# CAPITAL - THE CAUSE OF AUSTRALIA'S FIRST AIRLINE ACCIDENT

Leigh Edmonds

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On a day in early summer 1921 three Bristol Tourer aeroplanes droned north through Western Australian skies. They crossed the Murchison River about an hour's flight north of Geraldton in loose formation about 300 ft apart at an altitude of 3,000 ft. One of the aeroplanes, however, developed engine trouble and started to lose altitude. It made a forced landing in a small clearing near the Murchison House Station homestead. Seeing this, the pilot of one of the other aeroplanes flew off to find a safer landing area nearby but the third Bristol, flying low over the first one at about 50 ft, lost speed, stalled and crashed. The two men on board - Fawcett, the pilot, and Broad, a mechanic, were killed.[1] Thus were combined Australia's first scheduled airline flight and Australia's first fatal airline accident.

The accident itself was the result of pilot error but the airline company claimed that it had been caused because the government had failed to provide usable emergency landing grounds along the route. This article argues, however, that the cause of the tragedy was that the airline company lacked the capital necessary to establish and operate a satisfactory scheduled air service. This lack of capital meant that it had to cut corners and take risks which made the accident possible. Undercapitalization was a common problem among most of the airline companies established in other parts of the world, including Britain and Europe, at the same time but rarely has the cost of such a problem been so swiftly and tragically paid.

In May 1921 the government of the Commonwealth of Australia decided to subsidize a civil operator to provide a weekly return air service between Geraldton and Derby, in Western Australia.[2] H C Brinsmead, the Controller of Civil Aviation, prepared tender forms which were approved by the government two weeks later.[3] Advertisements seeking tenders for the north-west service appeared in all Australia's major newspapers in mid-June 1921 and applications closed on 30 July 1921.[4]

This was to be Australia's first scheduled airline service, and the future of Australia's aviation industry appeared to depend upon its success. Although Australia was in the first flush of enthusiasm for aviation, and there was enough curiosity to pay for much joy-riding and the occasional charter flight, nobody was prepared to put their resources into a scheduled air service without a healthy government subsidy. The Commonwealth government had considered a number of possible routes in reaching the decision to establish the service in Western Australia. The options had included a proposal from the newly formed Queensland and Northern Territory Aerial Services company (QANTAS) to link a number of remote townships in inland Queensland by air. The Western Australian route along the north-west coast was chosen because the Postmaster General's Department said it was the worst served mail route in Australia. In addition a Commonwealth government-financed service would go some way to showing Western Australians, who were prone to complain bitterly that they had gained nothing and lost much from joining the Australian federation in 1901, that the Commonwealth government was prepared to spend money in aiding its development.[5]

The service of about 3,000 miles linked a number of very small coastal towns which depended on a monthly State-owned steamship service, occasional privately owned shipping

services and a single-strand telegraph line to connect it with Perth, the capital of Western Australia, and from there to the rest of the world. These towns were considered some of the most isolated permanent white settlements in the British empire. The service originated at Geraldton rather than Perth so that it would not compete with the existing rail service between Perth and Geraldton.

While the air service was established to carry mail, its main purpose was to foster the development of civil aviation in Australia. The route was created in a remote part of the continent because developing Australia's isolated areas was a major problem confronting Australian governments, and aviation's ability to connect isolated localities without the need for infrastructure such as roads, railways or port facilities promised much. More important, perhaps, the need to develop these areas presented aviation with a socially useful purpose, something it could not claim in areas of the country which were well served by existing forms of transport.

The civil air service also served a defense function. The development of Australia's remoter areas was important to its governments for another reason. It would assist Australia's defense by increasing the national population and filling the vulnerable areas which had yet to be settled by white people. A larger population would allow the country to afford more defense expenditure and give it the manpower to garrison its huge land area.[6] Australians feared invasion by the teeming millions who lived in Asia, to the north. While the white population was around 7 million, there were 750 million Asians, half the population of the world and about 150 times Australia's.[7] It seemed somehow logical to expect that Asians would want to occupy Australian land too.

The Commonwealth government could not afford to station defense forces in remote areas such as the north-west coast of the continent, closest to Asia, and a squadron of the Royal Australian Air Force was not based in Western Australia until 1938. Neither did the Royal Australian Navy regularly patrol that coastline. In 1921 even a limited aerial patrol of the coast would have been prohibitively expensive. An aeroplane could cover no more than 200 to 400 miles a day, depending on the number of air bases used. Such an aeroplane, which in itself could cost £3,000, would require a crew of two, ground staff to service it, landing grounds and hangars, and would be able to patrol the coast between Gerald ton and Derby and back in six days.[8] Making allowance for spare aeroplanes, relief crews and other expenses, this limited service would make a large hole in the annual air force budget of £600,000. Consequently a weekly air service along the north-west coast of Western Australia, even if it were flown by civil aircraft, might provide at least a token presence which was better than nothing.

The government provided a subsidy of £25,000 a year for the civil air service.[9] This was calculated on the basis of 4s per air mile flown in a year, and was to be paid at the rate of £2,083 a month. Brinsmead confidentially told the government he did not 'anticipate that any satisfactory tender will be received for the Western Australia Service at less than the maximum allowable subsidy'.[10] The subsidy was not miserly, however. Brinsmead said the service had good prospects and that a considerable financial profit should be made from it.[11]

The only man flying in Western Australia at the time was Norman Brearley, a Western Australian who had gained flying experience in the Royal Flying Corps during the war and had returned home with two Avro 504s which he used to introduce the Western Australian populace to flying. Early in 1921 he went to Australia's eastern states for a holiday. When he returned to Perth he knew about the government's proposal for the civil air service and said that he intended to submit a tender for the contract.[12]

The problem confronting Brearley, and every other person who wanted to tender, was finding the capital necessary to meet the government's requirements. Brearley calculated that about £16,000 would be necessary to establish the service: £12,000 for aeroplanes, £2,000 for spares and £2,000 to erect hangars.[13] This amount was well beyond the reach of any individual aviator and required the support of men with capital. By the middle of 1921 most flying in Australia was being carried out by limited liability companies, and only a few individual operators like Brearley remained in operation. The largest operating aviation company in Australia was the Sydney-based Australian Aircraft & Engineering Co Ltd, which, in the first half of 1920, had flown 35,000 miles, carried 2,681 passengers and had twenty-two aeroplanes but operated no scheduled services.[14] It had a registered capital of £50,000 in £1 shares, 35,815 of which were fully paid by August 1921.[15] QANTAS was founded in November 1920 and a few months later had a total subscribed capital of £6,850.[16] Neither company was strong enough financially to operate scheduled services without subsidies, and both sought them. QANTAS was later successful, while the Sydney company was not and disappeared into liquidation within a couple of years.[17]

Before tenders for the Western Australian service closed Brearley entered into an agreement that, if he was successful, he would sell his personal interest in the contract to a company to be called Western Australian Airways (commonly called 'Airways'). In return for the contract Airways would pay Brearley's expenses in connection with the tendering process and £5,000 in the form of 5,000 fully paid-up £1 shares. As the capital of the company was not to exceed £50,000, Brearley was therefore to be given one-tenth of its initial total worth. The agreement also ensured that Brearley would be the company's first managing director and technical adviser for a term of three years at a salary not less than £1,000 per annum.[18]

On 2 August 1921 the Commonwealth government announced that Brearley had been awarded the contract to conduct the air mail service between Geraldton and Derby for one year.[19] There were only two tenders, both from Western Australians: Brearley's and one from Simpson Tregellis Aircraft & Transport Ltd, which had also been established to tender for the contract.[20] It is likely that the isolation that had protected Brearley from competition during his initial joy-riding period daunted many prospective tenderers. The Australian Aircraft & Engineering Co. told the government that it was interested in tendering for the service but later withdrew because Western Australia was too far from its base of operations.[21]

In making his plans Brearley's 'main target was the £25,000 subsidy offered by the 'Government' and he 'developed plans to justify this amount'.[22] His tender was for a service flown with six Bristol Tourer aeroplanes, civil conversions of the Bristol Fighter, which had served well in the war. They could carry two passengers in a cramped cabin behind the pilot's cockpit and less than 200 pounds of mail and freight.[23] That level of equipment required the full subsidy permitted by the government. The Simpson Tregellis tender proposed to use three low-powered Armstrong Whitworth aeroplanes on the service for a subsidy of £16,000. The cheaper tender was rejected because it did not meet the defense needs of the service, and the government said that the Armstrong Whitworth planes woul'valueless to the government as potential war ma chines, owing to their low speed, and poor performance'.[24] In comparison, the Bristol Tourers which Brearley had chosen were said to be 'the most efficient general purpose war machine yet designed'.[25]

The first prospectus for Western Australian Airways appeared the day after Brearley's success was announced and a more detailed document appeared later in the month.[26] Twenty

thousand shares were initially offered for public subscription at £1 each. The provisional directors were all well known and respected in Perth business circles. The object of the company was to 'establish and carry out a regular passenger, mail, and freight air service, providing return trips weekly between Perth and Derby, calling at all important North-West Ports en route'.[27] Western Australian Airways was registered on 26 August 1921.[28]

Sufficient capital to establish the company proved, however, difficult to raise and the company's financial arrangements were resolved only with the help of a Victorian financier, H V MacKay, and the Commonwealth government. Within a few days of ordering the aeroplanes Brearley learned that some of his expected backers had withdrawn.[29] By September only 6,200 shares had been applied for and promises had been received for another 3,000, making a total expected capital of £9,200 against expected expenditure of £16,000.[30] Brearley approached H V McKay, a noted industrialist who had made his fortune in manufacturing agricultural machinery, for assistance, and he agreed to help finance the purchase of the company's aeroplanes.[31] This arrangement required Airways to pay for the aeroplanes when they arrived in Perth, and for that Brearley needed the government's agreement to advance £8,000 of expected subsidy payments. At first the government resisted the proposal for fear of creating a precedent, but finally agreed.[32] Despite this agreement, when the aeroplanes arrived at Fremantle on 16 November the advance had not been approved and a letter from McKay and a telegram from the Western Australian state Premier were needed before Airways was able to take delivery of its aeroplanes about a week later.[33]

Athough this arrangement allowed Airways to start operations on schedule, it also meant its expected monthly income from the subsidy was reduced by £1,000 to £1,083 for the first eight months. This led to severe financial problems for an organization which, when it commenced operations, had 'inicient to pay for buildings, fuel, salaries and other essentials'.[34]

Airways' problem showed how difficult it was to raise even modest amounts of capital for aviation. Sponsors had to be wooed, and even the slightest chance of finding another shareholder had to be exploited. In 1921 the £16,000 needed by Airways was a substantial sum for such a new and small enterprise; its present-day equivalent is roughly A$1.6 million. Potential investors had to be convinced not only of the safety of aeroplanes, but of their commercial viability, and that was something nobody in Australia knew anything about. Investors could, however, look to Britain for inspiration, and there the news was not bright. All the publicly owned air transport companies had ceased operations by February 1921, though two were revived under a temporary subsidy scheme which gave them £75 for each flight between London and Paris.[35] The prospectus for Airways promised shareholders 'a substantial dividend' at the end of the first year's operation but there was no guarantee that the company would still be in existence by then.[36] Who could be blamed for not risking money on such an obviously uncertain venture?

As the inauguration date of Australia's first airline service approached Brearley gave frequent progress reports to the press and spoke to public meetings.[37] The five pilots Brearley selected to fly on the service with him were officially presented to a large gathering at a function at the Perth town hall in late November 1921.[38] Brearley, who was usually very careful what he said, spoke with unusual candour, which may have hinted at the strain he was under with less than two weeks to go before the service was inaugurated:

*He had, he said, had an uphill fight from the start, educating people up to the safety of air craft and dragging money out of them as if it were a donation, but there were men there who*

*had stuck with him through thick and thin. There was not an atom of doubt they would go through the first year with not as much trouble as the average motorist experiences.*[39]

Airways took delivery of its six Bristol Tourers only ten days before the service was due to commence but had at least three of them erected and tested for the official opening in Perth on 3 December 1921.[40] The official opening was performed by the state governor and followed by a flying carnival for the thousands of people gathered to watch and take joy rides during the afternoon.[41] Curiously, however, no other preparations were made. The most notable was that nobody traveled along the route, either by air or by land, to see if the facilities were satisfactory. Despite public optimism and enthusiasm Brearley was concerned about the state of the landing grounds which the government had provided along the route. At the last minute he was forced to make arrangements to land at an alternative ground at Geraldton when he learned that the government's landing ground was not fit for use. He complained publicly but did nothing practical to deal with the problem.[42]

Three aeroplanes took part in the first air mail service, which commenced on 4 Deember 1921. The intention was to make it a slow trip, allowing time to survey the route and hold flying carnivals in each of the main towns along the way to publicize the service and sell shares in the company.[43] The travelling party was made up of three pilots, two mechanics, a newspaper reporter and two passengers.[44] A large crowd welcomed the aeroplanes to Geraldton. Three cheers for Brearley and the rest of the party were called for; in response, Brearley thanked everyone and mentioned the financial problems of the airline:

*Some people, he said, had looked upon the venture as unsound, but it was not so. They had England's best machines, and some of Australia's best pilots in the service. 'I appeal for your support,' he went on. 'We have something like 6,000 shares not called up, and we want to distribute them along the route. When we have provided a reserve of £10,000 in our company we will pay 20 per cent to the shareholders. This is not an advertising campaign, but we want the country people, whom it is designed to serve, to support us in what is a national enterprise.' 'Put me down for £100,' said a bystander as Major Brearley concluded his remarks.*[45]

Carnarvon was the destination the following day, and a large crowd, which must have made up most of the population of the district, flocked to the aerodrome to welcome the aviators. The aeroplanes were due to arrive at about noon, but the afternoon passed with no news of the aviators or the accident which had taken place at Murchison House.[46] At Murchison House one of the passengers, a JP, conducted an inquest into the cause of the death of the two men and, because of the summer heat, the bodies were buried in hastily constructed coffins the same day.[47]

This accident was very bad luck for Brearley following the strain of the previous few months. Not only had two of his employees been killed and an aeroplane wrecked but the airline which he had worked so hard to create must have seemed lost. Those with Brearley persuaded him not to go near the crash site, and he did not see the bodies, because 'They feared that he would be too much upset.'[48] A woman at the station said it was the first time she had seen a man cry.[49] Two days later, when he returned to Perth, Brearley was still 'obviously not in a state to talk of his experiences, the tragic nature of which had completely upset him'.[50]

Perhaps Brearley was lucky to be in Western Australia, which still had a frontier mentality. Instead of turning upon the project and taking the accident as a sign of aviation's natural danger, the local press saw it as the price of progress and pioneering. It also linked the death of the two men to the tradition of sacrifice which had been created in the recent war.[51] Even so, Brearley tried to deflect the blame for the accident from Airways. He announced that he

would not continue the flight northward until the Commonwealth had completed its part of the agreement by having proper landing grounds prepared and marked along the route. 'The company,' said Airways' chairman, 'have done all they said they would do under the terms of the contract, but the same cannot be said of the Commonwealth Government.'[52]

The immediate cause of the accident was probably that the pilot had flown too slow too close to the ground. Many of Brearley's hand-picked pilots had done very little flying since the war, and none of them had gained much experience in flying the Bristol Tourers because they had arrived in Perth so close to the service's commencement date. As a result of this inexperience the Bristol, which was unstable in some conditions, stalled and the pilot was not high enough to recover before the crash.[53] Brearley brushed aside these factors and directed public attention elsewhere. He had already expressed concern about the state of the landing grounds which the Commonwealth had provided. After the accident he claimed that it had been due to the inadequacy of emergency landing grounds along the route. In fact the first aeroplane, which had made the forced landing because of engine trouble, had been lucky to land safely.[54]

During the afternoon of the accident a Commonwealth surveyor who had been inspecting the landing grounds along the route arrived at Murchison House. He told Brearley of the condition of landing grounds farther along the route. Some were not completed, some needed inspection and one or two were positively dangerous.[55] The route had been surveyed by an Air Force officer in June that year and local residents had been left to construct the landing grounds to Civil Aviation Board specifications. However, many had been built by people who had never seen an aeroplane and had little idea what was required for them to operate safely.[56]

Despite Brearley's claims, the fundamental cause of the accident was lack of money and lack of time to establish the service properly. *Aircraft*, Australia's aviation journal, attributed a large measure of the blame for the accident to Brearley. It said there had not been enough time to erect the aeroplanes properly when they had arrived from Britain: the first flight should have been postponed for a week or two until all of them were fully fit to fly the route. It did not contest Brearley's claims that the aerodromes along the route were unusable but found it remarkable that their condition had not been discovered until the first service had actually started.[57] Aircraft commented that the whole incident was due to 'more or less open disregard of the company's own "Safety First" watchword'.[58]

It is likely, however, that neither *Aircraft* nor the Commonwealth government was aware of the desperate financial condition Airways was in by the beginning of December 1921, when, for example, it had not the money to erect all its hangars along the route.[59] With its resources so drained Airways could not afford the time or the money in late 1921 to send one of its staff along the air mail route to check the landing grounds. It certainly did not have the aeroplanes to do so, because only three had been made airworthy in the few days between their becoming available and the opening flight. Brearley could not afford to postpone the start of the service, partly because he had advertised it so widely and partly because he could not wait much longer for some revenue from subsidies.

Previously he had taken chances and succeeded. In August 1919 he had promised to give his first demonstration in Western Australia, no matter what the weather conditions, and had flown in high winds and rain to great acclaim which had firmly established him in the state. He took a similar chance in promising to start the air mail service on 5 December. Perhaps the strain of the situation made him less cautious than usual. Perhaps he felt that the financial situation was so desperate that his company could survive only if he took risks. It was obviously

foolhardy to inaugurate an air service over a route which nobody knew much about, in aeroplanes which had barely been flight-tested, with pilots who lacked recent flying experience in that type of aircraft. Yet what were the options? To wait would take Airways closer to financial collapse. In addition, Australians were looking to Airways as the first step in establishing an air transport industry in the country. There was more at stake than Brearley's own ambitions.

Despite the accident, and the cancellation of the service, it was resumed towards the end of February 1922. It commenced without publicity or any show to mark the occasion, probably because Brearley did not want to tempt fate. The accident did not mean the end of Australia's first air transport service because the government was as keen as any aviation enthusiast to see civil aviation succeed.

The north-west air service was possible only because the Commonwealth government had decided that it required commercial air services and was willing to pay for them. The government had shaped Airways through the contract it offered, which controlled the equipment the airline used and the service it provided. Although the government had the contractual right to insist on Airways maintaining the service as agreed, it was patient and helpful. No doubt part of its assistance came as a result of embarrassment over the landing grounds, but the additional help the Commonwealth provided was a direct result of its desire to see commercial aviation firmly established.

The chief agent of Commonwealth support was the Controller of Civil Aviation, H C Brinsmead. His primary duty was to advise the Minister for Defense on civil aviation matters, and he did so in a way which lent aviation interests as much Commonwealth help as possible. While Brearley was planning his tender Brinsmead gave him assistance with information. When Brearley had won the contract Brinsmead organized for him the use of Air Force facilities in selecting the pilots to join Airways.[60] The government's and Brinsmead's support for Airways can best be tested in relation to the landing grounds about which Brearley complained so bitterly. Before the service began Brearley had asked the Commonwealth to pay for one of Airways' pilots to inspect the landing grounds that were to be provided along the route. The Commonwealth refused because Brearley proposed to send the pilot by coastal steamer. While this would have allowed inspection of the landing grounds at the main centres of population, it would not have covered the emergency ones along the way, such as the one in the vicinity of Murchison House. The government was not, however, unaware of the need to inspect the landing grounds and sent a surveyor to do so. He had been returning south when he met Brearley at Murchison House.[61] Brinsmead also proposed flying over the route himself before Airways started operation, but an aircraft accident in one of Australia's eastern states kept him there for two weeks, until 30 November, and that plan could not be put into action.[62] Brinsmead then planned to accompany Brearley on the first northward trip but was delayed by weather on the way from Melbourne, arriving in Perth only on 9 December, when Brearley had already left.[63]

Despite Brearley's criticism of the government, there was no official response. The Assistant Minister of Defense expressed surprise at Brearley's comments but could say no more until he had further information.[64] When Brinsmead returned to Melbourne in mid-January 1922 after inspecting the route he submitted a report on the landing grounds and other aspects of aviation in Western Australia to the Minister but it was not made public.[65] *Aircraft* suggested that it was because there were faults on both sides. It is also likely that the report would have done the cause of aviation no good, only attracting unwelcome press coverage.[66]

Throughout this period Brinsmead remained calm and helpful. He was concerned that

Airways should be given as much assistance as possible but he was looking to the overall future of civil aviation in Australia, which depended on success in Western Australia at that time. When he arrived in Perth he made it clear that the Commonwealth intended to do all it could to help the airline. He told the press:

*The department was out to help companies of this nature to the fullest extent possible, and they could rest assured that the department would not let them down. This spirit of sympathy was not confined to the Defence Department, but was shared by a great body of legislators.*[67]

Brinsmead's support for civil aviation was also implicit in his advice to the Minister for Defense when Brearley sought an advance of £8,000. Brinsmead told the Minister that it would be 'most inopportune' to approach the treasurer until the departmental estimates for next year had been approved without deduction. Then Treasury sanction should be sought for an advance.[68] If Brinsmead had suggested approaching the treasurer immediately Brearley t have been saved some worry but later calls on government finance to aid civil aviation might have suffered as a result. Brinsmead's reply is a clear indication that, while willing to help one particular company, he was also aware of much broader considerations. This view of the north-west air mail service in the context of a future civil aviation network was equally evident in the minute he wrote on Brearley's financial problems and the reasons why he should be supported:

*Major Brearley ascribes the reluctance of the investing public to support his enterprise to the degree that had been anticipated to the misapprehension that still obtains as to the safety and reliability of any aerial service ... This prejudice and the consequent inertia on the part of the public towards aviation must be dispelled before real progress can be made; and the success of the subsidized lines will be the greatest factor to that end, and towards ensuring a reservoir of pilots and machines that will be available in case of necessity. On the success or otherwise of these initial services depends entirely the future of civil aviation in Australia for perhaps a decade.*

*Mr H V McKay of Sunshine [Harvesters, near Melbourne] has financed the purchase of the six aeroplanes for the WA contractors on the basis of cash against documents at Fremantle. It is most important that there should be no possibility of Mr McKay being let down, for the reason, in addition to the obvious one, that there is every probability of his taking considerable interest in the financing of the other subsidized services between Sydney and Adelaide and Brisbane, and the good-will and practical interest of Mr McKay, and others of equal importance in the engineering and commercial fields, must be of very great utility to the young interest.*[69]

Brinsmead's support was echoed in the government's reliance on his judgement. In 1921 he put before the Cabinet three proposals regarding subsidised air services, and it took his advice in most respects. On the second occasion Brinsmead proposed a service from Melbourne to Launceston in Tasmania but the Minister substituted a service from Sydney to Brisbane with a subsidy of £8,000.[70] Fom this decision it was clear that Cabinet did not understand the calculations on which maximum subsidy estimates were worked out, so Brinsmead sent a further submission to Cabinet explaining the system and suggesting a subsidy payment of £11,500. Cabinet approved Brinsmead's suggestion without demur.[71]

Airways had almost failed to get off the ground. However, in comparison with other subsidized air services which were inaugurated in Australia during the next couple of years, it did remarkably well. It operated until 1936, when it was profitably sold to a large eastern state company, Australian National Airways, never paid dividends of less than 5 per cent a year and made Brearley the equivalent of around A$7 million in modern terms by the time he sold the

company. In November 1921 the Larkin Aircraft Supply Company and F L Roberts were awarded contracts to operate air mail services from Adelaide to Sydney and from Sydney to Brisbane. Their combined efforts could not raise sufficient initial capital and the venture received an advance of £15,000 from the Commonwealth. Even then the company did not start scheduled flights until June 1924 and ceased flying operations in 1930.[72] QANTAS struggled for survival from its formation and was unable to continue without a subsidy. When it was tendering for the subsidy for the Queensland air service QANTAS proposed to issue 15,000 £ 1 shares but could raise the money only by intensive promotion and the employment of a professional share-getter.[73] The company was so low on funds that it asked the Commonwealth for an advance of £5,000. Even with sufficient capital the company could not get suitable aeroplanes for its scheduled services, which began in November 1922, and had to survive its first couple of years with a motley collection it had scraped together.[74] Until 1934 and the introduction of QANTAS's international service to Singapore and the world beyond Western Australian Airways remained the country's major airline.

The problems of raising capital and securing income were at the heart of Australia's first civil aviation services. The fatal accident at Murchison House demonstrated how these problems could force Australia's first air transport managers to take risks in order to survive and what the results of those risks might be. The accident and its aftermath also demonstrated that Australia's government was committed to developing air transport services and was prepared to support undercapitalised companies for the sake of longer-term goals, including at least token continental defense, a viable aviation industry and the development of remote areas of the country. Perhaps the strength of Australia's present-day airline industry justifies this early support.

The wrecked aeroplane and two graves in the western wilderness are only an infinitesimal part of the toll which transport has taken of those who have estabshed and used it, but it underlines the central connection between transport safety and capital which can too easily be overlooked.

ENDNOTES

1. This accident is well described in several sources. Sir Norman Brearley, *Australian Aviator* (Adelaide, 1974), pp. 88--90; *West Australian*, 6 December 1921, p.7; *Sunday Times*, 11 December 1921, p. 9; *Daily News*, 10 December I 92 I, p. 8.

2. Notation of 3 May 1921 on minute 18 April 1921, item 863-2-50, CRS A1195, National Archives of Australia (hereafter NAA).

3. Note of 17 May 1921 on minute, 16 May 1921, item 863-2-50, CRS A11195, NAA.

4. Minute, 4 June 1921, item 863-2-50, CRS A1I94, NAA; *Aircraft*, June 1921, p. 237.

5. G AShearer, 'The Foundation of the Department of Civil Aviation, 1919-1939'. MA thesis, University of Melbourne (1970), p. 24.

6. *Commonwealth Parliamentary Debates* (hereafter *CPD*), vol. 107, 16 June 1924, p. 1601.

7. Speech by Prime Minister, 9 September 1920, *CPD*, vol. 93, pp. 4389-90.

8. Parliamentary question, *CPD*, vol. 3, 9 September 1920, p. 4347.

9. Notation of 3 May 1921 on minute, 18 April 1921, item 863-2-50, CRS A 1195, NAA..

10. Minute, 14 July 1921, item 863-2-114, CRS A1195, NAA.

11. *Aircraft*, March 1922, p. 13.

12. *West Australian*, 26 May 1921, p. 8.

13. Letter from Brearley, 19 September 1921, item 192/12/70, CRS A705, NAA.

14. *Aircraft*, October 1920, p. 50.

15. *Aircraft*, August 1921, p. 28.

16. Sir Hudson Fysh, *Qantas Rising* (Adelaide, 1965), pp. 97-8.

17. Neville Parnell and Trevor Boughton, *Flypast* (Canberra, 1988), p. 36.

18. Agreement between Norman Brearley and Charles Henry Lamb, 23 July 1921, Acc 2782, item 62/1921, Western Australian Archives (hereafter WAA).

19. *West Australian*, 3 August 1921, p. 7.

20. File note, 5 August 1921, item 863-2-50, CRS A1195, NAA.

21. Letters from the Australian Aircraft & Engineering Co., 20 May and 26 July 1921, item 863-2-50, CRS A1195, NAA.

22. Bearley, *Australian Aviator*, p. 72.

23. *The Illustrated Encyclopedia of Aircraft* (1982), pp. 916-17.

24. *Wester Mail*, 6 October 1921, p. 14.

25. Ibid.

26. *West Australian*, 4 August 1921, p. 6; *Aircraft*, August 1921, p. 41.

27. *Aircraft*, August 1921, p. 41.

28. Memorandum and Articles of Association of Western Australian Airways Ltd, 26 August 1921, Acc 2782, item 62/1921, WAA.

29. *Brearley*, Australian Aviator, p. 78.

30. Letter from Brearley, I9 September 1921, item 192/ 12/70, CRS A705, NAA.

31. Brearley, *Australian Aviator*, pp. 78-9.

32. Minutes of meeting, 13 October 1921, item 192/12/70, CRS A705, NAA.

33. Letter from H V McKay, 16 November 1921, item 192/12/70, CRS A705; telegram from Mitchell, 22 November 1921, item C314/1/4 Part I, CRS A461, NAA.

34. Brearley, *Australian Aviator*, p. 79.

35. Robin Higham, *Britain's Imperial Air Routes,1918 to 1939* (1960), pp. 42-4.

36. Prospectus of Western Australian Airways Ltd, 29 August 1921, item 192/12/70, CRS A 705, NAA.

37. For example, *West Australian*, 1 September 1921, p. 7, 7 October 1921, p. 6 and, 26 October 1921, p. 6.

38. *Western Mail*, 24 November 1921, p. 34. The five pilots were C Kingsford-Smith, L E Taplin, R N Fawcett, H A Blake and V R Abbott. Blake and Abbot were both from Perth, Blake had helped Brearley at times in his earlier flying and Abbott was the solicitor who had drawn up Brearley's legal agreements and the memorandum and articles of association of Western Australian Airways.

39. Ibid.

40. Brearley, *Australian Aviator*, p. 85.

41. *Daily News*, 3 December 1921, p.8.

42. Ibid.

43. Ibid. Also see *Northern Times*, 5 December 1921, p. 2.

44. *Sunday Times*, 4 December 1921, p.1.

45. *West Australian*, 5 December I 921, p. 6.

46. *Norther Times*, 10 December 1921, p. 5.

47. *West Australian*, 6 December 1921, p. 7; *Daily News*, 10 December 1921, p. 8.

48. *Daily News*, 10 December 1921, p. 8.

49. Bill Bunbury, 'Flying out of the west', ABC radio programme, January 1988.

50. *Daily News*, 10 December 1921, p. 8.

51. *West Australian*, 7 December 1921, p. 6; *Western Mail*, 8 December 1921, p. 28; *Daily News*, December 1921.

52. *Wester Mail*, 8 December 1921, p. 15.

53. *Aircraft*, March 1922, p.1; Memorandum, 11 March 1926, item 192/12/528, CRS A705, NAA.

54. *Western Mail*, 8 December 1921, p. 15.

55. F M Johnston, *Knights and Theodolites: a Saga of Surveyors* (Sydney, 1962), p. 216.

56. Ibid.

57. *Aircraft*, March 1922, pp. I-4.

58. Ibid.

59. At Onslow the timber was on the landing ground but no steps had been taken to build the hangar. *Northern Times*, 4 February 1922, p. 6.

60. Letter from Brearley, 10 June 1921; telegram, 16 June 1921; note, 28 June 1928, item 863-2-50, CRS Al 195, NAA; Brearley, *Australian Aviator*, pp. 80-2.

61. Johnston, *Knights and Theodolites*, pp. 212-16.

62. *Daily News*, 9 December 1921, p. 6.

63. *Daily News*, 26 November 1921, p. 8; *West Australian*, 5 December 1921, p. 6.

64. *CPD*, vol. 98, 6 December 1921, p. 13854.

65. *West Australian*, 17 January 1922, p.6.

66. *Aircraft*, March 1922, p. 1.

67. *West Australian*, 10 December 1921, p. 8.

68. Telegram, 20 September 1921; telegram, 21 September 1921, item 192/12/70, CRS A705, NAA.

69. Minute, 7 October 1921, item 192/12/70, CRS A705, NAA.

70. Notes 15 June 1921, item 863-2-114, CRS A1195, NAA.

71. Minute, 14 July 1921, item 863-2-114, CRS A1195, NAA.

72. Parnell and Boughton, *Flypast*, pp. 46, 91.

73. Fysh, *Qantas Rising*, pp. 115-16.

74. Parnell and Boughton, *Flypast*, pp. 47-8.