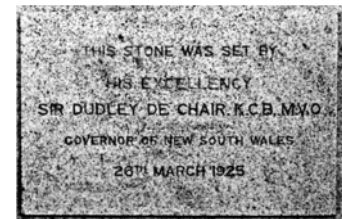


Always take a second look

The story of the foundation stones of the Sydney Harbour Bridge Pylons

By Bill Glennie



The southern pylons of Sydney's Harbour Bridge rest, literally, on a falsehood. At the south-eastern corner of the abutment which supports them are two inscribed stones. The gold of the lettering has long since faded and there has been no attempt to restore it, leaving the stones somewhat inconspicuous. The negligence may be deliberate, lest the stones attract attention, for while both claim to have been set in place on 26 March 1925, one of them is lying.



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MORUYA QUARRY: The photograph was taken on 13 March 1925, two weeks before the stone-laying ceremony in Sydney. The two figures looking towards the camera are John Gilmore, the Quarry Manager (right), and Aberdeenshire colleague, Archie Davidson, the Quarry Foreman. In the background two masons are at work, quite possibly on one of the two stones intended for the ceremony, using hand tools, for the quarry was still without the power to use faster pneumatic tools.

That there should be a formal ceremony to mark the onset of the construction of the Bridge was not surprising. There had been a ceremony in July 1923 to commemorate the turning of the first sod at the site for the new railway station at North Sydney, a very public declaration to Sydneysiders that the modernisation and expansion of the city's transit system was finally underway. How much more important would be a ceremony to mark the beginning of work on the Harbour Bridge, the lynchpin that would link Sydney's transport network with its northern suburbs. After decades of public pressure, false dawns and muddled thinking, a

bridge was going to be built across Sydney Harbour. For John Bradfield, since 1912 the Chief Engineer - and chief driving force - charged with the planning of Sydney's transit system and the bridge, it was a personal triumph. Having seen his efforts frustrated by the Great War and government failure to pass the legislation to authorise the bridge - fortuitously as it turned out, otherwise Sydney Harbour would have been crossed by a very different bridge - his hard work was about to bear fruit.

For Dorman, Long and Company of Middlesbrough, the British firm which secured the contract to construct the Bridge, the ceremony would serve as a shop window. Dorman Long had no track record as builders of prestigious bridges. When Bradfield visited Britain in 1922 to meet with prospective tenderers, he did meet with representatives of the company, but they chose not to throw their hat into the ring.¹ Only when the Cleveland Bridge and Engineering Company of Darlington, a company with an impressive bridge-building pedigree, dramatically withdrew from the tendering process at the last minute did Dorman Long, in an act of supreme opportunism, step in to salvage the Cleveland tender, with much of the preparatory work already done. Cleveland's plans, consulting engineers and a substantial sum of money made the short trip between Darlington and Middlesbrough.² A belated extension of the tender deadline by the New South Wales Government - controversial at the time - enabled Dorman Long to submit an elaborate tender which was ultimately successful.

It was no surprise, then, that Sir Arthur Dorman and Sir Hugh Bell, the chairman and vice-chairman of Dorman, Long and Company, declared their intention to be present at the ceremony to mark the launch of what would be the largest construction project in the British Empire. Despite their ages - Sir Arthur was 76 and Sir Hugh 81 - neither man balked at the prospect of the six-week voyage to Sydney.³

The original date set for the ceremony, 15 January 1925, was wholly unrealistic and was quickly abandoned. Lawrence Ennis, the Scots-born engineer who would oversee the entire project, did not get back to Sydney until Christmas Eve, 1924, while work to ready the quarry at Moruya which would provide the granite for the Bridge's masonry only began in December 1924. Instead,

arrangements were made for Dorman and Bell to arrive in Sydney in mid-March 1925 for a stay of seven weeks. That would surely give the quarry at Moruya time enough to prepare a foundation stone – or stones – for the ceremony.

As early as May 1921, following a memorable drive to Moruya through rain and floods to check out the quality of the local granite, John Bradfield had decreed that Moruya granite would be used for the Bridge's architectural features.⁴ At least two of the firms which submitted tenders in 1924, Sir William Arroll and Company of Glasgow and Dorman Long, had reservations about the use of granite. Dorman Long consulted Sir John Burnet, Scotland's premier architect, with regard to the architectural and decorative features of their designs. Burnet warned that *'for a climate such as that of New South Wales a granite finish will not be the most effective Granite tends to assume a dull monotonous grey tone which would deprive such structures of much of their beauty and form of outline.'* Burnet predicted, accurately as it turned out, that there would be logistical and manpower problems sourcing the stone from a quarry some 200 miles south of the construction site. But Bradfield was too much of a traditionalist in his taste to take on board Burnet's recommendation to use *'artificial stone'* – concrete - with which, wrote Burnet, *'a superior effect can be obtained'*.⁵

When Bradfield travelled to Moruya in the company of Lawrence Ennis in January 1925 development work at the quarry was still underway. Picks, shovels, barrows and horse-power were the order of the day as men laboured to clear the overburden from the disused quarry face and level the ground

which sloped towards the Moruya River. No start had yet been made to the power and dressing sheds or the wharves from which three specially built steamers would transport the dressed stone and granite aggregate (for use in the manufacture of concrete) to Sydney.

The forthcoming stone-laying ceremony was uppermost in both men's minds. On 24 January 1925 the *Moruya Examiner* reported that *'the foundation stone was selected by the gentlemen, and measured 6 feet by 3½ feet in its raw state.'* The *Examiner* predicted that the stone would be forwarded to Sydney shortly. Optimism was the order of the day. The *Examiner* might write of *stone* in the singular, but the quarry went ahead with the preparation of *two* stones for the ceremony, one to be laid by the Governor of New South Wales, the other by the Minister for Public Works.

On 5 March Dorman Long informed Richard Ball, the Minister for Public Works, that they would be *'in a position towards the end of this month to lay the foundation stone'*. With Dorman and Bell due to arrive in Sydney on 19 March, the date for the ceremony was immediately arranged for one week later: 26 March.⁶ It was to be a high profile affair: Sir Dudley de Chair, the State Governor, would preside over a function which would include Sir George Fuller, the New South Wales Premier, Richard Ball, the Minister for Public Works, and around 2,000 invited representatives from both Houses of Parliament, municipal and shire councils and various financial and shipping interests. A few days before the ceremony Richard Ball announced that he had given the go ahead for the speeches to be broadcast.⁷



ON TIME: *If only one stone could be finished at Moruya to meet the deadline, it made sense to give Richard Ball's priority, his being the larger of the two. The photograph shows it being lowered into position before the ceremony. Sir Dudley de Chair's would later rest atop Ball's, as it still does today. The positioning of the stones in 1925 was arbitrary. They were moved to their permanent position in June 1927.*

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STILL AT THE QUARRY: The photograph of Sir Dudley de Chair's stone was taken on 8 August 1925, two days before it boarded a steamship for Sydney. There are clues in the photograph for the quarry's failure to deliver the stone on time. Several Henderson pneumatic surfacing machines can be seen, but the engines which would power them were not installed until May 1925. Only two men can be seen operating them because of restrictions on recruitment imposed by the Operative Stonemasons' Society of New South Wales.

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On 10 March, five days after Dorman Long's pronouncement, Lawrence Ennis returned to Moruya to inspect progress at the quarry. Might it still be possible to send *two* foundation stones to Sydney? It must have seemed so, for on 14 March the *Moruya Examiner* reported that the two foundation stones 'are almost completed and will be shipped to Sydney by the Illawarra Company's "Narani". Each is about 3 tons in weight, and are in appearance very handsome stones.'



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ONE OF OUR STONES IS MISSING: Sir Dudley de Chair opened the proceedings on 26 March 1925 in the knowledge that only one stone lay beneath the flag, and it was not his. His stone was still at Moruya. Seated next to him in top hats, looking every bit the grand old iron masters they were, are Sir Arthur Dorman (left) and Sir Hugh Bell (right). Lawrence Ennis, the Director of Construction, sits thoughtfully behind them. On the left of the photograph the Premier, Sir George Fuller, is checking over the speech he is about to make. John Bradfield stands bare-headed beyond the microphone.

In the event, only one made it to Sydney. When Sir Dudley de Chair stood up to open proceedings on 26 March, he did so in the knowledge that he would not

be laying a stone that afternoon. His stone was still at Moruya. It was Richard Ball, the Minister for Public Works, who had the honour of laying the single stone. His stone, being the larger of the two, had been given priority at the quarry.

Why was Sir Dudley de Chair's stone still languishing at Moruya?

In their tender memorandum Dorman Long had warned that there might be problems finding sufficient masons skilled in working with granite. In fact, in the early weeks of the quarry's existence the company struggled to find *any* masons because of the stance taken by the Operative Stonemasons' Society of New South Wales and its formidable secretary, Robert Worrall.

Dorman Long had adopted what they thought was the correct approach to the recruitment of masons. In January 1925 John Gilmore, the Quarry Manager, notified Robert Worrall that 'the job would be ready for masons in the coming autumn, and the firm would employ the men through the Society.' However, Worrall was determined to enforce at Moruya the 'country allowance' provision of a recent pay award. This entitled masons engaged in Sydney and sent to country work to an additional £1 1/- per week, with fares and travelling time paid as extras.⁸

Dorman Long had not anticipated that Moruya would qualify for such an award and had not costed it into their tender. The management of Dorman Long advised Worrall that it was inappropriate to classify the quarry as 'a country job', because it was intended that Moruya would be a permanent place of employment.⁹ There was deadlock.

In an effort to circumvent the Society's ban, Dorman Long attempted to recruit men directly at the quarry. They met with limited success, though enough to concern Worrall and the Society. When Worrall visited Moruya in late March or early April 1925 he

found eight masons there, working a forty-eight hour week, eight hours more than the Society allowed. 'Instructions had been given to correct this, and other matters had been attended to,' he reported on his return to Sydney.¹⁰

Most of the eight masons were Scots from Aberdeenshire in the north-east of Scotland, which was not surprising. Aberdeen was still regarded as the world's leading centre for the granite industry. Further, the management team appointed by Lawrence Ennis to run the quarry were Aberdeenshire men. In the tight-knit granite community of the north-east of Scotland, the granite grapevine had got to work. A few Scots who had already emigrated to Australia before the quarry started made their way to Moruya, and a steady trickle followed from Aberdeenshire, enough to cause Robert Worrall to send a letter to the secretary of the Building and Monumental Workers' Association in Aberdeen, seeking his support in discouraging his members, 'ignorant of the rules governing the trade here', from venturing out to New South Wales.¹¹

There was another reason. While most of the granite required for the Bridge's abutments and pylons was to be left with a rock-faced finish, a significant amount of the masonry - and this included the two foundation stones - had to be patent hammered four-cut work, in simple terms: with a smooth polished surface. By the 1920s the use of pneumatic hand tools and pneumatic surfacing machines had replaced dependence on hand tools, the use of which demanded more skill - and more time - but the engines which would power the quarry's pneumatic tools were not installed until May 1925, almost two months after the stone-laying ceremony.¹²

Thus trade union intransigence and reliance on slower traditional methods resulted in the quarry's inability to deliver two stones. Sir Dudley de Chair's stone might have been inscribed, but it was not yet suitably dressed to appear in public.

The stone did not leave Moruya until 10 August 1925. Four days later, in a very low-key affair, it was set in place by Sir Dudley de Chair atop that set on 26 March by Richard Ball. The stone might claim to have been 'set by His Excellency, Sir Dudley de Chair KCB MVO Governor of New South Wales 26 March 1925' but in truth it happened twenty weeks after its original set-by date.¹³

Little reference to this curious episode was made in the press. The *Moruya Examiner* did report on 14 August 1925 that one of the three steamships built

by Dorman Long to transport the granite, the 'Sir Arthur Dorman', would carry on her maiden voyage 'a

new foundation stone which will be laid by the Governor'. The day following Sir Dudley de Chair's setting of his stone, the *Sydney Morning Herald* simply noted that 'His Excellency the Governor paid a visit of inspection to the Sydney Harbour Bridge works yesterday'.¹⁴

John Bradfield made no public reference to the foundation stone debacle. He could not. His reputation was at stake. At the time, no feature of the bridge attracted as much criticism as the granite-faced pylons. Their function was purely ornamental, and it took all Bradfield's powers of persuasion to convince waverers in the New South Wales Cabinet that the additional 20% the pylons added to the Bridge's cost was a worthwhile investment.¹⁵ On only one occasion did Bradfield refer to the State Governor's stone, in July 1927, when during a public lecture he showed a slide of Sir Dudley de Chair 'laying a foundation stone at the south abutment tower'.¹⁶ The occasion was the re-setting of the two stones in their permanent position on 21 June 1927. (Richard Ball was unavailable to reset his stone, being no longer in office.) Only in his annual reports to the New South Wales Public Works Department did Bradfield make any reference to problems at the quarry, writing in 1925, for example, 'Owing to a shortage of masons and quarrymen, and disputes as to a living allowance at Moruya, the supply of stone and aggregate has not been equal to the demand.' The same report noted the setting of the single foundation stone on 26 March 1925, but made no comment on the Governor's stone.¹⁷

The pressure was on Lawrence Ennis. As Director of Construction, the buck stopped with him, and as 1925 progressed, he became less concerned with the delivery of foundation stones, and more concerned with the delivery of the Bridge contract. Barely a year after agreeing with John Bradfield on the expiry date of the contract - 31 October 1930 - Ennis was writing to Bradfield outlining reasons why Dorman Long would be unable to meet that deadline, and the reason which received the lengthiest consideration was the situation at Moruya. 'I estimate that at least six months have been lost in the development of the quarry and the delivery of sufficient quantities of dressed stone to meet bridge requirements,' he wrote. Although the dispute with the Stonemasons' Society was resolved in December 1925, Dorman Long had only managed to recruit 38 masons at the quarry by the end of the year. Ennis estimated he needed 100, and approached the Department of Labour and Industry to sanction the import of 60 skilled masons from Aberdeen. Even then he was thwarted by the Stonemasons' Society. Worrall and the Society had enough clout to ensure the number was restricted to 30.¹⁸



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LAI D AT LAST: Left: On 14 August 1925 Sir Dudley de Chair, his stone finally placed atop Richard Ball's, holds his trowel aloft in what was an unreported low-key affair. Sir Dudley chose to dispense with his naval uniform, and the photographer did not bother to ask the two workmen to move out of camera. John Bradfield stands to the right of the stone, Lawrence Ennis behind him. Right: In the second photograph, standing second from the right in the front row, is Stanley Purves, the Quarry Engineer. Bob Colefax, the Quarry Clerk, dismissed Purves as 'a painfully English character of the snob variety' who 'had enjoyed the advantages of an English public school education.' In fact Stanley Purves was a Scot and had attended a state school in Kirkcaldy. An album of annotated photographs of the quarry's development kept by Purves and his diary notes provided the key to unravelling the mystery of the Bridge's two foundation stones.

The foundation stones at the base of the southern abutment are a reminder that things are not always what they seem, and if there is one lesson to be learned from history, it is always to take a second look.

¹ John Bradfield, *Office diaries, 1921-1922*

² Dorman, Long & Company, *Board of Directors' Minutes*, 9 October 1923

³ Dorman, Long and Company, *Board of Directors' Minutes*, 15 October 1924

⁴ John Bradfield, *Office diaries, 1921-1922*

⁵ Memorandum accompanying Tender of Dorman, Long & Company, 1924, p9, p18

⁶ *Sydney Morning Herald*, 6 March 1925

⁷ *Sydney Morning Herald*, 23 March 1925

⁸ *Operative Stonemasons' Society of New South Wales, Minutes*, 5 January 1925

⁹ *Amalgamated Committee of the Operative Stonemasons' Society of New South Wales, Minutes*, 13 July 1925

¹⁰ *Operative Stonemasons' Society of New South Wales, Minutes*, 13 April 1925

¹¹ Letter from Robert Worrall to John Cowie, District Secretary, *Building and Monumental Workers' Association, Aberdeen*, undated, probably June 1925, *Scottish Journal*, August 1925

¹² Stanley Purves, *Diary notes*

¹³ Stanley Purves, *Diary notes*

¹⁴ *Sydney Morning Herald*, 16 August 1925

¹⁵ *The Sun*, 26 February 1924

¹⁶ John Bradfield, *Lecture before the Public Questions Society, University of Sydney*, 22 July 1927

¹⁷ *Annual Report, Public Works Department*, 30 June 1925

¹⁸ Lawrence Ennis, *Extract from Bridge Progress Report, No 12*, December 1925

The author is grateful to Alec Purves of Tasmania for providing materials relating to the career of his father, Stanley Stuart Beattie Purves.