

# Creativity and Conservation: Managing Significance at the Sydney Opera House

SHERIDAN BURKE AND SUSAN MACDONALD

**This paper examines how the dialogue with the original architect has been integrated into the typical Australian conservation-management approach to guide both the day-to-day care and also proposals for large-scale work.**

The Sydney Opera House, completed in 1973, was inscribed on the World Heritage list in 2007 as a great architectural work of the twentieth century that brings together multiple strands of creativity and innovation in both architectural form and structural design. The building is great urban sculpture set in a remarkable waterscape, at the tip of a peninsula projecting into Sydney Harbor, at the edge of the city (Fig. 1). It is the result of the design by the then-unknown Danish architect Jørn Utzon, who won the international architectural competition held in 1956. The building has had an enduring influence on modern architecture and is recognized as one of the early examples of a signature building that has brought architectural acclaim to a city. While the Sydney Opera House was not the youngest site to be inscribed on the World Heritage List, it was the first that benefited from input from its creator on defining the values of the place, how it should be

conserved, and how change should be managed in the future.

This paper examines how the dialogue with the original architect has been integrated into heritage-management strategies that guide both the day-to-day care of the building, as well as proposals for large-scale work. It also reflects on the challenges of marrying the World Heritage process for assessing significance within the more usual process of significance assessment used by national heritage bodies. Finally, the paper also reflects on the challenges of balancing different and sometimes competing values and illustrates an emerging approach to achieving this balance.

## Drama and Controversy

The Sydney Opera House was constructed over the course of 16 years between 1958 and 1973, opening six years late and eventually costing AU\$102 million, ten times its original budget. The controversy surrounding the project's problematic development has been extensively documented. The first challenge arose early in the project when the client demanded that construction commence in 1959, before the drawings were finalized. Utzon's revolutionary architectural design required innovative engineering, provided by Anglo-Danish engineer Ove Arup, who worked closely with Utzon to resolve the structural challenges and design the extraordinary concrete structure. Utzon's unprecedented architectural forms demanded new technologies and materials. The builders, M. R. Hornibrook, were an integral part of the team and turned Utzon's vision into Sydney's reality. Utzon worked up solutions with technical experts and artisans by a process of trial and error to perfect the design. These methods were collabora-



Fig. 1. Sydney Opera House (1957-1973), 2010. The Sydney Opera House sits on Bennelong Point, jutting into Sydney Harbor at the edge of the city. All photographs by Jack Atley, courtesy of Sydney Opera House Trust, unless otherwise noted.

tive and evolutionary, and their prototypes of architectural, engineering, and computing solutions were unique. They were also time consuming and costly. In 1966, after much public debate about the rising costs of the project, Utzon and his family left Sydney, a full six years before the building was completed. Sadly, Utzon never returned to Sydney, and his design for the major and minor halls was never realized.

At that time a change of state government also brought major changes to the design brief for the building and required the team of Australian architects who took over the project — Hall, Todd, and Littlemore — to recommend radical changes to the building's interiors. Its present interiors are largely attributed to architect Peter Hall. Despite the completion of the building by others, Utzon's vision for the Sydney Opera House was so powerful that the building gained iconic status almost immediately and has been the focus of continued attention ever since.

### Values-Based Heritage Practice in Australia

Australian conservation practice utilizes what has become known as the values-based approach and has formally utilized this methodology for identifying and conserving heritage places since the Burra Charter's influence was filtered into government legislation and policy in the 1980s.<sup>1</sup> The methodology for identifying why a place is worthy of recognition as a heritage resource has parallels with systems used in many countries and was developed from the system operating in the U.S. in the 1970s. The criteria for identifying places of heritage importance (or "cultural significance," the term used in Australia) are thus quite similar to those used in the U.S. and Canada. They are identified in the Burra Charter and include historic, aesthetic, scientific, social, and spiritual values embodied in the fabric, setting, use associations and meanings of a place for past, present, and future generations.<sup>2</sup>

Significance assessment in most places is recognized as the first step in the conservation process. The typical norms or principles used to guide the subsequent steps in the conservation

process rely on developing a good understanding of why a place is significant, identifying the attributes that embody specific heritage values (tangible and intangible), and establishing an understanding of the relative levels of significance. The impact of any subsequent changes can thus be measured against the identified values of the place as captured in its statement of cultural significance. This basic Burra Charter process, combined with use of conservation plans, is a distinct practice developed in Australia in the 1980s and 1990s. Conservation planning is based on a document first published by James Semple Kerr in 1982, *The Conservation Plan*.<sup>3</sup> Conservation plans are used to guide and manage works, or changes, to a heritage place. Heritage-impact statements are used as a tool to measure the effect of change when it is proposed and to identify mitigation measures. Both of these processes are codified in practice and enshrined in legislation in Australia and thus are standard practice. Conservation plans are similar to but not quite the same as the historic-structure reports that are used in the U.S. before physical work begins and serve as the primary document for decision-making about conservation work.

The Sydney Opera House, like all places protected by heritage legislation in Australia, has a defined set of heritage values, which together express its significance at the local, state, and national levels. Despite the fact that the building was not formally listed as being of heritage value until the 2000s, conservation planning began to be integrated into the decision-making processes about it in the early 1990s, and the first edition of the Sydney Opera House Conservation Plan was in place by 1993.<sup>4</sup> This plan had a pivotal effect on changing the management regimes of the opera house. It provided a detailed analysis of the building's heritage significance and documented the critical role of Utzon's vision in the construction of the building. These sources were used to develop sound policies for ongoing management. By the mid-2000s the building was statutorily protected at all levels of government. The timing of these listings enabled the various heritage regulatory systems across layers of government to be coordinated with the World Heritage

List nomination in 2007. This nomination aligned the values and needs of the various jurisdictions to prevent overlap and conflict across the various levels of heritage bureaucracy. This was important in Australia, since there was some nervousness on the part of different levels of government about the impact of World Heritage listing.

The drafting of the World Heritage List statement of outstanding universal value for the Sydney Opera House demonstrated some of the difficulties of using the criteria that have been developed at the World Heritage level. The criteria typically used at national and local levels, at least those most familiar to the authors, are more tightly worded and arguably more objective and more easily linked to the specific heritage attributes of a place, which are also defined in the significance assessment of many jurisdictions. Despite many years of adaptation and debate about operational guidelines, the World Heritage List criteria and the framework for significance assessment are less clear and leave room for more subjectivity, thereby leading to subsequent problems of management on World Heritage Sites. The World Heritage List criteria and guidelines are critiqued less often than national criteria, and since the World Heritage List inclusion provides no legislative power, it does not get tested on a regular basis in the regulatory and court systems that exist at national and local levels. The World Heritage Committee is a powerful and influential body, but it is not directly accountable to property owners or the public in terms of the day-to-day care of heritage places, so it has not been required to simplify and clarify the system in the same way that local jurisdictions have. The recent process of developing statements of significance for all World Heritage List sites has been a step in the right direction.

The framework for significance assessment in place at the Sydney Opera House more or less reflects standard practice typical of many places of national and international significance. What makes it an interesting case are the facts that the building was just over 30 years old when it was included on the World Heritage List, that there was an ongoing program of adaptation and change envisioned in its nomination and



Fig. 2. Sydney Opera House, 2009. Increasing tourist numbers put pressure on the fabric of the building and catalyzed demands for more services. Photograph by Sheridan Burke.



Fig. 3. Sydney Opera House, 2011. The completion of the Utzon Room in 2004 was the first Utzon-designed interior space.

management framework, and that it was the first World Heritage Site whose creator, to whom much of its significance is attributed, had input into its current and future care and conservation.

### Managing Change at a World Heritage Site

To see the Sydney Opera House on a sunny morning, its iridescent white sails glinting in a blue sky, with yachts racing past, is to be left in awe of this designer and the courage with which he and his collaborators pursued his vision. Three groups of interlocking vaulted shells cover the two main performance halls and a restaurant set atop a terraced podium that is surrounded by harbor-side pedestrian concourses. The site covers 5 acres and has more than 1,000 rooms, 7 major performance venues, and extensive retail and dining venues. Nearly 500 staff welcome more than 8.2 million visitors every year, 1.2 million of whom attend the more than 2,500 events and performances held annually. There are, however, serious functional problems: the orchestra pits are inadequate, delivery facilities are dysfunctional, some acoustics are unsatisfactory, and access for disabled patrons is poor. Projects aimed at solving some of these weaknesses are underway, but they are long term and costly.

The day-to-day activities of this performing-arts center require building asset-management systems that respond swiftly to operational needs. However, the building fabric and forms in which these functions operate are now listed as

being of world, national, and state heritage significance, and the conservation of these heritage values is therefore a priority for heritage authorities, as well as the building operators. This is a building that is much loved and much touched, and while its fabric is robust, maintenance and visitor management pose persistent demands (Fig. 2). The public-expenditure purse is tight, yet public expectations are high. There were loudly expressed views that World Heritage List inclusion would complicate management processes even further and conflict with the need for the building to generate income beyond its performances and to help fund its ongoing maintenance.

Unusually, and very importantly, the 2007 World Heritage List nomination dossier noted that the use and function of the opera house was an integral part of its significance and that change and adaptation of the property would be ongoing. The dossier noted the work then underway on the western loggia and the completion of the Utzon Room in 2004 and stated that the essential role of the conservation framework in ensuring that authenticity and integrity would be maintained (Figs. 3 and 4). What is different at the opera house is that part of the significance of the place is its performance role; its functional use is an attribute of its heritage significance, just as much as its form, fabric, and setting. Therefore, the impact of any proposed changes on the whole range of attributes must be assessed and balanced. Performance needs do not override heritage requirements. All proposed projects are

assessed using the standard heritage-impact assessment process that applies in Australian heritage legislation. A simple operational change such as replacing floor coverings or stair handrails to ensure functional capacity or to meet occupational health and safety standards could adversely impact the heritage values, as well as its physical building fabric, and thus diminish its authenticity incrementally. The building's operators are acutely aware that making such cumulative small decisions under immediate operational pressures may erode the overall heritage significance of the place, so a simple methodology for assessing and avoiding adverse heritage impacts while responding quickly to the urgent needs of public performance venues is essential. To manage this, the "sensitivity to change" (StC) concept has been used in the proposed fourth edition of the Sydney Opera House Conservation Plan and is discussed later in this paper.

Everyday site management sits within a complex web of local statutory planning and building controls and codes, state heritage regulations, and the federal government responsibilities in relation to the World Heritage Convention.<sup>5</sup> An official bilateral agreement was negotiated at the time of inclusion on the World Heritage List wherein the state government manages the approvals and consent processes, with notification to the federal government of any proposals with significant impacts. The management plan is the parent statutory document, which includes the policy-oriented Conservation Management



Fig. 4. Sydney Opera House, 2009. The new loggia to the western side of the building, designed by Jan and Jørn Utzon and Australian architect Richard Johnson, tested the Design Principles and CMP framework. Photograph by Sheridan Burke.

Plan and the visionary Utzon Design Principles. A strategic building plan implements master plans for various projects and elements, right down to, for example, the carpet strategy for the opera house.

### Reengagement of Jørn Utzon

Over the last decade or so, Australia has been fortunate to enjoy a most unusual reengagement with Jørn Utzon and his architect son, Jan, to contribute to the ongoing evolution of the building. This process provided extraordinary access to first-hand knowledge about how and why the opera house was built the way it was and about the creator's insight into the ways the building might evolve. This unusual relationship began in 1999, when the Hon. Bob Carr, then the New South Wales state premier, invited Jørn Utzon "to document his original design intentions for posterity and to advise on future work."<sup>6</sup> Utzon's reengagement, in collaboration with the distinguished Australian architect Richard Johnson and his firm Johnson Pilton Walker, opened a new era of projects at the opera house. The Sydney Opera House Trust had 30 years of practical experience with the building and its performance. Utzon's own ideas had evolved and matured. At the time, Utzon was 84 years old, and his son Jan was the key collaborator in his practice.

The Utzon Design Principles (UDP) were prepared in 2002.<sup>7</sup> Richard Johnson compiled them after many long meetings, conversations, and correspondence between Denmark and Australia,

the text being approved by Jørn. The purpose of the UDP was to provide a permanent reference for the building and its setting for all involved in its care and development.<sup>8</sup> A venue-improvement plan and a substantial budget for works accompanied the publication of the UDP. Several projects by the Utzon/Johnson Pilton Walker team followed, including the first Utzon-designed interior space, the Utzon Room, which was completed in 2004 (Fig. 3). In 2006 the construction of a new loggia on the western (city) side of the podium linked theater foyers with the harbor via a colonnade, creating a dialogue with the character and design palette of Utzon's original work and demonstrating how change could be successfully accommodated within the framework of the both the UDP and CMP (Fig. 4). An unexecuted design proposal for the majestic renewal of the opera theater was documented by the Utzon/JPW team in 2005 and awaits financial support. A major vehicle- and pedestrian-access project is presently underway.

The Utzon Room and western loggia projects predated the inclusion in the World Heritage List and the statutory management-planning framework put in place as part of this process. Nevertheless, the UDP were utilized during this process, providing an opportunity to test in advance how they would operate in conjunction with local heritage controls.

The design principles do not exist alone; rather, they form a distinct component of the policy-oriented conservation management plan, which is used to guide the conservation, management, and interpretation of the site. Three conservation plans for the opera house have been successively prepared by James Semple Kerr, his last in 2003 with input from Richard Johnson, responding to the UDP. Each plan has been a benchmark document. Utzon and Johnson saw the objectives of the UDP as being complementary and subservient to the CP.<sup>9</sup>

It is Australian practice to review conservation plans every five years or when major change is proposed. Following the World Heritage listing in 2007, a revision process of the 2003 CP was initiated, and a proposed fourth edition, prepared by Alan Croker, was submitted to the relevant government departments in 2011, with the previous 2003 edition being statutorily used in the meantime.

The conservation-plan framework is the same as for any other heritage building, except for the UDP that it incorporates. The purpose of regular revisions of CMPs is not so much that major changes in the heritage values are anticipated but more to acknowledge that it is not possible to anticipate all the potential risks and future needs that may arise. It also recognizes that over time new heritage values may be attributed to a place. In the case of the Sydney Opera House, it is unlikely that its core values will significantly change. Further research may reveal new information about it; some aspects of its significance may become rarer; or it may acquire additional values to different people. The pre-colonization, Indigenous values of the site, for example, are not presently well recognized.

The proposed fourth edition of the conservation plan includes two overarching policies that guide values management and the primacy of Utzon's vision. The first is that significance and sensitivity to change will lead decision-making:

All elements of the Sydney Opera House are to be maintained, used and managed in accordance with their relative level of significance and the identified sensitivity to change of their component parts. The higher the significance or sensitivity to change, the greater the level of care and consideration is required in determining any decision of action that may affect it, the objective being to ensure that the work or proposal will reinforce and not reduce the identified significance.<sup>10</sup>

The second policy deals with respecting the inputs of Hall, Utzon, and others in the completion of the building:

In order to retain and respect the authenticity and integrity of Utzon's work and the contributions made by Hall and others in its completion, all future designers should accept and utilize the Design Principles established as the basis for all new work. No new design work should contrast or compete with the Utzon or Hall work. New work should be read as subtle and sympathetic addition to the existing work.<sup>11</sup>

It is proposed that each policy in the fourth edition of the CP will be preceded by an excerpt from the UDP, giving Utzon's own introduction first, followed by the detailed policy. This uses a micro-management tool called "sensitivity to change" (StC).

### Sensitivity to Change

"Sensitivity to change" is a judgment about how vulnerable to change the

attributes of form, fabric, function, and location of each heritage component are and consequently how tolerant they are to change without adverse impacts on their heritage significance. It is a relatively new concept that has been used in many large institutional CMPs in Australia.<sup>12</sup> Each of the main elements (and spaces) of the Sydney Opera House has been assessed for its individual significance (relative to the exceptional significance of the whole place), including acoustics, carpets, seats, green rooms, and stage machinery for the main opera theater and concert hall. Each of the building elements has its own StC table, which adds detailed guidance for the implementation of the main policies. Components with high sensitivity have low tolerance for change, enabling property managers to manage or reduce impacts without adversely affecting the endurance of the heritage significance of a place.

The heritage-impact assessment process used in Australia to determine the potential of a proposal for change to alter the heritage values of the place is standardized at all levels of government. In the case of the opera house, the Utzon Design Principles are an added criteria for assessing change. For example in 2007, during the development-assessment process for the escalators and lifts, which were inserted to address performance-hall access issues, the CMP and the UDP were used to guide the architects' work (Fig. 5). They were also used by all those tasked with determining the appropriateness of the work.

To advise the Sydney Opera House Trust, a Conservation Council was appointed in 1996. Meeting three times per year, the Conservation Council provides expert advice and recommendations regarding the medium- and long-term preservation, conservation, and development of the Sydney Opera House and its site, such as the implementation of CMP conservation policies and the UDP.

An Eminent Architects Panel was established in 2010 as an advisory body to the Sydney Opera House Trust to provide high-level independent expert advice (via the Trust Building Committee) on issues of architecture or design in order to continue to protect the building as it adapts to changing circumstances.

The council and the panel provide a range of expertise and experience to strategic decision-making by the Opera House Trust. Specialist consultants are engaged by the trust to provide advice and reports on specific management and development issues. Thus, any proposals for change are scrutinized internally by these bodies prior to commencing negotiations with the regulatory authorities and are then involved through the development-assessment process when change is proposed.

In the case of the 2007 access-improvement work, the Conservation Council examined the proposed work against the relevant policies in the CMP and UDP. Once satisfied, the consultation process with the statutory authorities began, and the same criteria were again used to determine whether to grant approval. In this case, policies that addressed circulation, materials, and the spatial qualities of the affected spaces helped determine the design outcome. For example, the introduction of an elevator from the lower concourse level to the upper theater areas was impossible. It was, however, possible to develop an alternative approach, locating a new lift discretely from the concourse to the level where ticket sales take place. From here the majority of patrons use the grand stairs or the new escalators to access the performance halls (Fig. 5). Those requiring lift access are taken through a less public area to existing elevators. This solution is not ideal from an equitable-access point of view, but it is a considerable improvement to the previous situation, which had patrons being taken back through the secure, but busy, working areas of the building to access the existing elevators. The design and placement of the new escalators from the ticketing area to the performance halls were guided by the CMP/UDP policies that addressed the spatial qualities of the affected areas. The CMP/UDP policies and guidelines also led the choice of materials.

In the newest version of the CMP, which includes the StC criteria, this principles- and policy-led process will be even clearer. The proposed change will be assessed against the StC table and reviewed in terms of the various policies relevant to each change (Fig. 6). This methodology draws on the broad scope



Fig. 5. Sydney Opera House, 2009. Recent alterations since the time of inclusion on the World Heritage List includes the escalators to the Opera Theater.

of the UDP and integrates the more detailed policies of the new CMP in the decision-making process. Utzon's design intentions are considered alongside conservation policies. In the words of the World Heritage Committee,

the Sydney Opera House continues to perform its function as a world-class performing arts centre. The Conservation Plan specifies the need to balance the roles of the building as an architectural monument and as a state-of-the-art performing center, thus retaining its authenticity of use and function. Attention given to retaining the building's authenticity [has] culminated with the Conservation Plan and the Utzon Design Principles.<sup>13</sup>

## Conclusions

A management aspect unique to the places of twentieth-century heritage significance is the potential for ongoing involvement or reengagement of the original designer in the evolving life of the building. The 2009 Australia ICOMOS conference, "(Un)Loved Modern," held in part at Sydney Opera House, explored through a series of national and international papers some of the ambiguities about whether the creator has privileges over the conservator. The papers are available on the Australia ICOMOS web site.<sup>14</sup>

With Jørn Utzon, the creator, the self-effacing nature of the man dictated his approach. His personal collaboration with Richard Johnson and Jan Utzon's

Opera Theatre significance ranking <b>C</b>  Second largest auditorium used as a venue for live theatrical performance, including opera and dance.  <b>Note:</b> This assessment applies to the existing interior and facilities and acknowledges there is a project for its renewal which remains unfunded.	Sensitivity to Change 1 = High sensitivity 2 = Moderate sensitivity 3 = Low sensitivity				Further Considerations (to be read in conjunction with the relevant policy section for each element)
	Function	Form	Fabric	Location	
Form of black painted timber ceiling and walls and original housings for services	1	2	2	2	New elements should respect and not distract from ceiling geometry unless change required for acoustics.
Unpainted precast concrete surfaces of circle balustrade and box fronts	2	2	2	3	Unpainted concrete should remain exposed and visible, and as free as possible of technical overlay.
Floors of laminated brush box	1	2	2	1	Brush box is important, configuration may be modified.
Seating of white birch moulded plywood and red upholstery	1	1	2	2	Important part of identity of Hall space and should be retained.
Bronze fittings, including tapered guardrails, stair lights and door hardware	2	2	1	2	Bronze as the primary material is the most important factor. *Form/configuration of guardrails = 1.
Proscenium configuration (modified since 1973)	1	3	3	1	Further modifications to improve function are acceptable.
Coburn's <i>Curtain of the Sun</i> (removed)	1	1	1	2	Important original focal 'identity' element and its absence diminishes the space. refer to Policy 9.7.
Technical overlay in auditorium including follow spots, conductor's monitors, sound systems etc.	1	2	3	3	Distractions and discordant elements should be avoided.
Wagner-Biro designed and installed stage machinery including revolve and elevator platforms (revolve no longer operable)	1	2	2	2	Historically and technically important but function is more important. Refer to policies 10.2 and 10.3.
Non-original stage machinery and technical overlay	2	3	3	3	May be altered/changed as required.
Stage, backstage and storage space	1	3	3	2	Efficient function is critical.
Orchestra pit	1	3	3	3	Efficient function is critical.
Sur-title screen	2	3	3	3	Less distracting and intrusive options should be explored.

Fig. 6. Extract from the Sydney Opera House draft conservation management plan, 2014. The Opera Theater Sensitivity to Change table illustrates this approach.

passion for his father's building has formed a partnership for successful reengagement with the place. The temptation to reconstruct what Utzon had planned in the 1960s but left unfinished after his departure from Sydney had been a matter of ongoing debate prior to 2002. Jørn Utzon himself rejected this idea, stating in the UDP that "it would not be correct to go back to the thoughts and ideas that were new in the 1960s, which were based on a different program for the building." In accepting the reengagement role to develop the design principles, Utzon wrote:

As time passes and needs change, it is natural to modify the building to suit the needs and technique of the day...

The changes, however, should be such that the original character of the building is maintained. That is to say I certainly condone the changes to the Sydney Opera House. Both changes due to general maintenance and changes done due to functional changes.<sup>15</sup>

Heritage places, where use is an important attribute of significance, must balance the inevitable changes needed to sustain that use with the impact those changes may have on the other attributed values. Ensuring that there is a sound understanding of the various aspects of significance and a robust framework for assessing the impact of change is essential to achieving this balance. The Sydney Opera House is an interesting example of such a framework, which has also incorporated the challenges of managing a modern building and some of the specific issues this work entails.

In the case of the opera house, the processes of World Heritage List nomination coincided with the national and designation processes, adding a level of complexity but also enabling some of the jurisdictional needs to be aligned and coordinated. A few years after the inclusion in the World Heritage List, visitation continues to grow apace, and

the tensions that exist between the building's role as a performing-arts center, a city gathering place, and a much-loved monument will continue. The fourth edition of its conservation-management plan, which introduces the concept of Sensitivity to Change, will increase the robustness of the conservation framework and is already being tested on a daily basis. No doubt it will evolve and develop further. Such innovative conservation-planning approaches are essential to courageously meet the pragmatic needs of complex site management, where heritage conservation is an imperative, set within a demanding context, which must also deliver world-class performance venues and extensive visitor services while respecting its iconic architectural status.

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### Notes

1. Australia ICOMOS, *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance with Associated Guidelines and Code on the Ethics of Co-existence* (Melbourne: Australia ICOMOS, 2009). The first version of the Burra Charter was adopted in 1979. The current version is available at <http://australia.icomos.org/publications/charters/>.
2. *Ibid.*, 12.
3. James Semple Kerr, *The Conservation Plan: A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance*, <http://australia.icomos.org/publications/charters/>.
4. James Semple Kerr, *Sydney Opera House: A Plan for the Conservation of the Sydney Opera House* (Sydney: Sydney Opera House Trust, 1993).
5. The Sydney Opera House was included in the National Heritage List in 2005 under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth) and on the State Heritage Register of New South Wales in 2003 under the Heritage Act 1977 (NSW). Listing in the National Heritage List implies that any proposed action to be taken inside or outside the boundaries of a National Heritage place or a World Heritage property that may have a significant impact on the place's heritage values is prohibited without the approval of the Minister for the Environment and Heritage. A buffer zone has been established.
6. James Semple Kerr, *Sydney Opera House: A Revised Plan for the Conservation of the Sydney Opera House* (Sydney: Sydney Opera House Trust, 2003), iv.
7. *Sydney Opera House Utzon Design Principles* (Sydney: Sydney Opera House Trust, 2002).
8. Sydney Opera House draft conservation plan, fourth ed., 2011, p. 82.
9. *Ibid.*, section 3.1: objectives, 56.
10. Sydney Opera House draft conservation plan, fourth ed.
11. *Ibid.*
12. The concept "sensitivity to change" or "tolerance for change" was developed by Sheridan Burke for heritage consultants Godden Mackay Logan. It is based on Burra Charter principles and has been used in a range of major institutional conservation plans since the mid-2000s; it is now part of the heritage-management standards used, for example, by the Australian Department of Defence to manage its heritage assets.
13. The World Heritage Committee Decision: 31 COM 8B.31, <http://whc.unesco.org/en/decisions/1329>.
14. Papers from the "(Un)Loved Modern" conference, organized by Australia ICOMOS in 2009, are available at <http://www.aicomos.com/2009-conference/>. Note that not all papers are included.
15. Letter from Utzon to the chair of the Sydney Opera House Trust, Aug. 19, 2000, quoted in the Utzon Design Principles, p. 48.



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