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John Harry Grainger, Engineer and Architect.

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SUMMARY: *John Grainger, the father of internationally famous composer Percy Grainger, was as talented and gifted as his famous son but, unlike Percy, he is little known today. While John Grainger had a deep love of music, his talents were expressed in the many buildings, bridges and other engineering works that he designed. Despite being subjected to recurring bouts of debilitating illness, he designed fourteen bridges, at least five water supply and irrigations schemes and a large number of buildings, many of which are on heritage registers in both Australia and New Zealand.*

1. INTRODUCTION

John Harry Grainger was born in London on the 30th of November 1854 at 1 New Street, Westminster¹. He was said to have spent his early childhood at Durham and then, at the age of 14, he went to a monastery school in France². Grainger started his engineering training when he was fifteen in the office of W.E. Wilson MICE of Dean's Yard, Westminster and studied architecture under I.J. Eden & W.K. Green of Westminster. In the mid 1870s, while still in Wilson's employ, Grainger travelled throughout Europe, visiting Spain, Italy and France³.

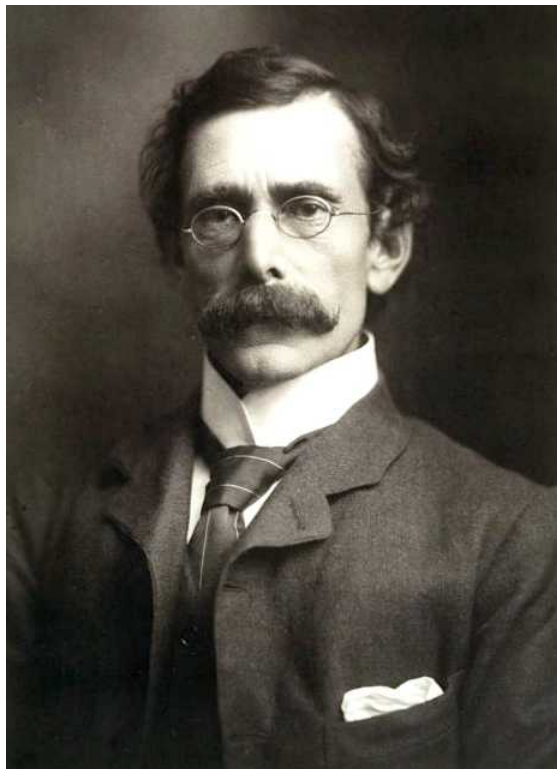


Figure 1. John Grainger 1901

2. EARLY YEARS IN SOUTH AUSTRALIA 1877-1880

John Grainger arrived in Adelaide aboard the *Tanjore* on 1 February 1877 to take up a position in the office of A.C. Mais, Engineer-in-Chief of the South Australian Public Works Department⁴. He resigned in July 1878 after he had won the competition for the Albert Street Bridge in Adelaide and was starting to get private work from a number of wealthy clients.

The Albert Bridge design by John Grainger and Henry Worsley was selected from several others in an open competition. In February 1878, the Davies and Wishart tender of £7,500 for construction of the bridge was accepted; the final cost of the bridge was £9,000. The foundation stone was laid on 20 August 1878 and the bridge opened on 6 May 1879. The bridge is listed on the South Australian Heritage Register.

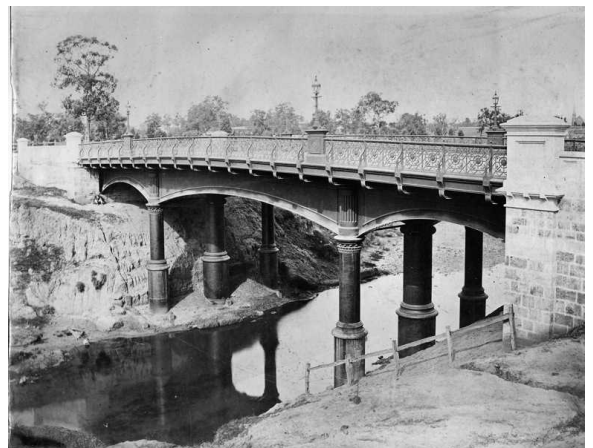


Figure 2. Albert Bridge Adelaide

The width of the bridge is 12.8 m between the handrails and the overall length is 36.6 m made up of three spans of 9.15 m, 18.3 m and 9.15 m. Each span has the appearance of being separately arched, but actually consists of three continuous 36.6 m long girders spaced 4.57m apart. The girders have their bottom flanges curved to give the appearance of three

separate 'arches'. The 9.15 m side spans are cantilevers that are balanced by the 18.3 m central span. The piers therefore bear the whole weight of the bridge and relieve the abutments of any vertical reaction from the bridge. As a result, the abutment foundations are only 1.83 m below ground level. Resting on top of the main girders is a series of I-beams, at 1.83 m centres, that cantilever to support the 1.83 m wide footways. Originally graded jarrah timber joists spanned longitudinally over the I-beams to support 75 mm thick deck planking. In 1935 the timber deck, which had been affected by dry rot and termites, was replaced by a 240 mm thick reinforced concrete deck.

The ironwork for the beams was ordered from the Axeltree Co. in Wednesbury near Birmingham and shipped out to Adelaide where it was fabricated, and erected under the supervision of the City Surveyor J.E. Langdon.

The main girders are supported by three cast-iron piers near the edge of each bank of the River Torrens. The structural connections between the outer piers and the girders are concealed by semi-cylindrical classical mouldings, enhancing the appearance of the bridge.

The newspapers of the day, reporting on the laying of the foundation stone, the progress of construction and the opening of the bridge, named only Grainger as the designer of the bridge. Worsley is not mentioned.

The Albert Bridge is an early example of Grainger's aesthetic design sense and contrasts strongly with the utilitarian Hindmarsh Bridge, which had identical spans, cast-iron cylindrical piers and stone abutments and was erected one year later downstream from the Albert Bridge⁵.



Figure 3. *Hindmarsh Bridge*

Shortly after the Albert Bridge was opened, Grainger won competitions for two Victorian bridges, the Sale Swing Bridge and Princes Bridge in Melbourne; with prize money of £50 and £200 respectively. Jenkins & Grainger were listed as the winners of the competition but it has been argued that Grainger was the sole designer⁶.

The need to create working drawings for the two bridges resulted in Grainger later moving to Melbourne.

While Grainger was working on these bridge designs, he also embarked on a social and musical life in Adelaide. He had a deep love and understanding of music, and was held in great respect throughout his life by his highly musical friends. Through musical gatherings, Grainger met wealthy Adelaide patrons such as Thomas Elder and Robert Barr Smith and many others in the network of the Barr Smith family.

His largest architectural commissions were for two houses for the wealthy Robert Barr Smith. One was 'Auchendarroch' at Mt Barker, a very large and distinctive mansion described rather optimistically as being in the French Renaissance style. The other was for alterations to 'Torrens Park' at Mitcham to install Morris & Co. interiors and for the addition of a private theatre.

Another design with connections to the Barr Smith family was additions of the bluestone nave and tower for St Andrews Church at Walkerville, South Australia. These were impressive Gothic designs in which could be seen Grainger's dedication to direct and simple expression in architecture.

All three of these buildings are on the South Australian Heritage Register.

In February 1880, Grainger made his first visit to Victoria to inspect the site for the Sale Swing Bridge and to exhibit his design for the bridge at the Sale Council Chambers. He then started work on the final drawings for the bridge.

On the 1st of October 1880, he married Rosa (Rose) Annie Aldridge at St Mathew's Church, Kensington Road, Adelaide.

3 THE BOOM YEARS 1880-1888

Shortly after the marriage the Graingers moved to Melbourne to enable John to be closer to his two major projects, the Sale Swing Bridge and Princes Bridge. Their house was in New Street North Brighton and it was here that Percy Grainger was born on 8 July 1882.

In 1880 construction of the Sale Swing Bridge commenced and it was completed in 1883. Grainger travelled to Sale to supervise the construction. Before the bridge was first opened it was test loaded with 240 head of cattle.

The bridge is classified by the National Trust, and is on the Victorian Heritage Register (H1428). The statement of significance for the bridge says, in part, '*The Swing Bridge is architecturally significant as the only bridge*

of its type in Victoria, with few others of this type and degree of sophistication elsewhere in Australia'.

The bridge has two end spans of 5.6 m and the central swing section of 45.7 m. The main girders are two wrought iron trusses connected transversely by riveted wrought iron cross girders. The swing section of the bridge is pivoted on a central circular rail and small rollers, supported on nine circular piers. A hand-operated mechanism allowed the bridge to be swung open so that river traffic could pass.

The castings for the turntable etc were fabricated by Messrs Johnson & Co. of Melbourne. The bridge contractor was Peter Platt, a councillor on the Sale Borough Council. The final cost of the bridge was £6,857.

At least eleven swing bridges were built in Australia in the late 19th and early 20th century, five of these still exist, with the Sale Swing Bridge being the oldest intact swing bridge left in Australia. VicRoads recently restored the bridge at the cost of \$1,200,000. During summer and autumn, it is opened twice a week and has become a significant tourist attraction for Sale.

Percy Grainger crossed the Swing Bridge when the Ada Crossley concert tour visited Sale in 1903 and 1908. On the first occasion, the mayor arranged a ceremonial opening of the bridge.



Figure 4. *The Restored Sale Swing Bridge*

John Grainger was officially engaged on 10 March 1881 by the Victorian Public Works Department (PWD) to prepare plans for Princes Bridge. By November of that year, the plans and specifications had been completed and forwarded to the Melbourne City Council for approval. During 1882, a series of delays occurred because alterations were made to the siting of the bridge and the revised drawings were not completed until the end of that year. Before construction of the bridge took place, further changes, including strengthening the bridge to take cable trams were required. Grainger was not employed to undertake these amendments; instead, they were done by F. M. Hynes, a civil engineer in the PWD.

The contract for construction of the bridge was not signed until 16 November 1885, over six years after it was announced that John Grainger had won the original competition. Grainger made several requests to supervise the construction but these were denied.

The successful tenderer for the bridge was David Munro with his quotation of £137,000.

The final form of the bridge did not differ greatly from Grainger's original design consisting of three arched spans of 30.5 m, a straight span of 7.3 m on the south side and a larger straight span at the other end to accommodate trains. The width of the bridge is 30.2 m, which accommodates two 5.5 m wide footpaths, four lanes of traffic, and two tram lines down the centre. The waterway was widened from 40m to 96 m to overcome flooding problems that had been previously experienced.

Each arched span is made up of ten curved wrought iron riveted plate girders braced by six cross bracing trusses. Riveted to the top of each curved girder are triangular lattice trusses, which create a horizontal plane to support secondary riveted wrought iron beams at 1.61m centres, these in turn support buckle plates, concrete and then initially a wearing surface of timber blocks. The bluestone abutments and piers are founded directly on Quaternary basalt. The piers are parallel to the flow of the Yarra River and consequently are set at an angle of 75 degrees to the roadway.

The young John Monash gained his first engineering experience working on the bridge for the contractor David Munro, who was also building two other bridges over the Yarra at the same time, the Sandridge Railway Bridge, opened in 1888 and Queens Bridge opened in 1890.

Princes Bridge was finally opened on 4 October 1888. Despite the changes that occurred from the original prize winning design, it is a prince among bridges in Australia and is rightly prized and protected (Heritage Register, H1447).



Figure 5. *Princes Bridge Winning Design Entry*



Figure 6. *Princes Bridge Today*

Shortly after Grainger was appointed to prepare the drawings for Princes Bridge he went into partnership with Charles D'Ebro, another architect and engineer who had come out to South Australia on the same ship as Grainger and who had also worked in the Engineer-in-Chief's Department in Adelaide.⁷

The partnership was extremely successful in the four years that it existed. In 1882, Grainger & D'Ebro were engaged to design and arrange the installation of a reticulated water supply for Benalla and they called tenders on behalf of the Shepparton Water Trust for a weir across the Broken River, floodgates, bridges and the cutting of a water channel 2 miles 60 chains long. In the same year they designed the Fremantle Town Hall and the National Bank in Fremantle, won a competition for a new Presbyterian Church at St Kilda and the competition for a New Masonic hall in Melbourne.

Other competitions they won included the Auckland City's Free Public Library and Municipal Offices, the Grace Park housing development in Hawthorn, the South Brisbane Drainage Scheme and the Brisbane Public Offices (now known as the Queensland Government's Treasury Building). Their winning design for this building was not built as it was supplanted by a design of J.J. Clarke, the colonial architect for Queensland. They won a second prize for their Flinders Street Station Design and exhibited three designs for the Falls Bridge over the Yarra. Early in the partnership, they designed the Christ Church Congregational Church in Launceston, Tasmania (constructed 1883-85), which is also heritage listed.

The Georges Building in Collins Street is a well-known work from the early Melbourne years of Grainger & D'Ebro, though now much altered. Internally, the simple iron structure is clearly visible. Externally, each floor is defined by a continuous entablature and each floor is subtly different from the floor above or below, with an independent classical pediment surmounting the whole composition. It was described as Italian Renaissance in style and admired for what was described as Grainger's love of simplicity, the design being judged free from 'superfluous ornamentation' and 'excessive decoration'⁸. It was originally built as the Equitable Co-Operative Society Premises by David Mitchell, father of Nellie Melba and a family friend of the Graingers.

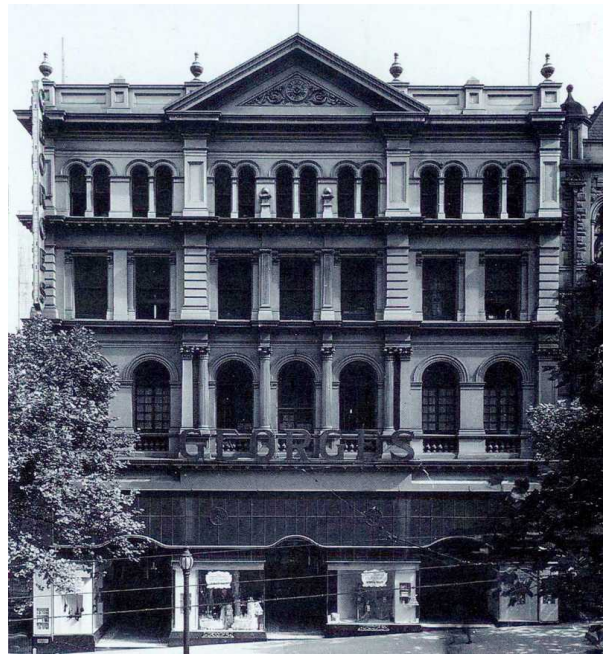


Figure 7. Georges Building 162 Collins Street

The Masonic Hall (completed 1886) was a particularly striking design with a central two-storey arcade flanked on either side by pavilion ends capped with towers. All the details were an evocation of English Palladian architecture seen through a late-19th century picturesque lens. It was a powerful presence on the south side of what was called the 'Paris' end of Collins Street, before it was demolished and Collins Place erected in its place.



Figure 8. Masonic Hall Collins Street

On 4 October 1883 another Grainger & D'Ebro designed building, the Servants Training Institute in Yarra Park near Bridge Road, Richmond was opened.

The firm also designed a number of houses and made additions to others. Some of the clients were family friends from the Brighton area.

On 14 April 1885 the partnership of Grainger & D'Ebro architect and engineers was dissolved. The reason for this is unknown. Grainger's increasing alcoholism may have been one reason and another his erratic behaviour and short temper. According to a recollection by Percy, *'he was quick to take offence when contradicted'*.

John Grainger then practised on his own from offices at 29 Queen Street Melbourne. In 1885, he called tenders for rebuilding the Kensington Maizena Works, a 2-storey villa in Brighton, additions to a villa in Hawthorn Grove, Burwood and he also entered the competition for the Bairnsdale Water Supply.

1886 saw him calling tenders for work at the Metropolitan Company's Brewery in Latrobe Street, West Melbourne, for alterations to the City Club Hotel in Collins Street and for three 2-storey villas in Darling Street, South Yarra. In addition, he was awarded the prize for the Bairnsdale Water Supply. On 10 November 1886, Grainger was awarded first prize for his design for the Maryborough School of Arts, Queensland beating thirty other entrants with his superb and distinctive classical design. This building is on the Queensland Heritage Register.

Construction of the Bairnsdale Water Supply Scheme started in 1887 and it was completed by early 1888. Several problems soon became apparent. The boilers had been placed on top of a hill with a 76 m naked steam pipe leading to the pumps at the river. This caused a loss of one-third of the steam pressure, necessitating the boilers being moved down to the riverbank next to the pumps. There were also problems with the pumps being subjected to flooding when the Mitchell River rose. The intake pipes were close to the tidal reach of the river and at times of low river flow and high tides the water could get salty, requiring first a suction box and later a weir to be built to overcome this problem. The Bairnsdale Pumping Station has a heritage listing (VHR H2040)

In February 1887, *'Mr. J. H. Grainger Consulting Engineer'* was appointed to do the detailed planning for a water supply scheme for Sale, with the water to be drawn from the Thompson River. The water tower for the scheme, consisting of a 13 m high cylindrical brick structure supporting a 40,000 gallon riveted iron tank, is still in use. The engines and pumps were started for the first time on Saturday 17 March 1888

and in April, Grainger inspected the works and gave his seal of approval⁹.

Tenders for a large brick villa in Orrong Street East St Kilda were also called in 1887. The *Australasian Builder and Contractor's News* noted on 17 September 1887 that construction was to start for the Grainger designed Palace Hotel & Public Hall in Bourke Street.

The Robur Tea Building at 28 Clarendon Street Southbank, Melbourne, originally designed for the Fergusson & Mitchell Stationery Company, was constructed between 1887-88. The six-storey red brick building, which Grainger worked on as engineer with the prolific architect Nahum Barnet, was not only admired for its simplicity of expression, but also for Grainger's engineering skill in designing a tall building founded on the very weak Coode Island silt found at this location. Some 450 ironbark piles and a concrete raft support the superstructure. The effectiveness of the foundation system can still be seen today as there are no cracks in the external walls at any of the window and door openings. Another innovation was the use of steel beams to support the floors, one of the earliest uses of such technology in Victoria. This is one of the very few of Grainger's buildings from the 1880's that has not been demolished as the city has been redeveloped, hopefully the building will remain intact as it is heritage listed (H0526).

Between 1880 and 1890, John Grainger won, in open competitions, prize money to the value of £2,350.

4 THE LEAN YEARS 1888-1896

In 1882, while living in Brighton, John Grainger formed a platonic friendship with thirteen year old Amy Black that lasted until she was about thirty. Many letters written in the 1890s from Grainger to her survive. It is largely from these letters and those that he wrote to his father, Rose and Percy, all of which are lodged in the Grainger Museum at the University of Melbourne, that details of Grainger's life between 1888-1905 are known.

Around 1888, because of his heavy drinking, he began to experience severe attacks of delirium tremens, complicated by nicotine poisoning from smoking large numbers of cigarettes a day.¹⁰

At the beginning of 1890, Grainger wrote to his father *'Of course you know I lost all in over speculation in mines and afterwards in trying to make it up I overdid it in hard work. This at last nearly finished me off altogether. I am doing a lot of work now but most go to pay off mining and other speculations. ...Working as a manager for another architect at 8 guineas a week-will go into partnership when cleared debts.'*

In the years 1888 & 1889 tenders were called in the name of Grainger and Naish, for repairs to the Morphettville racecourse, erection of a lodge room to a hotel in Mitcham, erection of a brewery in Broken Hill and a flourmill at Port Adelaide. Naish may have been the architect that Grainger referred to in his letter to his father.¹¹

In 1890 Pitt and Grainger were awarded 2nd prize in a competition for a bridge over the Yarra at Spencer Street, Melbourne

Early in September 1890 Grainger left Melbourne for England to see his father, and hoping that the sea voyage would restore his health. He wrote to Amy Black from England that he had suffered '*such a fall as few men can scarcely hope to recover from... and that he was disturbed in mind and body*'. His father refused to see him and he returned on the same ship that had taken him to England, the *S.S. Oruba*, arriving in Adelaide on 18 December of the same year. From this time onwards John and Rose did not live together although occasionally Rose and Percy would visit John in South Australia until, in May 1895, they left Melbourne for Frankfurt to further Percy's career as a pianist.

In March 1891, he wrote to Amy Black that he '*had no money left to lose...how on earth am I to get Ad to post this letter*' and refers to a stay in hospital. In a later letter, he wrote that 'he had met Langley in about 1891 '*at that time I used to drink so badly*'. Langley asked him to give him a hand with plans for a cement works¹² and he agreed to do this for £3 a week '*as much as anything to get away from the detestable drink*'.

Grainger, in 1892, was awarded second and third prize in the Hamley Bridge (South Australia) competition.

In 1893, Grainger was working for £3 a week and his board for the wealthy pastoralist J. H. Angus at the Hill River cattle and sheep station near Clare in South Australia, designing and remodelling the buildings on the station¹³. This enabled him to send £2 a week to '*the dear little woman*'. In a letter to Amy Black, from the Hill River Station, he wrote '*Of course you know I have got the best of my big Enemy long since & don't touch whisky by any pretence now*'. In December, Grainger was back in Adelaide and wrote that '*I have some big alterations to date a house here (Hon. G. C. Hawker's), as well as a small lifting bridge and some extraordinary plans to make of the Coolgardie and Murchison Goldfields*'.

A year later he was writing from Mt Remarkable Station, 250 km from Adelaide, that he was engaged in putting some buildings in order, building new water tanks and laying out a big scheme of irrigation for the estate.

Langley wrote to Grainger in 1894 saying that he had an idea for a patent crushing mill and asked for his help in drawing it up¹⁴. According to Grainger '*In a few days I had designed the patented machine of which I was to receive 1/10th interest, which up to this time I have not seen although he sold the patent for £8,000*'.

On the 24 April 1895 he wrote on the letterhead of the South Australian Portland Cement Company that he had been in Adelaide since March and that he was getting out a scheme of machinery, plant and housing for the Company.

On 13 September 1895 Grainger met Winifred Falconer in Adelaide. She was to remain with him for the rest of his life. Though she became his lifelong friend, their relationship was always described publicly by the family in the most delicate way, with Rose referring to her as his '*nurse*' and he as his '*niece*'. Perhaps Winifred Falconer straightened him out and got him back into regular professional employment.

In a letter to Amy Black dated 12 December 1896, on the letterhead of Haycrafts G.R.&M. Co. Ltd., Kalgoorlie, Western Australia, he wrote '*Some few months ago in January, February 1896 I prepared a set of plans and specifications for Mining Plant using Langley's Patent Crushing Mill and Haycrafts Gold Reduction process. They offered me £6 a week, here I am, having left Adelaide last October 14th getting here 20th, that is Kalgoorlie. ...In the first place I was until last July, doing very well in Adelaide but business fell off again as the share slump spoilt all business. I lost £800 I had made in speculation in shares in no time... Living with George Aldridge (Rose's father) in Adelaide since February 1895 until I came here*'.

On 29 December 1896, Langley dismissed Grainger and he sued for wrongful dismissal and his 1/10th share of the proceeds from the patent crushing mill.

5. PROFESSIONAL REVIVAL 1897-1905

After his dismissal Grainger went to Perth, he had splendid letters of introduction to Government Ministers in Perth, and on 1 March 1897, he was appointed Principal Architect in the Architectural Division of the Public Works Department at a salary of £600. On 16 January, just as his appointment was settled he became ill, possibly from typhoid, and returned to Adelaide where he went into a private hospital.

After the discovery of gold at Coolgardie in 1892 and then at Kalgoorlie in 1893 the population of Western Australia almost quadrupled between 1890 to 1900. New settlements on the goldfields increased the need for buildings to accommodate the growing number of civil servants required for administration of the leases and collection of fees, to maintain law and order and

provide communications, education and hospital services. The Government's expenditure on buildings rose sharply to a peak of £448,000 in 1897-98¹⁵, the year Grainger joined the PWD. To meet this demand standardised buildings were designed and used where possible but for the larger and more important buildings, this was not possible and Grainger's design skills were needed for these.

His designs included the Romanesque flavoured Government House Ballroom, which was greatly admired by everyone, and impressed the twenty-two year old Percy Grainger when he saw it in 1904. Other buildings linked to Grainger's name include the Supreme Court, the Perth Art Gallery (suggestive of American Romanesque), Parliament House, Perth Central Police Courts and a number of substantial goldfields buildings. These included the powerful Warden's Court in Coolgardie, where Grainger changed and enlarged the design by his predecessor G. Temple Poole and the equally powerful Public Buildings in Kalgoorlie. There were also many smaller government buildings in country areas. Many of the above mentioned buildings are registered by the Heritage Council of Western Australia, as are several Government buildings in Boulder and other towns that were designed by Grainger.



Figure 9. *Government House Ballroom, Perth.*

While designing and preparing all the drawings for the Government House Ballroom his health deteriorated and in August 1897 he went back to Adelaide for a month. He returned and wrote that *'All our men have been busy, engaged on Standard Drawings, a new Lunatic Asylum, Art Gallery and several important buildings'*.

In a letter to Percy in July 1898, Grainger wrote *'The Royal Mint I expect to open in a month, new Public Library about the same date, Coolgardie and Geraldton Public Buildings ditto, Albany Quarantine Station has been completed.'*



Figure 10. *Wardens Court Coolgardie*

By the end of 1898, he is writing to Percy that *'work is very slow but that Law Courts and Parliament House are going on'*. At the beginning of 1899, Grainger had to dispose of all of his draftsmen and his chief clerk and was unsure of his own position. The slow down in work may well have been because the Western Australian Government was spending all its revenue and loan monies on the Coolgardie Goldfields Water Supply Scheme, which entailed building a 560 km pipeline and associated pump stations from a dam near Perth to Coolgardie and then to Kalgoorlie.

During this slow period, Grainger undertook a private commission for what he called *'the Colombo Building'* but which the owner, Mr Davies, intended to call the Australia Building in Colombo. It appears from his comments that he prepared a set of drawings and then had draftsmen make copies. He also wrote the specification and made a sheet of details for the ironwork, giving all the lengths and numbers of iron joists so that the owner could write to the supplier and order them as required, (presumably using his engineering skills to design the beams and columns, etc).

In September 1899, Grainger was given a significant government commission that brought him to the attention of the press in England. This was to design the Western Australian Court for the Great Paris International Exposition of 1900, which Grainger attended to supervise the erection of the exhibits. These included a big mining display and an impressive display of local timbers. His design of the court led to him being awarded a medal by the Société Centrale des Architectes Française. This was the only professional body that Grainger belonged to during his career.

During this trip, he briefly visited Rose and Percy in London.

Back in Perth in 1901, he provided the designs for the street arches erected for the Royal visit of the Duke and Duchess of Cornwall and York.

In 1903, his department completed drawings for the Perth Central Police Court, the Perth Central Police Station, the Commissioner's Office and Men's

Barracks, Fremantle Gaol additions and the new wing for the Perth Government Offices. Work was in progress on the new Parliament House, the Perth Supreme Court building was completed and contracts were let for the Claremont Hospital for the Insane and the Perth Victoria Public Library. By 1903 Grainger's salary had been increased to £1,000 per annum,



Figure 11. Perth Victoria Public Library

In November 1903, John Grainger was suffering increasingly from 'rheumatic' pain and he took three months leave. He sailed to New Zealand for treatment at the hot springs at Rotorua, accompanied by his 'nurse' Winifred Falconer. When Percy, then on a concert tour, met him in New Zealand, he described him as '*the totalist (sic) wreck I have ever seen.*'

The Architectural Division still had a heavy workload in 1904, with work being completed on 199 contracts at a cost of £110,000 for buildings that varied from courthouses to quarantine stations. The annual report for the Division was signed by Hillson Beasley, Acting Chief Architect, at the end of which he wrote '*The unfortunate illness of the Chief Architect and his consequent absence from duty for several months has imposed extra responsibility and work on the staff generally.*'

In the Parliamentary Report for 1905, Grainger's salary is listed as £1,000 with a note that he retired 31/7/1905 '*on completion of the term of agreement.*' Hillson Beasley then became Chief Architect on a salary of £500. The disparity between the salaries is an indication of how much Grainger's architectural skills were valued by the Public Works Department.

During his years in Perth, John Grainger continued to send money to help support his wife and son in London, as he had earlier done when they were in Germany, a situation that was later to be dramatically reversed.

When he retired from the PWD his health was again bad with his '*hands terribly sore*' from what he called rheumatism and with Winifred Falconer he left Australia to seek a cure for his ailments in the sulphurous baths at Harrogate, England. Late in the

year, the couple left England for Europe travelling in Spain, Italy, Sicily, France and Belgium.

6. FINAL YEARS OF PRACTICE AND ILL-HEALTH

With John Grainger's health improved, he and Winifred sailed from London in June 1906 and returned to Melbourne where Grainger re-established himself in architectural practice.

According to Winifred Falconer, Grainger arrived in Melbourne '*in time to enter his design for a competition for the Administrative Block of the Melbourne Town Hall & altho hampered by a right hand crippled with neuritis, he made all the huge drawings unaided, his design securing First Prize.*'

In September 1906 Grainger applied to become a Fellow of the Royal Victorian Institute of Architects (RVIA). His nomination was proposed by Percy Oakden and seconded by Francis John Smart and John Little, all Fellows of the RVIA and prominent architects. His submission listed many of the projects he had designed in Adelaide, Melbourne and Perth and the awarding of a special medal by the Architects Française for his work on the Western Australian exhibits at the Paris International Exposition. Despite this impressive curriculum vitae, when a ballot was taken at a general meeting of the RVIA on 23 October 1906 the members in attendance voted not to elect him as a Fellow. Between 1906 and 1910, he was the only candidate not elected. The President of the RVIA and chairman of the meeting was Charles A. D'Ebro, Grainger's partner from the 1880's. Whether this had anything to do with his failure to be elected is not known¹⁶.

He was taken into a partnership styled Grainger, Kennedy & Little, which later became Grainger & Little and then Grainger, Little & Barlow. After Grainger died, his name was still being used by the firm up until at least 1924.

With somewhat renewed vitality, he was involved in the design of St Michaels Church, North Melbourne and the interior of Town Hall Administration Offices. J.J. Clarke, who had supplanted Grainger for the Brisbane Public Offices and who had come second in the competition for the Town Hall Administration Offices, again supplanted Grainger being engaged to design the exterior of the building.¹⁷ Clarke's design is largely a pastiche of Reed & Barnes 1867-70 Town Hall exterior.

The various partnerships had influential and wealthy clients and designed several large and impressive buildings now demolished: Collins House in Collins Street, the State Savings Bank on the corner of Bourke and Elizabeth Streets, and the remodelling of Cliveden

Mansions. Grainger also designed Dame Nellie Melba's Music Room for her house in Coldstream.

Grainger & Little were at the forefront in the use of reinforced concrete, in association with John Monash's firm the Reinforced Concrete and Monier Pipe Construction Company (RCMPC). Reinforced concrete was used in the Town Hall Administrative Offices, the State Savings Bank, Collins House and for the Gippsland Factories Co-operative Produce Company's building in Flinders Lane. In 1910, when Monash was overseas, Fairway, who was in charge of the company during his absence, wrote to Monash that '*the architect John Grainger was now involved in the project (Collins House) and was insisting that he would have reinforced concrete in the building only if it were done by a reputable firm-and that he wanted RCMPC.*'

In 1909, the Victorian Government appointed Grainger, described as a leading architect of wide experience, to make a full inquiry into the Architectural Branch of the Public Works Department. His recommendations were adopted, favouring the standardisation of plans, specifications, and details to overcome unpredictable variety and costs, and with the Department being placed under the firm control of a Chief Architect.

It is difficult to judge how active a professional role Grainger was able to play in these years in Melbourne because of his declining health and because he again travelled to England, arriving on 29 March 1912. He was accompanied by his faithful companion Winifred Falconer, described on this visit as his '*niece*'. John Grainger's final decline extended over a number of years. He claimed this began in August 1914 when he was stressed in finishing drawings for Elizabeth House for the National Bank at the corner of Elizabeth and Little Collins Streets (now demolished). By the end of 1915, '*rheumatism*' had taken over the whole of his body.

By 1916 he could no longer write and was having to dictate his letters to Rose and Percy thanking them for the £12 a month they were sending and noting that the £6 per week his old firm was giving him as a living allowance would end in July.

During these last years of great pain, Winifred Falconer nursed him until his death on 13 April 1917 at the age of 62. Grainger died leaving only £267-12-7, and was buried in Box Hill Cemetery. His death certificate states that he died of chronic rheumatic arthritis - one of the handful of medical euphemisms commonly used in those days to cover the effects of tertiary syphilis.¹⁸

7. CONCLUSIONS

Tragic as the ending of each of the periods of John Grainger's professional life may seem, they cannot obscure his high artistic and professional skill in architecture and engineering, nor diminish the admiration his contemporaries had of him as an architect, an engineer and a refined musical amateur. Between his late twenties and early forties, he was at the height of his profession with designs built in every state in Australia and in New Zealand. His greatly admired Ballroom at Government House in Perth and Princes Bridge in Melbourne stand as symbols of his age and a bright flash of high architectural and engineering talent between deepening troughs of ill health.

8. ACKNOWLEDGMENTS

- George Tibbits. This paper is an expanded version of a paper that George wrote in 2008 for the Guest Speaker Series for Engineering Heritage Victoria. Regrettably, shortly after that paper was given, George died.
- Figure 1, Bartletto Perth, *John Grainger ,1901* gelatin silver printing-out paper mould on board; 206 x 14 cm Grainger Museum Collection, University of Melbourne.
- Figure 2 & 3 images courtesy of the State Library of South Australia. SLSA: PRG 280/1/28/145 Albert Bridge. SLSA B 43193 Hindmarsh Bridge.
- Figure 5 A. C. Cooke engraver after Jenkins and Grainger "The prize design for the new Prince's Bridge", in the *Illustrated Australian News*, 30 August 1879 p. 136.
Figure 7 *Harold H. Paynting. Commercial Photographic Company.* Whereas the men's outfitters were at one end of Collins Street, the ladies were catered for at "Georges" in the centre of town.
Figure 8 Charles Rudd H3957/87 dated 1886/7 'Masonic Hall, Collins Street east', c. 1887 designed by Grainger & D'Ebro, photograph on gelatin silver printing out paper
Images courtesy of the State Library of Victoria, Pictures Collection.
- Astrid Britt Krautschneider, Curator, Collections and Research, Grainger Museum for access to the documents on John Grainger's life.
- Miles Lewis for his invaluable *Australian Architectural Index* that enabled the identification of the many buildings Grainger designed.

9. REFERENCES

(see next page)

- ¹ This date and place of birth are from Grainger's birth certificate. John Bird, 1977, *Percy Grainger*, p 3, MacMillan Co. South Melbourne, has John Grainger being born on a train coming into a London Station on 30 November 1855.
- ² Winifred Falconer 1934 *The Life and Works of John Grainger, Architect and Civil Engineer*, the manuscript is held in the Grainger Museum, University of Melbourne. Whether this is correct is open to doubt as his parents were still listed as living in Westminster at the time of the 1881 census.
- Grainger's application for RVIA Fellowship, dated 17 Sept 1906, RVIA Papers Australian Manuscript Collection, State Library of Victoria.
- ⁴ There is no record of a John H. Grainger being employed by the South Australian Public Service in the years 1877-1879. Provisional and temporary staff were not listed by name in the annual reports of the South Australian PWD. There were two clerks of works listed as provisional or temporary staff in the Architectural branch of the PWD and whether Grainger occupied one of these positions could not be ascertained.
- Aesthetics came at a cost; the tender for the Hindmarsh Bridge was £1,500 less than that for the Albert Street Bridge, partly because the straight beams could be fabricated in South Australia.
- Allom Lovell & Associates, 2002, *Princes Bridge, Swanston Street, Conservation Management Plan* p 12. See also Susan Reidy, 2007, 'Prince's Bridge and John Grainger', *John Harry Grainger Architect and Civil Engineer* p 20-21. University of Melbourne
- *Australian Engineering and Building News* 1.6.1881, p 236.
- *Argus* 15 August 1883, p 3.
- Peter Synan, 1988, *Precious Water 1888-1988*, City of Sale.
- ¹⁰ John Bird, 1977, *Percy Grainger*, p 14, MacMillan Co. South Melbourne,
- ¹¹ Francis John Naish had been employed as a draftsman in the South Australian PWD in 1878 when Grainger was said to have been working there, he later had his own practice in Adelaide.
- ¹² Richard Durrant Langley was associated with various cement works in Australia including the South Australian Portland Cement Co. Ltd. In December 1892, the cement works that Langley was building for the Company was completed.
- ¹³ J.H. Angus loaned money to the South Australian Portland Cement Company to enable it to complete the construction of the cement works and may well have met Grainger at this time.
- ¹⁴ Langley applied for a patent on the 29th of November 1894 for "An improved rotary grinding and pulverizing machine", *Victorian Government Gazette No 7* Monday January 21, 1895, p 224
- ¹⁵ Duncan Richards, 1994, *Creating the Public Realm, Public Architecture in Western Australia: 1890-2000* p 13, Perth W.A.; The Service and the Authority
- ¹⁶ The RVIA were upset that they were asked only to ascertain whether the entrants for the Town Hall competition had complied with the conditions of the competition rather than to help judge it.
- ¹⁷ This was despite a RVIA deputation telling the Melbourne City Council that the architects whose design had been awarded 1st prize were the only architects who could satisfactorily carry out their own design.
- ¹⁸ John Bird, 1977, *Percy Grainger*, p 158, MacMillan Co. South Melbourne.