
The Shine Dome, The Australian Academy of Science, Canberra, Australia

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The Shine dome is a national icon for Australia. It is listed on Australia’s National Heritage List and the Union of International Architects World Heritage List. On completion in 1959 it was one of the largest domes in the world with a diameter of 45.75m. The Australian Academy of Science building, The Shine Dome (formerly Becker House) and surrounds is significant for its association with the post-war development of the Australian scientific community at an international level. This award winning design by prominent Australian architect Roy Grounds of Grounds, Romberg and Boyd reflects the rounded hills surrounding Canberra.

The construction of The Shine Dome was a significant technical achievement and a milestone in the Australian construction industry. The low-rise dome-form creates a unique central feature between the earlier classically styled buildings of its precinct neighbours. The Shine Dome is a local icon and symbol of modern Canberra.

KEY WORDS: *design, construction and conservation.*

Introduction

The Shine Dome (1956-59) is one of the few Australian buildings on both the National Heritage Register and on the Union of International Architects International Heritage Register.

The construction of the Australian Academy of Science Building was a significant technical achievement and a milestone in the Australian construction industry. At 45.75m in diameter it is one of the largest concrete domed buildings in the world. The load bearing capacity of the large radius copper clad dome is formed by the moat surrounding the building, making the dome extremely stable, preventing movement and the need for expansion joints. The internal walls do not structurally support the dome.

The Academy building is an excellent example of Geometric Structuralism, demonstrating clarity of design philosophy in the uncompromising, integrated and consistent architectural style and detailing of the building’s exterior and interior. The dome is an innovative structure, reflecting the bold modernism of the era, but sensitively complementing the surrounding landscape. The form, structural integrity, materials selection, geometry, functionalist symmetrical planning and sensitivity to the setting make the building rare for 1959.

The Australian Academy of Science Building represents the work of one of the most prominent Australian architects of the era. The building was the culmination of Roy Grounds’ architectural development. The multiple award winning design is seen as the purest example of Grounds’ structuralist work in Australia.



Fig. 1. *The Shine Dome, Australian Academy of Science, Canberra Australia. Source: Eric Martin & Associates.*

Project Initiation

Several prominent firms of architects were invited to submit preliminary designs and six firms did so. They were Borland, Murphy & McIntyre (Melbourne), Fowell, Mansfield & Maclurcan (Sydney), Hassell & McConnell (Adelaide and Melbourne), Mockridge, Stahl & Mitchell (Melbourne), Robert G Warren (Canberra) and Grounds, Romberg and Boyd (Melbourne).

The Academy's Building Design Committee at its first and only meeting on 1 December 1956 made the unanimous decision to recommend the appointment as

architects of the firm of Grounds, Romberg and Boyd. At the time it was acknowledged that *'The design chosen is unconventional, but Council is convinced that it is excellently suited to our requirements and that it will be a worthy addition to the architecture of Canberra.'*¹

The shape of the site had a strong influence on Grounds' plan for the shape of the building. Press releases three months later quoted Oliphant as saying that the decision was unanimous *'after an initial shock.'*² A new Buildings Committee was given responsibility for working with the project architect, its members being Professors Oliphant and Sunderland, and Dr Frankel.

1 *Australian Academy of Science, Canberra, August 1957, p.82.*

2 For instance, 'The round look for Canberra'. *Courier Mail, 22 March 1957.*

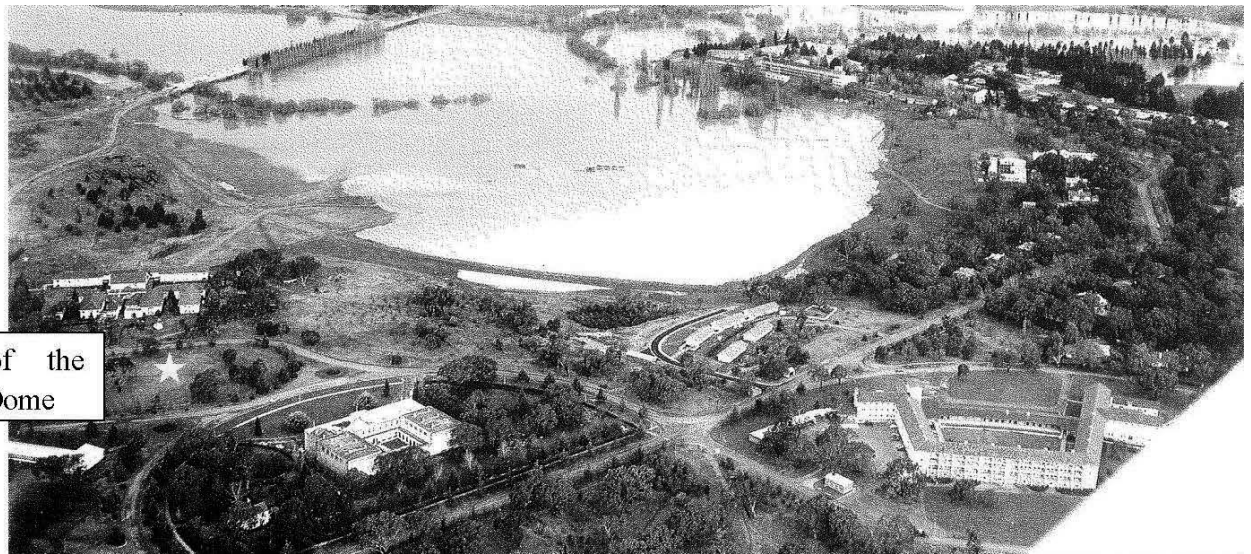


Fig. 2. Location of the site as it was in 1957 looking south across The Molonglo River. The Shine Dome was to be built on the lower left of the image. Source: Roberts, A, 201, p. 13 3.



Fig. 3. View of the site in 1957 looking north. The site is shown in the foreground. Source: Roberts, A, 201, p. 14.

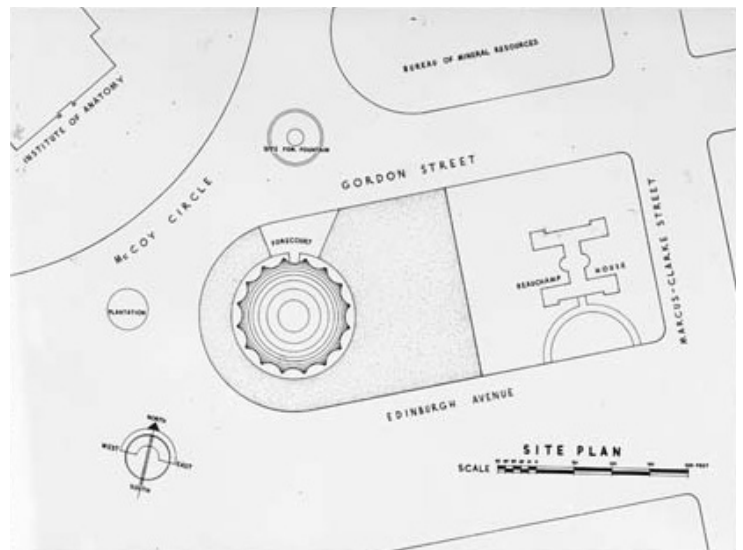


Fig. 4. Site Plan. Source: National Archives of Australia, Image No A1200, L22615 (BD11656974).

3 Roberts, A, *A big, bold simple concept: a history of the Australian Academy of Science Dome*, Australian Academy of Science, Canberra 2010.

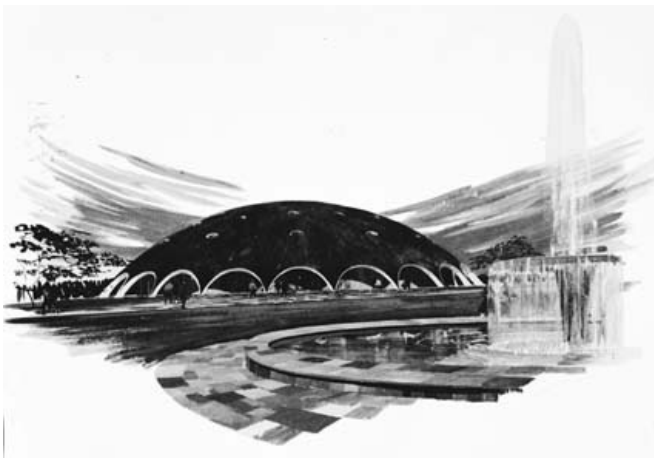


Fig. 5. Front view - Proposed Academy of Science Building (artist's impression) 1957. Source: National Archives of Australia, Image No A1200, L22616 (BC11656975).

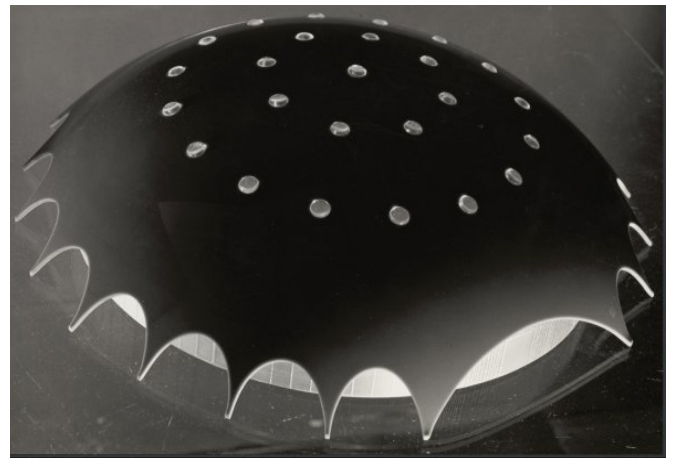


Fig. 6. Model of the Australian Academy of Science, Wolfgang Sievers. Source: National Archives of Australia, reference no nla.pic-vn4474852.

Design

Details of the design were made public on 22 March 1957. The Canberra Times newspaper made the point that the design was 'like the Sydney Opera House, ... based on a shell concrete form ... submitted last November long before the winning opera house design was published'.⁴ By the middle of 1957 final architectural plans were being drawn by Roy Grounds, with tenders to be called and construction to commence before the year end.⁵

The 24,175 square feet (or 2,300 square metre) building was to be a concrete dome (not fully rounded, but flattened or shallow - a segment of a sphere) that was self-supporting, clad in an overlay of interlocking copper sheets. The concrete shell of the Academy dome ranged in thickness from 75mm at the top to 600mm at the base with 75mm of vermiculite insulation under the copper sheeting. Its final built dimensions were 154 feet and 3 inches in diameter and 38 feet and half an inch high and weighing approximately 45 tons (710 tonnes).⁶

4 'Planned for Canberra'. *Canberra Times*, Saturday 23 March 1957, p. 3.

5 Australian Academy of Science. *Yearbook*. Australian Academy of Science, Canberra, August 1957, p.82.

6 Australian Academy of Science file. Grounds, Romberg & Boyd. Academy of Science. Canberra: Variation order 89, 12 May 1959.

It remains one of the largest domes in the world and at the time of construction the only one of its kind in Australia.⁷ It was larger than the largest dome built before the twentieth century, the concrete dome of the Pantheon in Rome, which has a diameter of 142 feet, but it is smaller than several reinforced concrete domes built during the twentieth century.

A particular feature of the design is that none of the interior walls or the perimeter curtain wall structurally touch the dome. This allows for the significant expansion and contraction of the dome (said to be about 2 cm) which results from Canberra's marked diurnal variation in temperature.⁸

Speculating on why the architect chose the dome as the shape of the building, a reporter gave as the reason the fact that it allowed the central chamber (to be used for conferences) to be circular, and to rise the full height of the 35 feet of peak of the dome. The chamber became the natural centre of interest, both architecturally and literally (it might almost be said, spiritually).⁹ However, as mentioned below, Grounds himself had stated that

7 Australian Academy of Science file. 'Structural aspects of the roof'. Report by A. J. Francis, 19 March 1957.

8 Gutteridge, Haskins & Davey, *The Australian Academy of Science, Conservation Management Plan and Scope of Works*, June 1999, Vol. 4.

9 'Science building among world's most unusual', *Canberra Times*, 29 January 1959.

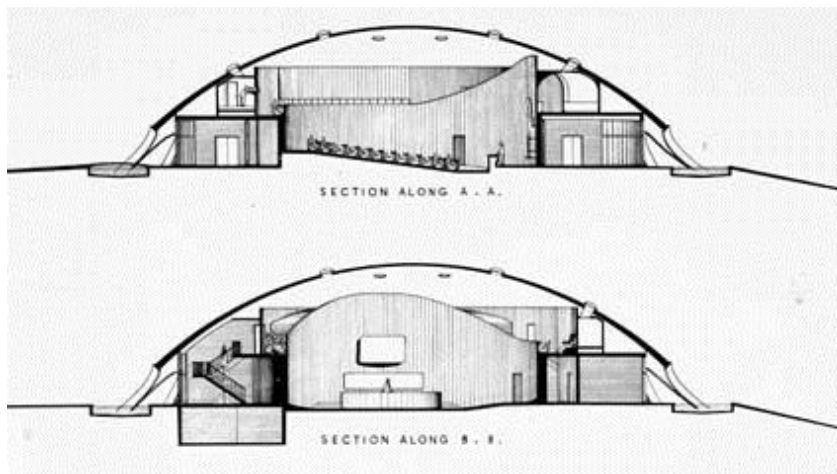


Fig. 7. Elevations. Source: National Archives of Australia Image No A1200 L22650 (Barcode11788047).

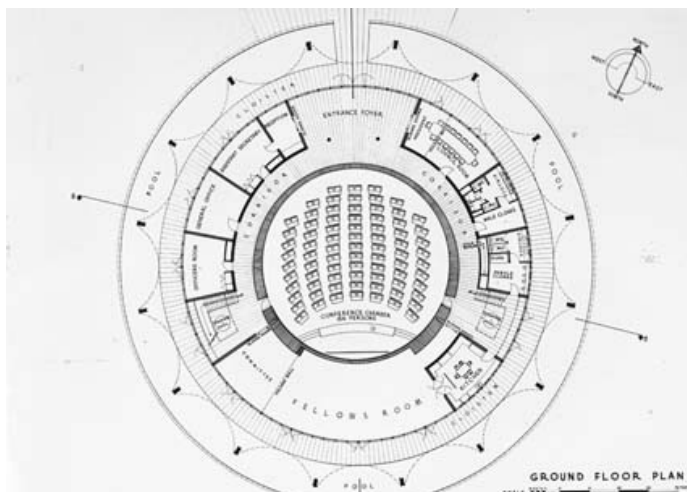


Fig. 8. Ground Floor Plan. Source: National Archives of Australia Image No A1200 L22624 (Barcode11788048).

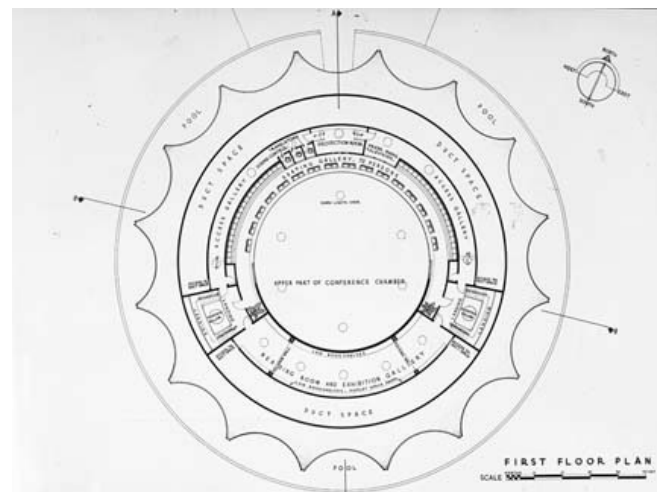


Fig. 9. First Floor Plan. Source: National Archives of Australia, Image No A1200 L22617 (Barcode11788046).

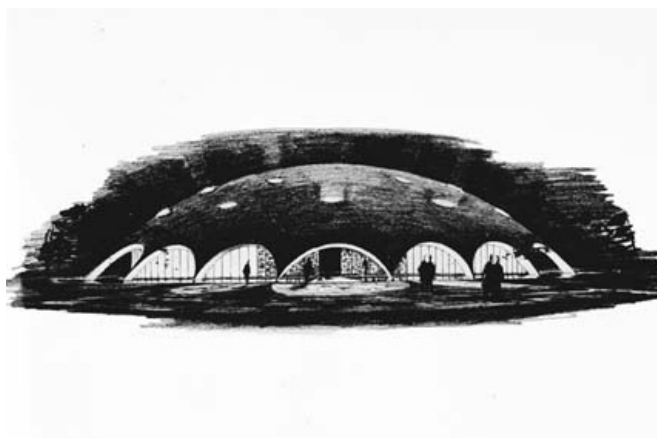


Fig. 10. Night time artists impression - Proposed Academy of Science Building. Source: National Archives of Australia, Image No A1200 L22616 (Barcode11656979).



Fig. 11. Photograph showing the Shine Dome at night. Source: National Archives of Australia Image No A1200 L31844 (Barcode11680256).



Fig. 12. Dome showing base locations in surrounding moat. Source: Canberra House <http://www.flickr.com/photos/canberrahouse/>.

the dome was the shape which best reflected the topography of the Canberra region so that the building on the site, land which was itself rounded in shape, would reflect the natural landscape of gently rounded hills.

The copper roof was expected to oxidise within ten years to acquire the customary soft green colour, an extension of the notion of reflecting the natural landscape.¹⁰ It has not yet done so. A technical paper on 'forming or accelerating the formation of patina on newly laid copper roofs' was available to the Building Committee at its meeting of 31 July 1958.¹¹ One means of accelerating oxidation would have been to install a water spray on the roof and this was considered, but not pursued. It was thought that applying a coating to the roof might result in an unattractive streaked appearance so it was agreed to let nature take its course. In the clean air of Canberra that course will be long. At one time

gold-plating the roof was contemplated but this was not done.¹²

The dome tapered down into sixteen points separated by arches, with their load-bearing bases in the moat surrounding the building, giving the effect of cloisters. The moat was to serve as a ring beam and had as well another role in that the reflecting pool was 'to distribute evenly the light from the sky'¹³ and 'to diffuse and reflect the harsh Canberra sunlight under the arched overhang and into the building'.¹⁴ The base of the moat was to simulate a riverbed, and, on sunny days, it would resemble a sparkling stretch of river. It was to be covered in pebbles from the Molonglo River, which at that time flowed peacefully under the wooden Commonwealth Bridge not far from the McCoy Circuit site. The water in the moat was to come from the source of Canberra's water supply, the Cotter River.

10 Syd Robson. 'A shell to hatch out scientists', *Sydney Morning Herald*, 11 October 1958.

11 Australian Academy of Science file AB I. Grounds, Romberg and Boyd. Excerpt flow 'The maintenance, cleaning, finishing and colouring of copper, brass and bronze', by Copper & Brass Research Association, New York (CABRA Spray Process).

12 CMP June 1999, Vol 4.

13 *The Australian Academy of Science: The first twenty-five years*, Australian Academy of Science, Canberra, 1980, p.39.

14 Stuart Ramshaw. Heritage Report: The Australian Academy of Science: Becker House. 21 June 1997, p.3

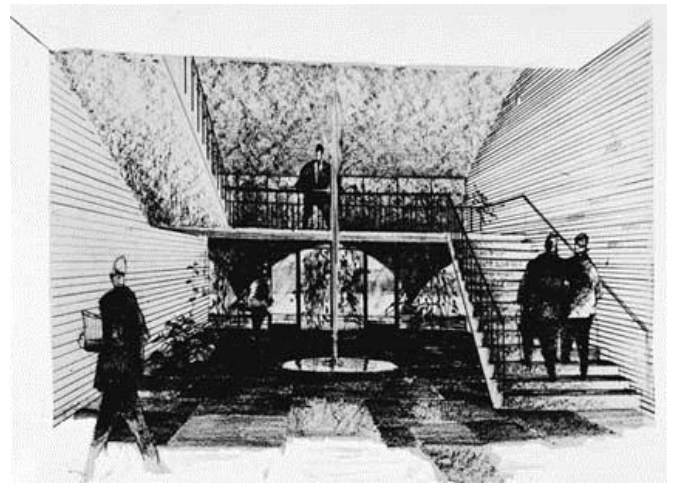
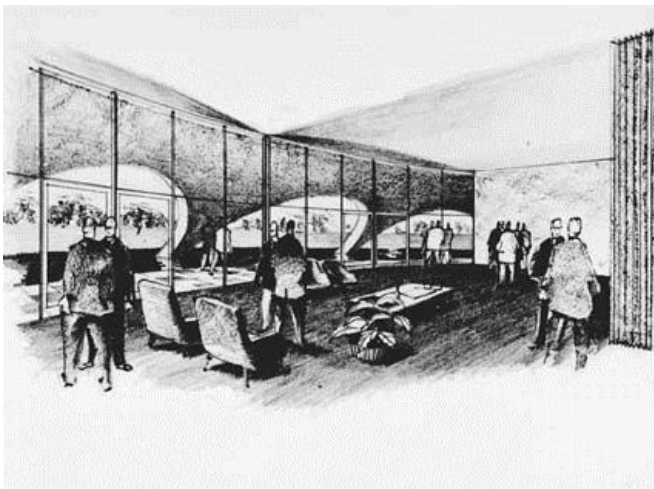


Fig. 13. Reception Room, Proposed Academy of Science Building (artist's impression) 1957. Source: National Archives of Australia, Image No A1200 L22679 (Barcode11656978).

Fig. 14. Foyer outside one entrance in the proposed Academy of Science Building Canberra (artist's impression). Source: National Archives of Australia Image No A1200 L22614 (Barcode11656973).

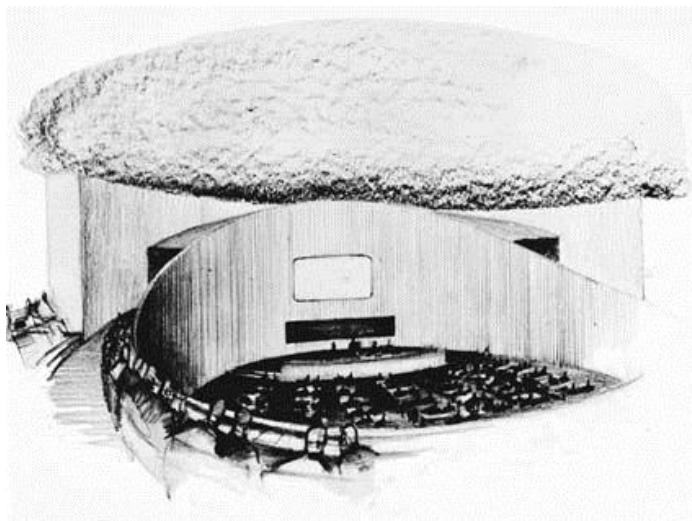


Fig. 15. Conference Chamber, Proposed Academy of Science Building (artist's impression) 1957. Source: National Archives of Australia, Image No A1200 L22619 (Barcode 11656977).

In the centre of the building was the void which was to be a conference chamber (later called the Becker Hall). It was designed to hold 156 people comfortably seated, with armrests and a writing table for each chair. Above it was a gallery which would hold an additional 72 people and, at the opposite end, behind the projection screen, an open-plan exhibition gallery, library and reading room. Around the perimeter were offices and rooms for other administrative purposes.¹⁵ Professor Sunderland is credited with suggesting to the architect that the entrances to the central chamber be located at the sides rather than at the rear as had originally been

planned.¹⁶ The original design did not include useable basement space, which was approved as an extra fireproof storage space (and an additional cost) by the Building Committee in 1957.¹⁷ This cost was partly offset by a decision not to build a cottage for a resident caretaker which had been part of the original plan.¹⁸

Great attention was to be paid to the acoustics of the conference chamber and to incorporating facilities of the most advanced kind, in keeping with the image of a new and dynamic Academy devoted to progress in science and technology. Grounds specified that the internal timber was to be Tasmanian oak (*Eucalyptus reg-*

¹⁵ *The Australian Academy of Science: 1959*. n.p. (1959?).

¹⁶ Frank Fenner, ed. *The Australian Academy of Science: the first fifty years*. Australian Academy of Science, Canberra, 1995, p. 50.

¹⁷ Australian Academy of Science file AC 11/57. Building Committee. Minutes of 6th meeting 20 June 1957.

¹⁸ Australian Academy of Science file AC1/57. Building Committee, minutes of first meeting, 7 January 1957.

nans), known as 'swamp gum', not highly regarded at the time. Internal floors were to be concrete with the walls brick and use of aluminium-framed glass in some sections of the curtain or perimeter wall, particularly in the entrance foyer.

Grounds was quoted as saying

*'The adoption of a circular plan was strongly influenced by the shape of the site. The domed shape was a corollary of the rounded hills and mountains which enclose the valley of Canberra.'*¹⁹

Even before World War II Grounds was among the school of architects who had 'rediscovered the colonial virtues of sunlight and shadow, they strove to fit their environment and to do it all with directness and logical simplicity'.²⁰

Grounds was influenced in the design for the Academy building by the work of two prominent American architects. The first was the foremost architect Frank Lloyd Wright. The second was the Finnish-born Eero Saarinen (1910-1961), who had in 1954 designed two striking buildings for the Massachusetts Institute of Technology, Boston. Saarinen's guiding philosophy was that a building must be appropriate for its surroundings. Ironically, Saarinen's famous architect father was placed second behind Walter Burley Griffin in the 1911 competition for the original plan of Canberra.

In any event, Grounds *'had had a deep concern with plan-form from his earliest student years...which was to culminate in a series of pure geometrically formed buildings in the fifties...light and graceful, deceptively simple, refined and elegant...'*²¹

Professor A. S. Francis, Department of Civil Engineering, University of Melbourne, was appointed as 'an additional structural consultant' on the suggestion of Roy

Grounds.²² A one-fortieth scale fibreglass model of the building was constructed under the supervision of Professor Francis to test stresses, about which some concern had been voiced.²³ The scale model alleviated worry about the load of the dome (weighing 45 tons) being borne by the sixteen supports connected by a hinged joint to the concrete base ring which has been utilized additionally as an aesthetic feature, acting as the bed of the surrounding moat. The Academy's Assistant secretary, Jack Deeble, in September 1957, midway through the final design phase, sent to Grounds a photograph of a 'domed structure in Manila' and in his reply Grounds mentioned that it was *'one of a dozen or so domes-as-buildings ...brought to my attention over the past few months'*.²⁴

Construction

On 7 January 1958 the Academy of Science Council signed a contract with the large building firm Civil and Civic Contractors Pty Ltd. The price for the building was to be £199,910. Work on the building began on 15 January 1958. Additional costs were estimated to be in the order of £46,000 for landscaping, furniture and fittings, and professional fees. The tenderers had been required to quote for both sprayed and placed concrete. The best two tenderers crossed over with their prices for these two methods but placed concrete was regarded with more confidence.²⁵

Grounds supplied very detailed specifications to all contractors on every aspect of the building, its construction and internal fitting out. Features were meant to conform to his overall concept of the building and its place in the landscape. As mentioned elsewhere he specified the type of brick, timber, gravel, even cement colour.

Grounds invited the manufacturing firm of Wunderlich to design and build the copper roof. They had

19 *The Australian Academy of Science: the first twenty-five years*. Canberra, 1980, 1-39.

20 J.M. Freeland. *Architecture in Australia: a history*. F. W. Cheshire, Melbourne, 1965, 1-263.

21 J.M. Freeland. *Architecture in Australia: a history*. F. W. Cheshire, Melbourne, 1968, p.276.

22 Australian Academy of Science file AC7/57. Building Committee, Meeting Minutes, 22 March 1957.

23 Frank Fenner, ed. *The Australian Academy of Science: the first forty years*. Australian Academy of Science, Canberra, 1995, p.47-8.

24 Australian Academy of Science file AB. Letter from Roy Grounds to J. Deeble, 9 October 1957.

25 CMP 1999, Vol 4.



Fig. 16. Site Excavations for the Dome. Source: Roberts, A, 2010, p 71.

been building roofs for 100 years and were well known for their intricate work with metals. Grounds expected that it would not leak, but leaks occurred from the small holes where the copper sheets met. Part of the cause may have been expansion and contraction of the metal due to the great variations in Canberra between overnight minimum and daytime maximum temperatures.²⁶

The structural engineers were W. L. Irwin & Associates. Much deliberation occurred concerning the critical role of the acoustics of the building and an American firm of consultants was retained Bolt, Beranek and Newman Inc.²⁷ Robin Boyd happened to be spending a sabbatical year with the firm.²⁸

They had been responsible for the acoustics in the Royal Festival Hall, London.²⁹

During construction, on 2 May 1958, the Prime Minister, Robert Menzies, laid a commemorative stone in the wall of the foyer of the building. The stone was the discarded basalt pier of the 48 inch Melbourne Great Telescope, which for many years was the largest of its kind in the world. This telescope was erected in 1868 with the advice of the Royal Society of London and of the British Association for the Advancement of Science.³⁰

The concrete dome was poured over an eighteen week period from June to October 1958. It was discovered that one of the arches of the dome was wrongly constructed and it had to be demolished. Construction of the arch had taken one week but the demolition took about six weeks.³¹ The last of the copper sheets covering the dome was attached on 20 February 1959. The copper dome proved to be a hot work site for the workers attaching the copper 'shingles'. On days when the temperature rose to 90 degrees Fahrenheit at ground level they began their work as early as 5am as the copper surface became too hot to work on later in the day, the thermometer there recording 144 degrees!³²

The fact that the conference chamber was to be air conditioned was felt worthy of mention in a newspaper report on the progress of construction.³³ In fact, cost considerations led to the building being warmed initially by an oil-fired boiler in winter, with no provision for cooling in summer.³⁴

Natural finishes were used throughout, the wood, glass, brick, and concrete remaining unpainted inside and out. Any carpet was to be dark brown and brick was also to be in earth tones, especially the face bricks, which Grounds stipulated were to be 'Bulli bricks ... se-

26 CMP 1999, Vol 4.

27 Frank Fenner, ed. *The Australian Academy of Science: the first fifty years*. Canberra, 1995, p.48.

28 CMP 1999, Vol 4.

29 'Science building among world's most unusual'. *Canberra Times*, 29 January 1959.

30 Australian Academy of Science. Yearbook. Australian Academy of Science, [Canberra], July 1958, p.67.

31 CMP 1999, Vol 4.

32 'Science building among world's most unusual', *Canberra times*, 29 January 1959.

33 'Canberra's Academy'. Herald, 21 February 1959

The building was completed on 15 April 1959.

34 Frank Fenner, ed. *The Australian Academy of Science: the first forty years*. Australian Academy of Science, *Canberra*, 1995, p. 49.



Fig. 17. During Construction.



Fig. 18. During Construction Source: National Archives of Australia Image No A7973, INT528/10 (Barcode11714527). Source: National Archives of Australia Image NoA1200, INT528/9 (Barcode11714553).

lected for colour to range from biscuit to brown and to avoid pinks, creams and over-burnt or clinkery dark browns'.³⁵ Due to difficulty of supply the specification for bricks was changed to 'hand picked bricks from "Bowral" commons'.³⁶

The Architect

The building was designed by Roy Grounds (1905-1981) of the Melbourne firm Grounds, Romberg and Boyd architects which became a partnership in July 1953. Grounds, a senior lecturer at the University of Melbourne after architecture became a full-time course there in 1948, had appointed the other two as tutors. The firm won many awards during the six years that the men were in partnership.³⁷ The three '*were among Australia's most influential architects between 1935 and 1960 ... and went on to preside over modern architecture's triumph and maturity*'.

A young Roy Grounds travelled overseas in 1929 and in England and America '*came in contact with modern architecture*'. On his return to Melbourne in 1932 he

began to formulate and refine his architectural style and by 1934 had designed two rural homes which displayed what were to become the hallmarks of his designs. '*The materials were in direct harmony with the landscape - cement blocks made on the site, wooden verandah posts and wall cladding, all left untreated to weather a silver grey which blended with the colour of Australian grass and the corrugated iron roofing*'. The roof pitch varied on each wing, giving the house an unconventional and intriguing form. Even in domestic architectural commissions, the site dictated the form of the building for Grounds, who preferred as little ornament as possible for the natural materials he preferred. Internal spaces were divided by a considered placement of walls or other architectural features instead of doors making areas more open and the atmosphere less formal. What might have been seen by the client as an accustomed intimidating large space was softened by Grounds with the use of appropriate furnishings and muted colour finishes.

Grounds had a great interest in landscape design and the relationship between buildings and their natural surroundings, one example being the deliberate use

35 Australian Academy of Science file. Letter from Roy Grounds to Civil & Civic Contractors, 20 January 1958

36 Australian Academy of Science file. Roy Grounds to builder and others. Variations order 19, 16 July 1958

37 'Sir Roy Burman Grounds'. In *Architecture Australia*, vol. 70, no. 3 (July 1981), p. 67.

of filtered sunlight as an integral part of design. In his designs he had come to have a preference for strong geometric shapes and for using natural materials without adornment of any kind, with simple, more open, internal layouts than had been the custom in Australia up to the late 1930s.³⁸

*'The fundamental creed of the modern Architect was not only to express the function of the building but also to have a natural expression of the materials used together with the method of construction. It was an objective with structure.'*³⁹

Grounds had an interest in *'three dimensional form and expression. In 1940 he designed a fan-shaped block of flats ... in Toorak. In and around Melbourne he erected houses in the plan-form of circles, triangles and a square pierced by a hole in the middle. In the hands of a lesser man these would have been ... artificial and showy... [he had] an instinctive sympathy for materials, form and finish ... He was also a man of extraordinary inventiveness, a master of clever detailing.'*⁴⁰ During World War II Grounds joined the RAAF and on return to civilian life he resumed his architectural work using geometric form and natural materials and combined university lecturing from 1948.

The Shine Dome commission was Ground's first large public (as opposed to private or domestic) commission. In 1959 he was selected as the architect for the prestigious Melbourne Arts and Cultural Centre (National Gallery of Victoria) and effectively ceased working in partnership with Romberg and Boyd, though he did not formally leave the partnership until 1962.

Associated Designers

The structural consultants were W. L. Irwin and Associates. W. E. Bassett and Associates of Melbourne, consulting engineers, provided a report on heating and cooling the building⁴¹ and were engaged in late 1957 to do technical work relating to the installation of mechanical equipment.⁴²

Maurice Kuner of A.C.T. Engineering was consulted about ventilation, heating and cooling.⁴³

As previously mentioned, Bolt, Beranek & Newman, a firm based in Boston, Massachusetts were consultants on matters of acoustics. Robin Boyd held personal discussions with them about the shape of the conference hall and its effect on acoustics during his stay with them in America in 1957.

Mr C. E. R. De Bomford was appointed supervisor of works and kept a detailed daily diary throughout the whole construction period.⁴⁴ Sub-contractors were: manufacture of the copper roof - Wunderlich Limited, with the fixing carried out by a Canberra plumbing firm, Lawson Bros;⁴⁵ the curtain wall - O. C. Aluminium; the arch surrounds - Cement Gun Pty Ltd; heating and ventilation - A.C.T. Engineering; electrician - F. T. S. O'Donnell, Griffin & Co. Pty Ltd.⁴⁶ Mr (later Professor) Lindsay Pryor, Superintendent of Parks and Gardens, was the planning adviser on landscaping.

Mrs Betty Grounds, the wife of the architect of the building, was a partner in an interior decorating firm. She influenced the interior design, giving advice on fur-

38 Conrad Hamann. 'Roy Grounds, 1905-, Frederick Romberg 1913- and Robin Boyd 1919-1971'. In Howard Tanner, ed. *Architects of Australia*. Macmillan, Melbourne, 1981, p.129-39.

39 Peter McIntyre. 'Romberg, Grounds & Boyd: 1948-1959' in *Architect*, November 1984, p.14.

40 J. M. Freeland, *Architecture in Australia: a history*, F. W. Cheshire, Melbourne, 1968, p.276.

41 Australian Academy of Science file. Report from W. E. Bassett and Associates, 9 May 1957.

42 Australian Academy of Science file AC13/57. Building Committee, minutes, 28 August 1957.

43 Australian Academy of Science file. Letter from M. Tuner to Roy Grounds, 13 August 1957.

44 CMP 1999, Vol 4.

45 Australian Academy of Science file. Letter from Wunderlich Limited to R. Grounds, 7 November 1962.

46 Australian Academy of Science file AB 1. Letter from Roy Grounds to CCC Pty 1. Ad, 31 January 1958.

niture and fittings.⁴⁷ She selected and purchased Wedgwood china and glassware for the Academy. The china, of a grey and white design, has since been discontinued by Wedgwood as the design is too difficult to reproduce. It is believed that the Academy is the only body in the world that has bought Wedgwood china for institutional use. Mrs Grounds also bought some lamps for the Academy during a visit to Hong Kong, lamps which it is said her husband did not like at all.⁴⁸

Seating and tables in the central chamber, galleries, and other areas were designed by D. F. W. (Fred) Ward, attached to the Design Department of the Australian National University. Other furniture included pieces designed by Grounds, Romberg & Boyd. All were custom-made in Melbourne. Grounds specified items in fine detail, such as the floor coverings, and fabrics, as he wanted to ensure that they conformed to his desire for natural finishes.⁴⁹

The seats and doors in the conference chamber and chairs and settees in the Fellows Room and offices were covered with linen fabric, hand-woven by the Misses Hardress from flax grown in Victoria.⁵⁰ For several years these two ladies made annual visits to Canberra to 'de-pill' the fabric.⁵¹



Fig. 19. Academy of Science building taken from the top of Institute of Anatomy building, 1959. Source: National Archives of Australia Image No A1200 L32619 (Barcode7801950).

47 'News', Age, 7 May 1959.

48 CMP 1999, Vol 4.

49 Neil Clerahan. 'Academy of Science: Canberra gains fine unusual building'. Age, 2 May 1959.

50 Australian Academy of Science file. Letter from Lindsay Prior to Roy Grounds, 24 February 1958.

51 CMP 1999, Vol 4.

The nature of the upholstery was in keeping with the use of natural materials throughout the building yet another example emphasizing the commitment of the architect and the Academy to the principle that all aspects of the building be considered as parts of a unified whole, with as little artifice as possible, using materials and colours derived from the natural Australian environment.

Opening and Early Years

The Academy of Science was officially opened on 6 May 1959 by the Governor-General, Sir William Slim. Prime Minister Menzies stated '*I am sure it will be the only opportunity you will have to open such an original and unique building.*'⁵²

From its earliest days the building acquired affectionate nicknames: the Plum Pudding, the Mushroom, the Igloo, the Turtle, the Dome, the Eskimo Embassy, the Flying Saucer. Prime Minister Menzies called it The Teahouse of the August Goons, parodying the title of the play 'The Teahouse of the August Moon'.⁵³

In 1959 the architects were honoured with two awards by their peers in the Royal Australian Institute of Architects: the Sulman Medal by the N.S.W. Chapter, and the Meritorious Architecture Award of the Canberra Area Committee.

In 1961 the building was awarded the Canberra Medallion of the Royal Australian Institute of Architects, who described it as '*for many years a symbol of Canberra and Australian architectural achievement*' and went on to eulogise the building as a '*brilliant marriage of a memorable shape with a specific function. Beautifully detailed, timeless.*'⁵⁴ One historian saw the building as '*a leading image of burgeoning Canberra and avant-garde architecture in Australia.*'⁵⁵ It was the only ACT building to win three awards for architectural merit.

52 Australian Academy of Science file. Letter from R. G. Menzies to Sir William Slim, 31 January 1958.

53 CMP 1999, Vol 4.

54 Royal Australian Institute of Architects, A.C.T. Chapter. *Canberra: an architectural guide to Australia's capital.* Royal Australian Institute of Architects, Canberra, 1982, p.5.

55 Eric Sparke. *Canberra: 1954-1980.* AGPS Press, Canberra, 1988, p. 125, quoted in Ken Taylor and David Headon, eds. *Canberra: the guide.* Harper Collins for Centre for Australian Cultural Studies, Pymble, 1997, p.165.

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References

- The Age (1959), ‘News’, *Age*, Melbourne, p7, May
- Architecture Australia (1981), ‘Sir Roy Burman Grounds’ in *Architecture Australia*, vol. 70, no. 3 p.67. July
- Australian Academy of (1957), *Australian Academy of Science*, Australian Academy of Science, Canberra, August
(1957), *Yearbook*. Australian Academy of Science, Canberra, August
(1958), *Yearbook*. Australian Academy of Science, Canberra
(1959), *Yearbook*. The Australian Academy of Science: 1959, Canberra
(1980), *The Australian Academy of Science: the first twenty-five years* Australian Academy of Science, Canberra
- Australian Academy of Science files Various letters, memos and reports from 1957-1962.
- Canberra Times (1957), ‘Planned for Canberra’. Saturday 23 March
(1959), ‘Science building among world’s most unusual’, 29 January
- Clerehan, Neil (1959), ‘Academy of Science: Canberra gains fine unusual building’. *Age*, 2 May
- Courier Mail, (1957), ‘The round look for Canberra’. 22 March
- Fenner, Frank (ed) (1995), *The Australian Academy of Science: the first fifty years*. Australian Academy of Science, Canberra, p.50
- Freeland, J. M. (1965), *Architecture in Australia: a history*. F. W. Cheshire, Melbourne
- Gutteridge, Haskins & Davey (1999), *The Australian Academy of Science, Conservation Management Plan and Scope of Works*, Canberra
- Hamann, Conrad (1981), ‘Roy Grounds, 1905-, Frederick Romberg 1913- and Robin Boyd 1919-1971’. In Howard Tanner, ed. *Architects of Australia*. Macmillan, Melbourne, p.129-39.
- The Herald (1959), ‘Canberra’s Academy’. *Herald*, 21 February
- Martin, Eric (2008), *The Shine Dome (formerly the Australian Academy of Science) Heritage Management Plan*, Eric Martin & Associates, Canberra
- McIntyre, Peter (1984), ‘Romberg, Grounds & Boyd: 1948-1959’ in *Architect*, November
- Ramshaw, Stuart (1997), *Heritage report: The Australian Academy of Science: Becker House*. 21 June
- Reinmuth, Gerard (1995), ‘The Martian Embassy: then and now’, in *Architecture review*, 7, p.85-8.
- Roberts, Alan (2010), *A big bold simple concept: A history of the Australian Academy of Science Dome*, Australian Academy of Science, Canberra
- Robinsons, Syd (1958), ‘A shell to hatch out scientists’, *Sydney Morning Herald*, 11 October
- Royal Australian Institute of Architects, A.C.T. Chapter (1982), *Canberra: an architectural guide to Australia’s capital*, Royal Australian Institute of Architects, Canberra
- Sparke, Eric (1997), *Canberra: 1954-1980*. AGPS Press, Canberra, 1988, p. 125, quoted in Ken Taylor and David Headon, eds. *Canberra: the guide*. HarperCollins for Centre for Australian Cultural Studies, Pymble

