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The Sydney Opera House: An Evolving Icon

PATRICIA HALE AND SUSAN MACDONALD

Abstract

Despite only recently celebrating its 30th birthday, Sydney Opera House is undoubtedly one of the iconic architectural monuments of the twentieth century; it is a symbol of a nation and the most visited place in Australia. It is also Australia's busiest performing arts centre. This paper is the first of two papers outlining the history of Sydney Opera House and the current approach to its management and conservation, examining the framework for the building's care and ongoing adaptation in the face of pressures arising from tourism and changing performance technologies.

The recent re-engagement of architect Jørn Utzon provides opportunities for the evolution of Sydney Opera House to continue in the spirit of the architect's design philosophy. Given that the building was completed by others in 1973, seven years after Utzon's controversial departure, both the identification of the building's heritage significance and well-articulated policies for managing these values are critical. The paper will outline the framework for decision making at Sydney Opera House and introduce examples of how the current approach works in practice.

Introduction

Sydney Opera House was designed by Danish architect Jørn Utzon between 1957 and 1965. Completed in 1973, it comprises a complex of structures on a unifying podium (Frontispiece). These include the Concert Hall and the Opera Theatre, which are located in the soaring shells, and the smaller performance venues – the Drama Theatre, Playhouse, and Studio – which are housed in the podium. In addition there are facilities adaptable for cinema, exhibitions, meetings, lectures, and conferences, and spaces for rehearsals, administration, restaurants, and ancillary functions.



Figure 1 Sydney Opera House, surrounded on three sides by water, is one of the world's most recognized buildings. A masterpiece of twentieth-century architecture, it is also a focal point for the city. Its monumental podium, with the tiled shells soaring above, embodies the technological possibilities of a new era of construction. (Courtesy of David Nutley)

Despite the fact that Sydney Opera House is Australia's most famous building, and has, as Dennis Sharp predicted in 1972, taken on 'the role of a symbol for the city if not the whole continent',¹ it is only now in the process of gaining formal heritage recognition by the appropriate heritage bodies. Australia has a three-tiered heritage listing system. This reflects the levels of governance and includes national listing, state listing, and local government listing. In December 2003, Sydney Opera House was listed on the New South Wales (NSW) State Heritage Register. Having just celebrated its 30th birthday, it was the youngest heritage site on the register (unlike many places, Australia does not have a minimum-age requirement for a heritage site to be recognized by a formal listing process). Its nomination for national heritage listing is currently in progress and it is anticipated that it will be nominated by the Australian Government for inscription on the World Heritage List.

The heritage significance of Sydney Opera House is largely related to its architectural and aesthetic values, which are the basis for its iconic

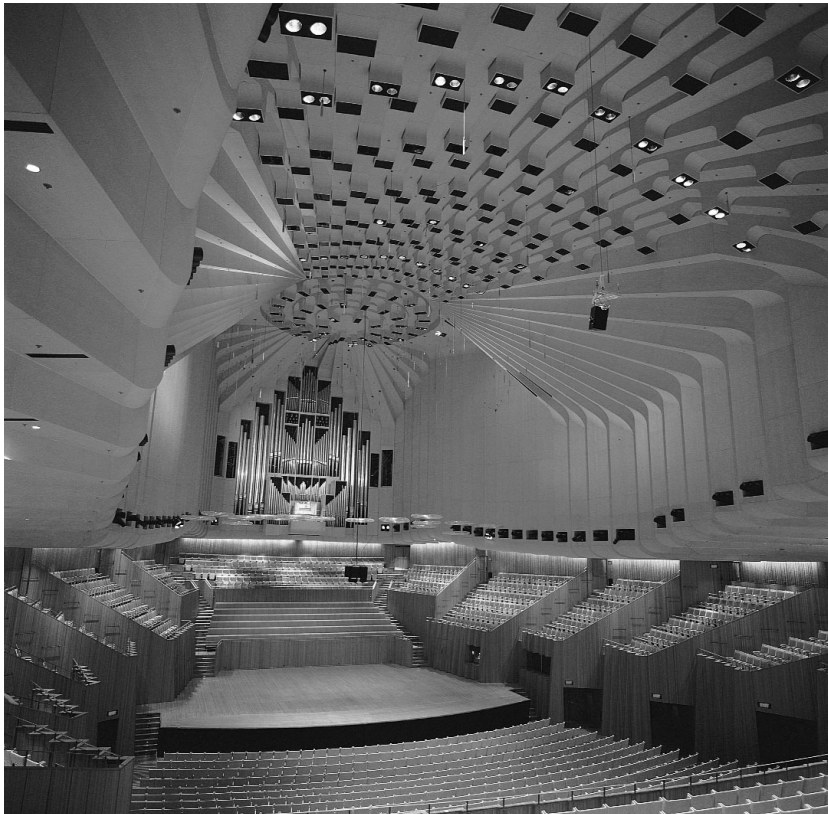


Figure 2 The Concert Hall, Sydney Opera House. (Courtesy of Sydney Opera House)

status. The statement of significance for its listing on the NSW State Heritage Register describes its heritage values as follows:²

The building has exceptional aesthetic significance because of its quality as a monumental sculpture in the round, both day and night, and because of the appropriateness of its design to its picturesque setting. Its public spaces and promenades have a majestic quality, endowed by powerful structural forms and enhanced by vistas to the harbour and the city. An icon of modern architecture, the Sydney Opera House uses the precise technology of the machine age to express organic form. It has scientific and technical significance for the ways in which its construction continually pushed engineering and building technologies to the limit. It also has significance for the extensive

associations of the site with many famous people and important themes in Australian history. Abutting the site of the first settlement of Europeans in Australia at Sydney Cove, the Sydney Opera House stands on Bennelong Point, Aboriginal land which was named after a Wangal Aboriginal man and which is of significance in the history of the entanglements and interactions between Aboriginal and non-Aboriginal cultures in Australia. Other historic themes associated with the site include the arrival of the First Fleet in Sydney Cove, scientific investigation, defence, picturesque planning, marine and urban transport and most recently, cultural showcasing. Since its official opening by the Queen in 1973, the Sydney Opera House has been the scene of many notable achievements in the performing arts and has associations with many nationally and internationally renowned artistic performers. The Sydney Opera House provides an outstanding visual, cultural and tourist focal point for Sydney and Australia.

Sydney Opera House is operated and managed for the Government of New South Wales by the Sydney Opera House Trust. The Trust is constituted as a body corporate under the Sydney Opera House Trust Act 1961. With responsibility for the ongoing care of this important building, the Trust has long recognized its responsibilities in managing such an icon and balancing this iconic status with its function as a vital performance centre. Various frameworks have been established over the years to safeguard the building and ensure decisions affecting it are appropriate. These measures include a conservation management plan, written by James Semple Kerr, the author of this now internationally adopted conservation tool,³ and the adoption of a set of design principles written by the recently re-engaged original architect for the building, Jørn Utzon. The design principles outline Utzon's vision for the building and provide comments on how it can continue to evolve in a way that is consistent with the architect's original vision. This combination of a well-recognized conservation planning framework with the vision of the building's creator is unique.

Genesis and inspiration

In the early 1950s Eugene Goosens, an internationally acclaimed conductor who had been persuaded to come to Australia to head up the Sydney Symphony Orchestra, convinced the newly elected Labor Premier of NSW, John Joseph Cahill, of the need for a performing arts centre seating up to 4,000. The committee convened to investigate the scheme selected the ambitious site preferred by Goosens – Bennelong Point on Sydney



*Figure 3 Jørn Utzon.
(Courtesy of Sydney
Opera House)*

Harbour – as the most suitable location. This prime city site was at the time occupied by a large, redundant tram shed built of brick and sandstone in a fortified Gothic style to complement nearby Government House (residence of the NSW Governor).

In January 1956 the NSW Government announced an international competition for the design of a national opera house at Bennelong Point to comprise two performance halls, with no cost ceiling. The spectacular location combined with the open brief resulted in a huge international response: over 220 entries were received from 32 countries. The extraordinary design submitted by the then unknown Danish architect, Jørn Utzon, although initially discarded for not conforming to all the competition rules, was eventually judged the winner. It is said that the renowned Finnish architect on the judging panel, Eero Saarinen, was instrumental in arguing for Utzon's design to win.⁴ The panel commented that Utzon's drawings 'are simple to the point of being diagrammatic. Nevertheless we have returned again and again to the study of these drawings, we are convinced that they present a concept of an Opera House which is capable of being one of the great buildings of the world.'⁵

Utzon's design was inspired by his careful consideration of the magnificent waterfront site, which with his sailing background he envisaged accurately (although he had never visited Sydney prior to winning the competition). Bennelong Point is a prominent peninsula at the centre of Sydney Harbour, a harbour which has been acclaimed as possibly the

most beautiful in the world. Close to the Harbour Bridge and the central business district and flanked by the Royal Botanic Gardens, it is in a commanding position that recalled to Utzon the Danish castle of Kronborg, near his home.

Unlike the other competitors, Utzon saw that the site would benefit from 'a large sculptural building',⁶ one that 'would be viewed from all angles – from water, land and even air. It would be a focal point in a grand waterscape'.⁷ Utzon, who had visited the Yucatán Peninsula in Mexico, drew on the form of the Mayan temples for the solid, grand ceremonial platform of Sydney Opera House, from which spring the shells or roof structure, the "light" sculptural roof emphasising the heavy mass of the plateau below'.⁸ Utzon's vision was that the two major performance halls should be housed in the sculptural roof shells, the performances taking place on top of the podium, while the functional areas would lie within and beneath the podium. Two of Utzon's guiding design principles were the use of organic forms from nature, and the creation of sensory experiences that would bring pleasure to the users of the place.⁹

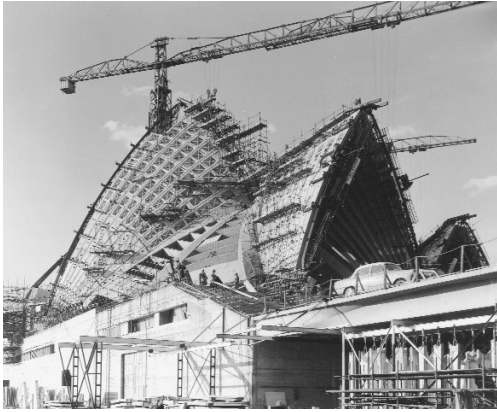
Construction and controversy

The international competition for Sydney Opera House had offered a minimalist brief that generated major problems as the project proceeded. The introduction in as late as 1966 of significant new requirements for the major hall is just one example of the evolution of the requirements for the project as it progressed.

Exacting design and construction issues were compounded by Premier Cahill's push to begin construction before the March 1959 election – before working drawings were finalized and 'long before the design for the shells and their supports had been resolved. With construction running ahead of the design solutions, a chain reaction was set up which plagued all those concerned with the work for the fifteen year construction of the building'.¹⁰ Set against these difficulties was Utzon's methodology of 'working up solutions in consultation with technical experts and artisans by a process of trial and error', coupled with his insistence on the best possible solution to a problem. He argued that this precept was what distinguished this project 'from any other – in that it is being perfected at the same time as it is being built'.¹¹

By the mid 1960s the Sydney Opera House project was as well known for its failure to maintain time and cost targets as for its cutting-edge

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Figures 4 and 5 The brilliant solution to the construction of the roof shells was not identified until 1961, despite the fact that construction had commenced in 1959. Figure 5 illustrates the series of precast rib segments that rise from the podium to the ridge of the vault. The shells are clad in a pattern of matt and glazed tiles. (Courtesy State Library of NSW)



architecture and the engineering challenges posed by the building's innovative design. Early in 1966, with the podium completed and the roof shells' first glittering tiles in place, Utzon 'resigned' and left Sydney, never to return. The causes of this schism were complex and deep-seated. Central to the conflict was a clash of working cultures and methodologies.

The time and cost overruns went unchallenged and Utzon's tenure remained secure over the period in which he received uncritical support from the chairman of the Opera House Committee (his client, in lieu of various other committees, most notably the technical advisory panel, which met only infrequently). But all this was abruptly terminated when the new NSW Liberal Government took office in May 1965. The authorization of Utzon's fee was transferred to the Minister for Public Works, and within eighteen months Utzon, as he later commented, 'was pushed aside as architect for the job', his 'resignation' promptly accepted by the government.¹²

Ove Arup and Partners of London, Utzon's choice of engineers, stayed on with the project after his departure. While relations between the two were strained by then (largely owing to the Opera House Committee's requirement that the engineers not engage directly with Utzon, but with itself as the client) Utzon later commented: 'Luckily Ove Arup stayed on the job; otherwise it would never have been completed'.¹³

The Government appointed a panel of Sydney architects – Peter Hall, from the Public Works Department, and Lionel Todd and David Littlemore, both in private practice – to take over as client in conjunction with the government architect. Hall was responsible for design. Utzon handed over a batch of drawings relating to the proposed stage III, which covered aspects of paving and cladding, glass walls, the restaurant, and major and minor halls, but nothing regarding the foyer or louvre walls. These drawings, which were purely conceptual and not working drawings, illustrated the vast gulf in working methodology between the Danish architect and his Australian successors: Utzon's preference for collaborative sessions with consultants and contractors in which to develop and finesse three-dimensional prototypes, versus the primacy of detailed two-dimensional drawings in Australian architecture.¹⁴

Disengagement and aftermath

Utzon's design for the major and minor halls was never realized. Shortly after his departure in 1966 a new brief from the Australian Broadcasting Commission forced Hall, Todd, and Littlemore to recommend radical changes to the Sydney Opera House interiors. These resulted in the major hall becoming a dedicated symphony or concert hall and the minor hall a dedicated opera theatre. Consequently the interiors of the opera house complex are largely attributed to Peter Hall within the spectacular form, concept, and exterior designed by Utzon. The work by Hall was undertaken between 1966 and 1973, when the building was finally opened.

Despite the completion of the building by others, Utzon's vision for Sydney Opera House was so powerful that the building, both before and during its construction, was the focus of continued attention and it gained its iconic status almost immediately.



Figure 6 Stage I of the construction of Sydney Opera House, which commenced in 1959, included the building of the podium. Stage II involved the construction of the shells. Stage III comprised the remaining works to the building, including the interiors of the concert and opera halls, begun by Peter Hall following Utzon's departure in 1966 and completed in 1973. (Courtesy of Sydney Opera House)

Reappraisal and reconciliation

In the thirty years since Sydney Opera House opened, it has established itself as a building of international significance due to its symbiotic relationship with its spectacular harbour setting, its great beauty, its originality and uniqueness, and its technical innovation. It is the most visited building in Australia, and has become a symbol of the city of Sydney. More than 45 million people have attended over 100,000 performances and over 100 million people are estimated to have visited the site. Research from 2003 indicates that while more than 4 million people a year visit Sydney Opera House, only about one quarter of these attend performances, the vast majority visiting to experience the building and its environment.¹⁵

As is the case with many heritage buildings, the use of Sydney Opera House is fundamental to its significance. To sustain this use, and to ensure its facilities keep pace with the requirements of its users, it must evolve. In the 1990s burgeoning interest in the opera house's heritage significance turned the spotlight back on Utzon's role in its creation. In order to manage its future development and change in the best way possible, Sydney Opera House began to face the dilemma of resolving the schism resulting from the disengagement of its creator 30 years previously.

Despite the building not having been formally recognized as a heritage site until recently, Sydney Opera House Trust became aware of and began to incorporate heritage requirements into its decision-making processes in the early 1990s. James Semple Kerr was commissioned to write a conservation management plan, the first edition and interim version appearing in 1993. The plan was to become a pivotal document for the changing management regimes of Sydney Opera House, offering a penetrating analysis of its heritage significance and the critical role of Utzon's vision in its construction, coupled with best-practice conservation policy for its management. In 1996 Sydney Opera House Trust established a Conservation Council with a specific mandate to provide specialist advice on 'the conservation and development of the Sydney Opera House and its site', to assist in informing the Trust of strategic issues, and to provide advice on the key stakeholders in heritage matters.¹⁶

At the end of the 1990s – with the building in need of major works to retain its position as a leading international performing arts centre – the then Chair of the Sydney Opera House Trust, Joseph Skrzynski, urged the Premier of NSW, Bob Carr, to make every effort to reconnect with

Utzon on the basis that if the building were to undergo more than minor work, now would be the time to return to its visionary architect. This pressure was created in part by a substantial upgrade programme, commissioned by the Premier in 1998, 'to restore the building to top condition' and 'ensure the survival of the house for future generations'.¹⁷ Thirty years after Utzon's disengagement from his masterpiece, he accepted the Premier's invitation and was re-engaged in 1999 in an advisory role to Sydney Opera House Trust, 'to document his original design intentions for posterity and to advise on future work'.¹⁸

This initiative to reconcile with Utzon and bring him back on board for the future involved the appointment in 1998 of leading Sydney architect Richard Johnson, to 'advise on any future development works affecting the opera house and its site' and to 'establish planning principles ... which were consistent with the design principles of Jørn Utzon'.¹⁹ Jørn Utzon was now in his 80s, and, not wanting to travel the long distance to Australia, he suggested that his son Jan be engaged as his representative. Johnson worked with Jørn Utzon to develop the design principles that Utzon decreed were 'to be used as a permanent reference for the long-term conservation and management of the House and for any redevelopment of interiors as and when that becomes necessary'.²⁰ The *Sydney Opera House Utzon Design Principles*²¹ were released in May 2002, simultaneously with a programme of works described by Johnson in the 'Venue Improvement Plan' (a Sydney Opera House internal document) and with the Premier's announcement of a total of \$69.3 million funding for this plan.

In his *Design Principles* Utzon makes clear that he appreciates that Sydney Opera House must undergo modification and change 'to suit the needs and technique of the day' but that this 'should be such that the original character of the building is maintained'. He emphasizes the importance of looking to the future, rather than the past, of Sydney Opera House and of giving 'future architects ... the freedom to use up-to-date technology to find solutions to the problems of today and tomorrow'.²² The *Design Principles* are now used together with the conservation management plan as the framework for decision making: the conservation management plan includes policies that balance the historically significant fabric and design features of the building, while the *Design Principles* provide first-hand evidence, in the original architect's own words, of the design intent or design significance of the building. Together these direct the provision of new work that is sympathetic to the existing building.

Utzon re-engaged as architect

The first major project under the 'Venue Improvement Plan' scheme that used the conservation management plan and the *Design Principles* was the remodelling, to Utzon's design, of the interior of the Reception Hall, completed in September 2004. Johnson and Jan Utzon were actively involved in the project, in support of Jørn Utzon as architect. Renamed the Utzon Room, this room is now Sydney Opera House's only authentic Utzon interior.

Work has now (May 2005) commenced on the first structural change to the exterior of Sydney Opera House since its construction. Utzon has developed his concept of the podium to incorporate a colonnade inspired by Mayan temples, one of the sources of his original ideas for the building. This makes it possible for Utzon to realize another of his design principles, that each of the foyers to the venues should have a sense of their harbour setting. A 45-m long and 5-m wide loggia (or colonnade) will be constructed along the western wall of the podium. Nine openings will



Figure 7 The recently completed works to the former Reception Hall, now renamed the Utzon Room, provide the first authentic Utzon interior. The works included the commission of Utzon's first artwork, a tapestry inspired by Raphael's painting 'Procession to Calvary' and Bach's Hamburg Symphonies. The tapestry was woven in Australia under the supervision of Utzon's artist daughter, Lin. The works undertaken to the concrete will be described in the next issue of the Journal of Architectural Conservation. (Courtesy Eric Seirins)

be created to open up the drama theatre, the studio, and the playhouse to natural light and allow access to water and city views. Utzon, together with his architect son Jan, is also producing concept designs to inform the technical upgrading of the opera theatre.²³

Managing change

All modifications and changes in buildings listed on the NSW State Heritage Register must be approved by the Heritage Council of NSW before work begins. Approval is only given if the Heritage Council is satisfied that the proposed development does not impact on the heritage significance of the site. The third edition (2003) of Kerr's *Conservation Management Plan* has been endorsed by the Heritage Council, together with Utzon's *Design Principles* as guiding policy to inform all future development, modification and change, and day-to-day management of Sydney Opera House. Any proposals are therefore tested against these frameworks. The Sydney Opera House Trust is thus in the unique position of



Figure 8 The foyers to the Drama Theatre and the Studio have undergone various changes over time. The conservation management plan identified these areas as being of some significance, with the various accretions being intrusive or of low significance. Utzon's proposal involves the creation of a sturdy loggia in similar materials, colours, and textures to the existing podium walls. The proposed loggia, shown on this computer-generated image, ensures that the planned openings in the podium walls are screened so as not to diminish the impression of the solid wall, but offers the opportunity to achieve Utzon's vision in which all the foyer spaces are connected visually to the harbour setting.

managing a heritage site with sound independent policies developed by Australia's most respected conservation consultant and the benefit of strong vision statements and principles set down by the creator of the building. These policies and principles have the formal agreement of the heritage agency with legislative responsibility for the place and are in the public domain.

The future

Premier Bob Carr has described Sydney Opera House as the primary symbol of 'our vigorous cultural life', that will enable Sydney 'to thrive in the new century'. In noting that 'Sydney and the architect of our city's icon, Jørn Utzon, are reconciled', Carr has stated that 'all future work on the Opera House will be guided by [Utzon's] original vision' – and by his more recently articulated *Design Principles*.²⁴

Critical to the future of this iconic place is getting the balance right between conserving the building as a monument and enabling its economic survival by allowing for adaptation to (acceptable) commercial uses, providing for changing performance technologies to enable its use to continue, and managing the tourism activities of the site, as well as the usual and specific maintenance issues facing a late twentieth-century building in a marine environment. As Kerr states:²⁵

There will always be a demand for adaptations to a performing arts centre if it is to remain in commercial use. One of the roles of a conservation plan is to recommend the ways in which adaptations and additions may be controlled so that the cumulative effect does not degrade the building and its interiors, and to identify the thresholds at which change will have an adverse effect upon the significance of the building ... Residual tensions between the care of the structure as a monument and its function as a performing arts centre will always exist. It is therefore important to emphasize the degree to which the quality of the building and its site and the popular and financial success of the events within it reinforce each other. Neither can be neglected.

The conservation management framework that has been established for Sydney Opera House has already been tested in the recent works to the former reception hall, now renamed the Utzon Room, and in the work on the foyers of the drama theatre and the studio and the new loggia. The conservation of the Utzon Room is the subject of a second paper, to appear in the next issue of the *Journal of Architectural Conservation*, which will look at the practical issues in more detail.

Key dates in the building and conservation of Sydney Opera House

- 1947 Building of a performing arts centre on Bennelong Point, Sydney, first proposed.
- 1956 NSW Government announces an international competition for the design of a national opera house on Bennelong Point.
- 1957 Danish architect Jørn Utzon declared winner of the competition. Utzon begins work on plans in Denmark. Opera House Lottery announced to fund construction. It raises over \$100 million over sixteen years.
- 1959 Construction of Sydney Opera House begins, before Utzon's designs are finalized. Initiative championed by the Labor Premier of NSW, J. J. Cahill.
- 1957–1962 Utzon and Ove Arup (engineers) test various concepts for the construction of the roof shells until Utzon decides on the 'spherical solution'.
- 1959–1963 Building of the foundations and base to podium level.
- 1961 Sydney Opera House Trust established by Act of NSW Parliament.
- 1963–1967 Construction of the roof vaults takes place. Cost and time overruns cause tension and public discussion.
- 1965 Liberal Government takes office in NSW with an agenda to limit the cost and time overruns.
- 1966 Utzon 'resigns' from the Sydney Opera House project. NSW Government brings in Sydney architects Lionel Todd, Peter Hall, and David Littlemore to complete the project. Engineers Ove Arup remain on construction with the Hornibrook Group.
- 1967 New brief necessitates major changes to the design of the interiors of the two halls.
- 1973 Completion and opening of the Sydney Opera House
- 1988–1997 First major condition assessment of the Sydney Opera House undertaken with the decade-long upgrading programme commissioned by NSW Premier Carr.
- 1993 Conservation management plan prepared for the Sydney Opera House.
- 1996 Sydney Opera House Trust establishes its Conservation Council to provide specialist advice on the conservation and development of the site.
- 1998 Sydney architect Richard Johnson appointed to advise on future development of the site and establish planning principles. Negotiations begin to re-engage Jørn Utzon as architect, to develop and implement a programme of works to upgrade the building.
- 1999 Utzon accepts Premier Carr's invitation to re-engage with the project. He begins discussions with Johnson.
- 2002 Utzon's *Design Principles* released simultaneously with Johnson's six-part 'Venue Improvement Plan' and the announcement by Premier Carr of state funding.
- 2003 The Sydney Opera House is listed on the NSW State Heritage Register. The Heritage Council of NSW endorses the conservation management plan together with Utzon's *Design Principles* to guide future development on the site.
- 2004 Creation of the Utzon Room, guided by the *Design Principles*.
- 2005 Work begins on the loggia on the western broadwalk, also guided by the *Design Principles*.

Biography

Patricia Hale BAHons, MA (*Applied History*)

Patricia is a historian who currently works at the NSW Heritage Office and is working with Susan Macdonald and others on the world heritage nomination of Sydney Opera House.

Susan Macdonald BSc(Arch), BArch, MA(*Conservation Studies*), RIBA

Susan trained as an architect in Australia before spending ten years in London. A former secretary of DOCOMOMO UK and committee member of Australia ICOMOS she has a particular interest in the conservation of twentieth-century places and has written three books on this subject. Susan is currently the Assistant Director at the NSW Heritage Office in Australia.

Notes

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- 10 SOHT, *op. cit.* (2002), p. 26; Kerr, *op. cit.* (2003), p. 18.
- 11 SOHT, *op. cit.* (2002), p. 14; Kerr, *op. cit.* (2003), p. 19.
- 12 SOHT, *op. cit.* (2002).
- 13 *Ibid.*
- 14 Kerr, *op. cit.* (2003), p. 20.
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