

Jean Batten Memorial Lecture, RAeS New Zealand Division, Bay of Plenty Branch

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New Zealand and the air war 1914-18

Brian Lockstone MRAeS, MILT ©

Thank you for the opportunity to provide this the second Jean Batten Memorial Lecture – and thank you for attending this evening.

Tonight, I want to set aside, if I may, the solemn commemorative elements and consider New Zealand and the part it played in the air war of 1914 to 1918.

I dedicate this address to the memory of Lieutenant William Wallace Allison Burn. He was born in Melbourne Australia on the 17th July 1891, the youngest son of Mrs. Isabel Matilda Burn of 281 Hereford Street, Christchurch. On 30th July 1915, he became the first New Zealand airman to be killed on active service, in grim circumstances in Iraq. More of him shortly New Zealand's contribution in the air was necessarily limited.

We had no air force, the Army had studied aviation and its implications and an aircraft had arrived in the Dominion. But there were never any specific New Zealand units. Those who served were either in the Royal Flying Corps or the Royal Naval Air Service. But this does not diminish their brave contributions. Many reached high rank. Many returned to establish civil and military aviation in New Zealand. More remained in the post war Royal Air Force and achieve great prominence and everlasting distinction.

Tonight, I will talk about them – but first try to put the Great War into some perspective and examine the development of the RFC and RNAS. Everything about the First World War defies imagination. The sheer scale of death and destruction, the collapse of three empires – Russian, German and Austro-Hungarian – to the disintegration of states and violent revolution. The Imperial War Museum puts total Commonwealth deaths at 1.1 million while the French lost 1.3 million killed. Allied deaths totalled 6.4 million. The Germans had 2 million killed and the Central Powers 4.3 million dead.

Alongside these figures, the New Zealand effort might appear modest. But, for a country with barely more than a million people, we played our part to the full. I am sure most of us here can count family members who served and some who did not return. New Zealand supplied 91,941 volunteers and 32,270 conscripted under the Military Service Act. By the Armistice 188,397 had served with the Expeditionary Force and at home in New Zealand. This was drawn from a population of 1,095,994.

Assessing losses is not easy as many figures quoted today suffer from mission creep. They tend to be elastic and not all observe the Roll of Honour cut-off date of 1923. The most compelling estimate is by Dr Ian McGibbon, one of our best military historians. He puts the total casualties for the First World War at 59,483 of whom 18,166 were killed or died. At Gallipoli 7,473 became casualties of whom 2721 were killed or died. For the Western Front, the picture is terrible. Total casualties came to 47,902 of whom 12,483 were killed or died from wounds or illness. The remainder became casualties in Britain, Egypt and elsewhere.

The Army was always highly regarded for its meticulous book-keeping, so the General Officer Commanding could report to Parliament that by 31 March 1919, total expenditure on the war was sixty-two million, six hundred and thirty-six thousand and seven hundred and twenty pounds, six shillings and eleven pence (£62,636,720, 6 shillings and 11 pence).

To set the scene: Germany invaded Belgium on 3 August 1914 on its way to France following the Schiefflen Plan. Britain declared war the next day, based on its 1839 treaty with Belgium, guaranteeing its defence. In New Zealand the Governor, Lord Liverpool, read the declaration of war from the steps of Parliament Buildings in Wellington and New Zealand joined willingly.

By 1914, the German army was pre-eminent and highly professional. It had studied closely the American civil war, crushed France in the 1870-72 Franco-Prussian war and occupied Alsace. More recently its observers followed the Russian-Japanese war of 1904/05 where, with efficient use of the machine gun, concentrated artillery fire and mobile infantry, Japan destroyed the opposition. The British Army's most recent experience had been in India and the South African war fighting a guerrilla campaign against a highly mobile enemy. Unlike the Germans, the British Army – apart from some notable exceptions – had not absorbed lessons from the recent wars.

The British Expeditionary Force went to France in August 1914 with about 160,000 men, lightly armed and each battalion of around 700 men had only two machine guns. The core was professional and the majority were reservists. They had light and medium artillery with a maximum range of around 1700 metres and tactics were very much those of the 19th century. By the end of the year it had been almost decimated.

Opposing them were some two million German soldiers, well-armed with some 12,000 machine guns and artillery ranging from light to heavy – which could reach several kilometres behind the front lines, well into so-called safe reserve areas.

New Zealand substantially reorganised and reshaped the army following the 1909 Defence Act. Compulsory military training began in 1910. In 1911 a British officer, Major-General Alexander Godley, a veteran of the South African war, was appointed Commandant of the New Zealand Military Forces, bringing with him 14 officers to form the New Zealand Staff Corps.

The 1909 Act replaced the old volunteer system and provided for the creation of a special force for overseas service. In 1912 Godley asked Government approval to raise such a force, to provide him with sufficient time to assemble his team. He forecast Germany would be the enemy and New Zealand might have three alternative wartime tasks: capture of German possessions in the Pacific, deployment to Egypt in the event of Turkey entering a war on Germany's side or to Europe alongside British and Commonwealth forces. Europe would be the principal theatre. In the event, his judgment proved right on all three.

On the outbreak of war, the regular consisted of the New Zealand Staff Corps of 100 and the Permanent Staff (warrant officers and NCOs) 211. Overall strength was 66,738 including 29,447 Territorials and 26,466 senior cadets. Formal officer training was introduced with cadets entering the RMC Duntroon and staff officers posted for British staff colleges in the UK and Quetta, in what was then India, for advanced training. Some of the latter saw action on the North-West frontier with British army units.

The role of the aeroplane was rapidly reshaping Army thinking. It studied closely the evolution of military aviation from its introduction in the American civil war and the Franco-Prussian war of 1870 where kites and balloons played a significant role in the crushing German defeat of the French army. Britain was late into military aviation, behind the French and Germans. An Imperial Conference was held in London in 1911 to mark the coronation of King George V and Prime Minister Sir Joseph Ward led the New Zealand delegation. Defence was one of the many matters deliberated upon and it was decided that military aviation should be developed by the Empire. Australia became the first and formed the Australian Flying Corps the following year

A sub-committee of the Parliamentary Committee of Imperial Defence under Lord Haldane published a momentous recommending the formation of a flying corps consisting of a naval wing, a military wing, a central flying school and an aircraft factory.

These recommendations were accepted and on 13 April 1912 King George V signed the royal warrant establishing the Royal Flying Corps. The Air Battalion of the Royal Engineers became the Military Wing of the Royal Flying Corps on 13 May. Three officers were appointed to create the new service: Brigadier-General David Henderson, leader, Major Frederick Sykes commanded the Military Wing and Commander Charles Rumney Samson commanded the Naval Wing. The Flying Corps' initial allowed strength was 133 officers, and by the end of the year it had 12 balloons and 36 aeroplanes.

The Royal Navy required control over its aircraft, so the wing became the Royal Naval Air Service on 1 July 1914. The two services retained the central flying school. By this time the Army had liaison officers posted in London who duly reported developments back home.

It was because of this rapid evolution the General Staff in New Zealand took a cautious wait-and-see approach. In his annual report to Parliament for the June 1913 year, the General Officer C commanding New Zealand Defence Forces, Major-General Sir Alexander Godley, said the provision of arms, equipment, clothing, and materiel of all kinds has been quadrupled; wireless, aviation, and many other things which before had not to be thought of now demand our attention.

A year later he reported the Bleriot monoplane Britannia, given by an imperial committee to New Zealand, had been flown at Auckland. An officer of the New Zealand Staff Corps has undergone an aviation course at the Royal Flying School, and would shortly return to New Zealand. The improvements to aircraft are so rapid and incessant that an aeroplane is scarcely built before it is obsolete as a first-class instrument for war. Aeroplanes are expensive items.

The Inspector-General recommends a waiting policy. It was in this context that Burn was sent to Britain. He was an old boy of the Christchurch Boys' High school, and was well known in Christchurch as a rugby player and oarsman. He joined the New Zealand Army immediately on leaving school, receiving a commission and an appointment into the New Zealand Staff Corps.

With another officer, he was selected for advanced training in Britain and on the 9th December 1913, he was admitted to the Hall Flying School in Britain. He qualified for his Aviators Certificate No. 746 at the Central Flying School at Upavon, in a Maurice Farman Biplane and was attached to the Royal Aircraft Factory at Farnborough before returning to New Zealand in mid-1914. On 27th February 1915, he was gazetted to the Royal Flying Corps and departed on 1st April for India having

been seconded for service with the Indian Flying Corps. This appointment was short-lived as the corps came under the control of the Royal Flying Corps on 1st May.

A small unit of the Australian Flying Corps, the so-called Half Flight, arrived at Basra at the confluence of the Tigris & Euphrates Rivers in May of 1915 with four officer pilots and 41 other ranks with mechanised transport and mule transport. It was allocated two Maurice Farman Shorthorn aircraft, a single Longhorn and shortly two Caudron G.3. In August 1915, the Half Flight became 'A' Flight of No 30 Squadron, R.F.C

Burn joined the squadron on 25th May as one of five pilots. It commenced operations on 31st with a reconnaissance flight over Turkish positions near Kurna. Burn flew several sorties as an observer. The Caudrons proved unreliable and prone to frequent engine failure in the hot desert conditions.

On 30th July 1915 flying as observer, with pilot Australian Lieutenant George Pinnock Merz in a Caudron biplane when they were forced to land with engine failure. They landed near a camp of hostile Arabs who attacked, and after a running battle killed them both. They were remembered on the Commonwealth War Graves Commission memorial at Basra – if it survives. Burns received two Mention in Despatches citations for distinguished service.

In one of those dreadful coincidences, his brother Trooper Robert Bruce Burn of the Canterbury Mounted Rifles was killed at Gallipoli during a night advance on 6/7 August 1915, seven days later. Research by the Aviation Historical Society of New Zealand indicates that some 700 New Zealanders served in the air war, over the Western Front and the Middle East including Gallipoli and today's Iraq during the fighting with the Ottoman Empire.

Burn became the first of some 70 New Zealanders to lose their lives in the air war – a casualty rate of 10 percent of those who served. A caution is necessary in that unlike the New Zealand Expeditionary Force – or the armed services in the Second World War – there is no accurate, agreed figure. More of the New Zealand experience shortly.

One hundred years on, what do we make of the First World War in the air? There are several important elements. The first is the aeroplane introduced three-dimensional warfare where with the balloon and kit, it provided the means to integrate artillery, armour and infantry to dominate the battlefield. This became its principal role.

These required the development of new firepower techniques so the army could obtain near real-time intelligence, accurate spotting for the artillery which in turn meant greater security for the attacking infantry.

While the fighter aces dominate popular imagery, the hardest war was fought by the pilots spotting for the guns, bombing, taking reconnaissance photographs, and in the final 18 months, ground attack. The fighter squadrons' essential role was to protect them.

The bitter consequences of the 1914 to 1916 battles proved that without massive artillery firepower sufficient to smash defences, cut the barbed wire, keep the enemy's head down during the initial assault and break up gathering counter attacks behind the enemy's forward lines, the infantry was utterly doomed. Hence Passchendaele.

Historian John Terraine reckons artillery cooperation was probably the Royal Flying Corps' greatest contribution to the whole war. The British historian Air Vice Marshal Peter Dye says what appeared was a radical change in warfare unprecedented in scale, intensity with the widespread use of technology.

This leads us to the next element: the evolution of joined-up tactics and the need for the army and the airmen to understand each other's challenges and demands. There is a common view that the British soldiers were lions led by donkeys. This might have been true in the early months but by mid-war the effective commanders were those who understood the new structure of warfare.

The instigator of that phrase, Lieutenant Harold MacMillan, was serving with the British 41st Division on the right flank of the New Zealand Division when they assaulted enemy lines on 15th September 1916 during the 2nd Battle of the Somme, when the army joined battle on the Western Front from Egypt and Gallipoli.

We are approaching the zenith of our First World War commemorations. Next month will be one hundred years ago since the New Zealand Division launched its attack at Passchendaele in terrible weather as part of Lieutenant General Sir Alexander Godley's 2nd Anzac Corps on the 12th of October 1917 when 845 New Zealand soldiers lost their lives in what became our heaviest loss of life in one day in the war.

The catastrophe can be attributed to several causes: dreadful intelligence appreciations at the highest levels, the failure of Godley to comprehend how the ghastly water-logged and muddy line of attack would half-drown the attacking infantry; how after days of heavy rain, the artillery was unable to reach firing positions close behind the front line to cover the assault – and how the low cloud had prevented vital aerial reconnaissance.

All of which affirms the point that without integrated air/artillery/infantry firepower, assaults were bound to fail. The more I learn about the Royal Flying Corps and the Royal Naval Air Service, the more impressed I am. In four short years, they became the world's biggest and most effective air force, evolving rapidly from simple observation to effective close air support and in the final months, strategic bombing.

In that time aircraft and engine design and performance changed radically. Alongside the squadrons a superb maintenance and repair organisation was developed with an integrated, fast-moving logistics. Backing this was a vast training machine generating pilots and observers.

By the end of the war a concentrated flying training programme had been developed by the legendary Major Robert Raymond Smith Barry. He learned to fly in August 1912 under the rudimentary training of the time. At the outbreak of the war he went to France with 5 Squadron and by 1916 commanded the remarkable 60 Squadron flying Nieuport and later SE5A fighters.

It produced 26 aces including two Victoria Cross winners, Albert Ball and Billy Bishop, and a certain New Zealander, Major Keith Logan Caldwell. Smith Barry became increasingly concerned at the lamentable training standards in the United Kingdom as evidenced by the quality of pilots coming into the line. He developed a new theory of flying instruction and in December 1916 was given command of 1 (Reserve) Squadron at Gosport and the opportunity to put his ideas into practice. There he produced what became known as the Gosport system which is used albeit in modified

form, today.

This involved classroom and practical instruction on the Avro 504 trainer where the pupil sat in the front seat with a full set of controls. The instructor – carefully selected for temperament and ability – sat behind. A standard repertoire was prepared and instructors worked from an agreed script or patter. They spoke to the pupil through a rubber tube connected to earpieces – the famous Gosport tube which you can still see today in the Tiger Moth.

The syllabus combined classroom training and dual flight instruction. Pupils were deliberately exposed to potentially dangerous situations in a controlled environment where they could learn recovery techniques. The standard of pilots rapidly increased as the system became standardised across the RFC and RNAS. By the end of the war, the RAF training machine was generating 1,200 pilots and 3,000 airmen each month.

The first four squadrons of the Royal Flying Corps accompanied the British Expeditionary Force to France in August 1914. They began with reconnaissance then moved to artillery spotting, as wireless technology advanced, later still air fighting and bombing. At the outbreak of war, the RFC and RNAS took 63 aeroplanes, 105 officers and 755 other ranks to war. Four years later it had around 2600 aircraft and 300,000 officers and other ranks.

The air services were unlike others. It is estimated that by 1918, of the 55,000 uniformed personnel serving in France, only eight percent (8%) were combatants – that is, pilots, observers and gunners. By comparison the army on the western front was adjudged to have 65 percent (65%) combatants.

This enormous “tail” was involved in a complex logistical system providing new and replacement aircraft, engines and equipment and the essential supply lines which ran from a series of air depots. Air Vice-Marshal Peter Dye points out that by October 1918, the western front required a monthly supply of 900 aircraft, 1000 tons of stores and 1.5 million gallons of fuel along with ammunition and bombs to sustain a front line of 1500 aircraft with another 1500 in reserve, 50,000 personnel and 7000 vehicles.

This required dedicated shipping, rail and road transport resources. The “just in time” principle emerged. New machines were delivered to aircraft parks from where they would join squadrons on demand. Spares were assembled at separate parks. Each night, spares would be ordered by squadron engineering officers, by landline, and delivered as soon as possible.

Salvage teams were set up. Virtually every damaged or crashed aircraft inside Allied lines were recovered to depots where they were broken down into usable parts – principally the engines. Some brave airmen ventured into no-man’s land to retrieve downed aircraft although this was not popular with the infantry as they inevitably attracted enemy artillery attention.

The RFC and RNAS had to build an airframe and engine repair and maintenance programme from scratch. Skilled manpower proved as major problem given the demands of the war economy, competition from the army and navy and the factories at home producing weapons, munitions, aircraft and the vast array of ancillary equipment required. Fleets of motor vehicles were built. Each squadron had on average eight and some were mobile workshops equipped to provide first line servicing. As the war progressed the RFC, became increasingly mobile, operating in the main from fields. A target was set of 48 hours from which a squadron was ordered to move and its being up and

running with all engineering, supplies, fuel and munitions and catering up and running at the new location.

For the first time in modern warfare, statistical analysis was developed, using mathematical skills borrowed from the universities and technical colleges, to enable commanders to predict likely losses and replacement requirements.

All this came under the control of one of the war's largely forgotten geniuses: Brigadier General Robert Brook Popham, Deputy Adjutant and Quartermaster General. The leading author on the First World War in the air, the late Jack Bruce, wrote, "until the end he oversaw with extraordinary zeal and efficiency, virtually everything the military wing did and flew. It is doubtful whether any other British officer knew more about the aerial war than he did."

At home in the United Kingdom, the scale of manufacturing and employment was enormous. Aside from the traditional armament manufacturers and shipbuilders, the aircraft industry was in its infancy on a cottage scaler. By the last months of the war, production peaked at 4000 aircraft and 3500 aero engines a month.

The rate of increase can be judged by looking at the flying hour recorded. These come from the Official War in the Air histories – well worth looking out for. In January 1916, 2,910 hours were recorded over the Western Front with an average of 14 hours per aircraft. A year later, January 1917, this had risen to 10,378 hours and 15 hours per aircraft. By January 1918, monthly hours reached 21,262 and 19 hours per aircraft. In these statistics, you can see the impact of major ground actions on the RFC and RNAS. For example, in May 1917 at the height of the Ypres campaign, hourly totals reached 39,409 and 45 hours per aircraft.

The highest tallies came in May and June 1918 as the Allies, including the New Zealand Division, repelled the final German thrust towards the Channel, when the squadrons flew 63,325 hours and 62,357 hours respectively and the average flying hours per aircraft hit 45. Of equal importance was the vast improvement in aircraft production, from 245 in 1914 to 6149 in 1916 and 32,018 by 1918. The RFC also made extensive use of French aircraft, the Nieuport and SPAD series, with 938 delivered in 1916 and 1411 in 1917 – the peak.

The role of the RFC and RNAS evolved rapidly. At the start of the war four RFC aircraft squadrons flew to France. They were first used for aerial spotting but this became effective only in 1915 with the production of lighter radios and the introduction of the squared system shared by the artillery and the airborne observer who would communicate fall of shot instructions by Morse.

Artillery observation of fire behind the enemy front line at targets that could not be seen by ground observers became a major role. The observer had to see the fall of shot as well as advise corrections to the ground.

German forces were equally proficient and protection of the observation aircraft became a principal preoccupation of the new fighter squadrons. By 1915 each army corps in the British

Expeditionary Force was assigned a RFC squadron solely for artillery observation and reconnaissance duties.

With the Zone Call procedure maps were 'squared' and a target location could be reported from the air using alphanumeric characters transmitted in Morse code. Once ranging started the observer reported the position of the ranging round using the clock code, the battery adjusted their firing data and fired again, and the process was repeated until the pilot observed an on-target or close round. The battery commander then decided how much to fire at the target

The RFC soon adapted their aircraft to drop bombs. In March 1915 a Royal Aircraft Factory B.E.2c, with four 20 lb Cooper bombs attacked Courtrai railway station. On 26th April 1915, Lieutenant William Barnard Rhodes-Moorhouse, of 2 Squadron RFC, attacked a rail junction at Courtrai in Belgium with a 100 lb bomb. Flying at low level, he was wounded by machine gun fire but dropped his bomb and flew back to his squadron where he died the next day.

For his bravery, he was awarded the Victoria Cross, the first for an airman in the war and the Maori or part-Maori to be so awarded because as you will know, his mother was a New Zealander. His Victoria Cross is exhibited at the Imperial War Museum in London. Rhodes Moorehouse had a son Willie who joined the Royal Air Force in 1938. He was shot down and killed while flying Hurricanes with 601 Squadron during the Battle of Britain. They lie side by side in a family plot in Dorset.

In 1917 the RFA and RNAS began systematic strategic bombing. In October, No 41 Wing was formed to attack strategic targets in Germany. Consisting of No 55 Squadron with Airco DH.4), No 100 flying the Royal Aircraft Factory F.E.2b and No 16 (Naval) Squadron the mighty Handley Page O/100 the wing was based at Ochey commanded by Lt Colonel Cyril Newall. Its first attack was on Saarbrücken on 17 October with 11 DH-4s and a week later nine Handley Page O/100s carried out a night attack against factories in Saarbrücken, while 16 F.E.2bs bombed railways nearby. Four aircraft failed to return.

The wing was expanded with the later addition of Nos 99 and 104 Squadrons, both flying the DH-4 into the Independent Air Force. Under Henderson and later Colonel Hugh Trenchard, the RFC and RNAS began ground attack operations aimed at disrupting enemy forces at or near the front line and during offensives. Alongside the fitted machine guns, the fighters carried bomb racks holding 20 lb Cooper bombs. Sorties were carried out at very low altitude and were often highly effective, but at considerable cost in terms of pilots and machines with a loss rate of ground attack aircraft approaching 30 percent.

By the end of the Somme offensive in November 1916, (remembering the NZ Division joined in September) the RFC had lost 800 aircraft and 252 aircrew killed since July 1916, with 292 tons of bombs dropped and 19,000 Reconnaissance photographs were taken.

Over 1916 and 17, the fortunes of the RFC and RNAS waned in the face of superior German equipment and tactics, reversed only during the European summer when the new SE5-A, Sopwith Camel and Bristol Fighter entered front line service.

As an example, during the April 1917 Battle of Arras, the RFC used 25 squadrons, totalling 365 aircraft, a third of which were fighters. The British lost 245 aircraft with 211 aircrew killed or missing & 108 as prisoners of war. The German Air Services lost just 66 aircraft from all causes.

The RNAS fought a hard war at sea. It used flying boats and airships. In fact, the founder of the Royal New Zealand Air Force, Group Captain the Hon Sir Ralph Cochrane, served as an airship commander

in the Great War, flying anti-submarine and convoy protection missions. At the end of the war there were 5,182 pilots in service (2 percent of the RAF). In comparison, the casualties from the RFC/RNAS/RAF for 1914–18 totalled 9,378 killed or missing, with 7,245 wounded. Some 900,000 flying hours on operations were logged, and 6,942 tons of bombs dropped. The RFC claimed some 7,054 German aircraft and balloons either destroyed, sent 'down out of control' or 'driven down'.

Now we turn to the New Zealand story. Some 700 New Zealanders served in the air services in the war ranging from the Western Front to Mesopotamia, from the North Sea to Gallipoli. A total of 76 were killed or whom 65 died in the air, either killed on active service or in accidents.

In any First World War research, we confront the problem of defining a New Zealander. Born here, identified with – and so on. This wasn't really settled until 1948 with the passage of New Zealand citizenship legislation. So, we take a liberal view which brings me to the next airman with New Zealand associations to be killed after Burn.

In 1912, a young Frenchman, Claude Couturier made his home in New Zealand. He was born at Le Creusot in 1888 and his parents were Monsieur and Madame Couturier of Clichy, near Paris. He was clearly artistic, creative and engaged in the fine arts in a sculptor's studio. He became fascinated by aviation and moved in 1906 to the United States where he set up a decorating business in Seattle.

In 1911, he learned to fly with the Wright Brothers at Dayton, Ohio, and was issued Aero Club of America Certificate No 70 on 25 October 1911. Evidently a capable airman, he was offered a position by the Wrights but became interested in aviation possibilities in New Zealand, arriving in Auckland in October 1912 where he explained that he was interested in setting up a flying school in either New Zealand or Australia. "He is a stalwart man...and appears to possess great nerve," commented a journalist.

Eventually he joined a New Zealand inventor James Walsh, from Otago, who had been in the United States and purchased a rebuilt Blériot monoplane that had been damaged in a fatal crash. In the process, its original Gnome rotary engine had been replaced by a 50 horse power Roberts engine which unfortunately proved to be unreliable. Walsh, an American associate and the Blériot arrived in Wellington, New Zealand, on 30 March 1912. Couturier finally purchased the machine, which appeared at many country fairs and shows, where the engine would be run up with much noise and excitement. Eventually he settled in Christchurch and set up a base on farmland at Rolleston, south of the city.

He worked on improvements to the Blériot, which made it easier to fly, but the major problem was the engine and he stated that he was barely able to climb more than five metres during his many "hops. At the outbreak of war, he returned to France to enrol in the Aviation Militaire. The

Blériot remained in Christchurch and was sold in 1917 by auction to a prominent local automobile dealer Dexter & Crozier Limited who in turn sold it to the Canterbury (NZ) Aviation Company which had been established at Sockburn, ironically not far from Rolleston, to train New Zealand pilots for the war. The veteran Blériot, with its unreliable engine, was used as a "penguin", a non-flyer on which trainees could learn how to handle an aircraft. It disappeared in the early 1920s.

He enlisted as a pilot under training at Étample on 27 April 1915 and was posted to Escadrille (Squadron) MF2, an observation squadron which "spotted" the fall of French artillery fire, on 20 May 1915.

On 1 September, barely four months later, Sergent pilot Couturier and his observer Lieutenant Moisan were airborne, reporting artillery fire when they were attacked by two enemy machines. Within minutes both had received at least four serious wounds. Couturier tried to reach the French lines but died while they were 300 metres above the trenches. The aircraft crashed near Parois, 19 kilometres west of Verdun and they are buried at Nécropole Nationale de Vauquois, Meuse.

New Zealand airmen came from three sources: those who joined directly in the United Kingdom, those given basic flying training by the two private schools, the New Zealand Flying School at Auckland and the Canterbury (NZ) Aviation Company at Christchurch. Others transferred into the Royal Flying Corps or Royal Naval Air Service from the New Zealand Expeditionary Force.

The NZ Flying School, established by Leo and Vivian Walsh at Mission Bay on the Waitemata Harbour in October 1915, trained 83 pilots by the war's end. The Canterbury Aviation Company was founded by Sir Henry Wigram in 1916 and began training in August 1917. The Auckland school used seaplanes and flying boats – Curtiss, Boeing & Westerveldt and their own designs while Canterbury, on the old Plumtree Racecourse at Sockburn, had Caudrons – and Couturier's Bleriot. The Canterbury school trained 150 pilots but many arrived in the United Kingdom too late to see service.

The NZ pilots held Royal Aero Club certificates but as we have seen, by the time they arrived, the RFC had introduced increasingly advanced training. Most undertook officer training at an OUT before starting formal studies which led to more flying training then allocation to a training squadron before being assigned to a squadron.

Not all were pilots. Bill Angus was a mechanic and enlisted in the NZEF. At the time of Gallipoli, he was transferred to No 3 Naval Air Wing at Imbros in Greece where the Farmans and Caudrons were dropping bombs on Turkish forces.

We know more about the fighter pilots such as Keith Caldwell, Keith Park, Ronald Bannerman and Clive Collett but more served in the equally demanding reconnaissance and observations squadrons.

Let's start with the fighter pilots. Our top-scorers were:

- Captain Keith L Caldwell, Auckland – 25 plus victories (the top-scoring New Zealander)
- Major (later Air Chief Marshal) Keith Park, Thames – 20 victories
- Major Ronald B Bannerman, Invercargill – 17 victories
- Major Clive Collett became first ace with 11 victories.

Then there was the remarkable Nelsonian, Alfred Reginald Bellingham Kingsford. At the outbreak of war, he volunteered, enlisting in the Medical Corps in the 6th Reinforcements of the 2nd New Zealand Division, New Zealand Expeditionary Force. Reg was on board the ill-fated Marquette troopship when it was torpedoed en route to establish a field hospital at Imbros in Greece to

support the Gallipoli campaign. He arrived in France in time for Christmas 1916 and served on the Western Front.

Around this time the call went out for volunteers to join the Royal Flying Corps. Following flight training he joined a Home Defence Squadron flying FE2B countering Zeppelin attacks. In January 1918, he joined 100 Squadron. This was formed on 23 February 1917 as the Royal Flying Corps' first squadron formed specifically as a night bombing unit and comprised elements of the Home Defence Wing.

The squadron transferred in March 1917 to France where it flew the FE2B on night bombing raids. On 4 March 1918 it became nucleus of the Independent Air Force under Major General Hugh Trenchard. In August, it converted to Handley Page O/400 heavy bomber and launched strategic bombing raids on German industry. An aircraft from the unit was the last in war-time to return to base (on the night before the Armistice) from a raid.

Kingsford survived at least two forced landings, one in no-man's land. His service flying ended in August 1918 and his log book showed he dropped 151 bombs weighing a total of 3.8 tons, and spent 142.5 hours flying in France with 100 Squadron.

He returned to Nelson and a photographic business. In the 1930s, he wrote a remarkable book *Night Raiders of the Air* which is still very readable and in print. He had twin sons and in a sad repeat of Rhodes Moorehouse in the Great War, son Peter was killed shot down while flying a Wellington bomber with 40 Squadron in a raid over Tobruk in 1943. Reginald died in 1987.

There were several more: de Bathe Brandon who brought down Zeppelins while our first ace Major Clive Collett had to misfortune to die when his captured Albatros broke up over the Forth in Scotland while he was performing aerobatics.

The last New Zealand airman to die on active service was 2nd Lieutenant James Duncan Sloss. He was the only graduate of the Canterbury Aviation Company to be killed on operations. He was with 108 Squadron flying DH9 bombers. On 4 November, a week before the Armistice, he was on a bombing raid in Belgium when he was attacked by German Fokker DVII, then anti-aircraft fire. He forced landed but died of his wounds. His observer survived.

At the end of the war most New Zealand airmen came home. Several went on to new careers:

- Bert Mercer set up Air Travel (NZ) Ltd;
- Len Isitt, who had transferred from the Canterbury Regiment in 1916, returned to the army and became one of the first officers in the New Zealand Permanent Air Force. Eventually he became Chief of Air Staff during the Second World War and post-war chairman of National Airways Corporation.
- Keith Park remained in the Royal Air Force and everlasting fame in the Battle of Britain, the Battle for Malta and as air commander in South East Asia preparing for an invasion of Japan.
- Arthur Coningham too remained in the RAF and became the Allies' leading exponent of tactical air support for the Army, first as commander of the Desert Air Force in North Africa then, in time for the invasion in 1944, commander of the 2nd Allied Air Force.
- John Seabrook set up a prominent motoring business.
- Bill Angus had his own company.

- Ron Bannerman returned to his legal practice but returned to the colours in 1939 and as an air commodore became Air Member for Supply in the wartime air force.

Finally the government established an Air Board, as part of the Army and thus began organised military aviation on a limited scale leading to the formation of the RNZAF in 1937. The New Zealanders who served in the air war were a gallant and brave bunch.

The aviation world here owes them much.

Thank you,

## Vote of Thanks

1. **Thank you** Brian for your outstanding lecture

2. **Your lecture impressed me in the following ways, it:**

- Provided an overview of a world at war, a century ago and its impact on NZ
- Detailed the staggering statics of death and destruction and the numerous nations involved
- Outlined the burgeoning aviation industry and a new supply chain to feed the front
- Re-acquainted us with well-known early NZ aviation personalities in NZ aviation training schools, as well as the new French connection, unknown to most of us
- Reminded us of the tragedies of war, including the terrible loss of one of those so naturally gifted like Lt William Burn.
  - Some sources have suggested Burn was destined to lead the NZ air wing upon his return to NZ. Sadly his tragic demise meant this role fell to others
- Impressed me with the extent of industrial and human commitment put into supposed war winning enterprises and technologies and the readiness to sacrifice all
- Aviation was one such technology which changed the nature of war and which was accelerated into a totally new form
  - It delivered a viable new form of transportation we still enjoy a hundred years on

3. **Conclusion**

On behalf of the Branch and those present tonight, I would like to thank you for your lecture and for paying your own way to Tauranga to deliver it

– I would now like to ask you to join me in recognising Brian’s lecture in the traditional way.