

Wings



AUTUMN 2014
Volume 66 No 1



100 years *of* aviation

THE FIRST AUSTRALIAN MILITARY AVIATION FLIGHTS



GENESIS OF AUSTRALIAN AVIATION • RAAF AIR POWER (CONT'D)
FROM F-86 TO F-111 • TIGER MOTH AIR RACE • SMART WEAPONS



Wings

AUTUMN 14

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COVER



Following the assembly of two aircraft at the Central Flying School, Point Cook, VIC, two airmen contemplated taking to the air - on the quiet - with no press around. On an overcast Sunday morning, March 1, 1914, the Bristol Biplane, was run up and under control of Lieutenant Harrison, 'floated' into the air on the first tentative military flight in Australia. Lieutenant Petre then joined Harrison later in the day for several more flights, reaching a height of 1000 feet; all landed without accident. Petre twice went aloft in the flyable Deperdussin on the same day. The first military flights in Australia were recorded, low key events at the time. Compare these with the flights achievable in the Super Hornet, the latest fast jet in the RAAF.

Cover: Phil Crowther Photos: 6SQN Super Hornets, Replica Bristol Boxkite and painting of CAPT Reg Francis by Norman Clifford - courtesy of RAAF and Norman Clifford

FEATURES

The Genesis of Australian Aviation	12
First Military Pilots' Course	15
Early Aviation Prophecies	20
Australian Flying Corps WWI	22
Exploring the Nuclear Option	25
Desert Air Force	28
Airlines Growth - 2014 and beyond	29
RAAF Air Power - Continued	32
From F-86 to F-111 Aircraft	36
WWII Veteran's Medals Return	41
The Tiger Moth Air Race	43
Smart Weapons	44
Volunteer Air Observers Corps	46
Boeing's Commercial Aircraft	49

REGULARS

National Council Briefs	10
Australian Air League	53
Inwards Mail	56
Veterans Information	61
Books in Brief	67

CLOSING DATES FOR MATERIAL

Autumn Edition - 14 January
Winter Edition - 14 April
Spring Edition - 14 July
Summer Edition - 14 October

President's Message

Five Seconds to Midnight

The Autumn 2014 edition of *Wings* features the Centenary of Military Aviation and its editor, Lance Halvorson, has worked hard to bring its publication forward in time for the Centenary of Military Show at Point Cook on the 1st and 2nd of March 2014. As mentioned previously, the Air Show will provide a fitting public testament to the five score years of tumultuous and historic military aviation events that have played a large part in shaping Australia's present and future outlook.

This edition also presages the 2014 RAAF Air Power Conference to be held in Canberra over the period 12-13 March 2014. The RAAF's biennial Air Power Conference is now established as the foremost event of its type in the region with many overseas Air Force Chiefs and senior military and industry representative expected to attend. This Conference, with its theme of airpower across the centenary of military aviation, will complement the Air Show as one of the lead-off events in the Centenary of Anzac year.

Against this background, I thought I might canvass my experiences in coming into contact with a couple of distinguished exponents of the intellectual basis underpinning the development and application of air power – doctrine. It is sobering to think that military aviation is only a 100 years old. Armed conflict on land and at sea has developed over millennia but for air power its genesis was at five seconds to midnight if we regard the history of mankind as extending over a day. Air Power Doctrine has had mixed reviews over the century, especially from non-airmen, and has not been without its false prophets. Nonetheless, when derived and articulated expertly and rigorously by those with vision, doctrine serves to underpin military success or warn of military disaster.

One such visionary was Pete Quesada. I was fortunate to meet and spend some time with him after I had approached him on behalf of the faculty and students at US Air War College to be our Dining-In speaker. His record is quite remarkable; from being involved in the 24 hour flight of the 'Question Mark' flight in the 1920s which demonstrated, albeit in a rudimentary way using fuel cans, the doctrinal potential of air to air refuelling to deliver a significant increase in military effect through unparalleled levels of reach and endurance; through introducing FM communications between air and armour with Montgomery in the Middle East; to losing the fight against Le May for the USAF to retain an appropriate level of tactical air power capability.

The Middle East initiative was even the more remarkable for the fact that Quesada purchased the FM radios, which had been commercially available in the US before the War, from his own family finances in the first instance and then 'borrowed' some C-47s to fly them to the Middle East. However, it was the clash with Le May and others in the late 1940s about strategic and tactical air power that he was the most passionate about. He had warned about the need for balance but in the end resigned in protest. Within two years the Korean War had erupted and he was proved correct. It came as bit of a shock to my fellow students at the College when Quesada spoke highly of the first tactical air power

allied unit to go into action on the Peninsula – 77 Squadron, Royal Australian Air Force flying Mustangs!

If Pete Quesada was somewhat of a buccaneer, then the other visionary I had the good fortune to meet and spend some time with was very different in nature. Indeed he was a man of palpable humility. Leonard Cheshire is well known for his Pathfinder record, perhaps not so well known for his presence on the aircraft that dropped the atomic bomb on Nagasaki, and deserves the highest of praise for his humanitarian work with his wife in forming and running the Ryder-Cheshire Foundation. In an interview he gave with Mark Laity of the BBC shortly before his death, Cheshire set out the case for the Bomber Offensive against Germany. His clear message was doctrine and strategy had to be seen for its full complexity.

World War II was total war. Concerns about the doctrinal and ethical shortcomings of 'carpet bombing' and the use of incendiaries had to be tempered with the imperative to take the fight up to the Axis Powers in Europe. There was no other offensive capability available that could be brought to bear especially in the early years of the War and for the Allied leaders, first Churchill, then Stalin and finally Roosevelt, it was a doctrine they initially embraced only to later distance themselves from it as victory approached. Significantly though, they never discarded it.

Quesada and Cheshire were the type of airmen who understood the need for air power development and application doctrine to have an intellectual rock solid foundation. The Royal Australian Air Force and the Australian Defence Force as a whole is well positioned in this regard. One hundred years of military aviation has seen the Royal Australian Air Force institutionalise the informed and reasoned shaping of its air power doctrine and strategy. There is hardly a more important aspect of its business to get right.

Brent Espeland
National President
February 2014



Editor's Page

Wings is the official publication of the RAAF Association of Australia. Although it was 'managed' by NSW Division for some years, *Wings* is a national publication, historically since the 1950s, and endorsed by the National Council in 1989. It is not the authority on RAAF history; the RAAF Historical Section in Canberra and the RAAF Museum are the repositories of Air Force history.

The current and future *Wings* issues provide a balance on history (Korea, Vietnam, Malaysia, between wars and campaigns since, as well as WWII), Air Force Today, (the future), Defence Topics, Briefing Room, Inwards Mail, and most importantly, Veterans Information. Content from World War II activities makes up about 20-30%. While World War II produced many stories, there are also many stories that cover the 73 years since. However, more are needed; veterans, from Vietnam onwards, could provide more articles— but the declining membership reduces the availability of likely source material.

A number of comments have arisen from readers over the last two or three years which need clarification. There have been a few 'brickbats', but more 'bouquets' on the standard of the publication since I became Editor. Other than a few diehards, many prefer the new look that was introduced. Many think that *Wings* has staff, research facilities and records storage. However, the Editor has no staff to carry out re-writes on submitted articles, nor are there research or records facilities. Any that is done, is on a private/personal basis. *Wings* design, layout and printing are carried out professionally by Flight Publishing Pty Ltd. The cover is designed by a graphics specialist and the Editor.

The Editor acquires articles from various sources and from Association members and on occasions, originates/writes articles for *Wings*. Copyright is a major difficulty and approval to re-produce articles is time consuming and can be costly. For articles provided by members, which are few in number, authors should validate his/her facts. When and if published, the articles are attributed to the author. However, the Editor makes the decision/s on content and to publish.

The *Wings* Editor is a volunteer job and content is included in accordance with the *Wings* Working Guidelines on content type, established in late 2007, and published in *Wings* on two occasions since.

In addition, there are technical requirements for articles and for photos provided. They also have been published in *Wings*, but only some submissions meet the requirements requested. These requirements do not preclude members submitting photos to the Editor for scanning if they find the scanning process challenging. Unless very high quality colour, photo copies are not acceptable. One of the guidelines is that only State/Division content that has 'national import' would be included in each issue. *Wings* is not a Division or Branch Newsletter; most State Divisions have a Newsletter and Branches often do.

In summary, *Wings* is a quality publication produced by a small professional group to provide National membership with a publication based on the generic topics and balance stated above. It does not try to compete with commercial

publications but aims to update members on the Air Force Today, information for veterans and to provide a modicum of historical articles, from World War II, Korea, Malaysia and Vietnam. However, articles from the Middle East from the 1990s and later campaigns are few and attempts are under-way to address this scarcity.

I endorse the concept of *Wings* and I am an ardent supporter of its publication in its current configuration.

Lance J Halvorson
Vice President Communications and Media
Editor *Wings*
8 February 2014

"Correction to Vale article in *Wings* Spring 2013 issue, Volume 65 No 3: Page 55, Heading should read: Air Commodore Gordon Henry Steege DSO DFC MID."

**A corollary of big data and its management is:
information is not knowledge**

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The Genesis of Australian Aviation

To the early settlers of Australia, the continent was a harsh and uninviting place – hot, dry and dusty. As the young country grew, it became apparent that with its vast outback and great distances between major cities, Australia was particularly suited to the development of aviation both for civil transportation and military purposes. In the latter part of the nineteenth century, a number of pioneers in the field emerged in Australia each having varying measures of success..

The pioneer of Australian aviation is today considered to be Lawrence Hargrave, but he had a predecessor, William Bland, who came up with an idea for an airship in 1851. The slightly eccentric Dr Bland had invented what he called an 'Atmotic Ship', a 90 foot long balloon from which was suspended a gondola intended to carry passengers and freight. The 'Atmotic Ship' was powered by propellers driven by a steam engine and was also fitted with sails. Bland had in mind military as well as civilian uses. With no takers in Australia, Bland sent his designs off to Queen Victoria and Emperor Napoleon III of France who promptly shelved them despite Bland making a scale model for display at the Crystal Palace, London in 1852 and for the Paris Exhibition of 1855. Had his idea literally taken off, it might have been the Allies in World War I who invented the Zeppelin rather than the Germans.

Seven years after Bland's unsuccessful attempt to interest anyone in his design, William Dean, an experienced English balloonist travelled across Melbourne in a 40 foot diameter balloon becoming the first man to 'fly' in Australia. Several more early balloon flights are recorded between 1859 and 1880, but despite the hero status gained by the 'ballonatics', there was no military interest in these novelties and no apparent commercial use.

New South Welsh militiamen first saw manned aerial balloons used for military observation in the Sudan campaign of 1885 and again in the Boer War some 15 years later. But still little thought was given for further military use of such contraptions in Australia and this despite the British, French, German and American Armies all investing in balloons for reconnaissance, observation and artillery spotting. It would be gifted amateurs and aviation enthusiasts who would develop the first Australian flying machines and pioneer aviation in this country, and that would finally lead to military investment.

Perhaps the greatest Australian innovator in the field of early Australian aviation was Lawrence Hargrave and he is remembered as such. In November 1894, Hargrave overcame derision from the Australia media and scientific circles and used four home-made tethered boxkites to lift himself 16 feet off the ground. Hargrave had been working on his designs for nearly 20 years and today is credited along with Otto Lilienthal of Germany of discovering the effects of cambered wings and thick leading edges both essential criteria for sound wing design. Hargrave's problem was that he was living in Australia. Had he been in his native England, he may well have received the financial backing he needed to further his experiments, but this was not to be. Hargrave's design was used by Brazilian aviator, Alberto

Santos-Dumont, to make the first powered flight in Europe in a Hargrave boxkite aircraft and both Farman and Voisin later developed their aircraft using data from Hargrave's original aeronautical experiments.

Despite Hargrave's inventions, it would be Orville and Wilbur Wright, bicycle makers of Dayton Ohio, who on 17 December 1903 would claim to be the first to achieve sustained powered flight. Within a few years, designs began to spring up across the world as aviation fever took over, but it was not until 1909 that things picked up apace. It would be a Hargrave protégé, George Taylor who would first rise to the challenge of fostering aviation ideas in Australia. Taylor, together with Hargrave as chairman, formed *The Aerial League of Australia* after news reports and cine film of the Wright Brother now famous flight were read and seen by the public. The stated aim of the *League* was to promote 'air-mindedness' in Australia and to encourage the development of aviation in this country, particularly for military use.

In 1909, Taylor got wind that a Wright biplane was headed to Australia together with a pilot to claim the record of the first powered flight here. In an effort to speed things up, Taylor successfully lobbied the Government into awarding a prize to the inventor of an Australian flying machine suitable for military purposes. The *League* wanted the Government to take aviation seriously and hoped that an Australian inventor could quickly rise to the challenge. Taylor, a nationalist, also did not want a foreigner to claim the record.

It was Taylor who was first to become airborne. On 5 December 1909, he flew a glider of his own design on a number of controlled flights around Narrabeen becoming the first man to fly in Australia. A total of 29 flights were made and Taylor's wife Florence became the first woman to fly. Taylor, egoist, publicist or showman or all three had a trophy made up with the intent of having it presented to himself to recognise the occasion, but the more conservative members of the *League* decided otherwise and the trophy went to another early aviator in 1910.

Four days later, as reported by *Flight*, Englishman Colin Defries, took off in a Wright Flyer named *The Stella* from Victoria Park Racecourse in Sydney after the first attempt just a few days prior was called off because of strong wind. *Flight* stated he had 'accomplished the first aerial flight ever made on an aeroplane in Australia', after Defries' father sent them the story. *Flight* did not retract the story when it was later claimed Defries' flights on 9 and 18 December 1909 were merely a series of 'hops', and were not sustained. Other would be aviators attempting short flights followed, but none were history making. American Ralph Banks claimed a short flight of 300 yards in the Wright aircraft at Diggers Rest, Victoria on 1 March 1910 before crashing. C.W. 'Bill' Wittber tested a Blériot aircraft for Fred Custance on 13 March and allegedly flew it on another short hop. Next, Custance flew a sustained flight of 5 minutes 25 seconds at Bolivar north of Adelaide on the 17th of March. He covered a distance of three miles and Custance claimed the first controlled powered flight, but the flight was not recognised due lack of independent witnesses. To this day controversy still surrounds who exactly 'flew' the first 'flight'.

It fell to renowned escapologist, Harry Houdini, to be remembered for what is now recognised as the first sustained powered flight in Australia. Houdini had arrived in Melbourne on 6 February 1910 bringing with him a Voisin biplane (with HOUDINI emblazoned across the tail) and a mechanic, Franz Brassac. Houdini paid £154 customs import duty for the aircraft (a considerable sum in its day), so there must have been something in it for him. After assembly and tests, Houdini made three flights on 18 March 1910 at Diggers Rest V in Victoria in front of nine witnesses and claimed the history making event. Upon landing, Houdini presented each with a printed witness statement for each to sign – nothing like being prepared! There on the day were several pioneers of aviation: the three Harry's: Kauper, Hawker and Busteed; and Eric Harrison who would shortly become the father of Australian military aviation. Meanwhile, *The Aerial League* awarded Houdini the trophy procured earlier by Taylor. Houdini made several other flights in Australia before sailing for Vancouver in May, never to fly again. As for the Voisin, it was returned to France and on-sold to an English buyer.

News of the Government £5000 prize had spread and entries were received from across the world. The prize conditions stipulated that the materials 'as far as possible [had] to be obtained within Australia'. The closing date for entries was 30 June 1910. In the event, no prize was awarded as no machine fulfilled the criteria for the award. However, one local inventor, John Duigan (together with his younger brother Reg) should have applied. Duigan had designed an aircraft and eventually flew it at Mia Mia, Victoria, without even seeing an aeroplane or experiencing a flying lesson. Unfortunately, Duigan misinterpreted the rules for the Government prize and did not enter. The rules required the aircraft to 'poise' above the ground and Duigan couldn't work out what 'poising' meant. If he had, he most certainly would have taken out the prize and the accolades associated with it.

Duigan had previously and unsuccessfully constructed and tested a glider, but he wanted to try powered flight. After having an engine built in a Melbourne mechanic's workshop to his own design, Duigan went on to build a full scale aeroplane. On 16 July 1910, he took off for what was recorded as a 24 foot hop. Further modifications led to a longer flight in October of 196 yards distance at a height of 12 feet.

By the start of the second decade of the 1900s, Australia was well on its way to developing its own path to the skies. Undoubtedly the need for some form of military aviation grew as political tension mounted in Europe. Australia was still a British Colony (by now called a Dominion), so any war involving Britain would certainly involve Australia. Serendipitously, in 1911, the Minister for Defence, Senator George Pearce, attended the Imperial Conference in London where amongst other items on the agenda was possible military uses of the aeroplane. The Senator returned home convinced Australia required an aviation corps of some sort to both protect her own shores and to support the Imperial divisions. Pearce thus obtained the necessary political and financial support for the creation of a flying school to be modelled on the Central Flying School established in England under the newly formed Royal Flying Corps. With the necessity for an aviation force established, the Government advertised for 'two competent Mechanists (*sic*) and Aviators' with the Government 'accepting no liability for accidents'. Though conditions of service were discouraging, two young

aspiring pilots, Henry Petre (pronounced Peter and known as Peter the Monk) an English barrister, and Eric Harrison, a Victorian from Castlemaine, accepted appointments as Lieutenants for instructional duties at the new flying school. They were joined by four mechanics who would maintain the aircraft and establish the technical trades.

Petre, who had borrowed £250 to build his own aircraft, borrowed another £25, after he crashed his aircraft on its maiden flight. He eventually learned to fly and then took a job as a pilot with the Deperdussin Aeroplane Company at Brooklands, England, claiming many years later that his experience flying Deperdussin monoplanes clinched for him the aviation job in Australia.

Before Petre arrived from England in January 1913, the Government approved the formation of the Central Flying School. The first job for the newly appointed Lieutenant Petre was to inspect sites for a military aviation base for the new flying school. After visiting several sites including a strip of land adjacent to Duntroon, Petre finally selected Point Cooke as it was easily accessible by sea and close to Army Headquarters in Melbourne. The name Point Cooke reverted to Point Cook sometime thereafter. A tract of wind-swept grazing land covered in thistles was thus purchased for the birth place of the Australian Flying Corps. The Government finally announced the formation of the Central Flying School and Flying Corps on 7 March 1913, but it would be another year before any flying was done.

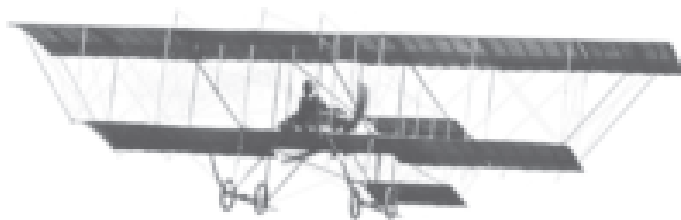


The BE 2a (CFS2) aircraft, one of two procured for training at CFS. Photo: Norman Clifford



The Deperdussin aircraft in the workshop. Photo Norman Clifford

With the site chosen for the new air arm, the next step was to acquire flying machines. Two B.E.2a biplanes, two Deperdussin monoplanes, and one Bristol Boxkite were purchased, and these formed the aviation 'fleet' at the flying school.



The Bristol Biplane (Boxkite) Photo Norman Clifford



The Bristol Boxkite being prepared for flight, 1914.
Photo: Norman Clifford.

Tents were erected as hangars on the plains of the Point Cook aerodrome but a change of Government, delays in aircraft delivery and lack of funding all conspired to slow progress. There wasn't room for all five aircraft so two were taken to the Central Flying School flying field - a Bristol Biplane (the Boxkite) and the flyable Deperdussin - and assembled. The two airmen contemplated taking to the air - on the quiet - with no press around.

Finally, on an overcast Sunday morning, March 1, 1914, the Bristol Biplane was run up and under control of Lieut Harrison, floated into the air on the first tentative military flight in Australia. *The Argus* reported the event two days later stating that Harrison was first airborne in the Boxkite followed by he and Petre together. After several more flights, they reached a height of 1000 feet and each returned to earth without accident. Petre twice went aloft in the flyable Deperdussin on the same day.

However, on 9 March, the first crash occurred. The aircraft was the 'flyable' Deperdussin flown by Petre. He was flying low when he suddenly found the telephone line to the Chirnside house at Point Cooke, strung across the flying ground. Unable to turn fast enough, the little monoplane sideslipped, hit the ground heavily and was seriously damaged. Petre emerged unscathed from crash and enquiry.

The flyable Deperdussin was gone but not quite forgotten. A year later, Quartermaster-General Clancey finally caught up with its demise, when in March 15, 1915, a year later, when he asked the Commandant 3rd Military District for an enquiry

initiated by the Minister for Defence, who asked that a board be assembled to report on the badly damaged Deperdussin Monoplane on charge to the CFS. By now, the aircraft had probably been burnt, except for the engine.

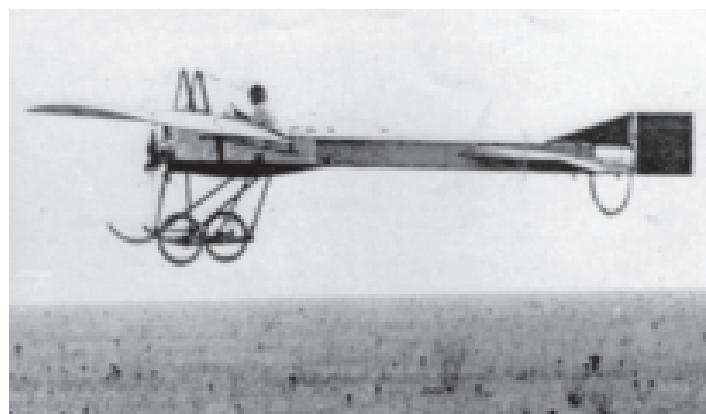
The QMG wrote to Petre and asked him to 'please assemble witnesses to be put at the disposal of the Board'. Petre, who was flying the monoplane at the time, wrote back proposing that:

Capt White and Lt Merz act as board members and that all staff members of the CFS required will give evidence.

There is nothing more recorded but the enquiry probably happened soon after just to officially wrap-up and expunge the monoplane from the books.

A2023. A338/3/165. Board of Enquiry on Damage to Deperdussin Monoplane.

When revisiting Australia in 1961, Petre confided, in RAAF News, "I don't think anybody was sorry to see it go as it was not a very good aeroplane".



The Deperdussin on the flight on which it crashed
Photo: Norman Clifford

As well as military aviation, civilian aviation was also slow to develop, with costs and dangers being the prime detractors. In June 1912, the first Australian air race was organised on a 15½ mile course between Sydney and Parramatta with a £250 prize. Billy Hart flew his locally-built Boxkite, beating his American rival, A.B. 'Wizard' Stone in a Blériot. Hart was the first person to qualify for his pilot's licence in Australia and had established a private flying school - Hart's Aviation School - at Penrith. Later in January 1914, Harry Hawker and mechanic Harry Kauper imported a Sopwith Tabloid aircraft and charged and outrageous £20 for passenger flights using Caulfield and Randwick racecourses as aerodromes. It stirred the public interest, with crowds estimated at over 25,000 flocking to see the aerial spectacle. It was also the era of the first air mail - a two-day effort from Melbourne and Sydney. Between 16 and 18 July 1914, Frenchman Maurice Guillaux carried 1785 postcards in a Blériot, a feat to be re-enacted this July.

By Mark Lax

Sources

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Parnell, Neville and Broughton, Trevor, *Flypast: A Record of Aviation in Australia*, AGPS, Canberra, 1988.

Sutherland, Gary, 'First Flights in Australia', *The '14-'18 Journal*, Parts 1 & 2, 2009 and 2010.

First Course of Aviation

After a lot of general flying by Petre and Major Reynolds, the General Staff had sufficient confidence in men and machines to set about arranging the first course of instruction, and were pushing to commence in five months hence - on August 1, 1914, a date chosen because the first section of the workshop would be available 'to accommodate aeroplanes'.

Completion of the workshop was late and the first course started on Tuesday August 18, by which time war had broken out in Europe. In the period leading up to outbreak of war, a reasonable amount of familiarisation flying occurred.

'There is Little Scope for the Employment of Aeroplanes'

On Tuesday, August 4, 1914, the conflict that began as World War I was known as the most dreadful in world history to that time.

South, down the road from Laverton Station, the Army's little Central Flying School, was actually on the brink of dispensing flying instruction when the stunning news came through that Great Britain and therefore Australia was at war in Europe. Anticipation abounded as the school was sternly, and hurriedly, told to get started - they did - on August 18. During August 1914, Lieut-Colonel John Legge, now back in Australia, wrote a memorandum to Senator George Pearce, Minister for Defence, expressing his usual sober, forthright opinion.

As a professional executive officer Legge summed the situation up well:

In the Defence of Australia under existing conditions, there is little scope for the employment of aeroplanes. To attain all that is necessary in the near future, the general lines on which we are going is sufficient, more especially as this branch of the service is very costly when a properly constructed fighting unit is to be created. Money is needed in other branches.

If any exception is contemplated it should first of all made in the provision of more aeroplanes and motor transport and equipment, so that a small but efficient unit may be created. Additional permanent staff is not required.

Source: Autobiography of Air Marshal Sir Richard Williams, KBE, CB, DSO, 'These Are Facts', page 125

Legge's reference to 'a properly constructed fighting unit' is a mirror of 'Military Order 570 of 1912: Flying School and Corps', which called for a flight of four aeroplanes, 43 men and various vehicles ranging from lorries to motor cycles.

By 'fighting unit', he meant a reconnaissance unit to support fighting ground forces by reconnoitering enemy positions and gathering information. Legge was realistic in his appraisal that a flying school had to be sufficient for the time being, not that there was much choice, and with the shadow of war looming, a Corps unit was out of the question, money would be required for other military branches.

For the time it was steady as she goes; 'the general lines on which we are going is sufficient' and the addition of 'a properly constructed Corps' would be costly. Turning junior officers into aviators was one thing, but the thinking at the time was that they were merely chauffeurs for officer observers considered the lynch pin of effective military

reconnaissance? It would take months to successfully train a junior officer to fly, but typically, war was inclined to disrupt the best laid plans. However, as there were no plans to disrupt, it was flying instruction first and what to do with course graduates, second.

Although the General Staff had decided to go ahead with the training of pilots before the outbreak of war in Europe on 4 August 1914, the war did provide some urgency in training military aviators. The 1st Course of Aviation began on 18 August 1914 with four trainee pilots: Captain Thomas White and Lieutenants George Merz, David Manwell, and Richard Williams.



The School Photograph, 1st Course of Aviators.
Back row (L-R) LT George Merz, pupil; CAPT Henry Petre, CFI and OIC; LT Eric Harrison, Assist instructor; CAPT Thomas White, pupil.
Sitting: LT Richard Williams, pupil; LT David Manwell, pupil.
Photo: RAAF Museum, via Norman Clifford



A BE2a (CFS2) approaching for landing
Photo: RAAF Museum, via Norman Clifford

FIRST FOUR INSTRUCTIONAL FLIGHTS 18 AND 19 AUGUST 1914.

Set out as they are in the
'Records of Flights' (CFS log book)

Date	Machine	Passenger	Time in the Air		Course	Height	Distance	Weather	Remarks
TUES			Hours	Minutes					
<u>Aug 18</u>									
<u>1914</u>									
5.30 pm	3	-	-	10	Aerodrome	200 ft	6 miles	Fine	Pilot Lt Harrison
5.45	3	Sgt Fonteneaux	4		"	150 ft	2 miles	No wind	" "
5.50	3	Lt Merz	10		"	100 ft	3 miles	" "	" "
6.00	3	Lt Manwell	4		"	100 ft	2 miles	" "	" "

Time ran out for Williams on the 18th. His turn came up early the following morning

WED.

Aug 19

6.50 am	3	Lt Williams	8		"	150 ft	4 miles	" "	" "
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As logged in the Records of Flights book, the last Brevet (Wings) flights were conducted on November 18, 1914.

Lt Williams was first to qualify, Capt White second, Lt Merz third and Lt David Manwell last.

The aeroplane employed was Bristol Biplane CFS No 3.

Flights, instructional and solo ranged from 4 to 21 minutes, although one by Merz was 30 minutes. Over the following week, all four graduates, were given familiarising flights on BE2A, CFS No 1, and the log shows the course complete on November 27, 1914.

The second course commenced on March 4 1915.

The first four instructional flights on 18 & 19 August 1914 CFS Log Book

The course was completed fourteen weeks later in November. Manwell was the first student to fly solo - for five minutes in the Boxkite on 2 September. When Manwell landed, Williams took over the Boxkite for his first solo flight. Subsequently, Williams was the first to qualify for his 'wings' - on 12 November. Williams is today remembered as the father of the RAAF.



Instructor and pupils in front of the BE2A biplane. Front (L-R) LT Manwell, UNK, LT Harrison, CAPT Petre (probably).

Photo: RAAF Museum, via Norman Clifford



The crash of the Bristol Boxkite. Details not known.

Photo: RAAF Museum, via Norman Clifford



LT Williams in the BE2C

Photo: RAAF Museum via Norman Clifford

As aircraft were so prone to damage, flying would only commence if there was nothing more than a slight breeze. This was judged by a handkerchief held at arm's length. In those early days, crashes were frequent, luckily with no fatalities – a remarkable achievement for a flying school. All students graduated successfully, both earning and paying for their winged brevets.

While Australia pledged to help Britain by providing aviators for the air war, the Government resisted British attempts to absorb the Australian Flying Corps into the Royal Flying Corps as happened with the Canadians and New Zealanders. The Australian Flying Corps preferred instead to operate their own squadrons, retaining their Australian identity and eventually provided four fighting squadrons and four training squadrons to help with the war effort.

Mark Lax and Norman Clifford

Early Forecasts of the Future of Aviation

Forecasts of many technical 'experts' of the day. How could they be so wrong when, in a number of prophecies, the Wright Brothers had already flown their heavier-than-air machine?

The Positive Thinkers

I am well convinced that 'Aerial Navigation' will form a most prominent feature in the progress of civilisation. — *Sir George Cayley, 1804*

I may be expediting the attainment of an object that will in time be found of great importance to mankind; so much so, that a new era in society will commence from the moment that aerial navigation is familiarly realised. . . . I feel perfectly confident, however, that this noble art will soon be brought home to man's convenience, and that we shall be able to transport ourselves and our families, and their goods and chattels, more securely by air than by water, and with a velocity of from 20 to 100 miles per hour. — *Sir George Cayley, 1809*

Of all inventions of which it is possible to conceive in the future, there is none which so captivates the imagination as that of a flying machine. The power of rising up into the air and rushing in any direction desired at the rate of a mile or more in a minute is a power for which mankind would be willing to pay very liberally. What a luxurious mode of locomotion! To sweep along smoothly, gracefully, and swiftly over the treetops, changing course at pleasure, and alighting at will. How perfectly it would eclipse all other means of travel by land and sea! This magnificent problem, so alluring to the imagination and of the highest practical convenience and value, has been left heretofore to the dreams of a few visionaries and the feeble efforts of a few clumsy inventors. We, ourselves, have thought that, in the present state of human knowledge, it contained no promise of success. But, considering the greatness of the prize and the trifling character of the endeavors which have been put forth to obtain it, would it not indeed be well, as our correspondents suggest, to make a new and combined effort to realize it, under all the light and power of modern science and mechanism? . . .

The simplest, however, of all conceivable flying machines would be a cylinder blowing out gas in the rear and driving itself along on the principle of the rocket. . . .

We might add several other hints to inventors who desire to enter on this enticing field, but we will conclude with only one more. The newly discovered metal aluminium, from its extraordinary combination of lightness and strength, is the proper material for flying machines.

— *Scientific American, 8 September, 1860*

The flying machine will not be in the same shape or all in the style of the numerous kinds of cycles, but the study to produce a light, swift machine is likely to lead to an evolution in which wings play a conspicuous part.

— *'Binghamton Republican,' 4 July 1896.*

For some years I have been afflicted with the belief that flight is possible to man. The disease has increased in severity and I feel it will soon cost me an increased amount of money, if not my life. — *Wilbur Wright, beginning of his first letter to Octave Chanute, 13 May 1900.*

I am intending to start out in a few days for a trip to the coast of North Carolina . . . for the purpose of making some experiments with a flying machine. It is my belief that flight is possible, and while I am taking up the investigation for pleasure rather than profit, I think there is a slight possibility of achieving fame and fortune from it. — *Wilbur Wright, 1900.*

Few people who know of the work of Langley, Lilienthal, Pilcher, Maxim and Chanute but will be inclined to believe that long before the year 2000 A.D., and very probably before 1950, a successful aeroplane will have soared and come home safe and sound. — *H. G. Wells, 1901.*

If the plan will enable me to remain in the air for practice by the hour instead of by the second, I hope to acquire skill sufficient to overcome the difficulties inherent in flight. — *Wilbur Wright, letter to Octave Chanute, October 1900.*

But whether [the source of lift] be a rising current or something else, it is as well able to support a flying machine as a bird, if man once learns the art of utilizing it. — *Wilbur Wright, 18 September 1901*

I have had the feeling that a properly constructed flying-machine should be capable of being flown as a kite; and conversely, that a properly constructed kite should be capable of use as a flying-machine when driven by its own propellers. — *Alexander Graham Bell, National Geographic Magazine, Vol. XIV, No. 6, June 1903.*

I believe the new machine of the Wrights to be the most promising attempt at flight that has yet been made. — *Chanute, 23 November 1903.*

The Doomsayers

Heavier-than-air flying machines are impossible. — *Lord Kelvin, President of the Royal Society, 1895.*

It is apparent to me that the possibilities of the aeroplane, which two or three years ago was thought to hold the solution to the [flying machine] problem, have been exhausted, and that we must turn elsewhere. — *Thomas Edison, quoted in the 'New York World,' 17 November 1895.*

I have not the smallest molecule of faith in aerial navigation other than ballooning, or of the expectation of good results from any of the trials we heard of. So you will understand that I would not care to be a member of the Aeronautical Society. — *Lord Kelvin, replying to an invitation from Major B. F. S. Baden-Powell to join the Royal Aeronautical Society, 1896.*

The energy necessary to propel a ship would be many times greater than that required to drive a train of cars at the same speed; hence as a means of rapid transit, flying could not

begin to compete with the railroad. — *'Popular Science' magazine, 1897.*

The present generation will not [fly], and no practical engineer would devote himself to the problem now. — *Worby Beaumont, engineer, when asked if man will fly in the next century, 12 January 1900.*

There is no basis for the ardent hopes and positive statements made as to the safe and successful use of the dirigible balloon or flying machine, or both, for commercial transportation or as weapons of war. — *Rear-Admiral George Melville, Engineer-in-Chief USN, 'North American Review,' December 1901*

The flying machine which will really fly might be evolved by the combined and continuous efforts of mathematicians and mechanics in from one million to ten million years—provided, of course, we can meanwhile eliminate such little drawbacks and embarrassments as the existing relation between weight and strength in inorganic materials. No doubt the problem has attractions for those it interests, but to the ordinary man it would seem as if effort might be employed more profitably.

— *'Flying Machines Which Do Not Fly,' published in the New York Times, 9 October 1903. The exact date is unfortunate for the Times, as on 9 October 1903 one Orville Wright wrote in his diary: "We started assembly today."*

Aerial flight is one of that class of problems with which man will never be able to cope. . . . The example of the bird does not prove that man can fly. Imagine the proud possessor of the aeroplane darting through the air at a speed of several hundred feet per second. It is the speed alone that sustains him. How is he ever going to stop? — *Simon Newcomb, in The Independent: A Weekly Magazine, 22 October 1903.*

We are still far from the ultimate goal, and it would seem as if years of constant work and study by experts, together with the expenditure of thousands of dollars, would still be necessary before we can hope to produce an apparatus of practical utility on these lines. — *The U.S. War Department, in its final report on the Langley project, 1903.*

We hope that Professor Langley will not put his substantial greatness as a scientist in further peril by continuing to waste his time and the money involved in further airship experiments. Life is short, and he is capable of services to humanity incomparably greater than can be expected to result from trying to fly. . . . For students and investigators of the Langley type, there are more useful employments.

— *New York Times editorial page of 10 December 1903.*

The machine may even carry mail in special cases. But the useful load will be very small. The machines will eventually be fast, they will be used in sport, but they are not to be thought of as commercial carriers. - *Anonymous*

Membership of the RAAF Association

Members and ex-members of the Royal Australian Air Force, aircrew of Australian and other Designated Services' Navies and Armies and technical personnel specifically engaged in the maintenance of the aircraft of the above Services

Serving and former members of the Australian Air Force Cadets or the Australian Air League and its predecessors who are over the age of eighteen years and have given satisfactory service

Persons who being not less than eighteen years of age, are siblings, sons or daughters of members, or of deceased former members of this Association Spouses of Association members, deceased Association members or of deceased members of the Royal Australian Air Force

Persons who have an involvement or relationship with the uniformed or civilian areas of the Royal Australian Air Force, related industries or activities

Residents in a Retirement Estate or Village owned or conducted by the Association, Division or Branch

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Australian Flying Corps in World War I

Early roles

Initially, thinking about the possible military employment of aircraft followed directions that had been emerging in Britain. There it was believed that the primary use of aircraft would be as a supporting adjunct to maritime and land operations, principally in a reconnaissance role. This was despite the Italians having successfully employed aircraft against Turkish forces in Libya during 1911 in bombing, torpedo attacks, aerial photography, and pamphlet dropping. In June 1913, when Australia considered plans for its Flying School and Corps, the Army proposed appointing candidates to its Australian Intelligence Corps, the body which had been engaged in mapping and collecting information essential for supporting operations in the defence of Australia since December

Organisation

In April 1912, Britain created a Royal Flying Corps (RFC), comprising separate naval and military wings, and a central flying school to serve the training needs of both. These events also influenced preparations for Australia's air arm. Originally it was envisaged that the flying school would be established at the site of the new national capital at Canberra, but in 1913 the location was changed to Point Cook, Victoria, a seaside area where it was expected that the Central Flying School (CFS) could be made available to the Naval as well as the Military Forces.

Australian Flying Corps

By July 1914, CFS had completed test-flying its aircraft and was ready to accept applications from potential trainees. The first course for what was already called the Australian Flying Corps (AFC) of the Commonwealth Military Forces began on 17 August— 12 days after World War I was declared. Australia was thus well placed to be an active participant in air operations, more or less from the outset of the great conflict. It was not alone in this, either among the global network of British dominions and colonies or in the Asia-Pacific region. South Africa, for example, had begun recruiting 'officer-aviators' for a flying section within its Army since May 1913. These pilots trained with the RFC and most served in France before returning home to form a South African Aviation Corps in May 1915. Thailand had matched Australia's start by forming an army aviation unit with eight aircraft in 1913, enabling it to send an expeditionary force, including 400 members of the Army Air Corps, to join Allied forces in Europe in mid-1917.

World War I aviation experience

During World War I, Australian airmen accumulated a wealth of experience in diverse geographic environments and operational roles. This experience was not gained in service

with the AFC alone, as more than 400 Australian pilots enlisted directly into the RFC and Royal Naval Air Service (RNAS). Australian airmen served in New Guinea, Sinai-Palestine, on the Western Front, in Greece, northern Italy and in the air defence of Britain against raiding Zeppelins and Gotha bombers. The Australian Navy also employed air power when four RAN cruisers were fitted to operate either seaplanes or platform-launched aircraft during 1917. It is notable that from the very beginning Australian air power had been employed in an expeditionary manner. In only one instance had air power been used to protect Australian territory directly, when the AFC patrolled Australia's east coast in 1918.



Two Fokker aircraft (replicas), a DVII and a DR1 triplane, Hahnweide Old Timers Air Show, Germany 6-8 Sep 13

Photo Martin Eames, www.flickr.com

First expedition—New Guinea - 1914

Although Australia's air arm was rudimentary, it was nevertheless able to contribute aviation elements to several wartime operations. As early as November 1914, two aircraft and six airmen were sent with an Australian garrison force dispatched to deal with an armed German base supposedly hidden on the Sepik River in New Guinea. Because prepared landing grounds were not available in the area of operations, the aircraft sent to New Guinea had to be seaplanes. Although there were no machines of this type available at Point Cook, the Defence Department was able to utilise a Maurice Farman Hydro-Aeroplane received as a gift from a public-spirited businessman. That aircraft and a BE 2A were dispatched to New Guinea, with plans to fit the BE 2A with a set of floats during the voyage north. The reported German base turned out to be a fiction, so the air detachment returned to Melbourne in January 1915 without ever seeing action or even uncrating their machines.

AFC Half Flight—Mesopotamia - 1915

The next month, Australia was asked to contribute

personnel to an RFC unit being raised in India to take part in operations planned against Turkish forces in Mesopotamia (modern Iraq). What began as a campaign to secure British oil interests at the mouth of the Shatt-al-Arab turned into a drive to expel the Turks from Baghdad. The campaign was initially a disaster, its first phase ending with the humiliating surrender at Kut of a large part of the invading British force in April 1916. By then, the 62-member AFC Half Flight had suffered a pilot fatality on operations, and lost 11 men, including two pilots, as prisoners.

Middle East and Europe - 1916

At the end of 1915, the Army Council in London suggested that Dominion Governments should raise complete air squadrons for service with the RFC, which had assumed a purely Army identity after the Royal Navy formed a separate air service, the RNAS, during 1914. The Australian Government, considering that doing so would be useful for developing its air arm after the war, agreed to the proposal. By October 1916 four operational units had been raised, one in Egypt and three at Point Cook. The first of these, No 1 Squadron, served out the war in the Middle East, while the other three entered the fighting on the Western Front in late 1917. No 1 Squadron operated as a combined fighter/bomber/reconnaissance unit, while the squadrons in France (Nos 2, 3 and 4) specialised in either the fighter/scout or reconnaissance role, in line with RFC practice. A training wing of four squadrons, based in England, supported the front-line units.



CAPT G C Wilson in DH-5 with ground crew, 2SQN Middle East. Photo: RAAF Museum

Operations in Australia - 1918

News broke in March 1918 that a German warship named Wolf had laid a minefield while passing through Australian waters in 1917. In July 1917, a coastal freighter had sunk after striking a mine off Gabo Island, near the Victoria-New South Wales border, and there were even claims that the Wolf had operated its own aircraft over Sydney. Defence authorities were flooded with alleged sightings of enemy aircraft and ships in the south-eastern sea lanes. To quell growing public hysteria, two air detachments were sent from Point Cook in April 1918 to conduct maritime reconnaissance

from Yarram in Gippsland, Victoria, and Bega, New South Wales. Initially, the two aircraft used, an FE2B and a MF Shorthorn, were each armed with a single Lewis machine gun. Subsequently, 20-pound Hales bombs were supplied to the Gippsland detachment. Patrols were conducted for less than three weeks before being called off on 8 May 1918. These were the first warlike air operations conducted within Australia.



A restored Farman Shorthorn in the RAAF Museum Point Cook

Battle of Hamel-1918

There were two innovative applications of air power in the Battle of Hamel, 4 July 1918. First, the town of Hamel was bombed in a pre-planned effort to distract German attention from the sound of British tanks pre-positioning themselves. Second, a British RES squadron delivered nearly 12,000 rounds of ammunition to forward troops using an air drop apparatus hastily developed at No 3 Squadron, AFC, by Captain LJ. Wackett. The aim of the assault, to advance the line two kilometres eastwards at the Hamel front, was achieved. Some 1600 Germans were taken prisoner, over 400 more made casualties, and hundreds of enemy weapons put out of action.

Air actions such as artillery patrols, message dropping and photography contributed to the battle, considered one of Australia's most successful on the Western Front. As official historian P.M. Cutlack wrote, 'Hamel first showed many soldiers a vision of the days to come, when battles might be directed chiefly from the skies'.

Battle of Armageddon - 1918

Allied air power demonstrated its supremacy during the Battle of Armageddon, also known as the Battle of Megiddo, an operation launched by Sir Edmund Allenby's Egyptian Expeditionary Force on 19 September 1918. Having concealed from the Turks that his main assault would be delivered beside the coast rather than in the Jordan Valley, Allenby's divisions easily pierced the enemy defences for the massed cavalry to pass through. The mounted troops then rode quickly north before swinging inland to put themselves astride the lines of communications of the Turkish Seventh and Eighth Armies.

Already enjoying air superiority, Allenby used the two wings of the RAF Brigade available to him to deprive the enemy of reliable reconnaissance information by keeping Turkish aircraft out of the skies. In the days before the offensive began, British and Australian pilots also bombed the crucial railway junction at Deraa and thereby cut all rail traffic into Palestine from the north. Following the breaching of their defences, the Turks began falling back eastwards in confusion, towards the River Jordan through the town of Nablus.

Early on the morning of 21 September a two-aircraft patrol from No 1 Squadron, AFC, spotted enemy columns on the old Roman road through the precipitous Wadi Fara. The rest of the Australian squadron and the 40th (Army) Wing were summoned to the area, joined by aircraft from the 5th (Corps) Wing, a total of seven squadrons and over 100 aircraft. In constant attacks lasting five hours until midday, the airmen comprehensively destroyed the Turkish Seventh Army as a fighting force. Casualties among the estimated 7000 troops in the enemy column were not established, but were undoubtedly heavy. Also lost amid the carnage were 87 artillery weapons and nearly 1000 vehicles. The effectiveness of air power against surface forces had been graphically demonstrated.

Unique national identity

Even though the AFC was not very large, it represented a unique national element within the much larger British air services. Australian squadrons were initially numbered by British authorities as RFC units, and their AFC identities were officially recognised only from January 1918. Australia's position was unique in this regard, because no other British dominion achieved the status of having fielded an independent air element during World War I. Other British dominions—India, Canada, South Africa and New Zealand—all contributed their pilots directly to the RFC and RNAS. South Africa's aviation corps had gone out of existence soon after the South-West Africa campaign was concluded in July 1915. Canada formed a Canadian Air Force and Royal Canadian Naval Air Service late in 1918, but both were disbanded within months. The vast bulk of the 21,000 airmen Canada contributed to the war effort served in the British air services, which were combined to form the Royal Air Force (RAF) on 1 April 1918.

Training bases in Australia

The size of the AFC's commitment overseas was significant, with over 3000 personnel passing through its ranks during the course of the war. Training such a large number of

personnel required substantial resources. In addition to the eight pilot training courses conducted at CFS, six courses averaging 13 trainees in each course graduated from a second flying school, the New South Wales Government's State Aviation School, which opened in 1916 at Richmond, outside Sydney. The graduates of this school went mainly to the British air services rather than the AFC. In August 1918, a School of Military Aeronautics for training in air theory and ground subjects was established at Fort Franklin, Portsea, Victoria.

Limited knowledge

In spite of the extensive and varied Australian experience of air operations in World War I, there existed significant deficiencies and gaps in the breadth of accumulated air power knowledge at its conclusion. While there was comprehensive understanding of the tactical use of air power on the modern battlefield, the strategic impact of air power in the conduct of a large scale war was not clearly understood, nor studied. This was mainly because only a handful of Australian airmen had been involved in the organisation and operation of an independent air force. So far as is known, no more than five Australians had been involved in the RAF's June 1918 independent air operations in northern France where, under Major General Sir Hugh Trenchard, the RAF attacked German industry and population centres in reprisal for raids on the British homeland.

Consequently, there was very limited knowledge within the AFC of what was to become a primary role of air forces, strategic bombing. Australian experience had been chiefly focused on the tactical and operational applications of air power, with little exposure to the strategic potential of a new dimension of warfare that had made dramatic advances in the short space of four years. The relevance of this shortcoming would only become apparent when the time came to focus on Australia's requirements for air power in peacetime. As observed by Winston Churchill, Britain's wartime Secretary of State for War, the problem was that aviation tended to attract 'adventurous souls, physically adept, mentally alert and pragmatically rather than philosophically inclined'. Such was certainly true of most of the men of the AFC in 1918.

Doctrinal drawback

One of the few officers who escaped this generalisation was a young AFC officer, Lieutenant Colonel (later Air Marshal) Richard Williams, who in December 1918 provided the commander of the Australian Imperial Force in Egypt with an assessment of the future of air power. Williams was asked by Lieutenant General Sir Harry Chauvel, commander of the Desert Mounted Corps, to record the experiences of the AFC so that lessons would not be lost. In his report he gave his views on the types of aircraft and other equipment best suited to Australian needs and conditions should the Government choose to use the AFC squadrons to form the core of a peacetime air force. As it happened, this did not occur and the AFC was disbanded on its return. William's report did not address the doctrinal implications of employing an air force in the defence of Australia. In this avoidance of doctrinal issues he was not alone.



AFC cadets with a Sopwith Pup at Point Cook

'Father of the RAAF'



Major Richard Williams,
circa 1916

Even though a number of Australians rose to tactical command positions, no Australian advanced beyond leading an operational wing of several squadrons. Of the four who reached this level, only one was an AFC officer, Richard Williams, who in June 1918 commanded 40th (Army) Wing of the RAF brigade in Palestine.

Williams was one of the Service's two senior officers when the RAAF was formed in March 1921 and became the first Chief of the Air Staff (CAS) when that post was created in October 1922. He

remained CAS for a record 16 years, departing on exchange with the RAF in early 1939. During his tenure as CAS he had risen from Wing Commander to Air Vice-Marshal.

In 1940, Williams returned to a senior administrative post in Australia with the temporary rank of Air Marshal but did not again lead the RAAF. In 1946, he left the Air Force and became Director General of Civil Aviation until he retired in 1955. Air Marshal Sir Richard Williams was knighted in 1954.

Main points:

- Military aviation in Australia before World War I was heavily influenced by developments in Britain.
- *During the war, Australian airmen gained considerable tactical air power experience, but had no exposure to command beyond the operational level.*
- *There was inadequate effort to distil doctrine from air warfare lessons learned in World War I.*

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Turning left onto base leg, airfield not yet in sight, in a Bleriot (?), Hahnweide Old Timers Air Show, Germany 6-8 Sep 13 Photo Martin Eames, www.flickr.com

Exploring the Nuclear Option

For a time during the 1950s, the RAAF explored the idea of becoming a nuclear force. The move to acquire nuclear weapons did not last long, barely two years, and ultimately resulted in the service remaining a conventional force. But the episode is informative for showing the RAAF wrestling with the problem of defining its role in the turbulent and confusing period that followed the end of World War II, and trying to ensure that it possessed capabilities that were relevant and meaningful.

Since 1952 the government led by R.G. Menzies had been supporting Britain's nuclear weapons program by allowing testing to be carried out on Australian territory, partly in the belief that such cooperation would get Australia a foot in the door when it came to acquiring weapons that the RAAF would eventually need. By 1956 the Minister for Air, Athol Townley—no doubt acting on the advice of the Chief of the Air Staff, Air Marshal Sir Frederick Scherger—believed that the moment had arrived to transform the RAAF into a nuclear force.

The stimulus for this initiative stemmed from belated realisation that the fleet of Canberra jet bombers that Australia acquired from 1953 was actually a limited defence asset. There were only 48 of these aircraft in the RAAF inventory and—considering their small bomb load, the small radius of effect of high-explosive bombs, and the large margin of error resulting from bombing operations at medium and high altitude—it dawned on RAAF planners that an impossibly high number of sorties would have to be mounted to achieve any worthwhile results in real strike operations.

At the time that the Canberra was evaluated for acquisition by the RAAF, it had been noted that the type was capable of carrying either a conventional bomb load or a single 'special' (ie. nuclear) device of between 2300 and 4500 kg. It was not unreasonable, therefore, for Townley to propose to his Cabinet colleagues in September that arming the Canberra with a tactical nuclear weapon was one way of increasing the effectiveness of the bomber force. He also suggested that the RAAF's Sabre jet fighters might be fitted to carry nuclear bombs, too, for use in the ground attack role.

Since it would be years before Australia was in a position to build its own nuclear bombs, it was obvious that any such weapons would have to be acquired from its allies: Britain or the US. An overture to the Americans was forestalled by a policy announcement by Washington that it was willing to supply allies with nuclear-capable systems, such as aircraft, but intended to keep control of weapons themselves in American hands. Accordingly, Townley was authorised to approach Britain instead, on an 'exploratory, non-committal basis'.

This invitation was taken up by Air Marshal Scherger, who wrote to his RAF counterpart to explore the likely response



Atomic test at Maralinga, SA. September 1956

Photo: AEC

to an official Australian request to 'purchase some atomic bombs in the kiloton range'. Scherger was personally enthusiastic about the idea, seeing it as an important step towards keeping the RAAF at the leading edge of air power technology. He had also been trying to convince the government to supplement the RAAF's Canberras with a squadron of British-built Vulcan strategic bombers, preferably nuclear-armed, which he envisaged would form part of a Commonwealth deterrent force in South-East Asia.

During 1957, Menzies declared that his government's immediate plans for defence remained in the 'conventional field' only, but there were nonetheless further discussions about the nuclear option during a visit to Australia by Britain's

PM, Harold Macmillan, early the next year. Menzies was not persuaded that Australia needed to enter the strategic nuclear arena, but he did accept that eventual acquisition of some tactical weapons was probably 'inescapable'. It was on this basis that he subsequently wrote to Macmillan, seeking assurance that Britain would, if the need arose, provide Australia with a nuclear capability, by supplying either ready-made weapons or else manufacturing data to enable local production. Even so, his preference was that the RAAF stay conventional for as long as possible, if only out of concern at the likely costs of making it a nuclear force.

Notwithstanding Menzies' reservations, when Scherger visited Britain in September 1958 he was authorised to continue discussions with British defence officials. It was only at this stage that some of the practical problems of the proposal began to emerge. For a start, the dimensions of the only tactical weapons that the RAF had to offer were far too big for carriage on a Sabre. Moreover, these bombs produced a 15-20 kiloton blast, equal to those dropped on Japan in 1945, which meant they were not 'tactical' weapons at all. Finally, at a cost of £500,000 per bomb, acquisition was clearly going to be very expensive. (The budget for the entire RAAF in 1962/63 amounted to only £67.5 million.)

This appears to have been the end of the RAAF's nuclear ambitions, since by 1960 the tide was swinging decidedly against Australia exercising the nuclear weapon option. Changes in geo-strategic circumstances were causing even the existing Western nuclear powers to have doubts about the viability of employing tactical nuclear weapons in any showdown with communist opponents. By June 1961 Australia's Chiefs of Staff Committee formally agreed that there was no immediate need for an independent nuclear capability. The RAAF was accordingly obliged to refocus on improving its conventional capabilities. For the Canberra fleet this meant a shift in thinking from strategic to tactical roles, especially army cooperation tasks.

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Bombs being loaded onto Canberra A84-237 at RAAF Base Butterworth, Malaya, in 1959. CAS AIRMSHL Scherger pondered the limited strike power of the Canberra with such weapons. Photo: Brian McSkimming

Nuclear weapons were the answer to the Canberra's limited striking power, as the Government and the Air Force both knew.... The problem was how to get hold of the bomb.

Dr Alan Stephens, Going Solo (1995)

Editor's Note:

While the Canberra's role was primarily tactical, it was directed largely at air interdiction which, together with close air support (CAS), is categorised as counter land operations. However, it was not until Vietnam, that 2SQN Canberras were employed in CAS, controlled by Forward Air Controllers (FAC), and other strike missions.

The Decisive Campaigns of the Desert Air Force 1942-1945

By Bryn Evans

Compared with the RAF's Fighter and Bomber Commands in the Second World War, the Desert Air Force (DAF) is far less well known, yet its achievements are spectacular. From the beginning Australia's contribution to the DAF was crucial, its operational record far surpassing its relative size, yet also not widely recognised. The man who became the founding architect of DAF, and later a towering influence on the development of modern air power, only gained the opportunity to create DAF through a combination of chance and tragedy.

On a cold November night in 1940 in Preston Railway Station in northern Lancashire, England, it was one o'clock in the morning. In the gloomy wartime blackout the queue of servicemen and civilians inched slowly forward towards a restaurant counter. Each person was probably dreaming of warming their hands, around a mug of tea or coffee. In the line was Air Vice-Marshal Arthur Tedder, waiting for a delayed connection to London. He was returning from a meeting on a new 40mm aircraft gun with Rolls Royce in Barrow.

Finally AVM Tedder arrived at the counter, paid for a mug of coffee, and took it back to a vacant table. As he bent to sip the steaming drink, a crumpled evening newspaper on the floor caught his eye – 'AIR CHIEF CAPTURED.' An RAF aircraft en route to Cairo, transporting Air Marshal Owen Boyd to take up the position of Deputy to Air Marshal Longmore, the Air Officer Commanding-in-Chief RAF Middle East, had made a forced landing in Sicily. There Boyd had been taken prisoner by the Axis authorities.

Only a few days earlier Longmore had requested London that Tedder be sent out to be his Deputy. Churchill had rejected Tedder and approved the appointment of Boyd. Now the hazardous Mediterranean air route to Egypt had claimed another victim. The Germans must have thought Air Marshal Boyd was a choice prize to have fallen into their hands. If it had been Tedder, it may well have been, and the war may have taken a very different course.

It would be under Tedder's leadership in due course that the Desert Air Force would be created. In the North African and Italian campaigns of the Second World War the Desert Air Force (DAF) pioneered collaborative and close army-air support, which became the template for Allied forces, and an indispensable strategy for victory in both the European and Pacific theatres.

From the embryonic beginnings in 1940 in RAF Eastern Command in North Africa, the air force groups, wings and associated squadrons supporting the British Eighth Army, became designated as the Desert Air Force. They were the first multi-national air force, in which RAAF formations and

Australian airmen in the RAF were prominent, and typically 'punched well above their weight'.

Over those five years they fought an air war against the Axis forces, winning and sustained air superiority until the final victory in Italy. In that time they pioneered numerous innovations and 'firsts', which were copied in most other theatres of the Second World War, such as:

- Winning the air war first, to achieve air superiority
- The first trial and development in combat of the fighter-bomber, by Group Captain Clive 'Killer' Caldwell DSO DFC, of No. 250 and the famous No. 112 'Sharkmouth' Squadrons RAF
- The capability of squadrons to maintain combat operations on the same day, on which they re-located forward or back to new airfields close behind the army's front lines
- Air interdiction of the enemy's communications and supplies to the battlefield
- Establishing what is now called a 'No Fly Zone' before a major offensive, as at El Alamein
- Interception and destruction of enemy ground attacks, as at Ksar Rhilane
- Close air/army support through forward air controllers, first trialled at El Hamma
- An air blitz coordinated with, and prior to, an army offensive
- The 'Rover David Cab-rank' of fighter-bombers over the battlefield, called up by the army through mobile operations rooms
- Development of dedicated fighter-bomber squadrons in an air-to-ground war
- The first multi-national air force

The role of the fighter-bomber, and related tactics learned from DAF, were also used to great effect by other Allied tactical air forces in the Normandy invasion, and the subsequent advance into Germany.

Although the technology has advanced beyond any comparison, the principle and power of the fighter-bomber can be seen in modern multi-role combat aircraft. Perhaps its most recent manifestation was in the operations of NATO aircraft, which laid the foundation for the overthrow of the Gaddafi regime in Libya. It is ironic that it was there in the Libyan desert that the fighter-bomber was first pioneered by DAF.

With first-hand accounts by veteran airmen from Britain, Australia, Canada, New Zealand, South Africa and the USA, *The Decisive Campaigns of the Desert Air Force 1942-1945*, is scheduled for publication in March 2014.

With a strong focus throughout on the experiences of

Australian airmen in the DAF, the book reveals the decisive victories and veterans' accounts, on how the DAF won the air war over North Africa, and Italy in 1942-1945.

Author's Notes:

1. The above article is an edited extract from - *The Decisive Campaigns of the Desert Air Force 1942-1945*, Bryn Evans, Pen and Sword Books Ltd, UK, publication March 2014.
2. My sincerest thanks go to the many veterans, their

friends and families, who have contributed to the book, without which this legacy could not have been written. For further information my contact details are:

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Airlines: Global Traffic Results for September

Published on 06 November 2013

"Asia-Pacific carriers recorded an increase of 8.5% compared to September last year, the strongest performance among the three biggest regions."

On October 31st, 2013 the International Air Transport Association (IATA) announced global traffic results for September. According to this report the total passenger demand rose by 5.7%. Additionally, limited capacity expansions (5.3%), which have been noticed for September, have pushed load factors to 80.9%. Tony Tyler, IATA's Director General and CEO stated that: "We are seeing a more positive environment for air travel demand, based on rising business confidence, a strong increase in export orders in September and better performance of key emerging markets like China. The strong growth of recent months, coupled with the continuing improvements in air travel demand in September, suggests that there could be a further acceleration in air travel growth before the end of the year".

The European airlines' international traffic climbed by 3.4% in September compared to the year-ago period. Capacity rose 3.1%, pushing load factor up 0.3% points to 83.9%.

Asia-Pacific carriers recorded an increase of 8.5% compared to September last year, the strongest performance among the three biggest regions. Capacity growth of 7.1% pushed load factor up 1.0% point to 78.1%.

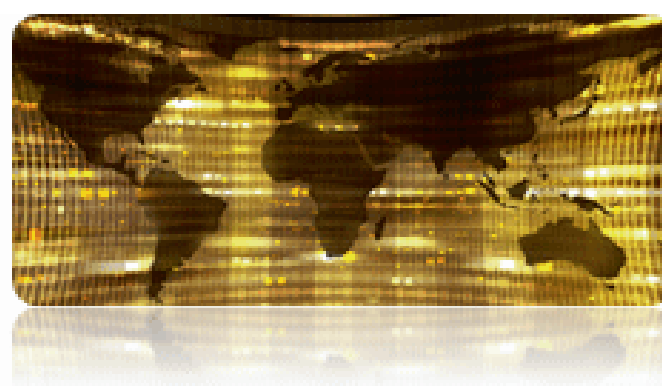
North American airlines demand rise 2.3% over a year ago, a slowdown on the August growth of 5.1%. Capacity growth



3.1% outpaced demand, pushing down load factor 0.6% points to 83.9%. Furthermore, Middle East carriers continued to show the strongest year-over-year traffic growth at 10.4%. Capacity expanded by 13%, pushing down load factor by 1.9% to 77.2%.

Latin American airlines posted a demand growth of 8.3% in September. Capacity grew 6.1% while load factor rose by 1.7% reaching 80.9%. Finally African airlines' traffic grew by 6.9% compared to September 2012, while capacity rose 7.4%, pushing down load factor to 0.3% to 73.2%.

April 2011	Passenger's Demand	Capacity Expansion	Load Factor
Europe	3.4%	3.1%	83.9%
Middle East	10.4%	13%	77.2%
North America	2.3%	3.1%	83.9%
South America	8.3%	6.1%	80.9%
Asia Pacific	8.5%	7.1%	78.1%
Africa	6.9%	7.1%	73.2%



RAAF Air Power – Functions of the Future Air Force

The Spring 2013 issue of Wings included extracts from AAP 1000-F The Future Air and Space Operating Concept, dealing with Force Application and the Air Combat Group. This issue continues with extracts from AAP 1000-F and the operating concept and discusses Command and Control (C²), Battlespace Management, Surveillance and Reconnaissance and Force Deployment.

Command and Control

C² in an air power context is the authority to direct and integrate systems, procedures, organisational structures, personnel, equipment, facilities, information and communications for the planning and timely execution of air campaigns as part of joint, national or coalition campaigns. This includes the battlespace management process of planning, directing, coordinating and controlling air and space capabilities, forces and operations. C² is cross-functional, and is an essential element of all air operations because of its importance in binding air and space power functions together to joint ends, and in providing the foundation for networked operations.

Air and Space Campaigning

To make the most effective and efficient use of finite air power resources, we believe that operations planning must adhere to the tenet of 'centralised command and decentralised execution'. Centralised command allows commanders to give effect to their intent by prioritising the employment of air and space power and allocating sufficient resources to a task to ensure success. In decentralised execution, subordinate commanders are delegated the authority to act with initiative in carrying out their mission. In this way 'centralised command and decentralised execution' accords with the ADF's philosophy of mission command.

The overall effect desired from the joint, national or coalition campaign drives what effects air power must produce. These effects will be created by air power over time through the conduct of multiple roles and missions, sometimes in parallel, sometimes sequentially. The increasing complexity of air operations increases the requirement for effective campaign planning to determine the priority and sequence of roles and missions and to assign sufficient forces to ensure success.

Planning processes must also address all aspects of operations, including the information requirements of participants and how that information will be obtained and distributed. Relying on space, near-space and relay communications, the C² system will have an increased ability to remain in contact with, and control all air elements in the battlespace through the network.

Battlespace Management

The C² function will be capable of refining, re-tasking, and retargeting air operations to achieve greatest effect

consistently against a dynamic adversary, particularly against time-critical targets. This function will not be restricted to the control of platforms or groups of platforms, but will extend down to the lowest level to include the redirection of weapons in flight if that is necessary. The C² function as a whole will be responsive and flexible, able to apply command and control at different levels, from both remote fixed facilities and within the battlespace through mobile control resources.

The latter will include our Air Force's AEW&C aircraft, the Navy's major surface units and deployed Army formations, supported by reachback to national and partner assets. A principal role of the C² function will also be to de-conflict all air activity within the area of operations. This will become increasingly important in the future as the air and space component of the battlespace becomes more heavily congested with both manned and unmanned systems in a joint environment.

A key element of the C² function will be the human dimension. Technology-based ISR systems on their own will never provide perfect knowledge and understanding of the adversary. The adversary's intentions will remain their most closely guarded secret, and will be protected by deception and ambiguity designed to create uncertainty in our minds. Effective decision-making with less than perfect knowledge will be something we need to practise and master, and will be a significant edge that we will seek to hold over the adversary.

The network will also allow for operational outcomes and lessons to be captured and relayed back to Headquarters Joint Operations Command (HQJOC) in real-time for analysis. Such analysis will allow rapid assessment of the effectiveness of particular actions in creating the effects we want in the adversary. The network will help enable our



Air Force's battlespace management capabilities will play a principal role in deconflicting and orchestrating air activity.

Photo: RAAF



An RAAF E-7A Wedgetail AEW&C aircraft, near Williamtown NSW *Photo: RAAF*

decision superiority such that we can quickly reorient our approach as needed, so exploiting our Air Force's flexibility and adaptability.

Information Superiority and Support

Information superiority is achieved by synthesising surveillance and reconnaissance, intelligence and information operations. This function is enabled by responsive and adaptive information support systems and processes. In the military environment, information superiority will enable our decision superiority. Decision superiority, in turn, supports the planning and conduct of operations to produce the branches and sequels of effect that comprise a successful campaign.

The fundamental enabler of information superiority will be timely, accurate and high-fidelity information, delivered through our planned high-capacity network. The DCP Air Force's new air and space capabilities will provide an improved contribution to the coordinated acquisition, processing and dissemination of timely, accurate, relevant and assured information and intelligence.

On operations, whether commanding a manned air platform or unmanned aerial vehicles (UAV) from a ground station, commanders at all levels will be able to access and distribute data from and to a ubiquitous information domain that is tailored to their specific need. Whether that information is weapon release data and targeting, blue force tracking, weather information or decision assistance, it will be delivered through the network in a way that is responsive and timely. Information superiority must extend to coalition and allied partners, all of whom will operate on network access principles to facilitate information sharing.

Surveillance and Reconnaissance

Air and space-based surveillance and reconnaissance capabilities will have to address all operating environments—land, maritime, air, space, electronic and information—and must possess long endurance and the ability to move rapidly to an area of interest. This agility and persistence will be realised through the employment of high altitude long endurance UAVs from about 2012—for example, Triton/Global Hawk, Mariner, or Predator—and by platforms based

in space and near-space. Furthermore, as stealth becomes more widely deployed by conventional forces, counter-stealth surveillance, reconnaissance and engagement capabilities will also be required.



Triton broad area maritime surveillance (BAMS) *Photo: Northrop Grumman*

UAVs like Triton can provide the ADF with a surveillance and reconnaissance resource that combines long endurance with sensors that are effective in a range of operating environments.

Intelligence

Long-range communications will allow surveillance and reconnaissance data gathered from both remote, fixed facilities and from deployed locations to be analysed centrally to produce intelligence for the network. Furthermore, we will see the introduction of artificial intelligence to undertake low complexity and routine analysis in deployed ground elements, maritime units and airborne platforms.

Information will be disseminated directly from surveillance and reconnaissance platforms to other users, including tactical surface units, where there is a need to receive the data in real-time to effect an immediate operational outcome. Managing direct tactical information flows while also centrally assembling information into a broader and readily accessible recognised operating picture to provide situational awareness for the whole force will be the prime focus of information and network managers.

Information Operations

Information, intelligence and knowledge build situational awareness and are the lifeblood of effective operations. They are an essential requirement of all operations and must be efficiently managed like any other valuable resource. Air Force's approach to all levels of knowledge must focus on: assuring its availability and accuracy; managing its collection, analysis and dissemination; exploiting the understanding it provides; and, where possible, employing that understanding as a weapon against an adversary. The weapon will include Air Force's information warfare operations that degrade our opponent's decision-making processes and actions while protecting our position of decision superiority.

Force Deployment

Force deployment, both within and outside Australia and its territories, is founded on mobility to deliver personnel and their operational systems to and from a theatre of

operations, and also within theatre. Navy, Army and Air Force operations all rely to some degree on the ADF's mobility systems. Our Air Force provides a critical component of Australia's mobility capability, enabling expeditionary maritime, land and air operations. Air Force will at times be reliant on forward air bases for force deployment, which has implications for Force Protection, discussed in the next section. Air Force's capacity to support force deployment will grow as our new DCP systems come into service.



In addition to providing the ADF with significant deployment options, the KC-30A will also play an important role as a network node.

Our Air Force's Responsive Global Airlift (RGA) capability, whether acting independently or as part of a coalition capability, is a vital part of force deployment because of airlift's responsiveness, speed and range. This complements surface transport's larger volume but slower speed, noting that the option to employ heavy payload, long-range and extended endurance airships, which are not reliant on fixed bases and can operate from a variety of surfaces, may provide other options by 2025. RGA will seek to provide a balanced airlift capability by appropriately matching the payload, range and closure rate of lift platforms with the load requirement.

If we have access to forward bases, inter-theatre airlift will normally deliver its loads from a fixed hub to nodes in deployed locations, from which medium and tactical transport will distribute payloads to other in-theatre nodes for distribution to stakeholders.

However, hub and spoke operations are just one force deployment option. There are others that provide considerable flexibility, such as direct insertion into theatre by heavy lifters with short-field capabilities, or airdrop operations to provide for deployment and supply of tactical elements such as Special Forces, where landing is not preferred due to operational risk or lack of a suitable airfield. The C-17 transports will increase our flexibility in air-land and airdrop operations markedly in the future, allowing us to increase the weight and capacity of forces deployed while minimising **our footprint**.

The responsiveness, flexibility and self-protection capabilities of future airlift assets will be greatly enhanced by their connection to the C² system via operational networks. This will allow for agile mission adjustment and re-tasking, and will enable network-generated threat warnings to be received by the aircraft. As nodes in the network, airlift assets also offer the potential to act as a network relay to other units operating at the geographical extremity of the network. This will be particularly important for AAR aircraft and the force application units that operate with their support.

Force Protection

Force Protection (FP) seeks to minimise the vulnerability of both deployed and home-based personnel, facilities, materiel, information and operations to the threat posed by either an adversary or the environment, while preserving our

freedom of action and operational effectiveness. FP affects every other warfighting function, because no operation can be raised, conducted or sustained from a vulnerable foundation.

In the Australian context, where our small forces cannot afford heavy attrition and we place a high value on life, appropriate and balanced effort must be spent in FP. Diverting Force Application capabilities towards FP is also sometimes necessary and will remain part of a commander's judgment regarding operational risk.

For Air Force, ground-based FP centres principally on protecting air bases, although FP applies equally to assets both on the ground and in the air. For air platforms, lack of effective self-protection can make the air vehicle undeployable due to vulnerability, placing a premium on ensuring that air vehicles are acquired with self-protection systems and that those systems are upgraded to keep pace with emerging threats throughout an air vehicle's service life. All Air Force assets must be able to be protected by design, either because they have some organic ability to protect themselves or they come under the protection of another system. Special attention will need to be afforded to the protection of high-value, scarce assets like Air-to-Air Refueling (AAR) and AEW&C.

Protection against future ballistic missile threats is something that Air Force will need to consider with the other Services and our allies. Ballistic missile defence is both a national and military protection issue with wide implications for national security policy and military force development.

Future FP will need to be able to deal with threats not only in the physical domain, but also in the information and cognitive domains. The adversary will seek to undermine the veracity and effectiveness of both our information systems and the intellectual capabilities of our people. Therefore, ensuring the integrity of our network as a system will be central to our FP efforts.

Extracts from *AAP1000-F The Future Air and Space Operating Concept*. Reprinted with permission of Air Power Development Centre, RAAF Canberra

F-86 to F-111 – A Career of RAAF Fighters

By Wing Commander Martin Susans (Retd)

During my time in the RAAF I was fortunate to fly four of the world's great Fighter aircraft; Sabre, Mirage, Phantom and F-111. So too did two other RAAF pilots, Bren Roberts and Roy Phillips. I doubt that such an opportunity was available outside the RAAF. From Day Fighter to Auto Terrain Following in the space of nine years, such is the pace of military aviation.

Four of us from No 54 Pilots Course were posted to fly the Sabre. On completing the conversion, two of us went to Butterworth and the other two remained at Williamtown. I think Jack Hayden and I got the long straw; flying from Butterworth in the mid 60's was a great upbringing for young pilots, particularly in a squadron commanded by the legendary Les Reading.



No 25 Sabre Course, Williamtown, February 1966 Horsman, Robson, Hayden, Susans, Schulz, Doyle
Photo: Martin Susans

It was only twelve months later that some of us were posted back to Williamtown to do a Mirage Conversion. The Mirage was still coming off the production line, and compared to the Sabre it was another world. Radar, Tacan, afterburner, autopilot, auto throttle, delta wing, Mach 2 – what a machine!



A RAAF Mirage III

I joined No 3 Squadron which was re-equipping with the latest version of the Mirage before deploying to Butterworth. As the aircraft's capabilities became understood, new operational procedures were being developed within the Squadron. Using the ground map radar for low level IMC penetration was definitely character building, as was night formation in camouflaged aircraft.

The Squadron successfully deployed to Butterworth via Djuanda, Indonesia in February 1969, bringing the Mirage complement in Butterworth to 40. This force disposition was the culmination of many years of planning and preparation, and was to serve the regional air defence system well for a further 20 years.

As we moved deeper into the Vietnam era, the major operational action for RAAF fighter pilots was Forward Air Control. I went back to Williamtown for a FAC course and put my name on the Vietnam list. Just before my number came up, the F-111 acceptance programme was put on hold, and the RAAF leased Phantom F-4Es as an interim measure. I was to become a 'bomber pilot'.

At short notice, personnel from across the RAAF were posted to the US for F-4E training. A couple of months later, we picked up brand new Phantoms from the factory in St Louis, and positioned in California ready to head across the Pacific. We followed the KC-135 tankers from George AFB to Hickam AFB, then to Guam and on to Amberley - mission accomplished.

I flew the Phantom from Amberley for three years before they were sent back to the US, or somewhere? In the meantime, the F-111s had arrived and experienced operators were



No 1 F111C Conversion, Amberley, 30 Nov, 1973
Back row (L-R) Knott, Salvair, Best, Scotland, Susans, Cavenagh, Graham,
Front row (L-R) Palmer, Wilkinson, Kennedy, Ross, Lucas.
Photo: Martin Susans

required to fill the first F-111 Conversion Course in Australia. The prospect of flying the F-111, rather than instructional flying, appealed to me, so off to No 6 Squadron for No 1 F-111 Conversion Course.

The F-111 conversion completed my giant leap from F-86 to F-111. Each of these Fighters had its own personality. The Sabre, with its bubble canopy was a purpose built dogfighter. It was still basking in the glory of having won the Korean War. The Mirage was curvy and elegant – she wasn't called 'The French Lady' for nothing; she looked to be doing Mach 2 in the chocks. The Phantom was a brute, but a good one to have on side in a brawl. And the F-111 was mystical and magical, with swing-wings and spooky bumps it was like nothing we'd seen before.

The Sabre was basically a visual air weapon and a light ground attack platform. It had a range-only radar for the gun sight, an early ejection system that suffered serious teething problems, and a basic artificial feel system that some pilots got out of phase with, coming home 'black and blue'. The uniquely-RAAF fitment of the Rolls Royce Avon engine gave some extra thrust, but it's lengthy introduction into service made the RAAF justifiably gun-shy about changing the manufacturers configuration for future projects; a useful lesson learned.

The Sabre Squadrons in Butterworth provided aircraft and crews on rotation to No 79 Squadron at Ubon, in SE Thailand. Our role there was air defence of the Base, which supported a huge USAF contingent mounting 24-hour F-4 ops into North Vietnam. Our commitment was two, fully-armed Sabres on five-minute strip alert, dawn to dusk, seven days. We were often scrambled to do practice intercepts on various friendlies, including Phantoms returning from missions. On one occasion, Dave Robson and I were scrambled onto a genuine 'unknown'. We caught him about 20 miles out of Ubon heading straight for the Base. It was an old C-46 Curtiss Commando with Laotian markings. The paratroop door was open, and there were armed soldiers inside. According to the Rules of Engagement, this was technically a shoot-down situation, but these two boggies weren't so sure about that. We sought guidance from the Air Defence authorities in Bangkok, but before hearing anything, the aircraft was overhead Ubon and the soldiers were hanging out the door, waving, smiling and clicking cameras at the Sabre that had nuzzled up to the decrepit transport. I expect that next time, they might bother to put in a flight plan!

The Avon Sabre did a good job in its time, but was soon outdated by the 'century series' multi-role, supersonic, all weather fighters. As for flying safety, three pilots were killed on ejection by dishing canopies, two lost control turning base to land, one broke the wings off, and quite a few aircraft were lost to engine problems - not great. The Sabre's operational life in the RAAF was only about 15 years, after which it was passed on to regional Air Forces; a good use for an imperfect and outdated machine.

The Mirage suffered no such fatalities; it was a strong, stable airframe with an excellent escape system and what became a good fighter engine.

The Mirage was designed as an interceptor, but in response to export potential it became a multi-role fighter, which

bought it to RAAF notice. Fortunately, the RAAF Mirage was never needed to strike defended targets. With no refueling, no countermeasures, and modest range or payload, that may have proven costly. On the air defence side the Mirage had more potential, and we pushed that capability to its limit. Later in its life, the Laser Guided Bomb and an advanced short-range missile improved the aircraft's lethality. The Pakistanis have since fitted air refueling to their ex-RAAF Mirages, a major capability boost.

The Mirage was a delight to fly if you ever got a quiet moment with a clean aircraft. The flight control system was way ahead of the Sabre. The airframe was slippery, easily breaking through the sound barrier when the nose was lowered. The cockpit layout was good, if a little cramped.



Martin, reaching 1000 Hours Mirage 110, Williamtown, May, 1976 (L-R) Nixon, Wilkie, Gent, Taylor, Susans, Friedman, Welsh, Webb Photo: Martin Susans

On the down side, the Mirage was a high workload machine – airborne software hadn't been invented for this aircraft. Getting out of the flight line was the first drama as differential braking was needed, resulting in high power settings. A heavy weight take off was a lengthy affair, with all hopes pinned on the engine 'over speed' kicking in half way down the strip. Once airborne, there was some blessed relief as the air con spooled up, and by top of climb one was more composed. Landing the beast was another drama, it gobbled up runway at 170 knots; no flaps, no slats and quite often no dragchute!! I would have preferred longer runways for Mirage ops.

Vices - not many. High Angle of Attack meant very high drag, which no amount of power would remedy; not good near the ground. Management of fuel, what there was of it, could be a problem. There was no total fuel contents gauge, but a series of transfer lights that should have been carefully monitored for illumination – no chance. You only knew where you really stood when practically out of gas. We never lost an aircraft to fuel starvation, but some came close – very close.

I had the misfortune to have to have to eject from a Mirage with engine failure one dark night over the Barrington Tops near Williamtown. The wreckage could not be located from the air, but 12 months later a local resident discovered a crater in thick forest. The site was excavated, and the offending engine component located deep in the ground. It was the third Mirage lost to auxiliary drive problems in just two years. The RAAF ordered a modification that duplicated and filtered the oil line; no further aircraft were lost to this cause.



1SQN Phantom Display Team, Amberley, March, 1972

Back row, (L-R) Ivan Skipworth, Lyle Klaffer, Martin Susans, Bren Roberts, Front row, (L-R) John Wilkinson, Neil Pollock, Peter Growder, Noel Ryan.

Photo Martin Susans

So, on to the Phantom, a couple of months through the USAF sausage machine, then we ferried them back across the Pacific. The entire operation was organized by the Air Delivery Group, the crews simply did as they were told. It was a well-oiled machine in those days. At Hickam AFB there were scores of fighters moving to or from Vietnam.

The F-4 was the complete multi-role fighter - a great war machine - particularly the F-4E, which had the latest avionics and a gun in the front, prompting the RAAF backseaters to refer to our pilots as 'nose gunners'.

We used the F-4E largely as a stand-in F-111 – climb, cruise, penetrate, strike, then hit the range for bombing and gunnery. There were some concessions to Vietnam ops, such as the dreaded SAM Break, -1g to the vertical, full power acceleration, and high G recovery at low level. The Phantom proved a successful stopgap, and the project was a great credit to the logistics network which spread all the way back to the US.

The F4E had much that the Mirage lacked; Inertial Navigation System (INS), air refueling, a huge radar, countermeasures, a tail hook, nose-wheel steering, two-man crew and two great engines... and a fuel gauge to boot. It had flaps, slats and Boundary Layer Control – good for carrier ops, but hardly necessary at Amberley. It was a complicated aircraft, but proved to be reliable.

Some things about the Phantom reminded me of the Sabre. It was roomy, and all you needed to know was written on the cockpit wall. It was said, 'if you could read a newspaper, you could fly a Phantom'. Regrettably, though, the flight control system seemed to owe much to the Sabre. The Americans lost many F4s simply pitching into the circuit, refueling booms got snapped, and experienced pilots nose-sliced out of formation – the brute could bite! You only had to look at a Phantom to suspect they had trouble getting the aerodynamics right. It was not a clean airframe, but in the

end, it was a triumph of 'noise over drag'.

One particular sortie I remember well in the Phantom. We were in Darwin for Exercise Top Limit '72 and staff from the Integrated Air Defence System in Butterworth had come to observe proceedings. It happened that the Commander IADS was my father, AVM Ron Susans, an experienced fighter pilot. My nav, Pete Growder, kindly gave up his seat to the Air Marshal, so father and son had a very pleasant tour of the top end, including a friendly hello to the 'enemy' at Tindal.

Another leap forward to the F-111 – the Cadillac of the skies. Taxying out was sheer luxury, take off was effortless, and the rest was hands off. There was plenty of time for an occasional glance at the fuel gauge, which was always reassuring. Once pilots were brainwashed into flying hands off at low level in IMC, all went well.

The F-111C was a formidable strike/reconnaissance platform, but even she outlived her usefulness as the battle space evolved and ownership costs continued to climb. It broke my heart to see them buried in the ground at Amberley, but fortunately a generous allocation was kept for museum display.

It's been a great journey flying the world's best war machines with the RAAF. The Air Force changed a lot over those years, but generally for the better. Certainly, the machinery became more capable and reliable, the logistics more effective, and the standard of training higher. I hope somebody picks up this article in fifty years time and gets a smile out of our earnest attempts to project air power in the 'olden days'.

Martin Susans
Canberra, January 2014



Martin assists his father, AVM Ron Susans in the F-4E cockpit before both father and son flew in the Phantom, Darwin, May 1972 *Photo: Martin Susans*

World War II Medals for Mildura

Wings Summer 2013 reported that the medals and memorabilia of RAAF Lancaster Bomber pilot WGCDR Bob Norman DFC would be coming home to the Air Museum at Mildura from England in April 2014, accompanied by six family members.

Recently, Bob Norman's niece, Dianne Maclean (formerly Coward) of Canberra, advised that she and husband John will also be coming to Mildura on the same day to present to the Air Museum the medals and memorabilia of her father, FLTLT Charlie Coward DFC.

The late FLTLT Coward was a senior flying instructor at No 2 Operational Training Unit at Mildura for 20 months and during that time he met and married Enid, the sister of WGCDR Norman.

Like many other areas, Mildura was bereft of young men during WW2, having the highest enlistment rate in Australia, and the local people welcomed the many eligible young RAAF men into their homes and to the many district social functions. Enid Norman attended many weddings between Flying Instructors and local girls at that time.

Charlie Coward was born at Charters Towers, Queensland on 4 February 1918 and enlisted in RAAF Aircrew on April 26, 1940. As a young man his passion was for flying and he held a flying licence pre-war. He once flew a Tiger moth under the low bridge over the Bremer River at Ipswich. He did his initial training at No 1 ITS Somers, elementary flying at No 2 EFTS at Archerfield and service flying at No 2 SFTS Wagga.

Posted to the Middle East and completing a tour of operations with 250 Squadron RAF, he joined the famous 3 Squadron RAAF in North Africa flying Kittyhawks and, according to WGCDR Bobby Gibbes DSO, DFC & Bar, shot down five enemy Me 109 fighters.

He did not talk much about his service life, but he did tell of an experience of a force landing in the desert behind enemy lines and walking without water for many days before meeting a British patrol that took him back to his base.

After Japan entered the war on Dec 7 1941 Squadron members were sent back to Australia on 15 Nov 1942, disembarking at Sydney on 11 Dec 1942. FLTLT Coward had completed no less than three operational tours while overseas.

Posted to No 2 OTU at Mildura as a Flying Instructor, he was for a time

Officer in Charge of the Boomerang Flight and remained at Mildura until 5 July 1944. He said that training young pilots at Mildura was more dangerous than three years operational flying overseas!

While at Mildura he met local beauty Enid Norman and they were married on 25 Jan 1943 with his Commanding Officer, WGCDR Bobby Gibbes as best man, and with 22 other decorated pilots and many locals present.

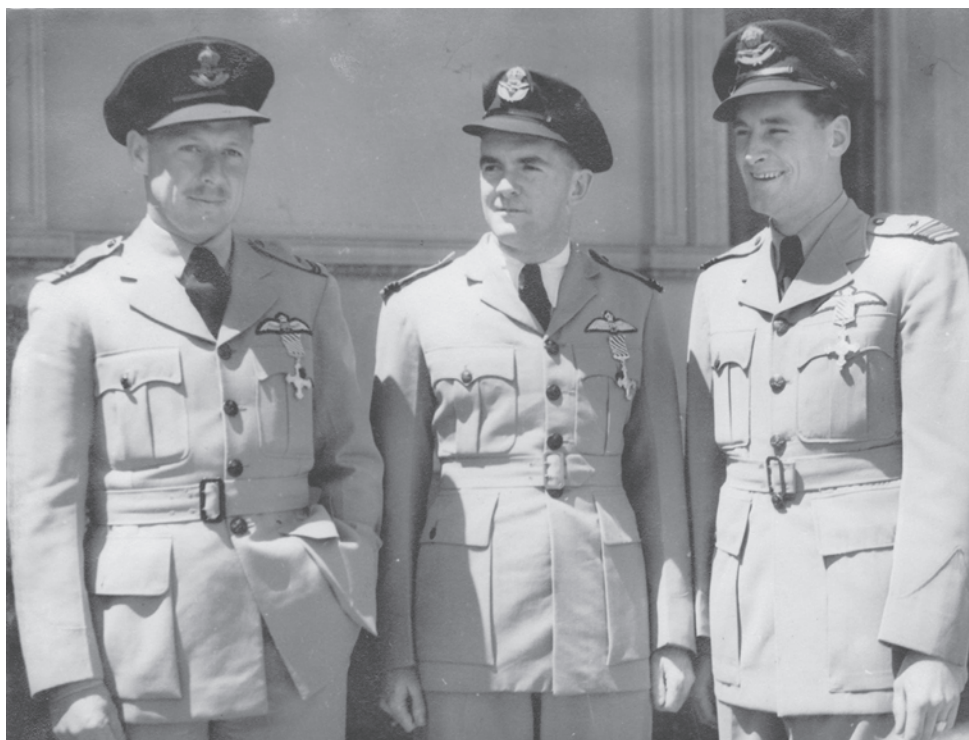
After the war FLTLT Coward returned to the family butchery business in Ipswich (QLD) and, with Enid, made it a highly successful business.

As a consequence of his miraculous wartime rescue he devoted himself to the Church of Christ, raising money for churches all over south-east Queensland. He was a passionate family man, delighting his children and grandchildren with stories and games.

Charlie died in 1993, Enid in 2011, and they were survived by their children Jeff, Dianne, Suzanne, and Lucille.

Post-war, Waddy was a Minister in the NSW State Parliament and Frank Fischer was a pilot and executive with TAA. At the age of 91 Fischer was reported in a Sydney Newspaper as having flown solo in Sydney, a remarkable feat! Waddy was credited with 16 aerial victories and Coward and Fischer three each.

Coward Family



(L-R) SQNLDR John Waddy, FLTLT Charlie Coward and SQNLDR Frank Fischer at Government House Melbourne after presentation of their DFCs, awarded for service with No 3 Squadron in North Africa.

Photo: Coward Family

The Great Tiger Moth Air Race

Royal Newcastle Aero Club was formed in 1928 and recently celebrated its 85th year of flying training. The Club introduced the first Tiger Moth, VH-UTD, to Australia in 1935. It was christened by the then Bishop of Newcastle Rev De Witt Batty as 'Halycon'.

The livery of the first Tiger Moth was the colours of the DeHavilland company-maroon fuselage and silver wings. At the beginning of World War II all civil Tigers were impressed into the RAAF going to war as elementary trainers. Post War, the Aero Club operated 40 Tigers at the many country centres scattered throughout NSW.

A lone Tiger VH-RNI is still on line at the club for members to experience vintage 'wind in the wires' type flying. Modern American aircraft took the place of the old machines but a core of club pilots still enjoyed the open cockpit experience. Members Bill Hitchcock, Kerry Schiemer and Allan Wilson were alarmed at the rapid demise of the Tiger Moth as many were being snapped up by American buyers. The 'plane drain' had to cease. In 1975 the decision was made to organise an Australian Tiger Club under the auspices of Royal Newcastle Aero Club. Similar Clubs operated in England, New Zealand, Canada, USA and South Africa. Bill Hitchcock as Chairman contacted the English Club and permission was granted to use their logo. The Club's chief engineer, Lance Fletcher and his team had received orders for restored Tiger Moths and some really first class machines began to leave the workshop. The high standard of these machines inspired more orders to be received and a second career as a much desired type for collectors began for the DH-82.

The aims of the Tiger Club were to keep the Tiger Moth flying in Australian skies so that the public and pilots could experience open cockpit, helmet and goggles 'wind in the

wires' flying and stop the overseas export of historic Flying Machines. A newsletter entitled 'Tiger Tales' was established and a Formation Team was organised to appear at the Club Air Shows. Soon invitations were received to appear at Country Air Displays.

In 1976 an inaugural Air Show was held entitled 'The Gathering of Eagles'. Tiger Moths flew from interstate to attend. A Flying Circus routine with a dogfight comedy and explosives headlined the programme. At this time two RAAF Mirage Jet Pilots who owned Tiger Moths joined the Tiger Club. RAAF Officers, Geoff Kubank and Dave Freedman joined with Kerry Schiemer and Allan Wilson in Formation Flying and the hi-jinks and fun which was the essence of the Tiger Club. Comedy characters Captain Bent Strut, Dame Nelly Ding Wing, Sir Percy Goodfellow and the Black Baron Von Dreadful were created to add fun to the spectacle.

NBN Television became interested in the Tiger Club after filming news items from the Air Shows. In 1977, Wal Morrison of NBN contacted Bill Hitchcock with a suggestion of holding the first Great Tiger Moth Air Race. NBN would provide a sponsor – Levi Jeans. The event drew 37 Tiger Moths from all over Australia to compete. Aero Club President Jack Fahey framed the rules and regulations for the race and chaired the Air Race Committee. Chief Engineer Lance Fletcher became Air Race Scrutineer. The Race was a huge success.

Also, a group of Tiger Pilots in 1977 purchased land at Luskintyre to open a grass airfield for Moth Flying. In years to come the Luskintyre Airfield would become the leading restoration centre and home of a great number of Tiger Moths. In 1978 the second Tiger Race was held sponsored this time by Pacific Films. 39 Tiger Moths competed, one of which was flown from Western Australia. The Race had now become a famous event on the Aviation Calendar.

The 3rd Race, again sponsored by Pacific Films was another great success. 31 Moths competed. An American Pilot travelled to Australia to fly as a crewman in one of the Race Tigers. The Tiger Clubs Air Show spectacular was staged at the conclusion of the Race and thousands of spectators enjoyed the colourful routines flown by Pilots of the Tiger Club. A replica 1914 Sopwith Pup and Fokker Triplane took part in the programme.

During 1982, Bradmill Textile Industries whose factory was adjacent to the Aero Club field sponsored the 4th Great Race and Air Show. The decision was made to endeavour to hold the Air Race every 2 years. A total of 29 Tigers competed in this race.

In 1984 the race was again sponsored by Pacific Films and the Australian and American Film Society. 28 Tigers competed. Thousands attended 'The Gathering of Eagles' Air Show after the race to see a World War II Mitchell Bomber and



The original aerobatic team; (L-R) Dave Freedman, Allan Wilson, Geoff Kubank, and Kerry Schiemer. 1976.

Photo: Anonymous

a giant United States Air Force C-141 Starlifter Jet Transport plus the RAAF Roulettes Aerobatic Team perform.

The Director of Pacific Films Neil Cottey had been a worthy supporter of the Tiger Club having sponsored 3 Tiger Moth Races and had the Club Workshop restore two Tiger Moths and a Hornet Moth for his own Vintage Fleet. Well known local Aerobatic Pilot, Phil Unicomb became part of the Tiger Club performers.

During 1985 Ray Windred opened a workshop and Restoration Centre at Luskintyre for Tiger Moths. First grade Moth restorations began to flow into the Australian Aviation scene and the facilities reputation was assured.

In 1986 the Race and Air Show was sponsored jointly by NBN and the Aero Club. A restored Spitfire Fighter and the RAAF'S new Jet Fighter the F-18 Hornet shared the limelight with Tiger Moths, Navy Helicopters and other types. A total of 30 Tigers competed in this race.

1988 Australians Bicentenary year was celebrated with a Great Race sponsored again by Pacific Films and Weldon Publishing. A DH Jackaroo restored by Club Engineers was allowed to compete.

The 1990 and 1992 Air Shows and Tiger Moth Races were well attended. It was becoming difficult to obtain a major sponsor and these races were sponsored by a long list of smaller sponsors.

The 1994 Tiger Club Air Race and Air Show were sponsored by Longines, the famous watchmaker. A Russian MIG 21 and Australian Boomerang Fighter featured in the display.

The 1996 Race Sponsored again to a degree by Longines was notable by Tiger Pilot John Fisher Flying his Tiger from England then competing in the race. This is the year Aero Club Chief Engineer Lance Fletcher retired. His Moth expertise was not lost, however, when he joined the Restoration Centre at Luskintyre.

1998's Race was sponsored by the Aero Club and a cluster of smaller sponsors. The Aero Club celebrated its 70th year of flying operations and the 12th Great Tiger Moth Air Race. A gap of a number of years took place mainly through the difficulty of gaining sponsors.

In 2003 well known Tiger Moth supporter Kevin Weldon and his Publishing company obtained the Airbus company to sponsor the Race again with support from the Royal Newcastle Aero Club and Tiger Club. The Race was an outstanding success with a total of 46 Tigers competing in this race, many of them came from Western Australia.

In 2010 Matt Webber took over the Luskintyre restoration centre and continues the high standard of re-birthing of Vintage Aeroplanes. The Weldon Publishing Company supplied beautiful large posters for a number of races over the years.

The next running of the Great Tiger Moth Air Race will be held on Anzac Day, 25th April, 2014. A website has been set up to take entries and to provide information to visitors. The address is www.tigerairrace.com

Bill Hitchcock

US Air Power

It's time to face facts. American air power today is an amazing weapon of war. The combination of the information revolution and precision munitions has produced a quantum leap in lethality. William Owens, former chairman of the Joint Chiefs of Staff, explains the fundamental transformation. "The key instruments that make us so powerful from the air are global positioning systems, laser guidance, detailed maps, radar, J-Stars, moving target indicators. All of these give you information-really knowledge. What sets the United States apart from its adversaries is that we use information much better than they do. Properly used, that can be an unbridgeable gap."

And in many ways this is only the beginning. "Strategic bombing could be much more effective," Owens explains. "Imagine an integrated network of sensors that made us see the entire battlefield all the time and a military that was totally interconnected at all times. If we had such a system now, finding Osama bin Laden would be easy."

Many in the defense establishment are still trapped by the lessons of Vietnam and World War II-in which dumb bombs were largely ineffective. Bureaucratic and political support for old-fashioned systems of power projection remains strong. And nostalgia for land power is still widespread.

That's why Secretary of Defense Donald Rumsfeld's attempts to transform the military along the lines Owens advocates were killed by the permanent defense establishment. One of the main reasons air power is constantly scoffed at-even as it succeeds in test after test-is that many people believe that the limited, precise targeting we are moving toward isn't really war.

The chief criticism of the Afghan campaign was that it was not lethal enough. "Why aren't we carpet-bombing troops?" we were asked. But carpet-bombing has never been very effective; otherwise Vietnam would have been a thundering success.

The better the information you have, the fewer bombs you need to drop to hit a target. During Desert Storm it would take, on average, 10 bombs to hit one target. In the Afghan campaign it took about two bombs to hit a target.

The point is to achieve your military objective, not have a fireworks display. The unease about antiseptic warfare goes beyond bombing itself. Throughout this war (Afghanistan), commentators have worried that by not using ground troops we were making war too easy, losing the sense of struggle and sacrifice that are essential to its pursuit. But while there is something to this impulse, surely if America can achieve its objectives without placing too many of its soldiers in harm's way, it would be crazy to do anything else. Certainly if my son were in the military I would like him to be as lethal and effective as possible. This part is actually not new, revolutionary thinking at all.

Remember the words of actor George C. Scott, paraphrasing Gen. George S. Patton "You don't win the war by dying for your country. You win the war by making the other poor, dumb bastard die for his country."

From US Defense News 2011

The Volunteer Air Observers Corps 1941-1945 (VAOC)

Origins of the VAOC

Of all the voluntary organisations set up to aid the World War II war effort most disappeared immediately after the war almost without trace. The Volunteer Air Observers Corps or VAOC set up by the RAAF was one of these. In late 1941 with the imminent possibility of a Japanese thrust south Senior Air Intelligence Officer, Wing Commander (later Air Commodore) A D "Dallas" Charlton, was tasked by the Air Board with establishing a scheme to monitor enemy aircraft movements over Australia as an early warning system, similar to the successful British Royal Observer Corps. Vast distances, small population and primitive communications facilities precluded a similar system in Australia. So an organisation more suited to Australian conditions was established with a chain of coastal Observation Posts manned by civilian volunteers, male and female, young and old, keeping a 24/7 watch on air and sea activity from Cairns to Ceduna and Albany to Geraldton with clusters around the capital cities and industrial centres and extending up to 250 kilometres inland in critical areas. They were to report to an RAAF officer at a Zone Control which in turn was responsible to State Air Sectors in the capitals where initially, trained WAAAF plotters recorded movements for interpretation and necessary action by Air Defence Headquarters Fighter Sectors in the RAAF areas of command. The first observation post became operational at Bairnsdale on 25th December 1941. Eventually the VAOC became invaluable in tracking movements of Allied aircraft as the probability of Japanese attacks receded except in the north.

Posts were set up in all manner of buildings from town halls to isolated schools and sometimes in sheds built by the volunteers themselves and even in trees, the only criterion being a relatively good field of view of the sky, sea or both. Equipment was minimal: charts of Allied and Japanese aircraft silhouettes, report sheets coded to describe the salient features of an aircraft, log book, clock, sometimes privately-owned binoculars, chair, table and a telephone connected through the local exchange to the Zone Control when AIRFLASH calls were given priority. A typical example was my old one- teacher Clybucca Public School on the NSW mid-north coast where during school hours the senior pupils kept watch. The teacher took over until farmers finished milking when residents, including my father who was a Chief Observer, took the night shift. As this was on the direct route from Sydney to Brisbane, military flights were almost constant in 1942-43. We were all familiar with the pre-war mail planes of the day and were even able to recognise the individual sounds of engines, so soon developed the necessary skills.

As the system developed and the need for accurate recognition by naval, army and air force personnel became more critical, a cottage industry developed in making scale

model aircraft for recognition training. When I was a student at Armidale Teachers' College in early 1942 men students made scale models while the women painted them in appropriate colour schemes. So accurate were these models that the College was tasked with making a model of a then-secret bomber for wind tunnel testing. This was, we later learned, the prototype of the CA-4 Woomera, A23-1001.

As no records were retained by the RAAF of locations of Observer Posts or of names of volunteers and only scant records exist in Unit History Sheets, the full scope of the VAOC contribution to the war effort would have remained unheralded and unsung but for the dedication, perseverance and enthusiasm of one volunteer. Don G Davis has recorded its history in his "WATCH ON WINGS – The Volunteer Air Observers Corps in Australia 1941-1945" published in 2009. Don Davis, an aeroplane-mad lad of the 1940s as so many of us were, at the age of ten with his father joined the Yarrawonga Observer Post as volunteers. He has extensively researched the circumstances under which aircrew and aircraft were saved by the VAOC observers. Some of the more noteworthy follow.

Japanese Reconnaissance Flights February and May 1942

Japanese submarine I-25 launched its Yokosuko "Glen" floatplane over Sydney on 16th February 1942. VAOC sightings were passed up the chain to the RAAF Sector Control who apparently dismissed them as it was believed that it could not possibly be Japanese. I-25 then proceeded to Hobart, headed up the west coast of Tasmania to Cape Otway, Victoria. A few days later the Yokosuko was catapult-launched and flew past Geelong, came out of the clouds over Laverton, Williamstown and even Melbourne. Although VAOC posts in these locations were not in full operation the aircraft was sighted by airmen at Laverton and Wirraways were scrambled without seeing it and at Williamstown range army AA gunners also saw and reported it to Victoria Barracks but by the time it reached the appropriate authority the order to fire was not given in time for a pot shot. A few months later at sunset on 29th May a Yokosuko was launched from submarine I-21 and flew low over Sydney Harbour and reported back on the presence of USN and other warships at anchor. Early next morning the Yukosuko was launched for another reconnaissance flight and flew over the harbour and Garden Island dockyard, again unmolested. It was reported by various observers each time but it was assumed to be a similar type of USN floatplane. On 31st May 1942 three midget submarines were launched from mother submarines for the well- documented raid within the Harbour.

P40 Kittyhawk Fighters over Eden

On 28th March 1942 four young and comparatively inexperienced P40 fighter pilots recently arrived from the

USA and based at Canberra were briefed for a formation training flight over the Monaro region and far south coast of NSW. Approaching Cooma they encountered bad weather and were soon lost, unable to maintain contact with or be contacted by base. VAOC observers reported hearing aircraft to Zone Control at Moruya on the coast but could not see them. All VAOC posts in the area were asked to report any sightings or sounds and many did so. The exercise ended in tragedy with two of the Kittyhawks crashing, one near Mount Imlay south west of Eden and a second near Lake Wonboyn south of Eden, both reported by VAOC posts, killing the pilot in each case. A third force-landed on Aslings Beach at Eden where the pilot was cared for by the local VAOC while the fourth successfully force- landed his P40 on a farm near Berridale on the Monaro. Tragically both survivors died later in 1942 in air operations in New Guinea.

B25 Mitchell Bombers Over Grafton

By mid-1942 the VAOC on the NSW north coast was operating very efficiently otherwise the story of five USAAF B25s flying from Noumea to Amberley might have ended very differently. Approaching Yamba near last light on 14th August 1942 on a delivery flight from USA they were positively identified by the Yamba VAOC post as B25s and as they flew up the Clarence River looking for Amberley their progress was reported by posts along the river. Sydney Air Sector however had no record of their expected arrival and suspected they might be Japanese so called air raid alerts from Sydney to Lismore. By nightfall they were circling Grafton and nearby the RAAF at Evans Head set up the flare path thinking they might be RAAF aircraft practising night landings so it had all become very confusing. Eventually RAAF Amberley which was expecting the Mitchells reported them as overdue and it was assumed that they were those over Grafton. All attempts to contact them failed.

The air raid alert was lifted and Coffs Harbour Zone Control advised VAOC Grafton to round up cars and trucks to illuminate a landing strip at South Grafton. RAAF Evans Head considered putting up one of its Fairey Battles to signal them by Aldis lamp. Eventually one, after two aborted attempts, landed safely at Evans Head. Two seeing the South Grafton strip illuminated made successful touch-downs but due to the short strip ran off the end and were damaged while the ten aircrew were unharmed. The Volunteer Defence Corps (VDC) mounted guard over them. The final two still lost and by now low on fuel, flew north and circled over Casino where the crew apparently decided to bail out. A Casino-based AIF unit reported that one had crashed just north and another north east of the town. Local police and VAOC personnel began a search for survivors resulting in finding ten safe but one had died. The two damaged B25s were dismantled by USAAF engineers and, together with the Evans Head survivor who was damaged by a RAAF vehicle driving in thick fog next morning, taken by low loaders to Amberley and eventually returned to much needed service.

Drama off Merimbula

Early in the morning of 22 July 1942 US Liberty cargo ship "William Dawes" bound for Brisbane from Adelaide was torpedoed by Japanese submarine I-11 near Merimbula. When 17 year old Tathra local VAOC member, 17 year-old

Lorna Stafford, arrived to begin duty at her observation post she found that the night shift had logged a loud explosion at about 5.30 am out to sea off Tathra. The William Dawes caught fire but did not sink immediately. Lorna reported a ship constantly changing course to Zone Control at Moruya. Four lifeboats were seen leaving the burning ship. Two fishing vessels were despatched to the site. By the time they arrived the ship had gone down and survivors, included four wounded, were brought ashore in Merimbula and spent time in the small Pambula hospital. Meanwhile, Merimbula lad "Chappie" Munn also heard the explosion and said he had seen the submarine surface off Merimbula as he delivered milk to customers from his parents' dairy. In 2012 now retired Wing Commander Chappie Munn welcomed the sole living survivor, Bill Minton USN from Oregon USA and eight members of his family, at a combined Merimbula RSL/Merimbula- Imlay Historical Society dinner where he was guest of honour on the 70th anniversary of the sinking. Within a year both Chappie and Bill had died.



(L-R) Les Sullivan and Bill Minton (USN Retd) at the 70th Anniversary Commemoration in March 2012 of the sinking of the US Liberty ship "William Dawes" near Merimbula.
Photo: Les Sullivan

Achievements

The role of the VAOC in WWII has been lost in the mists of time as there is very little if any reference to it in histories, autobiographies or biographies. Even though controlled by the RAAF, members had no official status, wore an armband and could apply for a badge. Some were issued with a uniform much later on. Even the badges proudly worn were ordered to be returned to the RAAF as "RAAF property" and certificates of VAOC service had to be applied for after WWII ended. Even the 3,500 members of Australian Land Army Women belatedly had their service recognised with the Civilian Service Medal 1939-1945. At its peak in 1944 "Units of the RAAF –Bases and Supporting Organisations" records that there were 2,656 observation posts and 39 control posts staffed by about 24,000 volunteers while "Royal Australian Air Force 1939-1942" states that by May 1943 the corps had a membership of 38,000. Ron Davis in "Watch over Wings" regards this as a gross under-estimation of the number of volunteers averaging only twelve or so per post. I am inclined to agree as this is fewer than the number observing at my old primary school.

Between January 1943 and August 1944 VAOC posts had 'definitely' saved 78 aircraft, 'substantially' aided 710 and 'assisted' 1098. The post at Wamberal near Gosford NSW in three years to February 1945 had reported 38,476 aircraft of 80 different types. Some over exuberant trainee pilots may even owe their life to reports of unauthorised low flying in the vicinity of observation posts being made by the VAOC to their CO.



The Volunteer Air Observers Corps in Australia 1941-1945, by Don G Davis, 2009

ROYAL AUSTRALIAN AIR FORCE 1939-1942, VOLUME 1; Douglas Gillison, AWM, 1962

UNITS OF THE ROYAL AUSTRALIAN AIR FORCE – A Concise History, Volume 1 – Introduction, Bases, Supporting Organisations. Volume 10 - Chief of the Air Staff, Aircraft, Bibliography. Australian Government Publishing Service, 1995

1942 - Australia's Greatest Peril, Bob Wurth, 2008

A SHIP IS BURNING, A paper by Ken Wright, 2004

Interviews with members of the Sullivan family 2013 and with Chappie Munn 2012

Les Sullivan, RAAF Association



The VAOC was dismantled with unseemly haste. The RAAF directed that with few exceptions, all reporting should cease by 1300 hours, Thursday 20th September only two weeks after the cessation of hostilities and expressed appreciation of "the excellent and untiring work which has been given during the last three and a half years by the VAOC". Sic transit gloria mundi!

References:

WATCH ON WINGS –

Boeing Record Commercial Deliveries

Boeing completed a significantly successful year as it recorded (648) commercial deliveries in 2013. This was the biggest number of commercial airplanes delivered in a single year. Additionally, the company recorded 1,355 net commercial orders in a year the second-largest in company's history. The company's unfilled commercial orders stood at 5,080 at the end of the year - also a new Boeing record. Boeing Commercial Airplanes President and CEO Ray Conner stated: "With solid execution on our numerous production rate increases, the Boeing team performed extremely well in 2013, we delivered more advanced, fuel-efficient airplanes to our customers than ever before, and it's a great example of what our team can accomplish".

In 2013, three programs set records for deliveries in single year:

- The 737 program delivered 440 Next-Generation 737s
- The 777 program delivered 98 airplanes
- The 787 program delivered 65 Dreamliners, now flying with 16 customers around the world

Family	Gross Orders	Net Orders	Deliveries	Unfilled Orders
737	1,208	1,046	440	3,680
747	17	12	24	55
767	2	2	21	49
777	121	113	98	380
787	183	182	65	916
Total	1,531	1,355	648	5,080

Orders, deliveries and unfilled orders as at 31 Dec 2013

Mr Ray Conner stated, "The year ahead will be exciting as we prepare to deliver the first 787-9, continue the design work on our newest programs - the 737 MAX, 787-10 and 777X - while increasing our production rates on the 737, we will remain focused on meeting our customer commitments by delivering the best products and services".

January 2014

Source: Boeing

A next generation fighter
takes a next generation engine.



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Cadets Take Flight with the Australian Air League

For nine days over the recent summer school holidays Camden Aerodrome was abuzz as twenty young cadets of the Australian Air League worked hard to make their dreams of flight a reality.

Each year the Australian Air League runs an intensive nine day Powered Flying Camp at its Air Activities Centre, located at Camden Aerodrome (60km south west of Sydney) where cadets have the opportunity to undertake flying training. Whilst some students may have already had some previous flying training, many are “*ab initio*” beginners and have only had joy flights or a Trial Instructional Flight previous to this.



The Australian Air League's two Piper Warrior aircraft await their next student pilots

Over the nine days the cadets live together at the aerodrome in tent accommodation – they eat, study and work as a team and during the camp amassed a total of almost 150 hours of flying. Some of the students managed to add 10 hours to their log books and whilst none of them went solo during the camp, a few will achieve this shortly with subsequent follow-up lessons.

The camp wasn't all hard work either – the cadets had some time off for leisure activities including visits to the local swimming pool and the cinemas for a well-deserved night out. They came from Squadrons all across NSW as well as a contingent from the Gold Coast Squadron in Queensland, and by the conclusion of the camp a strong esprit de corps had developed among the students, base staff and their instructors.

Flying training is not a cheap exercise and for many of these students the camp was the culmination of many long hours stacking grocery shelves or working behind the take-away food counter to save money for their lessons. Each student had a different story – some hoped this would be the first step of a career in civil or military aviation, whilst for others it was simply fulfilling a life long dream of flight.

The Air League's Air Activities Centre at Camden is owned and operated by the NSW Boys Group of the Australian Air League, with a fleet of training aircraft including Piper PA-28 Warriors and a Cessna 152. For nearly 30 years it has provided thousands of air experiences flights and training hours to members of the League, helping to achieve the League's motto *A Vinculo Terrae* - to be “Free From the Bonds of the Earth”.

The instructors, engineers and staff volunteer their time each weekend and during the flying camp for the love of aviation, not financial reward. This allows the Air League to offer reduced rates on flying training and air experience flights to its members whilst still delivering high quality training, and it could not operate without them.

For further information please contact:

Australian Air League

Phone: 1800 502 175

Email: info@airleague.com.au

About the Australian Air League

www.airleague.com.au

The Australian Air League is for boys and girls aged 8 years and older who have an interest in aviation either as a career or as a hobby. In the Air League they learn about aviation in all its forms through classes in theory of flight, navigation, aircraft engines and a variety of interesting subjects.

With Squadrons in most states of Australia the Air League has been serving the community in Australia since 1934. It is entirely self-funding and is staffed by volunteers who give their time to achieve its goals.



The cadets celebrate the end of the camp – and possibly the first steps into a future career

Thinking of leaving the military?

Defence has launched a new manual that brings together all you need to know about leaving Defence, including planning and preparation, administration requirements, and support services for you and your family.

Eventually there comes a time when you start to think about life out of uniform, whether it be a permanent separation or a shift to Reserve service. Either way, planning makes the move smoother and simpler for both you and your family.

The ADF Transition Manual is a single document that describes all the policy and administrative requirements associated with your transition to civilian life or the Reserves.

Tracie Stevens, who runs Defence Community Organisation's transition support services, says it's important to start planning your transition early.

"Policies associated with separating from Defence are contained in a range of instructions, manuals and documents," she explains. "The ADF Transition Manual brings all this information into one place, effectively streamlining the process for transitioning members."

"We're pleased to launch this new manual, as it means members and their families can now plan their transition early, know their administration responsibilities, and find out what support services they can access."

Developed in close collaboration with the three Services,

Month	Date	Location
March	4 - 5	Canberra
	12-13	Sydney
April	8 - 9	Brisbane
	29 - 30	Adelaide
May	6 - 7	Townsville
	13 - 14	Darwin
	21 - 22	Melbourne
June	4 - 5	Perth
	11 - 12	Wagga
	18 - 19	Newcastle
July	1 - 2	Brisbane
	16 - 17	Sydney
	22 - 23	Cairns
August	5 - 6	Shoalhaven
	12 - 13	Hobart
September	17 - 18	Adelaide
	24 - 25	Darwin
October	1 - 2	Canberra
	14 - 15	Melbourne
	21 - 22	Townsville
	28 - 29	Brisbane
November	12 - 13	Liverpool
	18 - 19	Perth



the Manual provides an easy to follow process to help you access entitlements and conduct administration processes correctly.

You and your family can also talk to advisory staff at our ADF Transition Centres or attend an ADF Transition Seminar at any stage in your career, not only when planning an imminent separation.

ADF Transition Centres are located on or near military establishments and staff can provide referrals, help you with administration, and can provide information about training and employment.

ADF Transition Seminars are held throughout the year and are for military personnel and their families to get information, advice, and resources to help them plan their transition to civilian life.

"To start planning your transition, get your hands on the new ADF Transition Manual. Then, speak to your unit staff early and request an appointment with your local ADF Transition Centre," says Tracie.

"The Manual is available for download from the defence intranet. You can also visit the transitions website, call the Defence Family Helpline anytime, contact your local ADF Transition Centre, or talk to your unit staff about the pros and cons of leaving Defence and the support available if you do."

Transitions intranet site (DRN only)
www.defence.gov.au/transitions
 1800 624 608 Defence Family Helpline

Mr Reginald Wallace

Ex World War II RAAF Member, Mr Reginald Michael Wallace (Reg) celebrated his 100th birthday on 30 September 2013. Born in Narromine (western NSW) he was the 9th of 13 children of Richard and Francis Wallace. He attended St Augustines Primary School in Narromine and left school at age 13 to seek work to help provide for the family. During his later school days, and after he left school, he would transport his four younger siblings to school by horse and buggy. Reg raised pigs at home and one way he helped to support the family was to sell dressed sucklings to hotels and boarding houses.

When he had enough money he bought his first bike (cost £4.10s) to enable him to travel further in search of work. Job hunting became more difficult during the years of the Great Depression. During this time, his main aim was to earn enough money to support himself, buy horse food and repair materials for his bike. Horse travel became more important during those years because of the greater distances travelled in search of work.

Reg joined the 6th Light Horse Regiment in 1936 and remained a member until the regiment was disbanded in April 1940: he was a Lance Corporal. Members were offered the option to remain in the Army or join the other services. Reg and his brother Phil (also in the 6th Light Horse Regiment) chose to transfer to the RAAF. They enlisted on 22 April 1940, the same day as their discharge from the Light Horse, as Corporal Drill Instructors. That night they boarded the train to Melbourne where they underwent recruit training at No 1 Recruit Depot (1RD) at RAAF Base Laverton. A Drill Instructor was not Reg's preferred mustering, but as he said, that's where the RAAF had vacancies at that time.

Following recruit training, Reg was transferred back to Narromine on staff of No 5 Elementary Flying Training School (5EFTS). The RAAF had requisitioned the Narromine Aerodrome in mid 1940 to provide elementary pilot training under the Empire Air Training Scheme (EATS). He was a drill instructor at 5 EFTS for courses 1 to 21. Whilst at 5EFTS, Reg undertook Warrant Officer training at No 2 Recruit Depot at RAAF Base Richmond and on completion of training in May 1942, he was promoted to Sergeant.



SGT Reg Wallace

Reg had postings to 2 Service Flying Training School (2SFTS) at Forrest Hill and 7 SFTS, Deniliquin, where he was promoted to Warrant Officer. He was then posted as the WOD to No 31 Beaufighter Squadron in October 1942 which was then forming at RAAF Base Forrest Hill, Wagga Wagga.

Whilst at Deniliquin, Reg



WOFF Reg Wallace

met Teresa Kathleen Cavanagh (Kath) who was a member of the Womens Auxillary Australian Air Force (WAAAF). Kath was one of 60 WAAAFs who had been posted to Deniliquin on completion of recruit training. Reg & Kath were married in April 1944. In those wartime days, married couples were only allowed two official black and white wedding photos.

No 31 Squadron was then relocated to Batchelor (NT) before

moving to its operational base at Coomalie Creek (just south of Darwin) in November 1942. Reg was part of the ground crew advance party which travelled from Adelaide via Alice Springs by train and truck. Reg recalls during dinner at Oodnadatta they were hit by a massive sand storm which covered everything in sand. Some of the newly recruited 31SQN personnel whom they collected in Adelaide were still wearing civilian clothes when they arrived at Batchelor – Reg was responsible for completing their initial military training before the move to Coomalie Creek.

They arrived on site at Coomalie Creek and erected their white tents. The Japanese bombed the base area that first night in an attempt to destroy the RAAF aircraft; although the white tents were visible, the Japs missed the target. The troops very quickly learnt how to camouflage their tents. The 31SQN Beaufighters then commenced operations against the Japanese. The Japanese conducted many bombing raids on the Darwin area during the time Reg was in the NT.

From 31SQN Reg was posted to No 9 Stores Depot (9SD) at Burdum, near Darwin. In January 1944 he was posted to No 2 Personnel Depot (2PD) at Bradfield park, Chatswood, NSW, where he was responsible for movement of RAAF personnel to Townsville and overseas. He suffered life threatening peritonitis and after discharge from No 2 Medical Rehabilitation Unit, at HMAS Cresswell, Jervis Bay, he was back at 2PD where at the end of the war he supported the discharge of returning servicemen before his discharge in April 1946. One of his last duties as a WOD was to attend the Court Martial of Group Captain Clive Caldwell in January 1946 at Bradfield park.

Following his discharge, Reg worked for several years with the NSW State Department of Child Welfare. In 1951 he commenced work at the Telecommunications and Electrical Industries (TEI) company in Meadowbank, NSW, where he worked until retirement at 65 in 1978.

Reg and Kath had 6 children and lived in the Ryde area for over 65 years before Kath passed away just before their 69th wedding anniversary, in early 2014. Reg is now a resident at the Calvary Retirement Community in Ryde.



Reg & Family at Reg's 100th birthday celebration

On Thursday 26 September 2013, the RAAF Association represented by Bill Schuberg (VP NSW), Geoff Usher (NSW Secretary) and Carol Moreau (Executive Officer NSW) presented Reg with his 50 Year RAAF Association membership certificate and with a letter from the National President (Brent Espeland) congratulating Reg on reaching his 100th birthday.



Reg with the NSW Division Representatives following his RAAF Association Presentation

Kawana Waters Branch Seeks Members

The Kawana Waters Branch of the RAAF Association (QLD Division) is seeking new members.

The Branch holds monthly meetings and bus tours of an interesting nature and other types of social activities. Lunches are subsidised. Contact the Secretary, Lance Doughty, on 07 5443 2775 for location and times of the meetings and for any other information.

Visit the web site at <http://www.raafaqldkawanawaters.org.au/>

Lance Doughty
Hon Secretary
Tel 07 54432775
Fax 07 5443 2979

A Reminder For EX WAAAF

A reminder to everyone that the EX WAAAF are still around and many still very active. We all do our best to keep in touch with those who are unfortunate enough to need constant care. We do receive many invitations from our younger sisters, the Peacetime WRAAF also quite a few of the full time RAAF Ladies. NSW State Division HQ keeps us on our toes and are available to assist with important information when required.

We are fortunate to have become members of Branches that are still active in the Sydney area, St George and Richmond Branches. They enjoy visitors and full time members are most welcome. Division HQ will pass on any enquiries.

I am sure all WAAAF will remember our ever caring Wing Officer Gwen Stark, aka "Starkie". Starkie's daughter Janet Dawkins has taken over her Mother's caring and is still active in visiting and helping many ex WAAAF and also helps out as a volunteer for school visits to the Kokoda Track Memorial Walkway at Concord NSW. Also Sharyn Wineberg, daughter of ex WAAAF Rae Wineberg, has taken on the job of treasurer of the Friends Of Kokoda at Concord of which I have been on the committee 12 years organizing volunteers for lunches and refreshments on school visit days.

Sydney ex WAAAF welcomes everyone at our "Keeping in Touch" luncheons, same time as old meetings, 4th Tuesday of the month at Sydney Bowlers Club, 95 York Street, Sydney. Seniors' Card \$23, discount for Bowlers Club Members. Every month, except April and December. Three course buffet, 11.30 – 12 Noon, pay on the day, carers welcome. Contact Mrs. Betty Seery, (02) 9771 6716, for table numbers.

If you would like to attend the Air Force Memorial service each November at All Saints Air Force Memorial Church at 11 Moore Avenue Lindfield (www.aswl.org.au) this year at 10.00am on 9th November 2014 you are most welcome. Super morning with tea supplied by the Church ladies. Our Meetings and functions are open to all ex- WAAAF members.

Mrs Sheila Van Emden
Member 60 Years RAAFA
Life Member RAAFA



How to Come Prepared for Overseas ANZAC Day Services

Attending an Anzac Day Dawn Service overseas at the sites where so many Australians fought and died during the First World War is an honour and a privilege for many each year.

If you're attending Anzac Day commemorations at Villers-Bretonneux in France or Gallipoli in Turkey in 2014, here are some tips to ensure you get the most out of your experience.

France – there is no parking onsite at the Australian National Memorial in Villers-Bretonneux so book your seat on a shuttle bus via the link on the DVA website. It can get extremely cold just before dawn so warm clothing including a beanie, scarf and gloves is essential, and plenty of water and sun protection for the later community services as it can warm up significantly in the afternoon.

Gallipoli – you will be exposed to the elements for up to 24 hours at the Gallipoli Historical National Park. Temperatures can reach below zero overnight so warm, waterproof clothing is a must. A moderate level of fitness and sturdy shoes are required to complete the up to 8 kilometres of walking on steep and uneven ground between the commemorative sites.

For more tips on how to prepare and what to expect at the commemorations, sign-up for the Gallipoli or France visitor information service via the DVA website www.dva.gov.au/anzac

The DVA Strategic Plan – Towards 2020

An extract from The DVA Strategic Plan, The Year Ahead 2013-2014, is reproduced below. The complete Strategic Plan can be procured from DVA or viewed on the DVA web site.

<http://www.dva.gov.au/aboutDVA/publications/corporate/towards2020/Documents/towards2020.pdf>

- DVA will continue its preparation for the significant events commemorating the centenary of the
- First World War, including the Gallipoli centenary in 2015.
- DVA will focus on ensuring all clients receive quality and timely support and advice. The time taken to process
- claims will be reduced to ensure that all compensation claims are finalised as quickly and sensitively as possible.
- DVA will develop a department-wide Service Delivery Strategy to provide the foundation for delivering
- nationally consistent, yet flexible outcome-based services to all DVA clients. This will better enable DVA
- to adapt its delivery of services to emerging needs.
- DVA will develop and implement a Communications Framework, to deliver consistent messages and
- information to the right people at the right time, using the appropriate channels.
- DVA will implement a five year Strategic Research Plan, working closely with Defence. This will provide
- a robust evidence base for future policy and program design.

- The Department will roll out a new leadership strategy to ensure staff have opportunities to develop
- their capability and deliver client-centric services.
- To better enable our staff to respond to client needs, the ICT desktop environment is being modernised
- including new desktop equipment, upgrading Microsoft Office applications and refreshing telecommunications.
- Client-Focused

Responsive

- We will implement the first year of the new Veteran Mental Health Strategy, a ten year framework for
- mental health care in support of current and future veterans and their families. DVA will progress the
- accepted recommendations from the Military Rehabilitation and Compensation Act Review that remain
- to be implemented and assist Government in responding to the Hanks Review of the Safety, Rehabilitation
- and Compensation Act.
- We will continue to identify and respond to emerging client issues and strengthen support for groups of
- clients including female veterans, widows/widowers, reservists, and those with complex and multiple
- needs.
- 7 DVA TOWARDS 2020

Connected

- DVA will continue to build and maintain its relationships with clients and stakeholders, including with
- Defence through facilitating early client engagement, progression of the Support for Wounded, Injured or
- Ill Program (SWIIP) and a joint strategic agenda of work.
- DVA will develop a roadmap for a provider portal to guide our future interactions with service delivery
- providers and ensure that they have access to the information they need to deliver high quality services to
- our clients and the Department.
- DVA has received direct funding of \$4.7 million for 2012–2014 to assist the veteran community to make
- an informed choice about registering for a Personally Controlled Electronic Health Record (PCEHR) and to
- make the Veterans and Veterans' Families Counselling Service Management Information System (VMIS)
- compatible.
- To give clients greater choice of access to DVA services, digital channels will be extended to enable
- more self-service requests, such as prior approval of medical treatment, and requests for reviews
- and reconsiderations. Digital channels will continue to be developed in areas such as online, mobile
- applications, video conferencing and eHealth. DVA will continue to leverage off whole-of-Government
- initiatives such as PCEHR and MyGov.

Advocacy, Entitlements And Support (AES) SPOT

Introduction

I am feeling a bit of a charlatan as I sit to write this quarter's Wings AES Spot. Not only did I miss the Summer issue (getting into training for the Festive Season), but I have to admit to going on extended leave when the Winter and Spring issues are due. As he did for the Summer 2013 issue, the Editor intends to include a range of current issues to keep information flowing. That said, this quarter I'd like to address some mental health matters that have arisen in recent experience.

This tack is sparked by the article written by the playwright, Daniel Keene, about his play *The Long Way Home* (Sydney Morning Herald, 6 February 2014, Arts and Society section). Keene says the play *was written in response to and in collaboration with soldiers who have been deployed from Afghanistan to Iraq, from Timor to the Solomon Islands to Somalia*. In other words, it is about experience at the "coalface".

Current Experiences

Keene continues:

No one returns from war unscathed. Homecomings are never easy or as simple as we might imagine. War changes those who fight it. Soldiers come home from war with memories they cannot shake, with wounds that cannot always be healed. Their wounds are not always visible and their memories remain unspoken.

Some will dismiss this as "poetic licence" – a playwright's flight of fancy, an exaggeration grounded in an emotional response. Indeed, there is still robust discussion over a beer amongst Vietnam veterans about whether claims of, and treatment for PTSD and Depressive or Anxiety Disorder are "real". Some still hold the view that such claims are a blatant abuse of the Veterans' Affairs system.

Clearly, not all who fight are afflicted by a mental illness. Those diagnosed, and under medication and cognitive behavioural therapy certainly know how real their distress is. And so is the damage that their illness has done to their families. "Secondary PTSD" – an illness that afflicts the families of some of those with PTSD – is accepted by psychologists as a real condition. Hence the Veterans and Veterans Families Services (VVCS) preparedness to treat for life children whose veteran father had PTSD. The real challenge for the veteran and the children is recognition, followed by acceptance, followed by therapy for the illness.

My experience as an Advocate and Pensions Officer supports Keene's observation. From my lay perspective, over 80% of the veterans I have helped with claims or appeals have shown clear signs of mental illness. In all but a few cases, this was subsequently confirmed clinically. The remainder showed hints – flashes of temper, chronic substance abuse, chronic sleeplessness, chronic low esteem, aged by chronic depression or anxiety beyond their years. Unfortunately, some veterans have suppressed their illness for almost a lifetime. Two examples:

- RAAFA Pension Officers helped two WWII fighter pilots and a bomber pilot gain the courage in their early 90s to consult a psychiatrist and have diagnosed clinically significant PTSD from wartime experiences. Each had survived crashes on combat sorties in which they had barely escaped with their lives.
- Another veteran, wounded in Korea and then again during the Malayan Emergency, had hidden himself and his family away in the hills since the late 1950s. He could not bear other people. He broke down on his deathbed when I encouraged him to consent to a psychiatrist talking to him. He was diagnosed with severe PTSD and died three days later of cancer.

In two cases, the veterans' widow is now receiving a War Widows Pension. A rather belated relief after a lifetime of personal and family trauma. In the other, the widow died before the Department was able to process her claim for a War Widows Pension.

RAAF veterans from Vietnam that have sought my support all too frequently have ignored or suppressed or dismissed their symptoms – and the consequences for their family. The trauma arising from their combat experiences has come in many forms. Again, two examples:

- Iroquois aircrew who have climbed back up to altitude after an SAS insertion, knowing that if they were called back to down to recover the patrol they would extract under intense hostile fire. The camaraderie between SAS and 9SQN forged then persists to this day. For many of both groups, so do the symptoms.
- The 35SQN aircrew who flew resupply sorties into the A Shau Valley at somewhere around 150 knots and who, now – despite flashbacks, night sweats, palpitations, smoking and alcohol they cannot give up – think that a hole or two in the aircraft or a round that was so close to their open cockpit window that the percussion was loud above the engine and slipstream noise.

Unsurprisingly, the prevalence of PTSD and the propensity for veterans to shrug off trauma persists into the contemporary era. In a paper presented recently to ESO executives, DVA advised that:

- ... two broad categories of claims ... together represent approximately 50% of all claims received from members returning from Afghanistan to date. These are mental health (23%) and auditory conditions (24%).
- The 2010 ADF Mental Health Prevalence and Wellbeing Study indicates that the greatest barrier to seeking care for mental health issues is it would stop the member from being deployed (36.9%). It therefore may be reasonable to assume that the rate of mental health claims may increase once deployment opportunities cease.

Although proportionally, the DVA observations relate more to Army personnel than RAAF, theatre experiences confronting some of today's RAAF personnel still involve exposure to enemy fire. The threat of wounding or death has,

however, widened, potentially affecting personnel whose employment would not have put them in imminent danger in earlier conflicts. IEDs, car and suicide bombings, and the immersion of enemy combatants into the civilian population have broadened the risk envelop.

Discussion with senior RAAF officers has, however, highlighted another area of significant concern for personnel and commanders in the highly networked, contemporary, combat theatre. No longer is trauma limited to those who are deployed. Combatants may now be seated in an operational headquarters in a country that is otherwise at peace, yet are viewing video and responding to video feeds that, for all intents and purposes, place them at the scene of action. Having done their day's duty, they then go home to their family and peacetime activities.

This reality brings me to the nub of this article.

Appeals heard by the Federal Court of Australia have on occasions found in the past that there are two dimensions to trauma in combat situations. Clearly, first is the unambiguous and unarguable situation where coming under hostile fire, killing an enemy, or seeing or handling casualties and human remains causes trauma and precipitates in time a psychiatric condition. The case law has, however, not been blind to another dimension – that of perceived danger.

Importantly, the second dimension is now covered by a recent amendment of the Statement of Principles for PTSD. Released by the Repatriation Medical Authority on 15 January 2014, SOP 19 respects the clinically substantiated reality that some veterans will become traumatised by their duty even though they were not physically engaged in combat.

If you open the new SOP on the RMA website www.rma.gov.au/SOP open the alphabetical page link "P" and scroll down the "Regional Hypothesis" column to "posttraumatic stress disorder", you will find that two new factors have been added to the pre-existing SOP 5/2008.

- The first amendment covers the PTSD sufferer who is in a threatening, hostile, hazardous and/or menacing situation (viz., on warlike duty), as a result he/she perceives him/herself to be threatened with death or injury **AND** which any reasonable person in the same circumstance would perceive as threatening of "life or limb".
- The second amendment covers the PTSD sufferer who by the nature of their duty is a "vicarious combatant" (my term). Understandably, this factor is tightly worded. The key provisions are that:
 - the trauma sufferer knows intimately the person threatened, or has been in contact with that person through discharge of duties and/or responsibilities; and
 - both the PTSD sufferer and the person threatened have been in the same or similar circumstances, and
 - the PTSD sufferer **AND** any reasonable person in the same circumstance would perceive as threatening to "life or limb", **AND**
 - "the viewing or listening was part of the PTSD sufferer's duties and/or responsibilities (ie. not the result of viewing

the mass media).

Given that the SOP is now only a few weeks old, it is too early to know how a DVA claims assessor will determine a claim from a "vicarious combatant". Without wishing to create unfavourable preconceptions, I can see that there is room in the factors for a rather restrictive interpretation. This may mean that the meaning of the instrument (remember: SOPs have the force of legislation) has to be tested at the Federal Court. Should this occur, learned justices have in past noted the "beneficial intent" of repatriation legislation.

Advocates and Pension Officers who support a claimant who is relying on especially the second factor in SOP 19/2014 should be conscious of the beneficial intent of the legislation. To do so, they should ensure that they clearly identify in the primary claim how the PTSD sufferer's service relates to each of the following issues:

- How the PTSD sufferer viewed or heard the combatant in a dangerous situation was known.
- How the PTSD sufferer had been in the same or a similar situation.
- How the PTSD sufferer **AND** a reasonable person would have been affected by the exposure to trauma.
- How the exposure was related to duties/responsibilities.

Documentary proof of duties **AND** the trauma-causing occurrence will be essential. Where the greatest room for the claim being successful or rejected will, I believe, lie in how the PTSD sufferer having been in a similar or the same situation. By a tight interpretation, this could mean that the PTSD sufferer has actually been in combat. By a more liberal interpretation, the PTSD sufferer could have, by their professional military knowledge, been critically aware of the effects on a human being of blast, shrapnel, explosive heat, percussion, or small and large caliber weapons. I feel that it is in this or similar argument that testing of the scope and intent of the second provision of the SOP may occur. I strongly encourage prospective claimants, pension officers and advocates to ensure that the foundations of a future test case before the Federal Court are laid in every claim that relies upon the second factor in SOP 19/2014.

Invitation

If you are concerned about the claim that they are preparing that relies upon SOP 19/2014, or would like to contribute to, or participate in the care and support of ex-RAAF personnel and their dependents, I'd like to hear from you either through Lance Halvorson, the Wings Editor, or direct to me at: <richard.kelloway@bigpond.com>

If I am a little slow to respond, please forgive me. I may be in a tent somewhere around the Arctic Circle until the Summer issue of Wings.

Prepared by R.N. (Dick) Kelloway, National and NSW VP AES, NSW-ACT Chair of TIP, practicing advocate and pension officer for RAAFA, the RSL and APPVA



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Warrnambool Regional Airport



Warrnambool Regional Airport is located 13kms north/north-west of the Warrnambool centre within Moyne Shire in south west Victoria. The Airport is owned and operated by the Warrnambool City Council and is "Registered" under Civil Aviation Safety Regulation (CASR) subpart 13.6.C Registered Airports.

The Airport has 16 hangars onsite accommodating both business and recreational aircraft. The Airport averages around 50 aircrafts movements daily with General Aviation Maintenance (Courier Service) and Ambulance Victoria fixed wing aircraft daily users and is home to Ambulance Victoria's HEMS 4 (Helicopter Emergency Medical Services)

Warrnambool Regional Airport is categorised as a "Security Controlled Airport" under the Aviation Transport Security Act

2004 and Regulations 2005 and operates on an Airport Security Identification Card (ASIC) switch on, switch off program. Only persons with a lawful reason are to access the "Airside Area" of the Warrnambool Regional Airport and must display a valid "Airport Security Identification Card" ASIC, at all times.

The Terminal Building is available for use by general aviation. Public toilets and a public pay phone are located within the Terminal Building.

The Warrnambool Aero Club is located to the south-east of the passenger terminal and fuel storage facility.

Free public car park with a capacity of some 30 cars. Avgas and JetA1 Fuel is available at Warrnambool

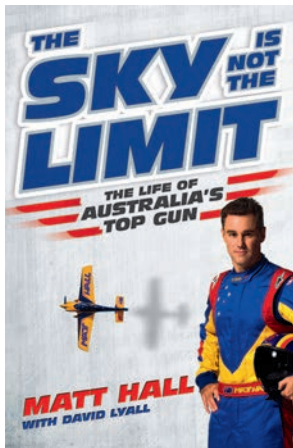


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Airport Service Manager / Reporting Officer Phone: (03) 5559 4970 Mobile: 0417 338 162



The Sky is Not the Limit

The Life of Australia's Top Gun.

By Matt Hall with David Lyall.

ABC Books.(2013)

ISBN 978-0-7333-2956-2

Matt Hall leapt into the public eye in 2009 when his performances as a 'rookie' on the Red Bull Air Race circuit captured the imagination of fans both here and abroad. At the time he was routinely referred to as a former air force fighter pilot, or "Top Gun" to further boost his profile to the global audience. However, these two catch-cries do not even scratch the surface of the real story of the man behind the public profile. His new book, "The Sky is Not the Limit", certainly does.

I have met Matt a number of times, interviewed him and even been fortunate enough to fly with him. Even so, in such settings and time-frames, one can only ever hope to touch upon anyone's life story. In the case of Matt Hall, it is a fascinating tale with a great deal of depth and substance. It is not all aerobatics and air races, far from it; this is a very open, very genuine look at what makes Matt tick.

The true origins of Matt's high profile stem from humble beginnings. He makes a point of stressing throughout his biography that he is an ordinary bloke who has had amazing experiences and knowing Matt I can vouch for the sincerity of this sentiment. Nevertheless, it has been a remarkable journey. He has risen to the highest echelons of the Australian air forces active fighter pilots, seen action over Iraq with the United States Air Force and finished on the Red Bull podium in his first year.

However, what elevates this book to a higher level are the insights beyond the headlines. There have been lows as well as the publicised highs and Matt is openly honest about these times. Furthermore, he deals with the human aspect of his disappointments and near-death dealings with a candid, forthright manner. It is written with the thorough honesty of a post-sortie de-briefing, but in the relaxed language and style of a boy from Newcastle. He has dodged a missile with his name on it and come closer to the waters at Windsor in his race plane than he ever wanted. In relating events such as these, Matt describes them with real words and real emotions before reflecting upon the ramifications. Herein, lies the book's strength.

For this is not a book solely for aviators. It is a book for people with goals and people with dreams. It is about maintaining focus amongst distraction and a positive outlook in the face of adversity. This biography is at times a text-book in motivation and achievement, wrapped in the clothes of an aviator's amazing journey. For that reason, readers of many varied backgrounds will truly appreciate that "The Sky is Not the Limit"

Reviewed by Owen Zupp



Taking to the Skies

Author: Jim Eames

Soft cover: 345 pages, with 28 B&W photos

Publisher: Allen and Unwin

02 8425 0100

RRP: \$29.99 – Ebook is available

Further information: amym@allenandunwin.com

Jim Eames' book tells many great stories of post war aviation in Australia and Papua New Guinea. He comments on the often stifling bureaucracy and stubborn attitudes of many in the Government, DCA, Qantas and the RAAF in the years after World War II. How Australia progressed with aviation in these days is a tribute to the persistence and integrity of the early aviators. Of course, the Australian landscape dictated that aviation would have such an immense impact on Australians and their way of life.

However, not all his stories tell of the bureaucratic setbacks, many are of the exuberant and strong characters who flew in these days and the many advances made; some even by the bureaucracy.

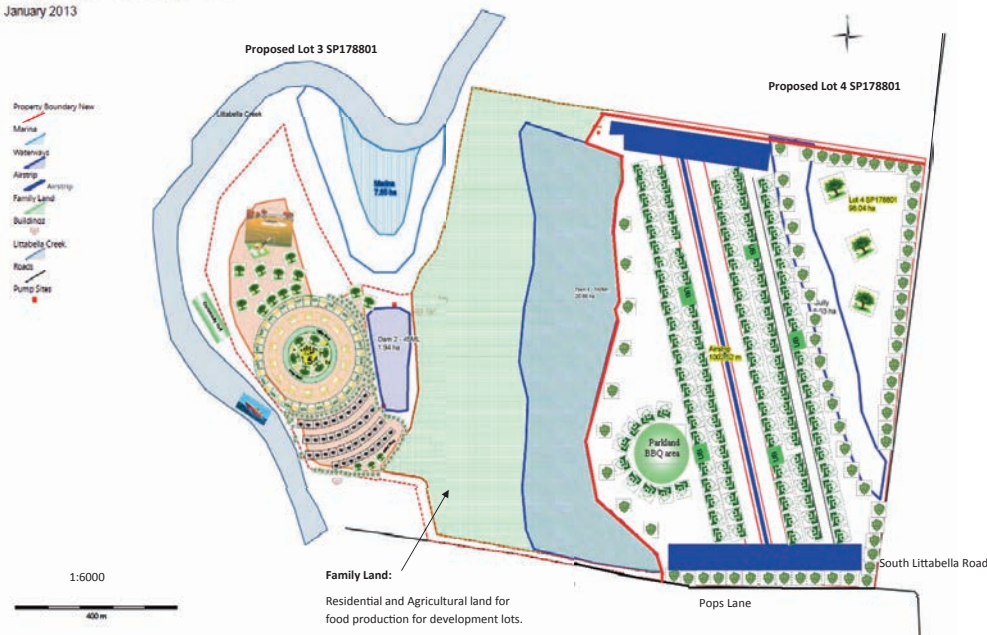
Australia has had many aviation achievements, not only in flying across the vast expanses of desert but also around and across the oceans. None of this could have been achieved without the strong engineering background and innovation that was created.

Many of the people involved, aviators, engineering and support staff, are unknown to most Australians. Jim Eames' book tells their stories, from the Catalina to the Boeing 747 jet airliners. It is a worthwhile read.

Lance Halvorson

EQUITY PARTNER

Pops Lane Concept Plan
January 2013



Equity partner sought to assist with the ownership and development of a Low Cost Airpark, Holiday Cabins and Caravan Sites situated on the banks of a salt water creek with boating access to the Ocean on Qld coral coast.

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