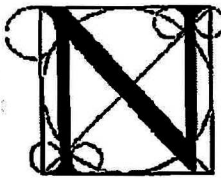


Abstract. Graham Pont and Peter Proudfoot present an overview of the architecture and urban planning of Walter Burley and Marion Mahony Griffin in Canberra and Melbourne, at the Nexus 2002 conference in Obidos, Portugal, 15-18 June 2002. The full text of this paper is available in the book *Nexus IV: Architecture and Mathematics*.



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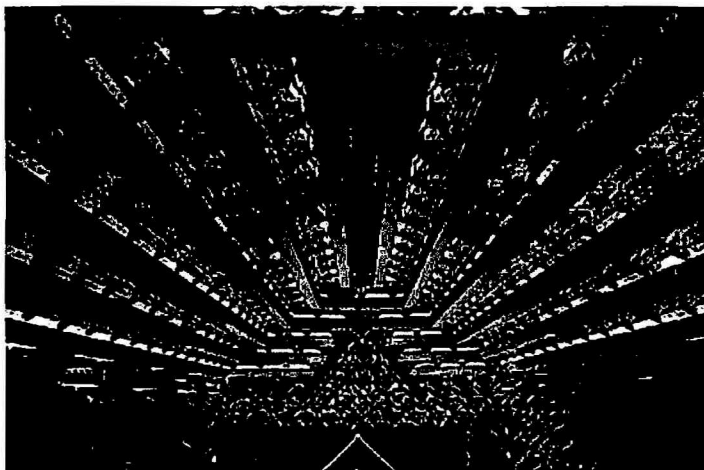
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From Cosmic City to Esoteric Cinema: Pythagorean Mathematics and Design in Australia

Graham Pont and Peter Proudfoot
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Pythagorean design in Australia began not with the short-lived Pythagorean Society at Sydney (1913) but with the international competition for the plan of Canberra (1912). The winning entry by Chicago architects Walter Burley and Marion Mahony Griffin was a visionary scheme for a cosmic city formed on a St Andrew's cross suggested by the natural topography. At the crossing of the principal 'Land' and 'Water' axes they described a circle of a mile radius, thus forming the fundamental mandala of the new Federal Capital. The resulting symbol of circle and cross resembles the ancient Egyptian hieroglyph for a city or town.

The formative circle crosses the Land Axis at the two main ceremonial centres of Canberra, the parliamentary complex on Capital Hill and the people's Casino (now the site of the Australian War Memorial). Additional circles of the same radius, centred on these two sites, complete the major 'Pythagorean Triad' which links these ceremonial centres with a classical and very appropriate symbolism. A similar Triad connects the proposed three centres of government on Capital Hill. Thus, ninety years after reaching Australia, the secret plan of Canberra, with its Pythagorean geometry and esoteric symbolism, is finally revealed.



Capitol Theatre, Melbourne, view of auditorium with the "crystal tetraktys" above the proscenium. Harold Paynting Collection, State Library of Victoria

The mandala of circle and cross determines much else of inner Canberra as well as the geometry of several other Griffin plans, including their most important

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Australian buildings, Newman College and the Capitol Theatre in Melbourne. The latter, Australia's first skyscraper, houses an extraordinary cinema auditorium dominated by ziggurat forms, a 'Crystal Tetraktys' and other Pythagorean symbols which relate the Melbourne Capitol to the unbuilt Capitol of Canberra. This central parliamentary monument was to have been a grand temple-theatre ziggurat, representing a democratic vision of Greek ideals. The Melbourne Capitol reworked this vision in microcosm - in another theatre-temple with ziggurat forms and the mathematics of the Tetraktys reflected in the harmonic proportions of the building and with other Pythagorean decorative motifs.

Thus the crystalline forms and Pythagorean geometry of the Melbourne Capitol echo the original design and esoteric symbolism of Canberra, so beautifully envisioned in Marion Griffin's 'City and Environs' painting.

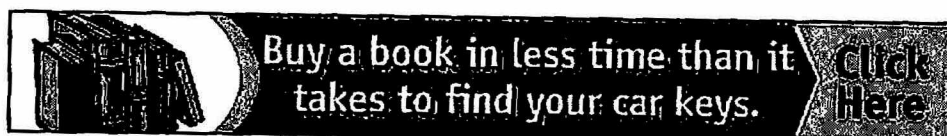
ABOUT THE AUTHOR

Graham Pont, a specialist in interdisciplinary studies, taught in the General Education programme at the University of New South Wales for thirty years. Here he introduced the world's first undergraduate courses in Gastronomy (1978-88). He was a founding convener of the Symposium of Australian Gastronomy (1984) and co-editor of *Landmarks of Australian Gastronomy* (1988). His last appointment was a visiting professorship in the School of Science and Technology Studies, UNSW (1996-99). Trained in philosophy, his principal research area has been history and philosophy of music but his interests have also extended to environmental studies, landscape, history of gardening, philosophy of technology, bio-acoustics and wine history. He recently published the results of the first major computer analysis of Handel's music and he is completing a biography of Australia's first composer and musicologist, Isaac Nathan (1792-1864). A long study of Pythagorean ideas has proved unexpectedly relevant to his latest enthusiasm: the design philosophy of Walter Burley and Marion Mahony Griffin.

A Rome Scholar in architecture, **Peter Proudfoot** is Visiting Professor in the Faculty of the Built Environment, University of New South Wales, Australia. In articles and books he has written on the origin and history of Australian cities, the effect of seaport development on city growth and urban construction, the theory and practice of the Picturesque movement, ancient geomantic paradigms and their influence on modern urban planning, and architectural education theory. He was a consultant to the National Estate Division of the Australian Government on the conservation of historic structures, a consultant to the Commission of Inquiry into the Maritime Industry and the Australian Development Corporation.

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Cosmic Design: the Secret Planning of Canberra
Royal Australian Institute of Architects, 8 October 2004

Graham: brief introduction of topic and speakers

Judith: Discovery of Southern Cross in Canberra Plan **Illus 1**
Invites Stan to dowse the five stellar sites.
Later arranges for Stan and Graham to meet in June 2003.

Stan: Explains and demonstrates map-dowsing
(map-dowses Graham's decoding scale of Canberra plan) **Illus 2**

Graham visits Canberra in June; Stan map-dowses the Griffin plan and identifies a central Cross of energy points between mountains of Canberra. Two days later Graham and Judith accompany Stan in rod-dowsing on the lake where the Land and Water Axes cross and at the site of the Griffins' proposed Water Gate. **Illus 3**

Graham: Given the remarkable correlation of energy sites with the Canberra plan, he proposes the hypothesis that the Griffins map-dowsed one or more items included in the Canberra competition brief (1911).

Subsequent on-site dowsing confirms the central Cross of Canberra. **Illus 4**
Suggests that Stan dowse the competition items in the National Archives.

Returns to Canberra for further on-site consultations (March 04).

Judith, Stan and Graham visit National Archives. Stan dowses premiated plan 36/7, the plaster topographical model and 'City and Environs'. **Illus 5**

Suggests Stan dowse Collins Park, Forrest.

Graham sees the results as confirming his original hypothesis. **Illus 6**

Judith: Searches for a larger map of the Canberra district that could have been the basis of the Griffins' 'City and Environs' layout. (Finding this image was crucial to proving the hypothesis that the Griffins dowsed a map covering a larger area than that defined as the site of central Canberra in the competition brief).

On a visit to National Archives and later to National Capital Authority Judith discovers the Canberra Contour Survey (1909), which was part of the 1911 competition brief, and obtains a copy. **Illus 7**

Graham: The mystery of the Red Lines shown on 'City and Environs' painting is discussed with Judith since February 2004.

Suggests abstracting an image of the Red Lines Matrix.

Judith and Stan visit National Archives (16/8/04) and notate the Red Lines precisely on a copy of 'City and Environs.'

Judith produces an image of 'City and Environs' with Red Lines highlighted. **Illus 8**

Stan: Two on-site expeditions undertaken to rod-dowse the Red Lines Matrix using a map of 'City and Environs' and present-day road map to help identify the locations. Summarises the research so far on the Red Lines, reporting his opinion that the Red Lines correspond to telluric ('earth') energy lines, and explains the difference between these and other energies he's identified in Canberra. **Illus 8**

Graham: is convinced of the close association of energy lines with the key points of the Canberra Plan. Concludes that the Canberra Contour Map map, probably dowsed by Marion at Chicago, confirms the hypothesis.

(**Illus 7** overlayed with Red Lines Matrix) **Illus 9**

It is also supported by the correlations with existing? street layout. **Illus 10**

Judith: Shows correlation of 'City and Environs' with Red Lines Matrix and Graham's analysis of the Geometry of the Canberra plan. **Illus 3**
Overlayed with Southern Cross to scale. **Illus11**
Brief comment on results.

Graham: Concluding remarks and invitation to questions and discussion.