Not Without Adversity

SIR LAWRENCE WACKETT, AIRCRAFT PIONEER

Wackett's aviators certificate reproduced from Lawrence Wackett's album
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Christobel Mattingley considers the life of a great aviator and designer

Adventure, achievement and adversity abounded throughout the life of Lawrence Wackett (1896–1982), pilot, aeronautical engineer, aircraft designer and manufacturer, whose vision and work made a brilliant contribution to Australian aviation. The importance of Wackett's achievements was recognised by Harold White, National Librarian, in 1961. White encouraged him to write his autobiography and was delighted when Wackett decided to leave his papers to the Library. Their correspondence and the neat handwritten draft of the autobiography are the first item in the Wackett papers (MS 4858) in the Manuscripts Collection.

Not Without Adversity, a phrase from his motto, was Wackett's choice of title, a fitting one for his life. But the book appeared in 1972 as the more prosaic *Aircraft Pioneer*, perhaps because the publisher thought *Not Without Adversity* too cryptic.

The gem in the Wackett papers is a massive handmade album of 400 brown paper pages over 40 cm square, beautifully bound, in which Wackett pasted letters, certificates, photos, articles and press cuttings chronicling his long life dedicated to flying and the design and development of more than a dozen aircraft.

Lawrence James Wackett, later dubbed 'Wack', born in Townsville, Queensland, in 1896, attended Mundingburra State School and won a scholarship to Townsville Grammar. His interest in things technical was sparked at age six by a working model steamboat. It was given him by his father, who committed suicide soon afterwards. Lawrence and two younger siblings were raised by their mother.

Headquarters, Fourth Army.

To Captain L.J. WACKETT,
Australian Flying Corps.

11th December, 1918.

I congratulate you on the gallantry and devotion to duty for which you have been awarded

THE DISTINGUISHED FLYING CROSS.

Commanding Fourth Army.

This is to Certify that Laurence James Wackett
honourably graduated from the 2nd Class (1914) for service in the Australian Imperial Force
having ~~completed the prescribed course and passed the required tests~~, is recorded as a
Graduate of the Royal Military College of Australia.

Number of Certificate 85
Entered in Record of Graduates

Signed at DUNTROON this 30th day of June 1915.

Lieut. R.A.A.
Adjutant

Commandant

In 1913 Wackett entered the newly established Royal Military College in its third intake. He impressed authorities by inventing a mechanical fuse setter, but it was not produced. In 1915 he became Duntroon's first graduate to join the Australian Flying Corps.

Sent to Egypt in No 1 Squadron, he assisted with reconnaissance and photography. Finding many aircraft out of action, he improvised a workshop and repaired them. Later, in No 2 Squadron in France, he devised a way, commended by General Sir John Monash, of distributing much-needed ammunition by plane and parachute to within 100 yards of machine-gun crews, and was Mentioned in Despatches in 1917. In 1918, flying at 500 feet (152 m), although under attack, he obtained valuable oblique photographs of areas 10 miles (16 km) behind the Hindenburg Line. His plane was a write-off. He received an immediate award of the Distinguished Flying Cross from General Birdwood, and the Air Force Cross in 1919.

After valuable experience at the Orfordness RAF Experimental Station, on return to Australia Wackett designed and built his first plane, the bird-like Warbler, described as a 'home-made freak' by one journalist, who reported that after excellent initial trials the engine began missing in one cylinder, 'and all the mechanics crowded round like a family round a baby with whooping cough'. It won second prize in the 1924 Low-Powered Aeroplane Competition.

In charge of the RAAF Point Cook workshops, Wackett graduated BSc with Honours in one year at the University of Melbourne and began designing a flying boat, which he saw as a solution to Australia's isolation. Then, after appointment in charge of the RAAF Experimental Station (Randwick, NSW), he built it. Thirty feet (9 m) long, with a 40-foot (12 m) wingspan, Queensland maple hull and rolled brass wing ribs, the Widgeon, taking four people, and unique with lifeboat and paddles, was completed for £2000, £3000 cheaper than any imported machine of its class.

In July 1925, amid enthusiasm by supporters and derision from sceptics, the plane began its trials on historic Botany Bay. But it nosedived in an abnormal swell and journalists reported 'narrow shaves' and 'breathless escape' for Wackett and passengers as 'Widgeon comes to grief.' One newspaper denounced the waste of public money, calling for a royal commission into

above left:
Distinguished Flying Cross certificate, 1918
reproduced from Lawrence Wackett's album
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above right:
Lawrence Wackett's Royal Military College graduation certificate, 1915
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below:
Unknown photographer
Widgeon I, before La Perouse Monument, Botany Bay, 1925
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Unknown photographer
Photo of Wackett taken in London, 1918, at the time of the Armistice
reproduced from Lawrence Wackett's album
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aviation. But Lieutenant-Colonel Brinsmead, Director-General of Civil Aviation, came to Wackett's defence, declaring he was 'confident Widgeon will be a success'.

And in December 1925, after modification, Widgeon and Wackett triumphed. After flying at 100 miles (160 km) per hour, 'Widgeon landed on the water like a seagull'. Four months later, Governor-General Lord Stonehaven demonstrated his confidence by taking a flight over Sydney, declaring: 'Splendid. I enjoyed every minute of it.' In 1927 the Widgeon made history with a non-stop flight from Sydney to Melbourne in 5½ hours, and a newspaper trumpeted: 'Australia can put giant eagles into the sky.'

Wackett then added a retractable undercarriage, and on its test flight took off from Mascot Airport and landed on Botany Bay. Amphibian Widgeon 2, bigger and more powerful, made its debut in RAAF colours at the Sydney Aerial Pageant in March 1928. Two months later it became the first Australian-built aircraft to circumnavigate the continent, flying 9000 miles (14 500 km). When Wackett flew to Singapore to join the British flying boat squadron, the *Daily Guardian* changed its tune, exulting: 'Our own man, our own machine, our own initiative.' But in January 1930, in an accident on Hobsons Bay, Victoria, the aircraft was totally destroyed.

Warrigal 1, a trainer, was Randwick Experimental Station's next project. Then, as the unstoppable Wackett was designing Warrigal 2 as a fighter, Defence Forces funds were curtailed, and in 1931 the Station was closed. In 1933, Warrigal 2 was handed over to the Melbourne Technical College and Wackett, now an RAAF Wing Commander, resigned. Hard times followed in the tough Depression years, until he found work at Sydney's Cockatoo Dockyard. Here he produced hydroplanes, two high-powered boats, and built a new fuselage and half-wing for Sir Charles Kingsford Smith's *Southern Cross*, which had crashed on the night the Harbour Bridge was opened. He also designed and built the Codock high-wing monoplane, commissioned by Kingsford Smith.

Wackett then established the Tugan Aircraft Workshop at Mascot, where he gathered a team of experienced mechanics from Randwick to build three twin-engined passenger monoplanes. His next project was designing and constructing a reconnaissance plane, developed from the Codock. The twin-engined Gannet, ordered for the RAAF, could be converted to a bomber and could carry ambulance cases. Soon after successful trials in October 1935, it crashed in rough bush, incinerating pilot and passengers. Nevertheless, Gannets later were valued both by the RAAF and by regional domestic services.

Meantime, distressed by the casualties but undaunted, Wackett continued to promote his belief in the importance of Australia developing its own airpower. With the shadow of war visible in Europe, he battled against conservative attitudes and indifference at home and hostile trade interests overseas, predicting that Australia would not be able to rely on its allies to supply it with aircraft for defence. He had many contacts in industry, men like Essington Lewis, who admired his remarkable talent for design, engineering skills, determination, energy and achievements. Politicians also began to heed Wackett's warning, and in 1936 at Prime Minister Joe Lyons' invitation, the Commonwealth Aircraft Corporation (CAC) was formed, a syndicate consisting of the Broken Hill Proprietary Company (BHP), BH Associated Smelters and General Motors Holden, later joined by Imperial Chemical Industries (ICI) and the Orient Line. In 1937, with Wackett as manager, a £100 000 factory was established at Fishermen's Bend, Victoria, and in 1938 the first aircraft, the Wirraway, rolled off the production line.

The Wirraway, adapted by Wackett from the North American Aviation Company's design, made its successful test flights in 1939 and was handed over to the RAAF. It was to become an important training plane

for many pilots during World War II. In 1941, another plane, the Wackett Trainer, first flew. Then in 1942, Wackett produced the Boomerang, which played a vital part in the New Guinea campaign. Fourteen weeks after the first designs were on the drawing board, the Boomer was airborne. Able to cut swathes through kunai and jungle with strafing fire, knocking out sniper posts, Boomers reduced the hazards of mountain tracks and were a welcome sight to ground troops.

But the war brought personal tragedy to Wackett and his wife Letty, whom he had married in 1919. Their son Wilbur, a Darwin-based RAAF Squadron Leader, went missing flying a Beaufighter.

In February 1945, tooling up began for the Mustang, another North American design, and the first machine flew within three months. Later, with all Australian components, the Mustang became the RAAF's principal fighter in the South-West Pacific, Japan and Korea. In May 1949, CAC won the contract to replace obsolete RAAF training aircraft, and the first Winjeel appeared on Australia Day 1951. However the government delayed confirming the order, so aircraft were not handed over until 1955. They stayed in service for 40 years, a record almost without equal.

At its peak, CAC employed over 8000 workers. They all knew Wackett by sight, because he spent five hours each day on the factory floor. In 1954, Wackett was knighted 'in recognition of his outstanding pioneering services to the Australian aircraft industry in peace and war'. Wackett was the driving force in producing Australia's first jet fighter, the Avon Sabre, improving a US design. The previous year, when it exceeded the speed of sound, he had written, 'I have reached the climax of my ambition.' In 1959 he was further honoured, as the first aeronautical engineer to receive the University of Melbourne Kernot Medal for distinguished engineering achievement.

After retiring in 1960, 'Wack' enjoyed reading, growing orchids, boating and fishing. In 1970, while stowing gear, he fell three metres to the concrete garage floor, lying for hours before being found. Determined as ever, his experiences as a quadriplegic led him to design better equipment for paraplegics and their carers. Indomitable to the end, Wackett died in 1982, closing a remarkable life of triumph over adversity.

Christobel Mattingley's latest book, *Battle Order 204: A Bomber Pilot's Story*, is the account of her husband David's years as an RAAF pilot in World War II, flying Lancasters in RAF Bomber Command

below left:
Unknown photographer
Three Wirraway aircraft reproduced from Lawrence Wackett's album
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below right:
Unknown photographer
Successful completion of first trial flight of Sir Charles Kingsford Smith's Australian-built monoplane, the Codock. Mascot Aerodrome, Sydney, 6 March 1934. Wackett (designer and builder) at front left, Sir Charles Kingsford Smith third from left.
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