A DRAFT HISTORY OF PARACHUTING IN AUSTRALIA UP TO THE FOUNDATION OF SPORT PARACHUTING IN 1958 by Frank Mines, D-2034

1. INTRODUCTION

The following work examines the history of parachuting in Australia up to the foundation of sport parachuting in Australia in 1958.

An important foundation for the writing of the history of any organisation, activity or group of people is that framework of ideas and events within which the history of the activity, organisation or group worked itself out. This can be designated the historiography of the activity and its relations with other historiographies, of nations, movements and so forth needs to be identified. It enables the activity or organisation to be compared and contrasted with other human activities and organisations.

The other important element in writing history is the sources of the history, what might be called the archaeology of the activity, and our attitude to sources will be influenced by our historiographical approach. A more detailed discussion of the sources is provided in the bibliography.

Although interest in parachuting goes back a long way in history - for example, we know that toy parachutes were a popular present for children in the European Middle Ages, and there were experiments in jumping off towers and walls with parachutes - modern parachuting begins in the context of the European Enlightenment, with its espousal of a methodology of observation and experiment to enable human beings to acquire a progressive mastery of themselves and their environment. Knowledge and skill were given priority over such ancien régime values as valour and loyalty as the keys to human betterment.

(It should be noted that when the modernisation agenda of the Enlightenment led to such outcomes as nuclear weapons there was a revisiting of some ancien régime values without abandoning key elements of the Enlightenment agenda such as the pursuit of knowledge and skill. This new cultural direction was commonly called postmodernism.)

The keys to the development of modern parachuting were reliable machines for lifting men off the ground and reliable devices for descent from the aircraft to the ground.

In 1783 the properties of hot air and hydrogen were harnessed to provide the first lighter than air aircraft: the hot air balloon and the hydrogen balloon. The discovery of how to generate hydrogen had come from the advances in chemistry then being made in France and other parts of Europe. In 1783 the Montgolfier brothers made the first ascent in a hot air balloon and in the same year Professor Charles made the first ascent in a hydrogen balloon.

The creation of balloons was followed almost immediately by the descent of animals under parachutes from the balloons. There does not appear to be any record of the animals' response to this new experience.

It is almost certain that human descents followed, but there is no independent account of these descents apart from claims made by some aviators. For example, the aeronaut Blanchard is said to have made an emergency descent with a twenty-one foot canopy at a

demonstration of ballooning at Ghent in what is now Belgium on 21 November 1785 when his balloon threatened to burst. (Valentin)

The story of modern parachute descents by human beings really begins with André Jacques Garnerin (1770-1823). He was a witness of early ascents by the Montgolfier brothers in hot air balloons and by Professor Charles in a hydrogen balloon and at once conceived the ambition to become an aeronaut.

Garnerin made his first ascent in a hot air balloon constructed by himself in 1790. He went on to become the leading balloonist of his period, giving demonstrations of balloon ascents at public occasions for handsome fees. He initiated the use of balloons for long distance journeys.

In 1794 Garnerin, an official in the French equivalent of the Department of Supply or Administrative Services on secondment to the French army, was sent to negotiate with the allied forces that were then invading France on all sides. As the allies did not recognise the French Republic he was promptly imprisoned in a castle where he began drawing plans and collecting materials for a parachute to enable him to escape from the castle. Before he could realise his plan he was released and sent back to France.

Back in France he applied to the government for funds to enable him to develop a workable parachute capable of carrying a human being. The French government was interested in this project because it was contemplating invading England using balloons and parachutes. (This plan eventually came to nothing because the prevailing winds were from the west.)

The French government was not the first to grasp the military potential of the balloon. In 1784 Benjamin Franklin, then representing the United States government in France, said:

“Where is the prince who can so afford to cover his country with troops for its defence as that ten thousand men descending from the clouds might not in many places do an infinite deal of mischief.”

After examining and test dropping various designs drawn from sources as far back as Leonardo da Vinci’s designs, Garnerin settled on what we know as the modern round parachute. The parachute was held open by whale bones (thus avoiding the possibility of streaming) and carried a basket for the parachutist. (The rigid framework was got rid of by 1800 and the loose canopy allowed to fill with air of its own accord.)

The parachute lacked the vent in the apex that is characteristic of later round parachutes and consequently the air held underneath could only escape by tipping the parachute to one side or the other. This oscillating motion tended to make the parachutist airsick. (The French astronomer, Joseph-Jerome Le Francais Lalande (1732-1807), who witnessed Garnerin’s first public demonstration of parachuting in 1797 in Paris, recognised the reason for the problem and recommended to Garnerin the insertion of a vent at the apex of the parachute. However, this modification does not appear to have been generally adopted until the 1880s.)

It will be noted that the parachute was based on the principle of drag and the word ‘parachute’ is a French word meaning ‘preventing fall’ and was invented by Sebastien le Normand, a professor of physics and chemistry at Montpellier, France, who had jumped

from the top of an elm tree on 26 December 1783 using a parachute fourteen foot in diameter. (Valentin)

The possibility that the curved surface of the parachute might contribute to lift does not seem to have been taken into account, even though Bernoulli's theorem (1738) was already known.

The wicker basket or nacelle of the balloon was used to contain the parachutist until parachutists with an acrobatic background replaced it with a trapeze.

On 22 October 1797 Garnerin gave a public demonstration of parachuting in the Parc Monceau in Paris, then called the Parc de Mousseaux and the centre of various entertainments. He described his separation from the balloon as follows. "I took out my knife, and with the steady hand of a man whose conscience is clear, and who has never raised it against anyone except on the field of battle, I cut the cords which attached my parachute to the balloon." (Valentin) His descent was from 1000 metres. He was to make four more descents, one of which was in London in 1802 from 8000 feet using a 23 foot canvas parachute.

Garnerin's wife, Jeanne Genevieve Labrosse (1775-1847) was the first woman to pilot a balloon, as opposed to being a passenger, and was the first woman to make a parachute jump, on 10 November 1798. Garnerin's niece Elisa Garnerin (born 1791) was introduced to parachuting by Garnerin and became a professional parachutist, and carried out about forty parachute descents in countries around the world between 1815 and 1836.

Initially, and for many descents during the balloon era of parachuting, the parachute simply hung from the balloon. "It was not until 1850 that someone in Germany thought of folding up the canopy and in France of enclosing it in a bag." (Valentin)

It should be noted that safety was a central consideration in the development of the parachute as a means for descending from an aircraft to the ground and safety has been the central consideration ever since in relation to the development of the parachute and its associated technology and manner of use. Science and safety were given priority over such ancien régime values as courage and daring.

THE HISTORIOGRAPHY OF PARACHUTING IN AUSTRALIA. In relation to the history of parachuting in Australia before 1958 I wish to examine two fundamental aspects of the writing of a history: the historiography and the sources.

In relation to sources, there needs to be some criteria for assessing their relevance to the history and their value. In doing this there will be an interaction between the historiography of the area and the evaluation of the sources.

It was to be some time before ballooning and parachuting made their way to Australia and during the period covered by this work Australians were not leaders in activities associated with parachuting, except in the case of Vincent Patrick Taylor (Captain Penfold), a native Australian who moved into the main arena of world parachuting. It was not till the era of sport parachuting that Australia really began to move into the international mainstream of parachuting.

It is difficult not to see parachuting in Australia against the background of the competing cultural influences during the period. By the 1890s the United States already had the

technological, industrial and institutional edge that would make it the leading political and economic power by the middle of the twentieth century. In Australia during the 1890s the American influence is very obvious, even to the spelling of words. Some of these spellings survive, such as in the case of the Labor Party, founded during the 1890s. Another example is the Commonwealth of Australia Constitution, a product of the 1890s, which was strongly influenced by the American Constitution (and the Swiss Constitution).

However, the American influence should not be overstated. During most of the period covered by this work political isolationism and economic protectionism limited the influence of the United States on other countries in the world. During the 1890s the dominant political, military and naval power in the world was still the United Kingdom. In Australia the British influence was most noticeable in economic and cultural terms, most of the financial capital in Australia during the nineteenth century having come from the United Kingdom. Parachuting had been banned in the United Kingdom following the demonstration descent in London in 1802 by Garnerin and this may account for the slow take-up of parachuting in Australia. On the other hand, Australian cultural attitudes to parachuting would have felt the pull of technological progress in the United States.

In the case of derivative societies, such as colonial societies, creative persons tend to migrate to the metropolitan society or alternatively a society where the activity they are engaged in is conducted as a mainstream activity. In the case of Australia, England tended to the the cultural drawcard for most activities. In the case of parachuting, the United States was a focus of attention.

It is very often easier for the elites of a society to leave the origination and development of ideas to other people in other societies, thus avoiding the risks and costs associated with doing so. Ideas have always been an important factor in political, economic and social development but, following the European Enlightenment, the future was to lie with those societies that originated and supported new ideas; those societies that did not were to become dependencies and followers of those that did.

Parachuting remained on the edges of Australian culture and society during the period covered by this work, although occasional figures such as V P Taylor had links to cultural elites within the national culture. In the late 1930s it looked as though the civilian parachuting of the time was about to break out into the wider Australian society within the framework provided by Commonwealth Government regulation. The advent of the Second World War brought an abrupt end to civilian parachuting and to the possibilities that had started to emerge. It is interesting that the linkages that grew up between military parachuting and sport parachuting in the era of sport parachuting did not exist in the period considered in this work.

During the Second World War a much larger group of Australians than at any comparable previous period was given training in parachuting as part of their military or special forces assignments. It was this experience that was to influence post-war civilian parachuting and lead eventually to the emergence of sport parachuting and the spread of parachuting into the wider Australian community. It was military equipment, military approaches to training, personnel with current or previous experience of military parachuting, and links with the RAAF parachute training school and with the commando units of the Citizens' Military Forces that provided the cultural matrix from which sport parachuting came, even though it was quickly to become an independent activity in its own right. The military legacy of safety and science was passed on to Australian sport parachuting. The roots

and genealogy of sport parachuting in Australia are in military parachuting rather than in the civilian parachuting that had developed up till the Second World War.

It is interesting to compare Australia's experience with that of other countries. In the Soviet Union sport parachuting was clearly inspired by the massive effort put into military freefall parachuting at the beginning of the 1930s. In France parachuting had been part of the national culture from its beginnings. One can compare the Australian experience with that of New Zealand where there was not the significant military investment in parachuting that there was in Australia. The cultural differences in sport parachuting in the two countries could well be explained by the different histories of parachuting in the two countries.

Parachuting in Australia in the period covered by this work, whether civilian or military, and in its equipment and activities, remained largely derivative from the parachuting activities of other countries. Parachute jumps were made in Australia during this period but the mere fact of jumps being made does not of itself 'make history'. After all, anyone can fall out of an aircraft. What is important in the modern context is whether the jumps contributed to building up human knowledge and skill, and in that way advanced human civilisation and humanity's mastery of its environment.

The tensions between ancien régime and Enlightenment values existed in Australia as elsewhere and probably contributed to the slow acceptance of parachuting in Australia. The behaviour of those who used parachuting to assert ancien régime values of daring and risk-taking probably contributed to the negative view of civilian parachuting that seems to have developed in the Commonwealth regulatory authorities in the period around the Second World War. The emergency powers enjoyed by the Commonwealth government during and immediately after the Second World War would have made it much easier to clamp down on civilian parachuting than before the war.

I think the main interest in the story of parachuting in Australia in the period covered is the way in which cultural influences in the form of ideas and attitudes on the one hand, and technological developments on the other, interacted to produce that story.

2. PARACHUTING IN AUSTRALIA DURING THE BALLOON ERA

BALLOONING IN AUSTRALIA. Ballooning in Australia began with theory rather than practice when Dr William Bland (1789-1868) produced designs for a powered airship *The Australian Encyclopedia* of 1927 gives this account of Dr Bland's work.

"In March 1851 Dr William Bland designed an 'atmotic ship', drawings of which he sent to England for the Great Exhibition of that year; they arrived too late, but a model of the machine was shown in 1852 at the Crystal Palace. This 'ship' consisted of an elongated balloon, capable of lifting five tons, with an attached car containing a steam-engine actuating two screws by which the ship could be driven against the wind. As the weight of the car when fully loaded with fuel was 31/2 tons, there was theoretically a surplus lifting power of 11/2 tons available for passengers, etc. Bland's estimate of the possible speed was only 50 miles per hour, but he was sanguine enough to prognosticate the reduction of the passage between England and Australia to four or five days. In 1866 he announced his invention to the world in a broadsheet, but it attracted little notice, and his death in 1868 cancelled its last chance of being tried." (See the 'Aviation' entry.)

The first successful Australian flight in a balloon was made by William Dean in Melbourne on 1 February 1858 in the “Australasian”, an aerostat filled with coal gas.

Previous attempts had been made in Launceston in March 1845 by Professor Rea and in Sydney by Pierre Maigre in December 1856. In the case of Pierre Maigre, when his hot air balloon failed to rise it was set upon by the disappointed crowd and burnt, and Maigre was forced to flee to the sanctuary of Government House nearby.

Dean and his partner Brown made Sydney’s first balloon ascent on 13 December 1858.

For the rest of the nineteenth century and up to 1920 in the twentieth, balloon ascents were a not uncommon event at fairs and public gatherings.

THE FIRST EMERGENCY DESCENT. Since parachutes were occasionally attached to balloons as a safety measure it was only a matter of time before someone made the first emergency parachute descent in Australia.

This happened on 14 April 1879 when Henri L’Estrange, of Sydney, an Australian aviation pioneer, was demonstrating his balloon “Aurora” at the Agricultural Society’s grounds near Victoria Barracks in Melbourne. During the movement of the balloon from the Horticultural Hall to the grounds, several holes had been made in the fabric of the balloon, but these were hurriedly patched up by L’Estrange with plaster and he said he would “chance it”. After the balloon had been filled with gas from the Metropolitan Gas Company the balloon took off at twenty to four in the afternoon. Following a rapid ascent of the balloon to a mile and three-quarters above the ground, during which the balloonist scattered handbills on the city below, and added to the balloon’s already rapid rate of ascent by casting out sand ballast in the belief that the clouds he was passing through would impede the balloon’s ascent, the calico fabric of the balloon burst, with a loud report, (as he described it, “an explosion as if of a large cannon”), releasing the town gas that had provided the lift for the ascent. The wreckage of the balloon began to descend even more rapidly than it had gone up, to the horror of the spectators, and the silk parachute tied to the centre of the balloon quickly inflated. Whether by design or because the balloon was descending rapidly, the parachute did not detach from the balloon. During the descent the parachute split in a number of places, but combined with the fabric of the burst balloon provided a degree of drag to reduce the velocity with which the balloon was plummeting to the ground, with the wind “whistling and screaming through the bottom of the car”, while L’Estrange “commended himself to a higher power”. The fall of the balloon was checked when the fabric struck the side of a fir tree at the rear of Government House, and the basket containing the balloonist struck the ground with a violent shock. L’Estrange was buried under the wreckage of the balloon and parachute and would have suffocated if he not found a hole in the calico of the balloon, which sustained him until help arrived to remove the heap of fabric that was pinning him to the ground. L’Estrange escaped with a shaking and a few bruises and appeared on the stage at St George’s Hall that evening as the hero of the hour. The ascent and descent had occupied a total of nine minutes. The incident was not without a casualty. A Mr Verbrugge and his wife were driving in a spring cart on Sandridge Road when they saw the balloon falling out of the sky. They drove rapidly along the road towards the destination of the descent but the horse stumbled and Mrs Verbrugge was thrown out of the cart and suffered a fractured arm. (Melbourne *Age* and *Argus*, Tuesday 15 April 1879)

FIRST INTENTIONAL JUMP. The first intentional parachute descent in Australia by an Australian resident was on Saturday 8 December 1888 in Sydney by a Mr J T Williams, a

watchmaker, of Castlereagh Street, Sydney. The following account is reconstructed from newspaper reports of the time.

In appearance, Mr Williams is said to have been a quiet, unassuming man, 33 years old at the time of the descent, about five foot six inches high and weighing under 10 stone. Apart from being regarded as an expert watchmaker, he was recognised by athletes and others as being a better than average gymnast. A native of Aston, near Birmingham, England, he had migrated to New South Wales about 14 years before the time of the descent and settled there.

For some time he had been making experiments with parachutes with a view to demonstrating that the parachute could provide the aeronaut with a means of escape in time of danger analogous to that which a lifeboat gives a shipwrecked mariner at sea. These private trials had been attended with such success that he decided to make a public ascent from the Ashfield Recreation Ground with the aim of descending under canopy after he had reached a height of over 1000 feet.

On Saturday 8 December 1888 about 4000 persons assembled on the ground to witness the experiment. The afternoon was fine, though a bit warm, with a fairly strong north-east breeze for some of the time.

The balloon selected for the ascent was the Gem, in which Captain Henden had made a number of trips into the upper atmosphere. Gas was supplied from the town mains through a special six inch main. Inflation was begun shortly before two o'clock, but owing to the occasionally high wind and other causes it was nearly six o'clock before the supply was finally cut off. The balloon had a capacity of from 22,000 to 24,000 cubic feet, but it was not thought necessary to give a supply of more than 18,000 cubic feet.

The parachute bore a close resemblance to the top storey of a Chinese pagoda. It consisted of two rings, one about 14 feet and the other about four feet in circumference. These were covered with fine China silk, the smaller ring being at the top and being partially uncovered to permit of the free passage of the air.

"Attached to the bottom of the silk was a series of ropes, each of which had a special purpose, perfectly understood, of course, by the aeronaut."

"There was a posse of police, under two inspectors, on the ground during the afternoon, and a rumour was current that they had received instructions to stop the ascent at the last moment. The rumour turned out, on inquiry, to be one of a number of canards of the sort which are always industriously articulated on such occasions. As a matter of fact, the police officials were instructed to caution those who were participating in the experiment of the risk which they were running, and this caution they gave. But otherwise, there was no interference.

"It was a quarter to six before everything was ready. The aeronaut, who had exercised a general supervision over the arrangements, came out from the committee room dressed in his ordinary costume, with the exception of a light cap and tennis shirt in place of his frock coat and his Bond-street silk. Attaching his parachute to the net of the balloon by a piece of silk, so that it might be readily broken away, he took the end of the ropes, and stationed himself on a sling in the spot which is usually taken by the orthodox car.

"Spoken to just before the signal to go was given Mr Williams expressed himself confident in the ability and perfect safety of his machine, and that even his insurance company might have no fears of his executors making any demand under the terms of a matured policy. There was not the slightest reason for alarm, he said; not the slightest ground for describing his experiment as a piece of foolhardiness. He would go to a height sufficient to give him plenty of space to adjust his parachute on the descent, and then he would come down with no more difficulty than he would descend by a windlass rope down the shaft of a mine, or from the tower of a high building. And then the signal to go was given, and off he went."

"Mr Williams struck direct across the south-western corner of the ground, and rising very rapidly, appeared to the spectators to be carried in the direction of a point about midway between Homebush and Ryde. Getting higher and higher every moment, the balloon seemed suddenly to be caught in a current of wind, and to be driven back in the direction of the ground.

"He had been up scarcely seven minutes when he was noticed to detach himself from the balloon. Almost immediately the parachute opened out, and amid the ringing cheers of the spectators, the plucky adventurous little man was observed to be slowly descending. The enthusiasm among those who had witnessed him leave the ground, many of whom were all too fearful that he would never return alive, knew no bounds as the parachute, spread out in mid-air like a huge umbrella, could be seen making its way slowly back. Cheer after cheer was given, and these increased more and more as the indomitable aeronaut endeavoured to guide or work his life preserver in order to make it drop as closely as possible to the place whence it had started.

"Eventually Mr Williams reached the ground once more at a spot about a quarter of a mile from Homebush. He described his fall afterwards as being very slight, and nothing more than a stiff jump from a high wall would be.

"In his ascent he had reached a height of 4000 or 5000 feet. The parachute worked quite up to his expectations, and caught the wind almost immediately he left his sling. When he left the balloon, he pulled the valve, but the gas appeared to escape very slowly and the monster dropped at Greenwich, on the Parramatta River, and has been recovered in good order. It is needless to add that Mr Williams was heartily congratulated by his friends on the successful completion of his perilous adventure. The experiment was certainly a pronounced success."

Williams is not known to have made any further descents, but did put out a challenge to the American parachutist, Professor Baldwin, during Baldwin's visit to Australia in 1889.

FIRST DESCENT BY A WOMAN. The first descent by a woman from a balloon in Australia was made at the Newcastle, New South Wales, racecourse on Saturday 8 February 1890 by a member of an American acrobatic company.

She was one of two sisters in the company, who both jumped during their tour of Australia. Their name was Freitas but they performed under the name Van Tassell. The sister who carried out the first jump by a woman in Australia was called Valerie Van Tassell. Her elder sister, Gladys, made a descent at the Newcastle Cricket Ground two weeks later.

The Van Tassells continued jumping up the east coast of Australia as far as North Queensland.

In Townsville, members of the Queensland Defence Force who were at a training camp in Townsville, together with the commandant of the force, Colonel French, attended a descent at Acacia Vale on Sunday 22 June 1890.

Major des Voeux of the Force presented Miss Van Tassell with a bouquet before her ascent. The Queensland Defence Force band provided accompanying music.

The issues in relation to the descent were discussed in the Queensland newspapers, including the *Brisbane Courier*, the *Townsville Bulletin* and the *Queenslander*, and debated in the Queensland Parliament. What aroused opponents of the spectacle was that it was on a Sunday and the spectators, including members of the Defence Force, paid a shilling to attend.

It seems likely that opposition to the descent was rooted in more than opposition to desecration of the Sabbath by a commercial activity, as this excerpt from the *Brisbane Courier* of Thursday 26 June 1890 indicates:

“Had the Government dealt wisely with our appeal of a few weeks ago, touching female parachuting in Brisbane, the colony would have been spared the scandal of the Sunday exhibition just made at Townsville.

“The old adage, familiar to our copywriting boyhood, that evil communications corrupt good manners, has seldom been more forcibly illustrated.

“Innocent exhibitions might easily be tolerated on Sunday; yet these are the very exhibitions which would shrink from presenting themselves. Exhibitions on the contrary which are inherently demoralising, and objectionable therefore on any day of the week, are precisely those which come boldly forward to outrage the sacred convictions of the people.”

THE BALLOON ERA IN AUSTRALIAN PARACHUTING. The Balloon Era in Australian parachuting lasted from 1888 to about 1920, although a few jumps from balloons may have been done beyond 1920.

Apart from those already mentioned, the parachutists who came to the attention of the media during the balloon era were Fernandez, Professor Price, Millie and Elsie (or Essie) Viola, Zahn Rinaldo, Christopher Sebphe, Vincent Patrick Taylor (performing as Captain Penfold) and George Augustus Taylor, son of V P Taylor.

It was not uncommon for parachutists to have some kind of acrobatic experience or know-how. They were either attached to balloon companies, such as the Beebe Balloon Company, which toured agricultural shows, or, if they jumped by themselves, they usually had a business manager. The descents were public displays done for money. The money was collected in the form of admission fees or in the form of sponsorship by business enterprises who sought publicity from association with the event.

The balloons used were mostly hot air balloons, because of the cheapness of firewood. Balloons filled with coal gas were used occasionally, where town gas was available.

The parachutes were made of silk or other materials such as calico. They were either hung in an open state beneath the balloon or occasionally suspended in a folded form beneath the balloon. The parachutist sat on a trapeze bar underneath the parachute.

Parachutes were released from the balloon either at a predetermined height or when the balloon began to descend. In the case of freely suspended parachutes, when the balloon's descent phase began the canopy inflated, indicating that it was time to cut loose from the balloon. At least by the beginning of the twentieth century, aneroid barometers were used by professional parachutists, no doubt copying the example of European balloonists who had long used some form of barometer.

Some of the parachutists wore acrobatic tights; others wore ordinary clothes. Headgear other than caps does not appear to have been worn. Sandshoes protected the feet.

Most of the parachuting in Australia in the early 1890s appears to have been done by four women, Valerie and Gladys Van Tassell (Freitas) and Millie and Elsie Viola.

Millie Viola held the public stage in Perth and other parts of south-western Western Australia during 1891. She would think nothing of making three descents a week and survived unscathed a number of incidents such as landing on the edge of roofs and having her canopy collapse in a whirlwind, when she was saved by landing in a tree. She went on to make descents in eastern Australia.

THE BEEBE BALLOON COMPANY. In 1910 there appeared a New Zealand issue of "The Cloudland Times," which was described as "a journal of ballooning devoted to the interests of the Beebe Balloon Company." It was of course, a propaganda stunt, and with an eye to creating an effect "the highest" circulation on earth was claimed for it. Beebe was apparently an American. His "act" included two giant balloons, named (with an eye to publicity) "King Edward Vll." and "President Roosevelt." His performers were two daring parachutists, Albert Eastwood, of Brisbane and Christopher Sebphe, a Spaniard. A display of fireworks and a local band were thrown in for good measure. Up to 1914 Beebe's Balloon Company performed at Lancaster Park, Christchurch, and at the Auckland Exhibition.

"Undoubtedly Beebe was a showman; but he had the goods. His parachutists were exponents of the triple parachute descent. As the balloon rapidly rose they performed the most amazing feats on the one trapeze. At a given signal they would drop away. Spinning down, they would first loose a red 'chute, then a white, finally landing from a blue one. Sebphe, a small man with iron muscles, had to his credit a drop of 8,000 feet and a quadruple descent. Eastwood was more lackadaisical but he, too, was an expert."

THE WONDERLAND CITY VENUE. Wonderland City, Tamarama, near Sydney, was for two years the venue where, on a Saturday afternoon Sydneysiders could watch professional parachutists descending from balloons at thousands of feet altitude.

Wonderland City was, at the time, the biggest and most spectacular amusement park in Australia. The *Sydney Morning Herald*, Saturday 23 April 1960, gives this account of its activities:

"Mr W A Stewart, of Hurstville, says:

‘In 1908 the famous actor-manager Willie Anderson opened Wonderland City, occupying not only Tamarama Beach, then known as Fletcher’s Glen, and the headlands, but also much of the natural bushland behind the beach.

‘There was something for everyone here. An elaborate steam plant provided power for the new-fangled electric light and the whole place was festooned with thousands of gaily coloured lamps.

‘The airship (erected by a syndicate comprising George Falkiner, a tea merchant, Edwin Geach and Claude Mackay of Exeter, a reporter on the *Evening News*) ran across the beach on a solid steel cable, supported on the cliffs at both ends on massive wooden structures. At high tide it was actually over the sea.

‘Riding in the airship (at sixpence a ride, children half price) was quite an experience, and as it had a bad habit of stopping in the middle of the cable passengers had to be rescued by ladder from the beach, a somewhat hazardous proceeding.

‘Other attractions included an enormous switchback railway, lke the present-day ‘Big Dipper’; the ‘Katzenjammer Castle’, a place of surprises, and a slippery-slide which delivered you from the entrance gate to the beach.

“‘Around the clifftop a steam-driven miniature railway operated over about two miles of track, and was always packed with sightseers.

“‘Saturday and holiday nights were devoted to spectacular attractions and as the place was a natural amphitheatre, thousands could be accommodated in comfort. The ‘Saturday Spectacular’, I best remember, was ‘The Capture of the Kelly Gang’. The grand finale was the burning down of the Glenrowan pub, which was a full-sized structure of wood and canvas, liberally soaked in kerosene.’

“But there were plenty of other special attractions besides these. There was a human torch sliding down a rope from the top of the gully into the ocean; clowns, trapeze artists and bareback riders, and finally, the crowning excitement in those days of daring aeronautical feats, balloon races and experimental airships, parachute jumps from a balloon.”

VINCENT PATRICK TAYLOR (CAPTAIN PENFOLD). The most outstanding of the Balloon Era parachutists was Vincent Patrick Taylor (1874-1930).

Vincent Patrick Taylor was born in 1874 at 137 King Street, Sydney opposite the stalls entrance of the Theatre Royal. His parents were proprietors of a shop at 137 King Street, selling cut flowers, fruit and confectionery. Later they branched out into catering in a big way from a factory in Darlinghurst. From there they supplied racecourses, sporting fixtures and picnic beach resorts with wholesale cut sandwiches, pies, cakes and soft drinks. Members of the family all worked as partners with a share of the profits.

Among the other members of his family were his brother George Augustine Taylor (1872-1928) who worked with Lawrence Hargreaves on the development of gliders and who founded a number of construction journals. George Taylor’s wife, Florence Mary Taylor (1879-1969), was an architect and the first woman in Australia to fly in a glider, at Narrabeen on 5 December 1909. A stone monolith was dedicated at Narrabeen by the New South Wales Premier, R W Askin, on Saturday 25 September 1965, commemorating

the first flight in Australia in a heavier-than-air machine, by George Augustine Taylor, at Narrabeen Heads, on 5 December 1909 (*Wings*, November 1965). A sister, Mrs Christina Logue, lived in Darlinghurst, Sydney.

Taylor and others of the aviation circles he moved in were to become part of the intellectual and literary group that was connected with the Sydney "Bulletin", including such literary and artistic figures as Henry Lawson, Banjo Paterson and the Lindsays. Taylor and Lawson were friends but conversation was difficult as they were both partially deaf.

Taylor also knew Sir Charles Kingsford Smith. Before one of Smithy's ocean-crossing flights Taylor said to him: "Smithy, why not take some parachutes along with you." Smithy replied: "Vince, if we are ever unfortunate to come down into the drink, we will probably settle for harps."

As he grew up Taylor was articled by his family to a Sydney solicitor to learn the elements of law prior to entering Sydney University. Finding this tedious he gave up law and entered politics, opposing Sir George Reid, a prominent New South Wales politician and, after Federation, one of the early Prime Ministers of Australia, for the electorate of King, but (not surprisingly) Taylor was unsuccessful.

He then became a bookmaker's clerk. After clerking for several well-known Sydney bookmakers he took out a licence and worked as a bookmaker on racecourses around Sydney.

Bookmaking eventually proved boring. In the meantime he had read about ballooning and parachuting in a book and decided to become a balloonist and parachutist.

In 1900 with what limited knowledge he had gained from his reading he made several balloon ascents at Clontarf, Balmoral and Wonderland City.

These adventures convinced him there was a lot more he needed to learn about ballooning and parachuting. He decided the place to learn was America.

Having made financial provision for his family he signed on as an able seaman on an American windjammer sailing for San Francisco at the end of 1906.

In the United States, Taylor worked as an advertising agent, an extra with several theatre companies, and as a representative for a canvas awning firm.

One day he learnt that a balloonist was appearing in Oakland, a suburb of San Francisco.

Taylor introduced himself to the balloonist as Captain Penfold, the Australian parachutist, although he had made no descents at that stage. By working with the other parachutists and observing what they did and said he made quick progress in the art.

Taylor's involvement in ballooning brought him to public notice on a number of occasions. On 8 May 1908 he was involved in the breakup of an airship belonging to J A Morell of San Francisco. This craft was 450 feet in length, 36 feet in diameter and had motors of 200 horsepower. On 14 May 1908 he bombed the United States fleet in San Francisco Bay with firecrackers, proving their vulnerability to air attack.

Late in 1908 he left the United States and arrived back in Australia before Christmas.

Beginning early in 1909 he made parachute descents every Sunday at Clontarf, usually from about 3000 feet. Taylor also took the opportunity of his balloon rides to take photographs and claimed to be the first aviator to take photos from the air in Australia.

(*The Australian Encyclopedia*, third edition, 1977, says that in 1904 Melvin Vaniman took the first Australian aerial photograph from a captive balloon moored 300 metres above a Sydney racecourse.)

Taylor was also sponsored by businesses and local government bodies to do balloon ascents and parachute descents at 25 pounds a day. Taylor would be costumed in white pants, gold braided blue coat and gold braided peak cap. He would be equipped with an aneroid barometer. Thirty-three per cent of the takings would go to the local hospital.

Taylor set up a factory in Sydney to manufacture balloons and parachutes. The balloons weighed over two hundredweight and were made of Japara silk cloth.

“A warehouse floor was rented with ample space in a building in Castlereagh Street, between Park and Bathurst Streets. The strong Japara silk cloth material was purchased from Sam Walker, later knighted, who was Lord Mayor of Sydney for several years and Commodore of the Royal Sydney Yacht Squadron until his death.

“Walkers would supply, on hire, their best sewing machine and a good strong useful woman machinist who knew her trade well. The material was cut into special patterns or gores of sixty to seventy feet lengths. Then sewing began.” The balloon was double sewn and finished with new cordage.

In 1912 Taylor went to England to get his pilot’s licence and received Royal Aero Club certificate No 376. While there he fitted in some balloon ascents and parachute descents, including a Santa Claus jump for a chocolate firm. According to *Flight*, London, 4 January 1913, “Through Messrs. Aeros, Ltd., he secured the use of one of Messrs. Spencer Brothers’ balloons of 45,000 cubic feet capacity, which, piloted by Mr. Henry Spencer, and carrying a cinematograph operator, left the gasworks at Battersea at 12.45 p.m. on 23 ult.” The following account of the jump is taken from Sir Hubert Wilkins’ autobiography. He was working as a movie cameraman with Gaumont at the time.

“On the morning of December 23, Gaumont sent me down to the Brixton gasworks in the Battersea section of southwest London with instructions to film a balloon ascension.

“The flight was to be a publicity stunt for Sandow's Chocolate, named after Sandow, the German strong man, who publicized his product as a health food: 'A Perfect Sweetmeat and a Perfect Food.' A daring flyer named Captain Penfold was to parachute from a balloon wearing a flowing white beard and dressed in a red Santa Claus suit. Upon landing he would distribute Sandow's Chocolate from a sack to the children in Hyde Park.

“It was a risky stunt, because Hyde Park lay two miles to the north of the gasworks where the balloon was being filled. If the wind held true from the south, the flyer could drop into the big park safely. But if the wind should shift, the leaping Santa might find himself almost anywhere over the jagged roofs and chimney pots of London.

“The balloon was owned by the Spencer brothers, a pair of Australians who performed in demonstrations all over England. Their entire capital was tied up in the craft.

“When I arrived at the gasworks, the weather had taken a turn for the worse, with a gusty wind shifting from south to south-west. Low clouds were scudding over the city. But the balloon boys were game to go. Frank Spencer was troubled because there was not enough weight in the basket - a wickerwork affair just about big enough for three, with ballast bags hanging over the edges.

“On an impulse, I said, 'Why don't you take me along? I can add the weight and take pictures from the air.'

“Without even thinking it over, Frank said, 'Come on, Bert. Hop in!'

“I climbed into the basket clutching my precious motion-picture outfit and a still camera, and squeezed in between the parachutist-Santa and Frank Spencer, while his brother directed the crew in preparations to cast off. But now the difficulty was reversed, because with the added weight, plus the wind and the chill air, the Spencers feared we night not rise quickly enough to clear the massive iron framework of the gas tank just downwind of our starting point.

“The large envelope swelled and swelled; every foot of gas possible was forced into it. Someone shouted, 'Boys, unless you give the basket a mighty heave she'll never clear.'

“The boys heaved with a hearty, 'Up she goes!' And up we went, angling steeply towards the menacing iron girders. We didn't clear them. The basket caught, almost capsized, and it was a miracle we were not thrown to the ground. My cameras were strapped in, but I was photographing with one when the jolt came. I was flung halfway out of the basket, but Frank, hanging on for dear life with one hand, grabbed my collar and prevented me from falling. It was a narrow escape. The great balloon swung and bobbed, straining at her ropes. We pushed and heaved, and after a few minutes of desperate struggle managed to free the basket from the iron framework, and lurched clear, sailing up at an angle. The houses sped by below us.

“We caught a glimpse of the Thames beneath us and then we were lost in the clouds - clouds so thick they blotted out every sign of the great city down below. I suddenly realized what kind of pickle my impulsive offer to join the party had got me into but there was no point regretting it now. We were cold and miserable up there, and felt quite alone in our strange and somewhat ridiculous situation, yet each of us wanted to carry out his job: Penfold somehow had to deliver those 'palatable, digestible, economical' chocolates for the Sandow Chocolate and Cocoa Company; Frank Spencer had to do his best (despite the wind and clouds) to deliver him; and I had pictures to shoot and then deliver to Gaumont. Naturally enough, all three of us wanted to get out of all this alive and in one piece.

“We drifted for a long while, during which it became obvious that wherever Penfold jumped, it would not be in Hyde Park, which must have been left behind in the first five minutes of our wild ride. He had intended to swing out from the basket on a trapeze to give the viewers down below a thrill before dropping earthward on his Yuletide errand of good will. But that part of the show was definitely out now.

“We were discussing the dilemma when suddenly beneath us there was a patch of clear sky and open country. Whereupon the parachutist, without a moment's hesitation, stepped to the basket rim and jumped with his load of chocolates, and I leaned overside desperately trying to snap him as he fell.

“What with the relief from his weight and the mighty shove he gave as he leaped into the air, the basket tipped and swung violently, Frank and I almost went over the side with him - and we had no parachutes. But we managed to hold on as the balloon shot skyward. The plan was for Frank to release gas at the time Penfold, left, so that the balloon, relieved of so much weight, would not rise too quickly. By the time we had recovered our balance, however, we were up to fifteen thousand feet, with the gas release cord whipping violently as we swung, and so entangled in the shrouds above us that the gas valve could not be operated. The more we pulled, the tighter the tangle. Now we were in a fix, because there was no possibility that we could climb into the shrouds and release the valve by hand. We would have to wait until the gas cooled and for much of it to escape through the fabric before we could hope to descend. Frank estimated we might be aloft twenty-four hours, perhaps thirty.

“It was bitterly cold at that altitude, we had no suitable clothing, and we were still rising. Soon we were up to twenty-two thousand feet. The wickerwork basket gave no protection from the wind. But we were at least thankful that a balloon drifts with the air currents, so its occupants are not blown too hard. Otherwise, at the temperature we were in we would soon have been stiff and frostbitten. We shivered for hours and rubbed and slapped ourselves for warmth, except when we were in clear sunshine now and then as we swung from cloud top to cloud top.

“But it was not long before we were aware of a new hazard, for the wind was fast carrying us towards the cold seas to the northeast of England.”

“Penfold’s” landing at the end of his jump is described by his son, George Augustus Taylor (1902-1972), also a parachutist, in an article written for an aviation magazine many years later. “...when Taylor (Penfold) regained consciousness after landing on his head, he found himself in a field near Chelmsford, some 35 miles north-east of Hyde Park; undaunted , he distributed his chocolates among the children who, with their parents, came rushing to his assistance.” (*Australian Flying*, January 1968)

A large scale land and sea search was set in motion for Spencer and Wilkins but after a couple of days they returned safely to land. Gaumont were not pleased to find that the heavy movie cameras had been tossed overboard to prevent the balloon from going into the North Sea. The chocolate company received publicity beyond their wildest dreams.

On his return to Australia he made what may have been the first B.A.S.E. jump in Australia, on Friday 5 June 1914. To test out an emergency parachute he had designed for airmen, and for escaping from high buildings, he made a jump from the North Sydney Suspension Bridge linking Cammeray and Northbridge, at a point 150 feet above the mud flats of Middle Harbour. The canopy opened in 40 feet. Taylor was reported as landing in the shallow water exactly seven seconds from the time he had released the patent catch by which the canopy was attached to the ironwork of the bridge. The jump was watched by a large crowd which loudly cheered the performance. (*Sydney Morning Herald*, 6 June 1914) The bridge was replaced in 1939 by a reinforced concrete bridge.

Although over age, Taylor joined the A.I.F. during World War I as an artillery driver. He served for two years. He was Army No 9081, Driver, 10th Battery, 4th Field Artillery Brigade, Second Division. In July 1916 Taylor was wounded. After the Somme battle of 15 November 1916 he was invalided out of action with severe shell shock and sent back to Sydney for discharge. He was discharged in 1917.

During his service he reportedly obtained captain's rank. Discharge papers from the Royal Flying Corps were found in his pockets at the time of his death (*Aircraft*, 16 January 1931). Among the duties he carried out in the A.I.F. was instructing soldiers in the handling of gas-filled observation balloons at the Sydney Showgrounds in 1915.

He returned to civilian parachuting. Up till 1918 he had jumped under the name he had adopted in America - "Captain Penfold" - but after that date he jumped under his own name of V P Taylor.

In the twenties Taylor went to the U.S.A. where he continued his career until his death in 1930. Apart from working as a stunt man for movie companies, Taylor engaged in a variety of ballooning, parachuting and underwater activities in the United States. He made parachute jumps off the Niagara Falls River Bridge and the Snake River gorge Twin Falls-Jerome bridge in Idaho, 476 feet above the water. He also went over the Niagara Falls and other waterfalls in barrels. He tested underwater gear of his own design.

In 1930 he was hospitalised in the charity ward of the County Hospital, Jacksonville, Florida, suffering from a failure of his digestive system. Taylor neither drank nor smoked and was a physical fitness enthusiast, so the cause of the condition is unclear. Efforts at artificial sustenance failed and he died.

At the time of his hospitalisation the British consul, Hon. Walter Mucklow, had promptly cabled his son, George, in Sydney. The Sydney branch of the Returned Soldiers' League got in touch with the American Legion to see that he was buried with the honour due to his career. A solemn requiem mass was celebrated at the Church of the Holy Rosary. Afterwards he was buried with full military honours in St Mary's Cemetery. A military escort was provided by the Florida National Guard. The casket was draped with the Union Jack and the Australian and American flags, and the service and funeral were attended by representatives of the American Legion and local dignitaries. The expenses connected with his hospitalisation and funeral were borne by the American Legion and the Daughters of the British Empire.

(*Aircraft*, 16 January 1931; *Sydney Morning Herald*, 15 January 1931)

Taylor's own views on parachuting were expressed in an interview published in the *Seattle Post-Intelligencer* on Tuesday 7 August 1928:

"Parachuting is the poetry of motion. In an airplane, one is being dragged along. In a free balloon, he is pushed by the wind, but in a parachute he is supported and carried down like a babe in its mother's arms."

George Taylor junior, V P Taylor's son and assistant in his Australian ballooning and parachuting activities, was also a parachutist and made his last balloon ascent at Casino in New South Wales in 1920. The activities of barnstorming pilots made ballooning less of an attraction to spectators.

(*Sydney Morning Herald*, 16 May 1964; *People*, 4 May 1966; *The Sun*, 24 September 1968; *Australian Skydiver*, December 1972)

SOME BALLOON ERA INTENTIONAL DESCENTS IN SUMMARY

Saturday 8 December 1888, Mr J T Williams, Sydney, from 4-5,000 feet, from a coal gas filled balloon

Saturday 8 February 1890, Miss Val Van Tassell, Newcastle, NSW, from one mile high, from a hot air balloon

Saturday 15 February 1890, Miss Gladys Van Tassell, Newcastle, NSW, from 1900 feet, from a hot air balloon

Sunday 22 June 1890, Miss Van Tassell, Townsville, Queensland, from 2000 feet, from a hot air balloon

Saturday 14 February 1891, Fernandez, Sydney, from 5-6000 feet (his fourth jump)

Saturday 7 March 1891, Fernandez, Sydney (his sixth or seventh jump)

Monday 30 March 1891, Professor Price, Perth, WA, from 2000 feet, from a hot air balloon

22 April 1891, Professor Price, Perth, from 3/4 mile high, from a hot air balloon

Tuesday 5 May 1891, Professor Price, Perth, from one mile high, from a hot air balloon

Tuesday 12 May 1891, Millie Viola, Perth, from 3000 feet, from a hot air balloon

Wednesday 13 May 1891, Millie Viola, Perth, from 2000 feet, from a hot air balloon

Monday 18 May 1891, Millie Viola, Fremantle, WA, from 2000 feet, from a hot air balloon

Wednesday 27 May 1891, Professor Price, York, WA, from a hot air balloon

Saturday 8 August 1891, Fernandez, Harrisville, Queensland, from a gas balloon

Wednesday 26 August 1891, Millie Viola, Newcastle, WA, from a hot air balloon

Sunday 20 September 1891, Millie Viola, Beverley, WA, from “a great height”, from a hot air balloon

Saturday 21 November 1908, Zahn Rinaldo, Broken Hill, NSW, from 7300 feet, involving a triple cutaway

Saturday 16 April 1910, Mr C Sebphe, Perth, from 400 feet, from a hot air balloon

Wednesday 20 April 1910, Mr C Sebphe, Perth, from 5450 feet, from a hot air balloon, involving a triple cutaway

Wednesday 14 May 1913, Zahn Rinaldo, Kerang, Victoria, from 7800 feet, from a hot air balloon

Friday 5 June 1914, Captain Penfold, from the North Sydney suspension bridge

3. DESCENTS FROM AEROPLANES BEGIN, 1919

The firs public parachute descent from an aeroplane in Australia was made at the Epsom racecourse, Mordialloc, on Friday 26 December 1919, as part of an aeronautical display.

The descent was made by Captain G C Wilson MC, AFC, DCM, of the Australian Flying Corps, from a Sopwith Gnu, using a Spencer Salvus parachute, which was attached to the aircraft, providing an automatic opening for the parachute. The exit height was 1500 feet. The descent was witnessed by a crowd of 10,000. Captain Wilson had carried out a practice descent a few days earlier.

This performance was to be imitated by others, also using attached parachutes, in some cases adaptations of the attached parachutes used by balloon parachutists.

One such parachutist was Albert Eastwood of Brisbane, who had formerly jumped with the Beebe Balloon Company. He made use of a parachute rig formerly used in balloon parachuting.

This was not viewed with favour by the Defence Department, which at that time controlled parachuting. The release mechanism had a tendency to malfunction and the rig presented hazards for the aeroplane as well as the parachutist. In its correspondence with Eastwood the Defence Department seemed to be hinting that freefall parachuting would be safer.

FREEFALL PARACHUTING. The employment of military aircraft on a large scale during the First World War had made clear the need for a means of escape from a burning or damaged aircraft. The German and Austrian airforces were the first to use an emergency parachute, the Heineken parachute, developed under with the advice of a German professional parachutist, Kätchen Paulus (1868-1935). It was attached to the aeroplane and opened automatically when the aviator jumped from the aircraft. The Guardian Angel parachute developed in England, also an attached parachute, was regarded as the best of the emergency parachutes developed during the First World War. It was used in large numbers by the Italian airforce but not by the Royal Flying Corps in Britain as it was considered that its availability would tempt aviators to abandon valuable aircraft.

The first attested freefall parachute descent was made by the American Leslie Irvin on 28 April 1919 from a height of 1800 feet, opening at 600 feet, to demonstrate that freefall was perfectly safe (Valentin). The professional parachutist Georgia Broadwick is said to have made an impromptu freefall descent before the First World War while demonstrating static line parachuting to the American Army. After her parachute snagged on the tailplane of the aircraft on one descent she cut the static line and jumped out with it in her hand on the next jump and activated the parachute herself.

In 1919 the United States Army tested a number of canopies, both attached and freefall types, and concluded that freefall parachutes were the safest means of escaping from an aircraft.

The United States army also showed that parachutes had potential in warfare in enabling troops to delivered to battle in a swift and unexpected manner.

The Soviet diplomatic representative in the United States had witnessed a demonstration of military parachuting and bought a freefall parachute in New York and took it back to the Soviet Union. Military parachuting of the freefall variety was developed on a large scale in the Soviet Union, and public demonstrations of military parachuting were to inspire German diplomatic representatives to take the idea back to Germany where static line parachuting replaced the freefall concept with a view to keeping troops close together on landing.

Soviet military parachuting is also said to have inspired the emergence of civilian sport parachuting in the Soviet Union. There are said to have been a million sport parachutists in the Soviet Union by the outbreak of the Second World War.

Military freefall parachuting had also been developed in France prior to World War II.

THE INTRODUCTION OF FREE FALL PARACHUTES TO THE RAAF

On an official tour of United States military establishments Richard Williams investigated the manufacture of parachutes in the United States.

“After visiting most of the Army Air Service establishments I wished to see - and I was given every facility for this - I went to Cleveland to see the factory where parachutes, now being issued to US Army and Navy Air Services, were being manufactured. The principles of parachute operation are simple enough, as is also their construction. The reason they were not issued to us during the 1914-18 war was that whilst positive opening could be assured in a parachute being pulled from its packing by a cord attached to something that did not come away with it when dropped, such as a balloon basket, its positive action could not be assured in the case of a free fall such as a pilot had to make when leaving a damaged aircraft. It was thought to be bad policy to give a man something which could not be relied upon to work when it was his life that was being risked at the time. I am not sure that this was good policy - surely some lives would have been saved.

“These parachutes were being made by the Irving Air Chute Company at Cleveland. Leslie Irvin, the designer, was quite a young man and had produced, as is often the case, a simple solution to the problem. He had used what might be likened to the metal framework of a small sunshade, the ribs of which were activated by springs and would not remain closed except under pressure when packed and when covered with fabric made a small pilot parachute which when released opened, caught the wind and positively pulled the main parachute from its container. At the time I visited the factory Irvin supplied me with facts relating to the saving of 11 lives and one or two of these were from low heights, indicating the rapidity of action of his parachute.

“I was impressed with the possibilities of these parachutes and sent a cable to the Air Board recommending the purchase of a sufficient number. to equip the aircraft we had on our establishments - at that time about eighty.”

However, on returning to Australia he found that his recommendation had not been implemented.

“Taking up duty again as Chief of the Air Staff I asked what action had been taken regarding my recommendation for the purchase of parachutes and was informed that nothing had been done but that the Minister wished to speak to me about it. The Minister for Defence was now Major General Sir Neville Howse, VC, whom I had met at AIF Headquarters in London when he was Director General of Medical Services there in the 1914-18 war. He had had a medical practice in Orange in New South Wales and on returning from the war had become Director General of Medical Services at Army Headquarters. Later he entered Parliament. (He had been awarded the Victoria Cross for gallantry during the Boer War.)

“Sir Neville was born in England but had been in Australia for many years and the first thing he asked me was why I was recommending the purchase of American equipment. I explained that no positive opening British parachute was available and he then asked whether the British were purchasing the Irving. To this I replied that I was not in a position to say for certain but that I had heard no suggestion of it and thought that I would certainly have been told at the time I visited the factory. He said he was confident that if this were the best parachute available the British would have it; he would like to know this before considering our purchase.

“I took the attitude that surely in a matter of this kind when the safety of men's lives was under consideration we could make a decision for ourselves in spite of the fact that our general policy was to use as far as appropriate the same equipment as the RAF. In any case I pointed out that parachutes were not in the class of equipment for which uniformity between our Service and the RAF was necessary. But General Howse refused to approve the purchase until he had been informed as to whether the Irving parachute was being adopted by the RAF.

“I had no alternative but to signal our liaison officer in London and to my surprise and delight was informed in reply that the RAF had just placed an order for five hundred. I was then given approval for our order but the Irving factory was quite a small one and we had then to wait two years until the RAF order had been completed before we could get ours.”

FIRST FREEFALL DESCENT FROM AN AEROPLANE IN AUSTRALIA. The first freefall parachute descent from an aeroplane in Australia was made at the RAAF Station, Richmond, New South Wales, by Flight Lieutenant Ellis Charles Wackett, later Air Vice Marshal Wackett CB, CBE, on 27 May 1926. Wackett was the brother of Sir Lawrence Wackett, the aeroplane designer. The descent was made from a DH9A biplane at 2000 feet.

“You know I remember it as if it was only this morning. It was a beautiful morning at Richmond and ideal for this type of exercise.

“The DH9A aircraft we were using for parachute training had to be modified. The rear cockpit which was the gunner’s position had a scarf ring around its perimeter, this was replaced with a tubular steel ring from which a small ladder was attached leading over the side of the aircraft fuselage. The cockpit was bare except for a box used as a seat.

“My pilot on that morning was Flying Officer Bill Duncan. When we had reached 2000 feet I got up and stood on the box as the first step to scrambling over the side, then step by step I made my way gingerly down the ladder to the last rung.

"I awaited until the aircraft was over that section of airfield I gauged to be just right to jump. Then with one hand on the rip cord and the other holding firmly onto the ladder rung I gave the pilot the nod and jumped. My landing was without incident.

"It was the blind leading the blind you know."

At the direction of his RAAF superiors, Wackett had learnt to pack and use parachutes at Andover in England, where a RAF squadron was using parachutes.

4. EARLY MILITARY PARACHUTING

The Argus, Melbourne, of Tuesday 26 January 1926, gave this report of the testing of imported parachutes at Point Cook.

"What were considered highly satisfactory tests were made with two Irving aeroplane safety parachutes at the military aerodrome at Point Cook yesterday. In a D.H. 9 aeroplane Flying-Officer Burgess as pilot, and Flying-Officer Charlesworth, took the parachutes to altitudes to 500 and 1,500 feet, and from these points the parachutes were released. The performances were watched with interest by Group-Commander Williams and Wing-Commander Anderson on behalf of the Air Board, and also by more than 100 members of the Young Australia League boys who were inspecting the aerodrome by special invitation.

"The Irving parachute is compulsory on all American aircraft, and is being introduced in the British Royal Air Force. It is manufactured by the Irving Air Chute Co. in Buffalo (U.S.A.), and is of a type in which no mechanical connection exists between the aircraft and the parachute. For testing purposes yesterday only a dummy was used. This was attached to a bomb-carrier on the right-hand wing, and was released by a cord attached to the pilot's seat. The parachute is attached to the wearer by means of strong webbing harness. The parachute itself is constructed of the finest-quality silk, and is attached to the harness by means of shroud lines. In addition to the main umbrella-shape envelope of silk each parachute is fitted with a small subsidiary parachute, the function of which is to draw the main parachute out of its case. When the pilot leaves his machine he pulls a release ring which unfastens the subsidiary parachute, which is forced open by strong elastic cords.

"The minimum height from which this type of parachute has been operated successfully is 120ft. The main envelope of the parachute used yesterday was 24ft. in diameter, and the dummy weighed approximately 150lb. On its release the parachute opened after having fallen nearly 200ft. This happened in both the 500 and 1,500 feet tests, and successful 'landings' were made. Eighteen of these parachutes have been tested at Point Cook, and each test has been successful.

"The question of adopting this class of parachute in Australia is under consideration."

On 9 June 1926 *The Argus* reported that the Air Force had about eighty parachutes in store at Point Cook. On 24 June 1926 The Argus reported that a 28 foot practice parachute had been tested at Point Cook.

PARACHUTE TRAINING BEGINS. Flight Lieutenant Ellis Wackett trained a class of four air cadets from No 3 Squadron at Richmond airbase and they made their jumps on 4 June 1926. (*Windsor & Richmond Gazette*, Friday 11 June 1926)

Wackett moved to Point Cook training school and organised a parachute training course there. The first jumps there (the first freefalls from an aeroplane in Victoria) were carried out on Wednesday 23 June 1926. The course consisted on twelve officers and cadets from No 1 Squadron, No 1 Flying Training School, and No 1 Aircraft Depot. Those who jumped on 23 June were Flight Lieutenant Wackett, Flight Lieutenant J F McIntyre and Flying Officers A D Davidson, A S Cross, and F R W Scherger, and Lieutenant D Ross, R.A.N.

The equipment used was the Irving practice model. It consisted of a 28 foot round main canopy made of silk and a front mounted reserve parachute, also made of silk. The whole rig was said to weigh 30 pounds. The main canopy took an hour to pack.

The jumpship, a DHGA aeroplane, was fitted with a ladder and handrails. The aeroplane would climb to between 1800 and 2200 feet and head into the wind. At a point which would allow the parachutist making the descent to drift clear of buildings the machine was throttled down to about 55 miles an hour air speed, representing, with the wind at 5 miles an hour, a ground speed of about 50 miles an hour. The man about to jump would clamber out of the cockpit and down the ladder at the side of the aircraft. At the proper moment the parachutist would let go, push himself off backwards into space, count three, then pull the main ripcord. The rate of descent under canopy was 15 feet per second. As the ground approached the jumper would relax and hit the ground like a drunken man. (*The Argus*, Thursday 24 June 1926, p.11)

Aircraft magazine of 1 October 1935 gives this account of a training course at Point Cook during July-August 1935. The graduates of the course were Pilot Officers B B Cresswell, D McLean, D R Chapman and E V Lansell; Leading Aircraftsmen Kennedy and Hall, of No 1 F.T.S.; and Aircraftsmen (1) Coghill and Marriott, of No 1 Aircraft Depot.

“The course, one of a number held from time to time, gave practical experience in the correct maintenance, storage, folding, repair and dummy-dropping of the various parachute types held on unit establishment; together with a written examination on various technical points of the practical and "paper work" involved.

“On completion of the course, several of the personnel mentioned were permitted to make pull-off descents from a Southampton flying-boat, using the special 28-foot training parachutes which they had inspected and folded personally, under the supervision of a duly qualified and experienced officer, in this case Flight-Lieut. P. G. Heffernan.

“Gradual re-equipment appears to be taking place, together with slight modifications to the standard ‘seat service' and air observers’ quick-connector types at present in use. The modifications consist of substitution of 2in. sponge rubber pads in place of the old kapok cushions, and addition of a pad approx. 9in. square, which gives needed support to the small of the back. Some of the new issues coming through have the four point quick release harness; and complete back cushions, which also serve to hold the harness together, doing away with a lot of the ‘Chinese puzzle’ business which resulted when the older type was drawn from its storage bag.”

THE INTRODUCTION OF EMERGENCY PARACHUTES INTO THE RAAF. The introduction of parachute training into the RAAF was connected with the introduction of emergency parachutes for aircrew. It must have been assumed that aircrew would welcome the idea because following the purchase and supply of emergency parachutes to RAAF units no requirement was made for aircrew to wear them. How it became

compulsory for aircrew to wear them, following an incident in Melbourne on 21 April 1927, is told by Sir Richard Williams in his book, “These are Facts”.

“Following the ceremony at Canberra the Duke and Duchess came to Melbourne where, on the way to Government House, they passed along crowded streets and we had aircraft patrolling overhead. The Air Force provided the Guard of Honour at Government House on this occasion and I accompanied the Duke on his inspection of it. Whilst doing so I noticed an unsteadiness in the ranks which was unusual and realised the men were looking into the air. I turned to see what was taking their attention. and saw two DH9 aircraft over South Melbourne falling from the sky, having collided with each other.

“It was only about two months before this that we had received the parachutes which we had ordered in 1925 and they had been issued to units. Consequently when I saw these aircraft falling I expected to see four men with parachutes leave them. The aircraft were so low that they must jump at once if the parachutes were to have room to open and break their fall and I was almost shouting 'Jump'. But nothing of the sort happened and four men were killed.

“These aircraft were from Point Cook and as soon as I was free to do so I went to my office. rang the officer commanding there and inquired whether the crashed aircraft crews were carrying parachutes. I was amazed when informed that they. were not and on asking why I learned that air crews did not like them, they were uncomfortable to wear. To one who had been accustomed to flying with the comfort of a seat cushion and without any body encumbrance such as the parachute and harness, and I was one, the wearing of the parachute was less comfortable, especially the bumping of the pack on the back of the legs when walking with the parachute on. I had imagined that other men would think as I did in this matter - that if a parachute were available I would wear it every time I went into the air - so it did not occur to me that their use would have to be ordered.

“I found that the attitude of a number of the older pilots who had flown during the 1914-18 war was that they had flown without parachutes then when enemy aircraft and anti-aircraft guns were trying to bring them down and were then told that the positive functioning of the parachute in a free drop could not be guaranteed. They saw no need for a parachute in peacetime. In the presence of this attitude by the older pilots those newly trained were hesitant to ask for or to take a parachute. It was obvious that in some cases there was a lack of confidence in the parachute and that orders would have to be issued for them to be worn. I judged that it would be a good example if, before issuing an order for the compulsory wearing of parachutes, I showed my confidence in them and for that reason did a jump from a DH9A. I had, of course, not done so before.

“Jumping from a Service aircraft at that time was from an open cockpit from which one climbed on to a ladder on the outside of the fuselage and then dived backward. The instruction was to count three before releasing the parachute in order to fall clear of the aircraft before it opened. Sometimes one can count three very quickly.

“It was quite a unique experience sitting in the air without any noise from an engine and full enjoyment of it was only marred when it appeared to me that I was going to drop into the station water tank. I thought it would be a poor ending to drown there, or even to be pulled out dripping wet. I missed the tank but landed much too close to be comfortable to a 30,000 volt electric transmission line running into the station.

“I told my wife of my decision to make the jump - after the event.

"The necessary order for compulsory wearing of parachutes was then issued, since when of course in both peace and war they have saved many lives."

The first person to join the Caterpillar Club was Flight-Lieutenant A. V. Rae in 1933. He abandoned a disabled Bristol Bulldog fighter at 3000 feet after having attempted to outside loop it above Point Cook. The second was Aircraftsman Leslie Redford Clisby (21) of No 1 Flying Training School at Point Cook who lost control of a Moth aircraft while on a training flight on 24 April 1936 and jumped at 2000 feet. Clisby's only comment to the dairy farmer who ran to his assistance on landing was: "What a sensation." (*The Argus*, Saturday 25 April 1936)

PARACHUTE MAINTENANCE BY THE RAAF. Much attention was given by the RAAF during the 1920s and 1930s to the care and maintenance of parachutes used by service personnel. Towers were used for drying parachutes and dislodging debris and information was collected on the shelf life of parachutes and harnesses. Parachutes were made of silk and the harnesses of cotton. Both had a shelf life of about six years. The information collected and the techniques developed were to have a continuing influence on parachute maintenance in Australia, even after very different materials such as nylon began to be used in the manufacture of parachutes and harnesses.

5. THE AEROPLANE ERA: CIVILIAN JUMPERS 1920-1939

When civilian jumpers began to jump out of aeroplanes there was, of course, a tendency to use equipment that had been proved on balloons.

One who used this approach was Albert Eastwood, who was originally from Brisbane. He had been a balloon jumper with the Beebe Balloon Company and had made descents at Wonderland City at Bondi as early as 1907. In 1923 he came to Australia from New Zealand and made a descent from an Avro at Mascot using a balloon type parachute with trapeze bar, where the parachute container was attached to the wing struts. Eastwood would get out of the aeroplane and into the trapeze bar and operated a razor attachment to release the parachute from the plane. The Controller of Civil Aviation rejected this arrangement.

Other jumpers, such as Haakon Quiller (from around 1927 to 1930) and (occasionally) Eero Erho (around 1929-1930) used static line parachutes which might be attached to the aircraft but were designed for use with aeroplanes.

The Civil Aviation Board seems to have been pushing parachutists towards freefall parachuting (for safety reasons) and that is what civilian parachuting arrived at in the 1930s.

Among those involved in civilian freefall parachuting were Eero Erho, Jack Milne (from around 1929 to 1939), James Lewis Reece (around 1931 to 1937), Felix Mueller (late 1930s), Ben Turner (late 1930s to late 1940s), Miss Jean Burns (1937-1938) and Sholto Colin Cathels. Members of aero clubs who had been cleared to make parachute descents also made demonstration jumps at air shows and the distinction between the professional parachutist and the almost recreational jumper became less clear.

Among the types of parachute used were the French Robert (Eerho), the Thorton-Blad double expansion type (Quiller), Irving (Eerho, Milne), G.Q. and Dominion. A parachute could cost 80 pounds in the late 1930s when the basic wage was .?????.....

The entertainment offered by exhibition parachutists consisted of freefall drops of varying lengths, and such diversions as cutaway jumps, a popular carryover from the balloon era.

One parachutist, Sholto Colin Cathels, of Melbourne, made himself a bat wing out of silk but was killed (2 April 1939) before he could test it.

Professional parachutists very often associated themselves with flying circuses. Among these were Captain Keith Farmer's Aerial Circus, with which Cathels jumped, and Charles Kingsford Smith's barnstorming activities.

Among the pilots putting out parachutists in this period were Charles Kingsford Smith, Captain Les Holden of the vehicle building family, Lester Brain of Qantas, Jules Moxon of the Brisbane auto firm, Horrie Miller, Captain Edgar Percival (Quiller, Eastwood), Captain C W B Martin (L G Diamond) and Captain H J Larkin (Stanley Thomas).

Reg Ansett reportedly made use of a parachute descent to promote his fledgling airline, and was said to have assisted in the exit out the door of the aeroplane of the 'volunteer' parachutist, reportedly an engineer in his company.

The first Australian woman known to have jumped from an aeroplane was Miss Margaret Gilruth, a daughter of Dr J A Gilruth of Melbourne. She made her jump in England at Brooklands on 14 August 1936.

BARNSTORMING IN THE 1930s. Horry Miller, an Australian aviation pioneer has this to say about barnstorming.

"Commercial aviation was really finding its feet when the depression of the 'thirties settled like a pall. As our services were not subsidised, and fares were gradually cut to the bone, we finally had to cut some of our services and turn to other means of securing revenue.

"We ran an air circus covering all country towns, stunting to draw crowds to the airfield and then giving joy rides when the people came. In the afternoon we would put on a show of balloon bursting, target-bombing, parachute jumping and stunting. The bombing was realistic, for we would prepare the ground in advance with a number of charges all around the iron-sheet target structures. A good charge was always placed in the centre. The controller was hidden and he fired the charges at a safe distance by battery. When the pilot dived and threw down a bag of flour, the charge would be fired and everybody would cheer at the most impressive result.

"Jimmy Reece was our parachute jumper, using an Irvine seatpack. He usually jumped from 4000 feet. I have seen him pulling his 'chute clear from between his legs - on one occasion a few hundred feet from the ground. No wonder he was a bundle of nerves afterwards.

"The first jump at Parafield was a sensation. A young Swedish ship's officer, who had served in the Royal Swedish Air Force, undertook to jump for me for 10 pounds. I promised him half the takings instead. We advertised the event for the Sunday and expected 100 people. But by mid-afternoon there was a traffic snarl that lasted until 8 pm.

Ercho (Eerho) used a cotton 'chute with a number of holes in the canopy, the release being by a static line. When he jumped, the Fokker (I was pilot) pulled the cover from the 'chute, which then opened. I did not like it but he was confident. I was relieved to see him swinging safely in the harness. We split 60 pounds but if we had properly organised the event we would have made real money." (*Aircraft*, April 1962, pp. 30-31)

JEAN BURNS. The first woman to jump from an aeroplane on Australian soil was Miss Jean Burns (born December 1919), of Rathdown Street, East Brunswick, Melbourne. She made her first descent at Essendon aerodrome on 21 November 1937 from the DH4 aeroplane 'Spirit of Melbourne' at a height of 3,200 feet. She was 17 years old. The aircraft belonged to Aerat Passenger Flying (Essendon) Pty Ltd and was piloted by Howard Morris. After making the prescribed three freefall jumps she received the approval of the Civil Aviation Board as a parachutist, "provided the parachute is folded by a person who holds a licence for that purpose" (SMH 22 and 29 November 1937; Argus, 22 November 1937 and 19 January 1938). "Miss Burns had to wait eighteen months before she could gain permission from the Civil Aviation authorities to make a jump. 'They thought I was much too young, and I also found it difficult to get a parachute. They cost about 80 pounds.'" (*Argus*, 23 February 1938, p.8).

"Miss Burns said that she found the first few seconds after she left the aeroplane were the most exciting. 'There is a wild rush of air on your body as you hurl downwards until the rip-cord is released, and then after a bounce you just float steadily downwards. There is always a bounce when the 'chute opens, owing to the elasticity of the silken cords.'

"During her five previous jumps, Miss Burns has left the plane from heights varying from 3,200 feet to 1,500 feet. After making her last leap she did not pull the rip cord until she had dropped nearly 500 feet, which rather worried some of her spectators.

"'Until I am down to about 200 feet there is a beautiful floating sensation, and then suddenly the ground seems to rush up and meet me. Some parachutists can land on their feet, but usually I take a fall. The landing speed is about twelve miles an hour, and the jar is about the same as you would get if you jumped off a fifteen-foot wall,' said Miss Burns. 'In the air you can lose height more rapidly by pulling a handful of cords which causes the 'chute to sideslip. There are four red cords which you can pull on the ground to spill the air out so you are not dragged too far.'"

"Mr. Felix Mueller, a licenced parachutist, instructed Miss Burns, and supervises the folding of her parachute, which is a very important item - a twisted cord or a wrong fold of silk would probably mean tragedy." (*Argus*, 23 February 1938, p.8)

Jean Burns also had a pilot's licence and took up jumping to raise the funds to buy an aeroplane.

Other jumpers of the period were Bruce Shipway (1929), Stanley Thomas (1930-32), L G Diamond (1932-33) and Florence Martindale (23) of Dimboola, Victoria, a telephonist at Horsham, who received her parachutist's licence in 1939. She gained her pilot's licence earlier in 1939.

DROPS OF SUPPLIES IN NEW GUINEA DURING THE 1930s. Parachutes were used in New Guinea during the late 1930s to drop supplies to patrols working their way through the newly opened highlands. The parachutes were made in New Guinea on the basis of experiment. Other goods were simply packed with various types of padding and thrown

out of the plane. As airfields were built the need for these drops was eliminated. (*Walkabout*, 1 October 1938)

REGULATION OF PARACHUTING. It was in this period that the Commonwealth Government first attempted to regulate parachuting, along with other aviation activities. Apart from apparently trying to favour freefall descents over static line descents, the Commonwealth also early adopted the principle that parachutists should carry two parachutes on intentional descents. Most of the civilian jumps done in this period were done with one parachute. Official protests were ignored by even such responsible parachutists as Jack Milne. The Commonwealth government also wanted parachutists to use proper backpack parachute rigs rather than pilot's seatpacks. Photographs show that at least some parachutists wore the regulation fore-and-aft gear but other parachutists, including Jack Milne, preferred the pilot's seat pack.

At first aviation was controlled through the Department of Defence and later through a Civil Aviation Board. The first Air Navigation Orders concerning parachuting were produced in this period.

Incidents involving civil aviation were investigated through an Air Accidents Investigation Board. One such incident was the death of Sholto Colin Cathels, aged 19, on Sunday 2 April 1939 at Yarram. Cathels was a parachutist attached to Captain Keith Farmer's aerial circus.

"Cathels was taking part in a special air pageant arranged by the circus at Mann's Beach, about 11 miles from Yarram. At 4.10 p.m. he ascended in a plane to make a delayed parachute drop over the beach.

"At a height of about 2,500 ft. Cathels appeared on the wing of the plane and leapt off as it swooped in a sharp bank.

"'He's off,' cried an announcer in the crowd. He began to count the seconds, but at '13' he stopped. He and the other horrified watchers realised that the parachute would not open.

"Cathels plunged down with the parachute whipping like a small white ball above him. Watchers could see his frantic efforts to shake the parachute free before he fell into marshy ground near a swamp of mangroves. He was killed instantly and his body was found buried in about three feet of earth." (*Argus*, 3 April 1939)

His death was witnessed by a crowd of about 1000. The rest of the program was cancelled and the plane from which he had jumped, grounded.

"Cathels had completed nearly 100 successful parachute jumps. Last year he designed a special suit of silk clothing with bat-like wings. He had hopes of becoming Australia's first 'bird-man,' but never actually made a jump with his invention." (*Argus*, 3 April 1939)

it was believed he had packed the parachute himself, although not licensed to do so. (*Argus*, 4 April 1939)

(In its report) "The board found, however, that the cause of the tragedy was not any defect in the parachute. The examination revealed that no attempt had been made to pull the rip cord in the air.

"Cathels, who was making a delayed opening descent either misjudged his height or failed to open the parachute through some physical disability.

"All parts of the parachute, the report said, were in extremely poor condition, and it could not in any circumstances have been considered serviceable. Many tears had been roughly repaired, the pack elastics had deteriorated, and the rigging lines were incorrectly stowed. The strength of the silk in the canopy had deteriorated through age and careless maintenance.

"The report added that although demonstration parachute descents were prohibited unless approved by the Civil Aviation Department and were allowed then only if two parachutes are carried. Cathels neither had permission to make the descent nor did he carry a second parachute." (*Argus*, 5 May 1939)

(At the inquest) "Dr J. H. Rutter, of Yarram, said that he inspected the body and found that the injuries were fractured skull, ribs, pelvis, right arm, and left thigh. Death was instantaneous because of shock from a fall from a great height." (*Argus*, 22 May 1939)

The coroner entered an open finding on the death. (*Argus*, 22 May 1939)

By the end of the 1930s people were entering parachuting, not as a profession, although they still charged for their performances, but with something of a recreational motive. It is interesting to speculate how Australian parachuting would have developed if the Second World War had not intervened.

The Australian newspapers also carried reports about sport parachuting in the Soviet Union which had begun in 1930, inspired by the example of military parachuting, which was conducted on a large scale in the Soviet Union. By the end of the 1930s sport parachuting in the Soviet Union had involved large numbers of people. There were opportunities to jump not only from aircraft but also from towers in amusement parks. Sport parachuting in France, the original home of the parachute, did not begin till after the Second World War.

JACK MILNE. Jack Milne said he had come to professional parachuting because there were very few other job prospects. By the outbreak of the Second World War he had made about 150 jumps. During the Second World War he became involved with the training of military parachutists and also established a parachute packing and maintenance unit equipped with air conditioning and capable of operating in the difficult climatic conditions of the tropics. At the end of the Second World War he had reached the rank of Squadron Leader. He was to act as Chief Instructor for the Queensland Parachute Club when it was founded in 1958 but no longer jumped himself because of damage to his health from high altitude flying experiments he had been involved in during the Second World War.

SOME DESCENTS FROM AEROPLANES PRIOR TO THE SECOND WORLD WAR

26 December 1919 Captain G C Wilson AFC, Melbourne, Spencer Salvus parachute (attached), 2000 feet

Thursday 30 August 1923 Albert E Eastwood, Sydney, attached parachute, 2500 feet

27 May 1926 Flt Lieut. E C Wackett, Richmond, NSW, freefall, 2000 feet

Saturday 6 August 1927 Lieut. Haakon Quiller, Melbourne, Thorn-Olad parachute (attached), 4000 feet

Monday 1 April 1929 Bruce Shipway, Sydney, free fall, 3400 feet

Saturday 2 August 1930 Captain Eerho, Mitchell, Queensland, Guardian Angel (attached)

Sunday 8 March 1931 James Lewis Reece, Melbourne, 2000 feet

Sunday 12 July 1931 J A Milne, Brisbane, 3000 feet, 12 second delay

Sunday 20 September 1931 Stanley Thomas, Melbourne, Belgian parachute, 1500 feet

Saturday 2 April 1932 Mr L G Diamond, Melbourne, free fall, 3000 feet

Sunday 4 June 1933 J A Milne, Southport, Qld, 2400 feet

Thursday 12 October 1933 Mr L G Diamond, Kaniva, Victoria

Tuesday 29 September 1936 James Lewis Reece, Leeton, NSW

Sunday 21 November 1937 Miss Jean Burns, Melbourne, 1st jump, freefall, 3200 feet

Saturday 19 February 1938 Jean Burns, Newcastle, 5th jump, freefall, 1500 feet

Sunday 11 September 1938 Ben Turner, Camden, NSW, 7000 feet, 15 second delay

Monday 6 October 1941 Ben Turner, Sydney, 1200 feet

THE PREPARATIONS FOR WAR. As the book 'Armed and Ready' points out, Australian governments had been preparing for a war with Japan from the establishment of the first Commonwealth government in 1901. Preparations in the late 1930s for the looming World War simply merged with the longer term industrial and logistical preparations for war. These included securing adequate reserves of transport aircraft and the capacity to manufacture parachutes in Australia, including building stocks of input materials. Imperial Chemical Industries (ICI) had already been pressured into establishing a subsidiary in Australia, a move which was to be of importance in the supply of synthetic materials.

In the late 1930s a government mission was sent to England to enquire about the supply of transport aircraft. It had been decided by the Commonwealth government that Imperial preference should operate in the purchase of aircraft. These would be used for civilian air transport during peacetime but would be available for military use when war broke out. On arriving in London the delegation first visited the Ministry of Air to seek their opinion on the aircraft available. The Ministry of Air advised them that the available British aircraft were unsuitable and that they should be looking at American aircraft.

The American aircraft industry was well ahead of the rest of the world, a fact demonstrated during the London to Melbourne air race in 1934 when a DC-2 aircraft operated by the Dutch airline KLM entered the race and while still carrying out its normal schedule managed to come second in a race where some of the aircraft had been purpose built for the race.

The Australian delegation took the advice of the Ministry of Air and went to the United States, The DC range of aircraft under the military designations C-46 and C-47 were to play a significant part in the Second World War as transport aircraft and for dropping paratroops. The Germans used some DC aircraft captured in the Netherlands and the Japanese built some under licence.

This episode illustrates the tension between the continuing political and cultural dominance of the United Kingdom in world affairs and the technological and industrial leadership of the United States on the other hand. These tensions can also be traced in the development of parachuting in Australia during this period.

6. THE BEGINNINGS OF PARACHUTE MANUFACTURE IN AUSTRALIA

LIGHT AIRCRAFT PTY LTD. At some point in the 1930s George Mills, a Sydney dentist who had been in the Australian Flying Corps, approached Richard Williams of the RAAF, who had been his former commanding officer, and said he felt, as others did, that war was coming, and that he would like to make some contribution. In his autobiography Williams recounts the background to this meeting.

“In November 1937 we had another change of Minister, Mr H. V. C. Thorby replacing Sir Archdale Parkhill who had lost his seat at a recent election. My outstanding memory of Mr Thorby is that he was the most uncommunicative Minister I had had and that being a builder he paid particular attention to building plans to ensure that plumbing costs were kept to a minimum by having kitchens, bathrooms and toilets close to one another.

“At about this time George Mills came to me and said that he felt, as many others did, that war was coming and whilst he could not serve in the Air Force he would like to make some contribution, and asked my advice as to what he might do. Mills had been an observer in my flight in Palestine in 1916-17, having come to us from the Light Horse, and had been shot through the right hand and invalided home. But he had been smitten by aviation. had learned to fly, and played a prominent part in the Aero Club in Sydney.

“When I visited the Irving parachute factory in the United States in 1924 I had noted that it occupied a comparatively small building and its equipment consisted of about 20 machines operated by women. I could see no reason why such a factory should not be established in Australia and suggested that Mills might do that. He did so and his parachutes saved many lives during the war, and more since.”

With Brigadier Denzil Macarthur Onslow, Mills secured local rights of manufacture from GQ and Irving, the principal British parachute makers.

Just before the outbreak of the Second World War the new firm of Light Aircraft secured an RAAF contract for locally made parachutes. In 1939 it was employing 10 women; in 1944 it employed 366 women.

Chief assistant to Mills in his business was his former Light Horse batman, Wally Shiers, who was one of the famous team of four who had made the first England to Australia flight in a Vickers-Vimy in December 1919.

During the Second World War Mills designed supply drop parachutes, manufacturing them by the thousand. He also produced special fur-lined equipment for medical officers

to wear inside the testing chambers for high-altitude tests. He repaired and maintained parachutes for the RAAF. He produced air-to-air combat targets, shell-droppers, safety harness and other equipment.

Mills made his parachutes under licence from Gregory Quilter and Co. (GQ) and the Irving Chute Co. of England. The British designs were modified to suit Australian conditions and the resulting product, which incorporated features of both the GQ and Irving designs was called the Dominion Chute.

A system of sub-contracting for the supply of materials and parts for parachutes was built up. The cordage was made in Melbourne; Australian Consolidated Industries supplied quick release boxes and ripcords, Austral Bronze and BHP supplied durile bar and steel, the Clyde Engineering Works supplied harness metals and drop steel forgings, and other Sydney and Melbourne firms contributed webbings and braids, sewing silk, wire frames, tubing, rip cord housings, woven metals, elastic, duck, fasteners, eyelets and other requirements.

THE TURNER PARACHUTE PTY LTD. Ben H Turner, who had been brought out from England by Light Aircraft Pty Ltd for his parachuting and rigging skills, left Light Aircraft and, with the assistance of other businessmen, set up The Turner Parachute Pty Ltd in Sydney. Chairman of the board of directors was Mr George Falkiner, grazier and airman. The necessary plant was installed in May 1940.

The firm manufactured personnel parachutes, flare parachutes, supply parachutes, towing targets, safety belts, windsock indicators and associated equipment. A quick release box designed by Mr Falkiner was one of the firm's products.

When the Second World War ended the firm turned to the manufacture of women's swimwear.

Some idea of the organisation of a parachute factory at this period can be gained from this description of the Turner factory in *Aircraft*, September 1941.

"Its factory and offices occupy a three-storied building near Sydney. The area occupied by the factory covers more than 18,000 well-lighted feet of floor space.

"A large well between the top and first floors provides an ideal parachute tower. Cutting is done on specially designed steel tables on the first floor and sent aloft for machining. Machines used by the company include two and four needle models which simultaneously deliver in the one operation, the rows of stitching that their needles indicate.

"These high-powered speed machines are used for stitching the silk round shroud lines. An outstanding piece of equipment in the machine section is a heavy harness model for stitching webbing and man-drop packs.

"Inspection tables include a section into which has been countersunk a ground glass flood-lit panel. All seams are run over this panel which immediately reveals dropped stitches, material flaws or incorrectly folded seams.

"Ground floor of the factory is occupied with administrative offices, bulk store, and inspection rooms. All material delivered is inspected by officers of the Aircraft Inspection Department before it is passed into the store for subsequent issue."

THE SUPPLY OF PARACHUTE GRADE SILK FOR WARTIME USE. Even before the outbreak of war in 1939 it was realised that large quantities of silk would be required for both personnel and other types of parachutes. The major supplier of silk was Japan. It was realised that Japan was likely to become involved in the conflict on the Axis side.

The Department of Defence estimated in June 1940 that its parachute requirements were as follows:

"Parachutes

	Seat	**Lap**
Requirements to end of Empire Air Training Scheme	2383	3022
Add time expired parachutes	6	14
	2389	3036

Held and Due In

Stock plus dues-in on local current contract	940	1450

*** Due in from United Kingdom**

O.I. 770	400	
O.I. 786	100	500
Received from U.S.A.		200
Total held or due in	1440	2150
Required to complete	949	886
Total requirement	2389	3036

* If delivery of parachutes on order from United Kingdom cannot be obtained, it will be necessary to increase local orders accordingly.

Harness

Requirements to end of E.A.T.S.	5405
Add time expired harness	322
Total required	5727

Held and Due In

No of sets which will be held on completion of current orders	2390

*** Due in from United Kingdom**

O.I. 770	400	
O.I. 786	600	1000
Received from U.S.A.		200
Total held or due in		3590
Required to complete		2137
Total requirements		5727

* If harness due in from United Kingdom cannot be obtained, it will be necessary to increase local orders accordingly."

It was considered that to secure the Australian position 150,000 yards of silk equal to 20,000 pounds weight of raw silk should be bought.

At the beginning of the war only Byfas Pty Ltd of Melbourne was producing silk parachute cloth in Australia. Prestige Limited of Melbourne began making parachute cloth later.

By September 1941 supplies of raw silk from Japan had been suspended, but prior to that time considerable stocks of silk were imported. In the process much work was done on testing samples of Japanese silk.

The supplies of silk were considerably enhanced at the outbreak of war with Japan when a Japanese ship carrying a cargo of parachute grade silk was seized in Singapore harbour and re-directed to Australia.

Substitutes for silk were found for non-personnel carrying parachutes such as cargo chutes. The materials included cotton and jute and rayon.

The supply situation was eased midway through the war (1943) with the introduction of nylon.

Control of silk supplies was introduced as the situation in the Pacific deteriorated. The official history, *War Economy*, by Butlin and Schedvin p.115, has this to say:

"The Department's initial approach to the exercise of direct control over textiles and clothing was clearly illustrated in one field where action antedated the Pacific war: the control of the use of natural silk. Pre-war the major source of supply to all the Allied countries, including Australia, was Japan, and as the diplomatic situation in the Pacific worsened in the latter half of 1941, the prospect of the end of all new supplies had to be faced. A Control of Silk Order of 2nd August 1941 was the first step to requisitioning of all stocks of raw silk and, for practical purposes, limiting its use to two purposes: the manufacture of man-dropping parachutes and the insulation of fine wires used in aeroplane electrical equipment.

"Even so, when war in the Pacific did come, it was not expected that natural silk supplies would meet even these specialised needs and control extended to artificial fibres which were to some extent substitutes. None of these was then manufactured in Australia and nylon, the best substitute for the priority uses of raw silk, was then a new product. Limited supplies were obtained by an allocation through the Commonwealth Supply Council from the expanding American production; use was also restricted to toothbrushes, man-dropping parachutes and fine-wire insulation."

MILITARY PARACHUTING DURING THE SECOND WORLD WAR. The first use of paratroops during the Second World War was by the Soviet Union during the Winter War with Finland in 1939-40. The paratroops were landed behind Finnish lines with a view to supporting the main Soviet attack. However, the Finnish army drove back the main Soviet attack and the Soviet paratroops, isolated and without support, were forced to surrender.

The next use of paratroops was in the German invasion of Norway in early 1940. Some of the drops were made too low and a number of paratroops were either killed or injured.

The Germans next used paratroops in the attack on Belgium and the Netherlands. The attacks on Belgian fortresses using paratroops and gliders were very successful. The landing of German paratroops in Amsterdam was less successful as they were generally rounded up by the Dutch police and army.

Winston Churchill was impressed by the German paratroop operations and sought to emulate them. "'We ought to have a corps of at least 5,000 parachute troops, including a proportion of Australians, New Zealanders and Canadians, together with some trustworthy people from Norway and France ... advantage of the summer must be taken to train these troops, who can nonetheless play their part meanwhile as shock troops in home defence. Pray let me have a note from the War Office on the subject.' So wrote Prime Minister Winston Churchill on 22 June 1940 to General Sir Hastings Ismay, the head of the Military Wing of the War Cabinet Secretariat.

"In fact, the foundation stone for the training of airborne forces had already been laid by the Royal Air Force, which earlier that month had taken the decision to set up a parachute training centre at Ringway, near Manchester." (Harclerode p.19)

Paratroop battalions were also established in the Indian Army during the Second World War. After the partition of India at independence the battalions were divided between the Indian Army and the Pakistani Army according to relative strengths of Hindus and Muslims in the battalions, with an exchange of personnel between the battalions.

"Japanese airborne forces had existed since 1940. Both the Army and Navy were to support airborne formations and, before the end of 1941, Germany had a team of instructors in Japan. The Army's airborne force, consisting of a parachute brigade, a glider brigade and support units, was to be used as a raiding force; the naval parachutists formed two landing units and were similarly used as air commandos.

"Early in the war, the Japanese mounted an airborne operation from Davao in the Philippines on Menado airfield at the northern tip of Celebes island, in the Dutch East Indies. On 11 January 1942, naval parachutists of the Yokosuka Ist Special Landing Unit captured the airfield with little difficulty, thus providing a useful base for Zero fighters. The most important Japanese airborne operation of the war took place shortly afterwards on Sumatra. On 9 February 1942, Colonel Kitme's Army Parachute Brigade dropped ahead of the Japanese 38th Division, landing from the beaches to capture Palembang airfield and a nearby oil refinery. Dutch, British and Australian troops resisted the invasion strongly but the Japanese paratroopers, split into two groups, had a sufficient hold on their objectives by mid-February to allow the 38th Division to consolidate its positions. The Yokosuka Ist Special Landing Unit also made a minor drop in early 1942 on Koepang, the capital of Dutch Timor. The Japanese thereafter were unable to make much use of their airborne troops but small parachute units made a few disruptive raids in the Philippines after MacArthur's return to these islands. Japanese Army and Naval parachutists wore combat dress based on the German model. The Army jumpers wore a wing designed in the form of the legendary 'Golden Kite'; the Navy wore a crossed parachute and anchor emblem.

"In the SE Asian sphere, the Air-Landing School at Willingdon Airport near New Delhi, in India, was moved in 1942 to Chakiala, near Rawalpindi, where No. 3 Parachute Training School was established by Ringway instructors. In early 1944, Major-General E E Down formed 44th Indian Airborne Division from the 50th Indian Parachute Brigade. On 1 May

1945, an improvised battalion group, made up from lst Indian and 2nd and 3rd Gurkha Parachute Battalions, was dropped :on a successful operation ('Dracula') to destroy Japanese gun positions at Elephant Point, at the mouth of the Rangoon River. (Gregory & Batchelor, p. 125)

An Australian artillery unit, together with their 25 pounder guns, jumped with the American 503rd Parachute Infantry Regiment at Nadzab in the Markham Valley in New Guinea on 5 September 1943. This operation was mounted to seize and develop landing sites so that the Australian 7th Division could be airlifted into the area to launch an offensive against the Japanese forces at Lae.

"The 503rd carried out its second airborne operation on 3 July 1944 on Noemfoor Island (West Papua) but its final and most spectacular jump occurred on 16 February 1945 on Corregidor Island in the Philippines. At dawn on the 16th, the men of the 3rd Battalion, Battery 'C' of the 462nd Parachute Field Artillery, Company 'C' 161st Airborne Engineers and most of the 503rd's regimental headquarters, took off in C-47s from Mindora for Corregidor. Two more lifts followed and heavy fighting against a strong Japanese garrison continued until the island was overrun two weeks later. On 2 March, a guard of honour of the 503rd presented 'Fortress Corregidor' to General Macarthur.

"The US 11th Airborne Division was first committed to battle in the Pacific in November 1944, on Leyte Island, where the 457th Parachute Artillery was dropped into a jungle clearing. The 11th's main scene of operations was Luzon Island, during February-June 1945. On 3 February, the 511th Regiment mounted a wholly successful parachute operation to rescue 2,200 American prisoners of war near Tagaytay ridge. On 23 June, the 511th was again landed (this time from 54 C-47s, 13 C-46s and seven Waco CG-4As) on the most northerly tip of Luzon, to cut off Japanese troops retreating to the port of Aparri. The action by the 511th continued for three days until the airborne troops were relieved by the US 37th Division." (Gregory & Batchelor, pp. 124-5)

Parachuting activities by Australian special forces units is referred to in *Ring of Fire* by Dick Horton.

7. THE CREATION OF A PARATROOP UNIT IN AUSTRALIA

A history of 1 Parachute Battalion during World War II has been provided by J B (Lofty) Dunn in his book *Eagles Alighting: A History of 1 Australian Parachute Battalion* (1999). The following account is based on independent research and focuses on technical aspects in line with the approach followed in the rest of this account of parachuting in Australia.

The Australian War Cabinet at its meeting on 10 June 1941 recorded the following decision:

"The Minister for the Army asked whether any consideration had been given to the training of parachute troops in Australia. The Chief of the Air Staff stated that, while training of these troops was not beyond our capacity, the only type of aircraft in Australia suitable for the purpose were Hudsons, and these were being used to full capacity on general reconnaissance work. The Minister for the Army asked whether there was not a preliminary stage of training such as jumping from heights, which might be undertaken without aircraft. The Chief of the General Staff said that para military troops at present undergoing special training were the type that could be appropriately trained in parachute

work. It was directed that the Chiefs of Staff should consider the question of training parachute troops." (War Cabinet Minute 1136 para C(iii), 729/6 AWM)

The Defence Committee, consisting of Vice-Admiral Sir Guy C C Royle, Chief of the Naval Staff, Lieutenant-General V A H Sturdee, Chief of the General Staff, and Air Commodore W D Bostock, Deputy Chief of the Air Staff, considered the matter on the basis of the views of the Chief of the Air Staff and the Chief of the General Staff.

At its meeting on 24 July 1941, the Committee recommended that elementary ground training in parachute work be given to para military troops at No 7 Infantry Training Centre (Yanakie) by attaching suitable RAAF personnel.

The Committee pointed out that aircraft could not be provided at the moment to enable 'live descents' to be made, but the possibility of making available a suitable aircraft in the future would be investigated by the RAAF. The training of parachute troops would be further reviewed by the Chief of the General Staff in the light of developments in the United Kingdom.

The proposal to create a paratroop unit, promoted by the Deputy Prime Minister and Minister for the Army, Frank Forde, does not seem to have been welcomed by senior military officers and it was to be some time before his proposal was implemented.

On 30 December 1942 the Commander in Chief, Australian Military Forces, General Blamey, wrote from Allied Land Forces Advanced Headquarters in New Guinea to the Chief of the General Staff as follows:

"With reference to the scale of airborne troops, I do not propose to increase the number of Australian parachute troops beyond that already approved, one Independent Parachute Company, which is now in process of formation."

In the same communication he had already expressed his opposition to the concept of a glider force.

PARACHUTE TRAINING UNIT. A composite Parachute Training Unit was formed at Laverton, Victoria, on 3 November 1942 and after formation moved to Tocumwal, New South Wales, on 16 November 1942. Limited recruiting for men to be trained as parachutists took place in October 1942 but it was not until early December 1942 that approximately 40 personnel, mainly recruited from an Independent Company Training Depot, assembled at Tocumwal Aerodrome.

The establishment of the training unit comprised Wing Commander Glasscock as Commanding Officer, Squadron Leader as Administration Officer, Squadron Leader as pilot, plus co-pilot, Pilot Officer Jack Milne (former exhibition parachutist), and a Flight Officer in charge of female staff including parachute packers, and physical training staff. The Army personnel consisted of Captain Chief Instructor, Captain Adjutant, Captain Officer Commanding Training, Captain Quartermaster, Sergeants to be trained as instructors and jumpmasters.

The strength of the unit was:

RAAF - six officers and 88 airmen
Army - seven officers and 90 other ranks

The equipment available at the beginning comprised:

one DC-2 transport plane, plus three metal containers
one Wirraway aircraft
60 x 30 foot silk parachutes
10 x 200 pound wooden dummies
one training mock-up fuselage
several parachute control harnesses
a quantity of rubber DORR helmets plus physical training equipment.

At that stage the training consisted of:

(a) physical training under the supervision of Lieutenant Green (later to be Captain) with RAAF PT instructors as his assistants. Boxing, wrestling, callisthenics, swimming in the nearby Murray River and athletics filled in most of the early days of training.

(b) weapons training under the supervision of permanent army instructors in the use of the Garand rifle, mortar and medium machine gun

(c) parachute theory, its construction, theory of its opening and descent and its packing

(d) air experience in a Dragon aircraft.

Late in January 1943 the DC-2 from which the jumping was to be done arrived, piloted by Flight Lieutenant Beeston (later to be Squadron Leader). All parachutes were test dropped either from the Dragon or the DC-2 and on 19 January the first live drops took place. Flying Officer Jack Milne who had some 150 jumps to his credit from civilian life was first to jump followed by Wing Commander Glasscock. Milne, a lightweight, was so used to doing standups in civilian life that he did one then, something he had been telling his trainees not to do.

By the end of January 1943 the first course had completed the initial course of four jumps each. At this stage all personal packed the parachutes with which they jumped.

The following is an account of one of the first jumps and its background, taken from the diary of Captain Syd H Buckler VX 13637 of Coffs Harbour, New South Wales.

“Sunday 17 January 1943. Yesterday I packed my own parachute in preparation for my first jump. At this school my section of sixteen men will be the first to jump. Flying Officer Milne who is an instructor here - ex professional parachutist of approximately 150 jumps will be first out of the plane -. I will be next so that will give me the honour of being the first Australian Army man to parachute.

“Almost five weeks ago, I arrived at Tocumwal to commence this first course; - mainly consisted of intense physical training, wrestling, tumbling, jumping and boxing - during the first week we were all very tired as the course was severe and weather hot, Instructors are found from professional P.T. men, boxers, wrestlers and gymnasium attendants. Well we are perfectly fit for the jump and have no worries that the chutes won’t open as we have seen them dropped with 300 pound dummies attached to them. Besides each man has packed his own chute with an instructor standing by. In addition to the big statischute 32 feet canopy which Is harnessed to the back, there is a 24 feet canopy attached to the

chest - this will give an auxiliary just In case-. Instructors packed these whilst we looked on.

“Troops for this course were drawn from volunteers from the A.I.F. - mainly came from the Commando training establishment - had to pass a rigid medical examination, all have been particularly keen and eager for this jump.

“My own personal feelings prior to this first hop out Is that In future operations this training will save me a lot of walking. It took almost ten days hard marching to contact the Japs along the Kokoda trail in August. I later flew over the same route In ten minutes. This use of parachutist will Introduce surprise and mobility into our fighting system In the New Guinea and lsland areas.

“In early October 1942 after I had been cut off from the 2/14 Australian Infantry Battalion with remnants of A Company and wounded, I reported into HQ NGF and there spoke with General Blamey and his chief RHL Hopkins. The formation of a parachute outfit had just been agreed on by the General that particular morning. I asked Brigadier Hopkins if I could be considered for the command. Soon afterwards I met Colonel Pollard and asked him to sponsor me - I had been at his staff school twelve months ago In Palestine and had first applied for parachute work whilst there. He spoke with the Brigadier and soon afterwards I was told that the first Company would be mine and it would be raised In New Guinea from personnel already on the Island, the first operational jump to be within three weeks. Delays occurred and finally the decision to train in Australia was made.

“Monday 18 January 1943. Disappointing day - wind had been too strong to allow droppings to take place, perhaps first thing In the morning, The chief instructor took up three dummies to drop, very pretty seeing the chutes come down through the red and purple bands of the late evening sky. From this point of view one chute at 2000 feet appeared to pass by a large star.

“Thursday 21 January 1943. On Tuesday 19 January 1943 I made my first jump from the plane. Took about fifteen minutes in the DC2 to obtain 2000 feet and arrive over the correct dropping place. During this time the nine students in the plane talked and smoked and speculated on results of first jump, all were in good humour.

“Red light went on to indicate approaching dropping area, moved to the doorway with parachute or statischute, static cord attached to the static line within the plane - stood in the doorway crouched ready to jump-. Wing Commander Glasscock tapped me on the backside and I was into space before I knew it. I can remember saying to myself ‘Oh Christ’, soon after looked upwards and saw the white silk had developed above me. From time of leaving plane until chute had fully developed took 3 seconds, so one hasn’t very long to worry. Oscillated freely but could only tell this by looking up at the silk. The descent from 2000 feet took 2 minutes 8-2/5ths seconds. I landed with a slight jar much less than anticipated fell over on to one cheek of my backside and then rolled forward, caught the rigging lines and deflated the canopy. There is no difficulty in parachuting, a mental strain for a few minutes is apparent whilst waiting the turn to jump. The three seconds whilst the canopy develops may worry troops but is only a short space of time. Amongst my section of 16 everyone jumped without hesitation. Injuries one ankle tendon and one bad knee, both will be unable to jump again for a week.

“The feelings of troops on first jump taken In notes Immediately on landing.

"Q.X. 5748 L/Sergeant K.P. Kane 24 1/2 years (civilian life, derrick man on oil wells). In plane before jump, filled In time by talking and watching others go out.

"On leaving plane first jump, felt alone, nothing to hang on to, no sensation as chute opened. Felt alright once I got away from plane. Great feeling, hard to stop oscillation. No difficulty in landing.

"A general observation of all troops on first jump, apprehensive whilst in plane waiting turn to jump, control their feelings by smoking, talking, laughing and cracking jokes about probability of others not having successful jumps, but confident that theirs will be O.K.; or they try to give outward signs of that confidence. Numerous thoughts pass through mind whilst standing at doorway ready to go out. No one could quite express their feelings on casting themselves into space but all expressed relief on looking up and seeing the canopy had developed. No one felt a jerk as the chutes opened, just a slight pressure on shoulders; ground did not appear to rush up, landing jar was lighter than expected.

"I have the honour of being the first member of the Australian Army to have made the statischute jump and the third person in Australia to use the statischute. Two went before me, an ex-professional parachutist Flying Officer Milne and the chief instructor, Wing Commander Glasscock, both of the RAAF. The former stated that it was his 147th jump and was the smoothest chute opening he had experienced, with an exceptionally slow landing. Said it was just like stepping off a tram."

A course of parachute jumping consisted of:

(a) an initial solo jump from 2000 feet
(b) two solo jumps from 1000 feet
(c) a final stick jump with 10 men from 500 feet.

The unit suffered its first fatality in early March 1943 when one man had his canopy apex caught in the tail plane of the aircraft. His subsequent release over Lake Yarrawonga resulted in his death.

During March 1943 experiments in water jumping into the Swan Hill lakes were undertaken by the Commanding Officer, Wing Commander Glasscock, Flying Officer Milne, and Captains White and Smith.

At this stage three courses had finished their jump courses and three more were undergoing training. The completed courses were making endurance marches and testing rubber jump boots for this purpose.

Following the death of the first Commanding Officer, Wing Commander Glasscock, the unit was commanded by Wing Commander W H Wetton RAF, who took command on 6 April 1943. Wing Commander Wetton had been seconded from the British airborne forces at the request of the Australian government. Also seconded was Major H Roberts, who joined the unit as chief instructor. These appointments were not welcomed by everyone in the Parachute Training Unit as it was considered that the Australian members of the unit had demonstrated a capacity to develop the training program without the insertion of personnel from outside Australia.

On the recommendation of Wing Commander Wetton and Major Roberts the Chief of Air Staff decided to move the Parachute Training Unit from Tocumwal to Richmond RAAF

Station, near Sydney. This decision was based on weather conditions and the limited training facilities at Tocumwal. Another consideration might have been Richmond's proximity to Sydney.

The transfer was completed on 13 April 1943. Training from then on was based on airborne training in England.

When the unit was established it was called Group 244 RAAF - Army.

"B" Flight 36 Squadron was the RAAF Squadron attached to provide the aircraft support for parachute descents. The aircraft flown by "B" Flight were DC-2.

At Richmond the students worked most of the first two weeks of the four week, seven descent qualifying course doing physical training and skills required for the actual drop which consisted of one solo, one slow and one fast pairs, one stick of slow and one stick of fast fives and finally two stick jumps from approximately 700 feet of 15 - 21 jumpers. All were fitted with a statichute only, exiting with either the .303 rifle held butt against cheek of face or sten gun carried horizontally inside the front of the harness, or bren gun encased in felt sheath which was lowered to the ground by a cord prior to landing.

The Parachute Training Unit trained paratroops for 1 Parachute Battalion and the attached units of supporting arms such as Artillery and Engineers, the Independent Companies and the special forces such as "Z" Force. A mountain battery, with their gun, were also trained. Apart from Australians there were Dutch, Malays, Indians and Javanese trained in parachuting, mainly for employment in special operations.

When the war ended the Parachute Training Unit was disbanded.

1 Parachute Battalion. On 19 April 1943 "A" Company was formed at Richmond RAAF Station, New South Wales, from personnel trained by the Parachute Training Unit. It consisted of Company Headquarters, three platoons and a mortar section. Captain I L Smith was in charge.

At this time a Parachute Training Centre was formed under the command of Captain R S Freeman to receive recruits for the Parachute Battalion and other special forces, train them as qualified parachutists and so build up a reserve of trained personnel for the other companies as they were formed.

The first operational training jump was made by 1 and 2 platoons at Yarramundi dropzone.

Parachute jumping into water at Cataract Dam began in July 1943 but was discontinued after the death by drowning of Captain Dossiter on 23 August 1943.

Among other exercises carried out by the company of this period were night jumps, water jumps and jumps at the Jungle Warfare School, Canungra, Queensland.

On 4 August 1943 Major J W Overall arrived at Richmond as 2 i/c and commander elect.

On 9 August 1943 "B" Company was formed with Captain J F White as O.C.

On 15 August 1943, 1 Parachute Battalion was formed with Major Overall as C.O.

On 21 September 1943 an advance party of the battalion moved to Scheyville, New South Wales, to be followed on 24 September by the main body of the battalion.

By mid-January 1944 the Battalion was at full strength, consisting of Headquarters Company, A, B and C Companies, Battalion Headquarters and a RAE troop.

On 31 May 1944 an advance party of the battalion arrived at Mareeba on the Atherton Tableland in Queensland.

A proposal to use the battalion to rescue Australian prisoners of war in Borneo in the closing stages of the war, 'Operation Kingfisher', was cancelled by General Blamey, the commander of the Australian Army. The proposal had the support of General Macarthur and more than enough aircraft and naval support were available. Australian troops had already landed in Borneo and Australian special forces units were operating in the interior. The operation effectively ended when General Blamey personally ordered 1 Para Battalion, which had been on stand-by for the operation, to go on two weeks leave. In the event the Australian prisoners of war were massacred by Japanese troops during the Sandakan death march. An order had gone out from the Japanese military headquarters in Tokyo that all Allied prisoners of war were to be killed before the termination of hostilities. Borneo was the only location where this order was carried out. In the case of Japanese controlled prisoner of war camps in Malaya and Thailand, the British military authorities had sent in paratroops to watch the camps with a view to forestalling any attempted massacre of the prisoners. In the case of Thailand they had the cooperation of members of the Royal family. 'Operation Kingfisher', and General Blamey's involvement in its termination, is dealt with in the 1999 edition of Lynette Ramsey Silver's book, *Sandakan: A Conspiracy of Silence*.

On 23 August 1945 the battalion was notified of a move to Singapore under the command of Major Clarke.

On 26 August 1945, 120 troops left Cairns by air and after a stay of nine days in Labuan arrived in Singapore on 9 September.

The move of the rest of the battalion was cancelled but a further 75 all ranks arrived in October.

The members of the battalion participated in the Singapore surrender on 12 September and afterwards carried out many duties. These included disarming and concentrating the Japanese troops, guarding dumps and guarding Army headquarters.

The battalion elements left Singapore on 10 January 1946 by boat and arrived at Sydney on 27 January. They moved to Ingleburn Camp where orders were received on 29 January to disband the unit. The unit was disbanded in February 1946.

The first steps had been taken towards the formation of a second parachute battalion when the end of the war made it unnecessary.

8. POST-WAR EXHIBITION PARACHUTING, 1945-1958

With the end of the Second World War exhibition parachuting resumed. Not surprisingly, there was a high percentage of military trained parachutists among them.

In spite of the expansion of parachuting during the Second World War the attitude of the Department of Civil Aviation seems to have hardened against civilian parachuting, possibly influenced by the perception of some pre-war exhibition parachutists as being little more than 'cowboys'. In replying on 5 May 1947 to a request from the officer in charge of air operations at Mackay, Queensland, for advice concerning a proposed display jump, the central office of the department said: "For your information, you are advised that it is the Department's policy to discourage exhibition jumping, as it is considered that this is inherently dangerous and of no value to the cause of civil aviation."

Among the would-be display jumpers with a background In 1 Para Battalion were Mr J Laidlaw, Mr J Kennedy, Mr K Muir, and Mr E R J McCarroll. A Mr G Seaman was said to be of an unspecified paratrooper background. A Mr R A Newman had qualified as a parachutist at Richmond on 21 July 1945, presumably through the military. A Mr J W Simpson sought to make a parachute descent to satisfy a personal ambition.

Of the pre-war jumpers only Ben Turner appears to have continued jumping in the post-war period.

Active display jumpers of the period included Merle Vincent from New Zealand, Mr Smith of Brisbane, and Brian Musson, the founder of sport parachuting in New Zealand.

Brian Musson first became interested in parachuting in 1937 when he took a parachute packing course under an American, Leonard Skinner. As a parachute packer in the Royal New Zealand Air Force during the Second World War Brian Musson packed more than 6000 parachutes. After the war he obtained equipment that satisfied the standards set by the New Zealand Air Department and made his first jump in 1948. In May 1950 he set an Australasian record by jumping from a Tiger Moth at 12,300 feet. He formed a flying circus called the Flying Kiwis and jumped all over New Zealand. The New Zealand Air Department awarded him the first civilian parachute instructor's licence in New Zealand. In Australia he made a demonstration jump at Broadmeadow near Newcastle during the Royal Newcastle Aero Club's 21st anniversary pageant in October 1949. (*Newcastle Morning Herald*, Saturday 26 February 1955, p.5)

The equipment used by the display jumpers was generally ex-military or of similar design. The main parachute had to be at least 27 foot in diameter and the reserve, 23 foot. The 24 foot seat-type parachute was not regarded as satisfactory as a main parachute. Both parachutes had to be dummy dropped within seven days of the proposed descent.

The Department said it did not believe that there was any organisation outside the RAAF with the necessary parachute maintenance equipment and parachute packers. This was manifestly untrue as the Light Aircraft Company was still in existence and Ben Turner appears to have been available for parachute packing and maintenance.

The Department required the aircraft to be used on display jumps to be multi-engined. The Avro Anson and DH.84 Dragon were regarded as suitable aircraft.

POST-WAR EXPERIMENTS IN DROPPING OF NEWSPAPERS. In 1946 Morris and Walker Pty Ltd in collaboration with Australian National Airways Pty Ltd conducted experiments in the parachuting of newspapers as a method of delivery. The tests were conducted in the presence of a representative of the Department of Civil Aviation but were unsuccessful. (National Archives of Australia)

8. PREREQUISITES FOR THE FURTHER ADVANCEMENT OF PARACHUTING

THE DISCOVERY OF STABLE FREEFALL. One of the prerequisites for the advancement of freefall parachuting or skydiving as it became known was the discovery of how to maintain control of the body during freefall. From the beginnings of freefall parachuting parachutists had simply jumped clear of the aircraft with their hand on the ripcord and counted to three before pulling the ripcord in the elementary clear and pull operation or, in the case of an extended freefall, which were often engaged in at parachuting displays, simply fallen through the air in an uncontrolled fashion, or curled up, and waited till they happened to be facing the earth before pulling the ripcord. Some parachutists achieved a measure of stability through the vertical or Cannarozzo dive, but this option was relatively unattractive because of the high descent rates generated, with the consequent greater risk of damage to the canopy and a heavier opening shock for the parachutist.

The issue of controlled freefall was taken up by Leo Valentin, a parachutist in the French Army. Parachuting in the French Army was of the freefall type. Valentin had decided that if he could not solve the problem of controlled freefall he would give up military parachuting and leave the French Army.

His experiments with various objects led him to adopt a freefall posture similar to that of a shuttlecock with head, arms and legs bent back. However, this posture could also create the same instability as experienced in Garnerin's original round parachute where the air trapped beneath the body rocked it from side to side and from front to back to escape. Hence, Valentin held the arms swept back slightly so that there was slight forward movement and the trapped air tended to move to the rear. In this way stable, controlled freefall was achieved. Here is his account of his discovery:

"It was rather like Newton's apple, though the funnel I watched falling from the second-storey window of a house did not actually land on my head. I merely noticed that when dropped into space it fell point first without being rolled or buffeted about.....Why? Because a cone drives its own course through the atmosphere. If I could give my body a form approaching that of the funnel perhaps I too could fall without twisting, with the same enviable stability. There was no need for me to look in a mirror to see that there was nothing funnel-shaped about me unless....unless...

"Let me see: if I jump with my body extended, i.e. with hollow back, extended neck, chest thrust out, arms and legs splayed and slightly backwards, I present to the air a compact surface, so to speak, of a more or less convex form. I already look more like a bird than the common sack of sand I am when I fall in a jack-knife position.

"I turned this idea over and over in my mind, and imagined myself up aloft cleaving the air with my body, like a rounded prow, already gliding... No more loops, spins or wild somersaults. I could hardly refrain from jumping up and down and dancing for joy; I'd found it. The day of my great challenge to the sky had really come." (Valentin)

On 23 May 1947 at Pau in southern France Leo Valentin made three freefalls in which he realised stable freefall and tried out controlled loops and turns in freefall.

One of the outcomes of this discovery in 1948, recounted in Valentin's book, *Birdman*, was the establishment of sport parachuting in France, with the help of government subsidies to parachute centres.

Knowledge of how to achieve stable freefall gradually spread to other countries as they began to undertake sport parachuting.

THE DEVELOPMENT OF THE STEERABLE PARACHUTE. The original round parachute was a drag device with no inherent steerability. However, parachutists seemed to have discovered that by pulling on the lines on one side they could tip out air on the other side and so steer the parachute in one direction and, if necessary, away from obstacles to safe landings.

The demonstration of long freefalls led to situations where pieces of the parachute were torn either by the hardness of the opening (because of the lack of deployment devices to slow the opening) or because of the irregular position of the parachutist's body at the time of opening. It was discovered that these holes in the parachute changed the performance of the parachute, giving it a motion in a direction opposite to the exit of air from the parachute. The escape of air from these holes seemed, paradoxically, in some cases, to slow the descent of the parachute. What was happening was that the curved surface of the parachute was acting as an aerofoil, and the air flowing over its surface was generating lift for the parachute.

Moves towards the development of a steerable parachute seem to have been retarded by the Second World War but were taken up after the war. The introduction of one or more slots to the rear of the canopy enabled forward motion and steerability to one side or the other. The forward speed could be controlled by using steering lines to restrict or widen the size of the slots.

The most sophisticated development of the round parachute for speed, lift and steerability came with the development of the "Papillon" type parachute in France. This was further developed and marketed in the United States as the Paracommander series of parachutes.

The development of steerable round parachutes was an important pre-condition for the development of parachuting for sporting and military applications.

OTHER IMPORTANT TECHNIQUES. In American military parachuting deployment of the canopy was canopy first followed by the lines. Because this method of deployment involved a risk of malfunctions American paratroops carried a front-mounted reserve parachute. At the heights paratroopers often jumped there would have been very little time to deploy the reserve. The British, on the other hand, developed a lines-first deployment process in which the lines were stowed on the deployment bag containing the folded parachute. While this meant a slower opening than the canopy-first approach, it reduced the risk of malfunctions. Hence the British paratroops did not carry a reserve parachute.

One other technique developed by the British parachute training unit was the parachute landing fall (PLF). This reduced the risk of injury on landing.

Canopy releases on the shoulders were not developed till after the Second World War and were intended to enable paratroops to avoid being dragged to their death in high winds on landing.

While these innovations were developed in a military context they were to be significant in enabling the spread of parachuting to the wider community.

9. THE ESTABLISHMENT OF THE PARACHUTE TRAINING SCHOOL AT WILLIAMTOWN

Parachute training at the RAAF base at Williamtown, New South Wales, began in September 1951. A Parachute Training Wing had been established in 1950 as part of the School of Land/Air Warfare. The unit was RAAF controlled and the first Chief Instructor was Squadron Leader C A V Bourne. The instructors on the staff were drawn from both the Army and the RAAF.

The first course of 20 students was trained at Williamtown but actually jumped on a dropzone near Richmond. By the time the second course started in March 1952 the Salt Ash dropzone was in operation.

The School of Land/Air Warfare was disbanded in August 1956 when the Air Support Unit was established. The Parachute Training Wing was renamed the Parachute Training Flight of the Air Support Unit.

The aircraft used at first in post-War military parachute training was the Dakota. This aircraft was phased out in the mid-1960s.

The Irvin PX parachute was the static line parachute used during the Dakota period. The original free fall parachute was a British designed PB1 Mk 2.

10. THE SPECIAL AIR SERVICE REGIMENT

The Australian Special Air Service had its beginning in July 1957 when the 1st Special Air Service Company was raised at Campbell Barracks, Swanbourne. The company became part of the Royal Australian Regiment in November 1960.

11. THE FOUNDATION OF SPORT PARACHUTING IN NEW ZEALAND

The following account of the foundation of sport parachuting in New Zealand was given by Bill Hope, a founding member, in the *Commando Skydiver Journal* (Melbourne) Vol. 1, No 9. It was titled “How the Kiwis Learned to Fly”.

“The Auckland Parachute Club of New Zealand can make good claim to being the first Sports Parachute Club to form within the British Commonwealth or U.S.A. Here by request are some facts of their early beginnings. Brian Musson, the last of a long line of New Zealand barn storming professionals, had long toyed with the idea of forming a school or club of parachuting.

“In 1953, after repeated requests by small groups of enthusiasts (including Bob Larder who now pilots an Ansett-A.N.A. helicopter around Melbourne), Brian approached D.C.A., who gave a "yes" with reservations. The next step was to approach the Daily Press (you might hate them but you always need them) and with their support the seed was planted.

“A meeting was called for those interested on 30th November, 1953. Twenty-one men and a girl attended and a committee was formed. They were a mixed bunch of New Zealanders, Pommies and Dutchmen. After three months of intensive training, the first

jump day was held at Mangere Airfield, near Auckland, on Sunday, 28th February, 1954. In front of the Public (?), using an Irving 28 footer with a secondary front pack (without sleeve) and free failing. Five members made their first club jump from an Auster Aircraft from 2,000 ft. They were in jumping order:

1. Peter Dawson, Ex-British Paratrooper, now In N.S.W.
2. George Reynolds, who had twice jumped from a burning aircraft. Ex R.N.Z.A.F.
3. Bill Hope, Ex-British Paratrooper, now in Victoria.
4. Graeme Knox, a New Zealand University Student, now in U.S.A.
5. Miss Noelene Larder, aged 17, a relative of the well known New Zealander woman aviator, Miss Jean Batten.

“Interest In sport parachuting spread rapidly through-out New Zealand. A second club was formed by Brian Musson at Hamilton, the boom centre of the rich Waikato Cow Country. A Mr. Denny Main of this club insisted on dressing in Waikato Rugby Football colours and ringing a cow bell on his first descent - it sounded - Ding, Donk, Dink, as he clouted himself on the jaw.

“Denny, who is now Secretary of the New Zealand Parachute Federation, made an Australasian record jump from 17,000 ft. in March, 1955. Soon other clubs were formed Canterbury, Manawatu and later Tauronga. Brian Musson also toured Australia in 1954 to drum up interest.

12. THE FOUNDATION OF SPORT PARACHUTING IN AUSTRALIA. Some of the barn-storming jumpers had given consideration to training students as an added attraction and an additional source of income. These ideas came to nothing. There was official hostility to the despatch of civilians who had no intention of becoming professional jumpers.

Following the Second World War there was a revival of interest in the idea of establishing parachuting as a sporting activity. The Australian newspapers in the thirties had carried reports of sport parachuting in the Soviet Union, and during the war hundreds of Australians had trained as parachutists either as part of 1 Parachute Battalion or as members of one of the special units. A number of aircrew had made emergency freefalls from aircraft.

A Mr E R J McCarroll of 38 Station Street, Harris Park, Sydney, took the trouble to formulate a scheme for a sport parachute club and submitted it to the Department of Civil Aviation. In a letter of 18 June 1947 he wrote:

“I have been making enquiries re possibility of forming a civil parachutist club in this state. The aim of this club would be to train civilians for parachuting as a pastime, and to run in conjunction with aero-nautical carnivals, and to give public demonstrations at other carnival events. Aspiring students would be given a course of training to prepare them for qualifying jumps. Course of training and qualifying jumps would be covered by suitable fee. Club would aim at running its own social functions, also have its own recreation rooms.

“It is considered that apart from being a pastime club, this would come as a great natural benefit to the country. It will be remembered that many thousands of pounds was spent on parachute training during the war. If this same course of training could be affected in peace-time, then the country stands to gain a great deal by the formation of such a club as

mentioned above that could pay for its own course of training and not incur any expense on the government.

“There are however a number of questions to which I would like answers, and I have written to you in the hope that you may be able to supply all, or some of these; or tell me to whom I may apply for particulars.

“Enclosed is a copy of questions in written form.”

Mr McCarroll had qualified as an Army parachutist during the Second World War and had been a member of 1 Parachute Battalion for two years and had made 20 parachute descents. He had reached the rank of Sergeant and had qualified as a jumpmaster.

The Department of Civil Aviation replied in the following terms on 22 July 1947:

“With reference to your communication of 18th June 1947, it is felt that perhaps you have not considered fully the factors involved in such a proposal.

“2. Whilst it is a function of this Department to give guidance in any project which will help to foster aviation, it is also responsible that in the Public interest, such projects are conducted with the highest degree of safety.

“3. Any digression from these standards of safety which lead to an avoidable accident in any particular sphere of aviation can do untold damage to Aviation in general.

“4. From your experience of Army parachutist training it must be evident that :-

(a) Wartime training standards of necessity are more hazardous than could be acceptable in a comparable civilian activity.

(b) Cost of training to a standard which would eliminate accident risk would be prohibitive, when compared with the cost of Army training, remembering that Army facilities were not bought on an entirely commercial market.

(c) Paratroop trainers were a very select group of physically fit and toughened men, gathered from a wide source.

(d) Accidents were not infrequent.

(e) Parachute descent and handling comprised approximately 5% of the overall training.

“5. Dealing in particular with sub-para (b) above, some idea of the expenses which would be entailed can be gleaned from the following:

(i) Each person would be required to be equipped with dual parachutes.

(ii) You would be required to have access to parachute maintenance and folding equipment approved by this Department, such equipment to consist, amongst other things, of an approved hanging and drying flue, folding table etc.

(iii) The only suitable aircraft type for your purposes would be the C-47 which would cost you, to hire, somewhere in the region of 30 pounds per hour, that is, if you could get one.

Requirements of lights and special fittings such as inward doors would have to be arranged between yourself and the aircraft owner and would involve additional expense.

“6. Speaking generally, the Department does not consider that your proposal, as bounded by economic limits, has any considerable national value nor does it advance the general cause of aviation and it is, therefore, the policy of the Department to discourage such a proposal.

“7. No attempt has been made to answer your individual questions in this reply as it is felt that you should first give consideration to the views expressed herein.”

Another person who attempted to establish sport parachuting in Australia was Brian Musson (1922-) of New Zealand. In April 1955 Brian Musson, who had played a central role in the establishment of sport parachuting in New Zealand and who was a veteran of 143 jumps, came to Australia with another New Zealand jumper, Miss Merle Vincent (1934-), with the aim of forming as many parachute clubs as possible. Brian had given a parachute demonstration in Newcastle in 1949 and it was there that he got his most enthusiastic response. On Wednesday 27 April 1955 forty people attended a meeting at the Royal Newcastle Aero Club and formed the Newcastle Parachute Club with a local aviation enthusiast, David Bowyer as president. Other office-bearers were Vice-President, Frank Cook; Secretary, Miss Heather McDougall; Treasurer, John Pot; Committee members, Stan Hone, Eric Judd, Mr L Cavalier (81) who had been closely associated with the formation of the Newcastle Aero Club in 1928, Nev. Hayter, Colin Spitkowsky and Miss L Walsh. A training course of five jumps was to cost 25 pounds.

Three of the club members managed to beat the gun on the club by jumping at a pageant at Coff’s Harbour. They were Roger Winn, Reg Emerson and Jim McPhee.

(See *Newcastle Morning Herald*, 26 February and 28 April 1955; *Airborne*, magazine of the Royal Newcastle Aero Club, September 1955)

Unfortunately, at a later jump Reg Emerson struck his head on the ground and died as a result. The club folded up as a consequence.

The definitive foundation of sport parachuting or skydiving in Australia did not take place until mid-1958 when it was established in Brisbane, Sydney and Melbourne almost simultaneously. The argument as to who should have the honour of having taken the first step (out the door of an aircraft?) must depend on an assessment of the facts and what should be the criterion for “first”: first jumps, first organisation and so on. From mid-1958 on skydiving has had a continuous history in Australia.

In June 1958 John Crook, a former RAF parachute instructor, announced that he would be forming a parachute club in Sydney. The first training day was held on Saturday 26 July 1958 at Bankstown airport. The first descents were made at Camden airport on Saturday 2 August 1958.

John Crook’s training organisation had a lot going for it. He was a former RAF parachute instructor. He used RAAF-trained packers to pack his chutes. He had a flair for publicity. Unfortunately, not long after the organisation was set up, he disappeared leaving a lot of unpaid debts including one to Light Aircraft Pty Ltd which had supplied the parachutes.

Fortunately, one of the RAAF people who had assisted him with packing stepped in to reorganise the enterprise and see that those who had paid money were given the training and made the jumps for which they had paid. His name was Bob Milligan.

The Beginning in Victoria. Sport parachuting was introduced to Victoria with the formation of the McKenzie Flying School's Parachute Wing. The first jump was made on Sunday 6 July 1958 at Lord Casey's airfield at Berwick. The opening jumps were made by Pilot Officer Jack "Zeke" McDonald who carried out three five second delays from an Auster aircraft flying at 2000 feet and piloted by "Jock" Garden. The parachutes used were a 28 foot flat circular G.Q. main parachute with a single blank gore on the right hand side and a 24 foot flat circular G.Q. reserve. Wind was 10 to 16 knots. These were McDonald's ninth, tenth and eleventh jumps. They were supervised by Squadron Leader Vic Guthrie.

As a result of the publicity these jumps received, 65 people applied to join the school. Of these a small number attended the first general meeting at Moorabbin Airfield on 13 July 1958.

The first student course was trained by Graeme Grigg and Keith Bulleid and was passed out to jump by Squadron Leader Vic Guthrie. The students were: Charl Stewart, Bill Sparke, Bill Gully and Noel McGloyn and their first jumps were at Berwick on Sunday 28 September 1958. All jumps were freefalls. As the canopies were deployed without sleeves to slow their opening, the openings were abrupt and hard on the body of the jumper. Charl Stewart was later to become first President of the Australian Parachute Federation.

Graeme Grigg became Chief Parachute Instructor of the McKenzie Flying School Parachute Wing.

The newspapers record that women were among the first jumpers. The Sydney *Sun* of Monday 16 March 1959 reported that Christine Circuitt (20) and Beryl Young (21) had made their first jumps at Berwick field. Beryl was later chief pilot of the Queensland Government's aviation wing during the Premiership of Sir Joh Bjelke-Petersen.

Queensland. The Queensland Parachute Club was formed in July 1958. Its first president was Ian Carver and its Chief Instructor was Jack Milne, who had been a professional parachutist in the 1930s and a member of the RAAF parachute training unit during the Second World War. Because of delays in the obtaining of equipment from America the first jumps were not carried out till early 1959. However, Queensland was to quickly make up for lost time and become one of the major locations for sport parachuting in Australia.

The growth of parachuting in Australia has involved a struggle between competing cultural influences. On the one hand there was the ancien régime cultural impulse to demonstrate daring and risk-taking; on the other there was the Enlightenment cultural impulse to extend the bounds of human understanding and the safety with which human beings could explore the universe. Where the Enlightenment impulse prevailed, parachuting has gone forward.

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Interviews. Interviews with Jack Milne provided background on 1 Parachute Battalion and his career as a professional parachutist.

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Bob Milligan was interviewed about post-Second World War military parachuting and the foundation of sport parachuting.

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