australian Imperial Force.

Colonels R. G. Blomfield,<sup>17</sup> H. R. Busted,<sup>18</sup> E. L. Conran,<sup>19</sup> D. C. S. Evill,<sup>20</sup> and T. F. Rutledge,<sup>21</sup> Majors A. B. Adams,<sup>22</sup> B. C. Bell,<sup>23</sup> V. D. Bell,<sup>24</sup> N. Brearley,<sup>25</sup> H. V. Champion de Crespigny,<sup>26</sup> A. Coningham,<sup>27</sup> R. S. Dallas,<sup>28</sup> S. J. Goble,<sup>29</sup> W. J. Y. Guilfoyle,<sup>30</sup> R. W. Heath,<sup>31</sup> E. Henty,<sup>32</sup> T. Macleod,<sup>33</sup> E. R. Manning,<sup>34</sup> R. H. S. Mealing,<sup>35</sup> G. H. Raleigh,<sup>36</sup> C. S. Ross,<sup>37</sup> F. E. Sandford,<sup>38</sup> T. M. Scott,<sup>39</sup>

<sup>17</sup> Wing Commander R. G. Blomfield, D.S.O.; R.A.F. (formerly 5th Dragoon Guards). Commanded No 56 Sqn., 1917; No. 51 Wing, 1918; Director of Recruiting, Air Ministry, 1922. B Sydney, 7 Dec., 1890. Died 16 Mar., 1940.

<sup>18</sup> Group Capt. H. R. Busted, O.B.E., A.F.C., R.A.F. (previously R.N.A.S.). Chief Pilot, Bristol Aeroplane Coy., 1911/14. Of Melbourne, b North Carlton, Melbourne, 6 Nov., 1887.

<sup>19</sup> Wing Commander E. L. Conran, M.C. (previously 2nd County of London Yeomanry). Commanded No. 29 Sqn., R.F.C., 1916; No. 26 Wing, R.A.F., 1918. Of London; b. Brisbane, 22 Aug., 1887. Died, 6 Jan., 1924.

<sup>20</sup> Air Commodore D. C. S. Evill, D.S.C., A.F.C., p.s.a.; R.A.F. (previously R.N.A.S.). Of Broken Hill, N.S.W., b. Broken Hill, 8 Oct., 1892.

<sup>21</sup> See p. 35.

<sup>22</sup> Major A. B. Adams. Commanded No. 1 Sqn., R.A.F., 1917/18. Mechanical engineer, of Sydney, b London, 16 April, 1892.

<sup>23</sup> Major B. C. Bell, D.S.O., D.S.C.; R.A.F. (previously R.N.A.S.). Commanded No. 210 Sqn., 1917/18. Dairy farmer and grazer; of "Coochin Coochin," Boonah, Q'land, b "Coochin Coochin," 5 April, 1893.

<sup>24</sup> Major V. D. Bell, O.B.E. Commanded No. 80 Sqn., R.A.F., 1918/19. Dairy farmer and grazer; of "Coochin Coochin," Boonah, and "Yarmouth," Cunnamulla, Q'land, b "Coochin Coochin," 11 Dec., 1886. Died, 22 Jan., 1930.

<sup>25</sup> Major N. Brearley, D.S.O., M.C., A.F.C.; R.A.F. (previously King's Liverpool Regt.). Commanded School of Special Flying, England, 1918/19. Engineering student; of Perth, W. Aust.; b. Geelong, Vic., 22 Dec., 1890.

<sup>26</sup> Group Capt. H. V. Champion de Crespigny, M.C., D.F.C., R.A.F. (previously Aust. Infantry). Commanded No. 29 Sqn., 1917; No. 65 Sqn., 1918/19. Student, of Middle Brighton, Melbourne; b. Elsternwick, Melbourne, 8 April 1897.

<sup>27</sup> Group Capt. A. Coningham, D.S.O., M.C., D.F.C., A.F.C., R.A.F. (previously New Zealand Exped Force). University student; of Wellington, N.Z.; b. Brisbane, 19 Jan., 1895.

<sup>28</sup> Major R. S. Dallas, D.S.O., D.S.C., R.A.F. Commanded No. 1 Sqn., R.N.A.S., 1917/18; No. 40 Sqn., R.A.F., 1918. Assayer, of Mt. Morgan, Q'land, b. Mt. Stanley, Q'land, 29 July, 1892. Killed in action, 1 June, 1918.

<sup>29</sup> Air Vice-Marshal S. J. Goble, C.B.E., D.S.O., D.S.C., p.s.a., R.A.F. Commanded No. 5 Sqn., R.N.A.S., 1917/18, Air Member for Personnel, R.A.A.F., 1928/32, Acting Chief of Air Staff, 1933/34, 1939/40. Previously officer of Transportation Branch, Victorian Railways, of Melbourne. b Croydon, Vic., 21 Aug., 1891.

<sup>30</sup> See p. 43.

<sup>31</sup> Major R. W. Heath; R.A.F. Commanded No. 11 Sqn., 1918/19. Jeweller; of Malvern, Melbourne, b Malvern, 15th June, 1884. Died 26 Oct., 1936.

<sup>32</sup> Major E. Henty. Commanded No 61 Sqn., R.A.F., 1918, No. 152 Sqn., 1918. Pastoralist, of Melbourne.

<sup>33</sup> Major T. Macleod, O.B.E. Commanded No. 13 Sqn., R.F.C., 1916/17; No. 8 Aircraft Park, R.A.F., 1918. Barrister-at-law, of Toowong, Brisbane; b. Brisbane, 5 June, 1881.

<sup>34</sup> Group Capt. E. R. Manning, D.S.O., M.C.; R.A.F. (previously 15th Hussars) Medical student; of Sydney; b. North Sydney, 14 Feb., 1889.

<sup>35</sup> Major R. H. S. Mealing, R.A.F. Commanded No 46 Sqn., 1917/18, Chief Technical Superintendent, Civil Aviation Department, British Air Ministry, since 1920. Student, of Hobart, Tas.; b. Hobart, 9 Jan., 1893.

<sup>36</sup> Major G. H. Raleigh, R.F.C. (previously Essex Regt.). Commanded No. 4 Sqn., R.F.C., 1914/15; b. 30 June, 1878. Accidentally killed, at Dunkirk, 20 Jan., 1915.

<sup>37</sup> Major C. S. Ross. Commanded No 75 Sqn., R.A.F., 1917/18; No. 34 Sqn., 1918/19. Clerk; of Woollahra, Sydney; b Melbourne, 26 Sept., 1891.

<sup>38</sup> Major F. E. Sandford, A.F.C.; R.A.F. (previously 1st Bn. A.N.&M.E.F. New Guinea, 1914/15). Commanded No. 2 Sqn., R.N.A.S., 1918. Engineer and draughtsman; of Sydney and Lithgow, N.S.W.; b. Redfern, Sydney, 1890. Accidentally killed, 15th Dec., 1928.

<sup>39</sup> Major T. M. Scott, M.C. Commanded No. 103 Sqn., R.F.C., 1917; Nos 28 and 119 Sqn., R.A.F., 1918. Architect; of Edgecliff, Sydney, b. Sydney, 10 Oct., 1893.

• Transferred from Australian Imperial Force.

W. R. Snow,<sup>40</sup> N. G. Stewart-Dawson,<sup>41</sup> D. E. Stodart,<sup>42</sup> and A. H. O'Hara Wood,<sup>43</sup> and Captains R. M. Drummond,<sup>44</sup> C. E. Howell,<sup>45</sup> G. F. Hughes,<sup>46</sup> R. A. Little,<sup>47</sup> A. A. N. D. Pentland,<sup>48</sup> A. S. Shepherd,<sup>49</sup> and P. G. Taylor.<sup>50</sup> It is interesting to know that the famous Major L. G. Hawker,<sup>51</sup> though born and bred in England, always, according to his brother, "considered himself an Australian," coming as he did from a family of distinguished South Australians.<sup>52</sup>

<sup>40</sup> Major W. R. Snow, D.S.O., M.C.; R.A.F. Commanded No 2 Sqn., 1917/18. Metallurgist; of Adelaide; b. Adelaide, 9 June, 1893.

<sup>41</sup> Major N G Stewart-Dawson, D.S.O., D.S.C.; R A F. (previously R.N.A.S.). Of Sydney, b 11 Dec. 1890. Died Oct, 1940

<sup>42</sup> Sqn. Leader D. E. Stodart, D.S.O., D.F.C. Commanded No. 3 Sqn, R.F.C., 1916/17, R.F.C at Aden, 1917/18; No 114 Sqn, R.A.F., India, 1918/19, No. 84 Sqn., Iraq, 1924/27. Medical practitioner; of London; b. Gobur, Vic, 31 July 1882. Died, 26 Feb, 1938. (Finished third in London-Melbourne Centenary Air Race, 1935.)

<sup>43</sup> See p. 213.

<sup>44</sup> See p. 43.

<sup>45</sup> See p. 388.

<sup>46</sup> Capt. G. F. Hughes, M.C., A.F.C.; No. 62 Sqn., R.A.F. University student; of Sydney; b. Sydney, 12 July, 1895.

<sup>47</sup> Capt. R. A. Little, D.S.O., D.S.C; No. 203 Sqn. R.A.F. (previously No. 3, R.N.A.S.). Commercial traveller; of Melbourne; b. Windsor, Melbourne, 19 July, 1895. Killed in action, 27 May, 1918

<sup>48</sup> Capt. A. A. N. D. Pentland, M.C., D.F.C., Nos. 19 and 87 Sqn., R.A.F. (previously Aust Light Horse). Selector; of Terrigal, N.S.W.; b. Maitland, N.S.W., 5 Aug., 1894.

<sup>49</sup> Capt. A. S. Shepherd, D.S.O., M.C.; No. 29 Sqn., R.F.C. (previously Aust. Infantry). Civil engineer; of Petersham, Sydney; b. Nowra, N.S.W., 13 April, 1893. Killed in action, 20 July, 1917.

<sup>50</sup> Capt. P G Taylor, M.C.; Nos. 66, 94, and 88 Sqn., R.A.F. Student; of Sydney, b. Mosman, Sydney, 20 Oct., 1896.

<sup>51</sup> Major L G. Hawker, V.C., D.S.O., R.F.C. (previously Royal Engineers). Commanded No 24 Sqn., R.F.C., 1915-16. Officer of British Regular Army, of Home Croft, Longparish, Hampshire; b. Longparish, 31 Dec. 1890. Killed in action, 23 Nov. 1916.

<sup>52</sup> Among the other Australians who distinguished themselves in the British air services were: **Majors** C O. Fairbairn, A. C. Jowett, and H. T. Shaw; **Captains** A. D. W. Allen, G. W. D. Allen, J. M. Allport,\* D. C. Bauer, R. J. Bennett, A. Binnie, G. C. Body,\* R. J. Brownell,\* T. B. Bruce, R. E. Buckingham, W. Buckingham, V. W. Burgess,\* G. H. Bush,\* E. A. Coghlan, A. K. Cowper, J. B. Cussen, H. F. De La Rue, N. P. Dixon,\* E. G. E. Donaldson, B. L. Dowling,\* A. T. Drinkwater,\* H. J. Edwards, A. H. Flower,\* E. A. W. French, C. E. W. Foster,\* E. J. Garland, C. Gilmour, T. E. Gorman, H. A. Hamersley,\* T. McD. Hawker, H. R. Hawkins, C. C. Hayward, H. A. Henry, A. Hepburn, A. W. C. Holcombe, G. H. Hooper, T. E. B. Howe,\* B. James, C. W. Jamieson, E. C. Johnston,\* C. A. B. Joske, J. G. Kidd, A. Lang,\* H. J. Larkin,\* R. S. Larkin, E. E. Macartney, F. J. McConnell, N. H. MacNeil, E. H. Marsden, C. W. B. Martin,\* R. P. Minifie, G. N. Moore,\* J. R. Moore,\* S. K. Muir,\* A. H. Munday, G. O. Newton,\* A. E. Palfreyman,\* H. S. Preston, W. G. Preston,\* C. E. Rich, H. A. Rigby, C. R. Rischbieth, G. Ross-Soden, H. E. Rydon,\* S. J. Schooley,\* E. T. de L. Simpson, G. L. Sly, P. W. Snell, C. W. Snook, E. J. Stephens,\* C. R. J. Thompson,\* T. C. Trumble, F. L. von Stueglitz, H. P. Watson, G. A. Wells,\* E. P. Wilmot,\* H. V. Worrall, and A. C. Youdale\* and **Lieutenants** V. H. Adams, F. C. Andrews,\* N. C. Ashton,\* J. Baalman,\* L. J. Balderson,\* A. L. Benjamin, I. S. Black, A. K. Bon, W. D. Boslock,\* R. H. Boyden,\* S. L. J. Bramley,\* F. S. Briggs,\* W. H. C. Buntine,\* G. T. W. Burkett,\* E. H. Campbell,\* C. B. Campbell, H. F. C. Cannell,\* V. C. Chapman,\* E. C. Clark,\* M. J. Clark,\* H. S. Clemons, G. L. C. Clifton,\* A. C. Collier, F. S. Cotton, J. Cowan,\* G. B. Coward,\* S. R. F. Coward, E. D. Cowdery,\* C. Cox,\* S. B.

\* Transferred from Australian Imperial Force.

This history falls at once into three separate and distinct sections. The Australian Flying Corps served in three widely separated theatres of war. The honour of inaugurating the Australian military air service in war belongs to the little half-flight which took part in the first unfortunate expedition up the Tigris valley towards Baghdad in 1915, and which lost three of its four Australian officers engaged in that campaign, together with most of its ground personnel. That portion of the story closes with the besieging of General Townshend in Kut.

The subsequent formation, in early 1916, of the first complete Australian squadron, and its departure for Egypt, imparted a distinct fillip to military flying in Australia, and before the close of that year the impulse was felt in the Australian army in Egypt and in France. Light horsemen, weary of the desert sand and flies, and infantrymen in France, who looked eagerly for any relief from the awful Somme mud of the winter of 1916-17, alike turned their eyes aloft and perceived a chance of relief in the air service. They appraised its dangers as highly as did any airman—even exaggerated them, as some airmen thought; but danger they had to meet in any case, and they believed that the realm of the air inspired the needful enthusiasm no longer to be found in the climatic miseries of trenches or desert. Especially to many who had survived the first part of the war in the infantry ranks, the conditions of the flying corps made an

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Cragg, F C. Craze, C G Crane,\* E O Cudmore, J C. Currie, J. B. Cuthbert,\* R A Davey, C W Davies,\* O C. Dawson, D Deakin,\* H. H. Deering, V. L. Dowling, J V. Fairbairn C G. Fenton,\* J A FitzHerbert, G H Flère, L. C. Focken,\* J C Foden,\* G W Foreman,\* W. Fraser, H. E. Fletcher,\* P J Gardiner,\* N S Garrett, F W Gibbes, A R Gibson, J D Gilbert, T Gilbert, J. Gitsham,\* T. L. Gitsham,\* A P Godfrey,\* J Godlee,\* F N Grimwade, J Douglas Haig,\* F H Hall,\* H T Hammond,\* J. M Hancock,\* J Hay, E. J Head,\* B Heath,\* A. E. Hempel,\* A B Hill,\* C W Hill, R. U. Hoddinott,\* R. A Holthouse,\* V C Holyman, L C Hornabrook,\* H G M Horne, A H J Howlett,\* F Jardine, F M Johnson,\* R F Jones,\* E C. Jowett, G. P Kay, W R Keast,\* F E Keblewhite, A S Keep, A A. Kennedy,\* R. M King, R. H. Kirkaldy,\* C R Lamrock,\* E. H. Lascelles,\* R. S Lasker,\* L. Latham, A J. L. Lee,\* A T W Lindsay,\* G A. Lingham, H D Luxton,\* D H. Macintyre, G. P McIntyre, H S Macneil, A T. O Mann, S. A. Marden, H M. Matheson,\* V. Mercer-Smith,\* C J. Moor, P H Moody,\* A. W. Morey, G. W. Morey, E. A. Newton,\* J. H C. Nixon,\* P E Palmer,\* C A Parker,\* V S. Parker, A L Paxton, K W. Payne,\* W. Perkins,\* R S Phelan,\* S Pickles, W W Pike,\* E W Powell,\* I W M. Probert, V Rendle, C R Richards,\* C M Ross,\* H. Ross,\* B F. Rowe,\* R L C Royle,\* W G Salmon,\* G C. Scarr, E. P. M. Shaw, H N S Skeffington,\* F D Slee,\* Keith M Smith R de L Stedman,\* J H Summers, H T Thompson, F A Trotter,\* H H. Turk, K K Turner,\* W W Vick,\* A. Wald,\* H M D Walker,\* J Webster, P. F West,\* J V. Wischer, C C Worboys,\* and H J. Youngman

\* Transferred from Australian Imperial Force

irresistible appeal. There, if a man could outlive the chance fate of the day's flying duty, he might look forward to a comfortable and dry bed at night undisturbed by shell-fire. The trenches wore out the hearts of many men; in course of time the infantryman came to count a wound as truly a blessing; and it is easy to imagine the state of mind of the average soldier—British, French, or German—during that seemingly endless stationary warfare, when each day's escape from the visitation of death or wounds meant only continuance of the strain of waiting for the next. There were times when even death seemed better than protracted existence under shell-fire in the trench mud. To volunteer for the flying corps was the happy dream of many an infantryman, as he lay on damp straw in a verminous dug-out, where the sunshine never penetrated.

The first complete Australian squadron, entitled No. 67 Squadron, R.F.C., was committed to service with the British expeditionary force in Egypt, the eastern desert, and Palestine.<sup>53</sup> No. 2 Squadron (originally No. 68, R.F.C.) and No. 4 Squadron (originally No. 71, R.F.C.) were sent from Australia, the former in October, 1916, and the latter in January, 1917, direct to England, where they performed their training in R.F.C. dépôts. No. 3 Squadron (originally No. 2, and No. 69, R.F.C.) was formed in September, 1916, in Egypt. Its personnel were obtained from No. 1 Squadron and from the light horse in that theatre. That squadron also was trained in England. Nos. 2, 3, and 4 Squadrons all served in France. The active service period of their history began at about the end of 1917, and from that time till the close of the war they fought on the Western Front in the region between Soissons and the North Sea.

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*Note*—An authoritative and exhaustive account of types of British machines produced during the war, also of leading French and German machines, will be found in Appendix No. 1. It has been written by Captain Andrew Lang, an Australian test-pilot well known on aerodromes in England during the war. The types therein described are referred to by their war-titles in the text of this volume, without further explanation in the course of the narrative

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<sup>53</sup> See Appendix No. 2.

