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Robin Boyd, Expo '70 and Defuturing No Accounting for the Environment

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This paper offers a critical reading of Robin Boyd's narrative of the Australian nation created for Australia's pavilion at Expo '70. The critique offered is from an environmental perspective, using this example to lead into a broader reflection on Australian design history's 'modernity problem'. We argue that although the examination of Australia as a socio-cultural context for the practice of design continues to engage scholars, the will to profess the existence of progressive Australian design has precluded significant examination of design's regressive effects.

The current environmental crisis is, as Arturo Escobar argues, 'a crisis of modernity, to the extent that modernity has failed to enable sustainable worlds.'¹ Design is implicated here for its contribution to environmental degradation, as is design history for accounts that validate designers' development of concepts, processes and products that impose the unsustainable on societies. The latter is pronounced in Australian design history. When modernity and its cultural manifestations are understood as European inventions, admitting limited scope for cultural exchange, claiming historical significance for Australian

design inevitably involves the uncritical application of imported principles.² The halting attempts to write Australian design history are mostly bound up in proselytising for the values and benefits of the modern and eulogising designers' efforts to force change in the face of conservative cultural establishments and indifferent publics.

Even the most recent treatments continue to be engulfed by discussions of derivativeness, marginality and uniqueness.³ Elsewhere, however, the culture of 'peripheral' localities is seen to disrupt fundamental suppositions about the modern, challenging the totality and uniformity generally ascribed to it. A key text here is Arjun Appadurai's *Modernity at Large* (1996).⁴ Appadurai accepts modernity as virtually omnipresent, but sees its localised expression creating an assortment of corrupted, discontinuous and mixed forms. In this vein, Tony Fry argues the historical examination of the material, social and cultural effects of Australia's economic development "can and should provide useful and critical transformatory knowledges" in relation to the condition of modernity.⁵ Following Fry, this paper explores the proposition that when the perceived unevenness of cultural transmission in modern design is set aside, engaging with Australia as a location for the expression of the modern, highlights unsustainable relations between ecological environments and design values, processes and production.

Australia is a vast continent, but its capacity to provide for the style of human habitation pursued by Anglo-Europeans since colonisation is limited. This is especially the case for the burgeoning consumerist lifestyle supported by the activities of many Australian designers from the mid-twentieth century onwards. A critical historical consciousness challenges the purported benefits of design by revealing the ecological blindness implicit in modernist values of progress and transcendence and the more recent framing of design around individual and collective identity and emotional gratification.

However, even when sustainability is not a conscious component of the epistemic perspectives driving Australian design history, problems of the ecological environment are most likely close to the surface. In investigating this proposition, we discuss Robin Boyd's program of exhibits for the Australian pavilion at the 1970 Japan World Exposition, Osaka, as an example of Australian design's historical obliviousness to the relationship between the progress of modernity and the fate of the ecological environment. Charged with the task of representing Australia as economically and technologically advanced to the exposition's substantially Japanese audience, Boyd's complex curatorial schema proposed an alternate historiography of Australia. Departing from the more familiar representations founded on bountiful natural resources and agriculture, the program evidenced a history of Australian

innovation beginning with agricultural machinery in the colonial period, followed by developments in science, technology and manufacturing in the twentieth century; and using idealised aspects of the contemporary Australian lifestyle to indicate the nation's socio-economic achievement.

Australian design was prominent here for its role in the production and maintenance of a modern, urban culture of consumption, the program including an Australian model home complete with an array of modern commodities. One minor display, however, inadvertently linked Australia's colonisation and economic development to environmental degradation: Boyd's most recent examples of Australian innovation concerned scientists' efforts to tackle problems of salinity and the provision of clean water.

Patterns of colonisation, investment and trade inform Australia's historical relationship to modernity, producing a specific context for local/national design activity. Australia has been a British colony, a significant investment opportunity and market for British, U.S. and Japanese companies, and a key supplier of raw materials, firstly to Britain and then Japan, both of which took the lead role of manufacturing nation in a relationship of seeming economic complementarity, but which inhibited Australia's industrial development. For much of the twentieth century, Australia's economic base in primary industry plus its apparent distance from European centres of industrial modernity and associated social, political and cultural turbulence, fed an entrenched antipathy to modernism in official cultural circles. Pastoral landscape painting was promoted as the definitive expression of Australian national identity until the late 1950s.

The unfolding of Australian design modernism is partially explained by Australia's perceived situation as a peripheral culture, constantly responding to ideas and debates from design's main centres of activity – Europe, the USA and Japan. Design autonomy in Australia has similarly been limited by the small manufacturing base and population, the practice of manufacturing under licence and the dominance of multinational companies. Early design activity followed a British lead. Rudimentary design education was given in Mechanics' Institutes from 1827, then Technical Schools and Schools of Art. A British model also served for Australia's first professional designers' association, the Society of Designers for Industry. Although design influences from the United States were apparent in the nineteenth century, World War II was a watershed for growing American influence in Australian society and design culture. Symbolic design events include the launch of the first American-designed Holden motor car in 1948 (thereafter, presented and mythologised as 'Australia's own car'). Furniture and other American-styled, locally-made consumer goods soon followed, along with the adoption of American forms of finance to supply the post-war consumer society.

Robin Boyd

From the late 1940s, Robin Boyd (1919–1971) took a leading role in the development of Australian modernism through his work as an architect, architectural historian, design critic and social commentator. In each role, Boyd dedicated himself to promoting the benefits and values of modernism in opposition to what he saw as the alternating blandness, derivativeness or ostentation of Australian society, especially in respect of Australians' increasing engagement with consumerism.⁶ As a consequence, Boyd is both a subject of inquiry for Australian design history and a key figure in opening up a discursive space for the work of later Australian design historians. His writing on design – although undeniably emerging from a genuine concern for the state of culture and the built environment in Australia – cannot, however, be seen as a neutral enterprise. His efforts to disseminate knowledge about modern Australian design have a clear relationship to his commercial practice as an architect. For example, Boyd's 1961 essay, 'The Look of Australia', addresses the Australian love of the raw, casual and amateur, for good and for bad, tracing the first signs of Australian cultural maturity to the late 1930s and an unprecedented aspiration to 'international standards, originality and polish' in the work of 'creative professionals' like the architect Roy Grounds and the graphic designer Peter Bellew.⁷ The text engages diverse aspects of the Australian character, culture and society and culminates in Boyd's call for Australia's executives, managers and business owners to employ the services of trained, professional designers who understand the values of international modernism.

Promoting expert knowledge reflects Boyd's modernist outlook as much as his allegiance to international style architecture and simple, well-designed consumer products. At the margins, however, the challenge of Australia as an ecological context for the practice and consumption of design is present. Indeed, for a few sentences Boyd suspends his elaborate argument for design professionals' capacity to raise the visual standards of Australian industry and society to describe 'the lack of creative intensity' in Australians' 'near enough' attitude as a 'failure to take seriously the very art of living in this great dry, lonely land.'⁸ Boyd's architectural criticism and practice proposed a functionalist and regionally grounded modernism that matched simple forms to local materials and conditions. For example, Boyd's *Black Dolphin Motel* (1958–60) used raw eucalyptus poles in combination with plain brick walls as a local revision of the reductive, machine aesthetic of late international style architecture.⁹ In texts such as *Australia's Home: its Origins, Builders and Occupiers* (1952), Boyd describes many of his contemporary architects as regional-modernists and represents their work as a response to vernacular building practices.¹⁰ This is hardly a proposition for radical sustainable values in the practice of design, even by the standards of the 1950s, but it does suggest

an awareness of the natural environment as a consideration in Australian design. A similar constellation of central modern advocacy and peripheral indication of its environmental implication can be found in Boyd's exhibition schema for the Australian pavilion at Expo '70.

Boyd's Exhibition Schema for the Australian Pavilion at Expo '70

The Australian government set two tasks for the design team for Osaka: representing Australia as economically and technologically advanced and shifting purported Japanese perceptions that Australians were 'coarse' and 'uncultured'.¹¹ In advancing a narrative of Australia as a prosperous, productive and egalitarian nation exemplifying modern ideals of social and economic progress, Boyd planned a comprehensive collection of exhibits. These ranged across the arts, communications, computing, design, engineering, manufacturing, science, sport, leisure, transportation and urbanisation – revealing modernist aspirations toward both totality and the compartmentalisation of orders. Boyd's curatorial schema grouped the many and varied displays into four sub-themes 'Man', 'Man and Nature', 'Man and the Man-Made', and 'Man and Man', grounding the program's discursive order in the abstract universals of a male, colonial, humanist consciousness. The binary of 'Man' and 'Nature' and the general attribution of progress in the world to mankind underscore Boyd's modernist mindset; design and other cultural pursuits connected with a modern, urban culture included for demonstrating the civilisation of Australia. Alternatively, the program's emphasis on science and technology, two of the chief social institutions associated with the promulgation of modernity, saw Boyd represent design activity as invention in many instances, elevating modern values of reason and pragmatism; an intellectual transposition reflective of the history of poor thinking and lack of thought that Tony Fry identifies as inherent to the 'progressive advancement towards unsustainability' through design.¹²

The selection of themes for the Australian pavilion at Expo '70 involved a large number of people and institutions. Both the National Archives of Australia and State Library of Victoria hold briefing papers from Government departments and letters to and from Boyd that discuss the program of exhibits for Expo '70. The earliest extant paper to shed light on the selection of the themes and exhibits comes from the archive of James Maccormick.¹³ As Principal Architect with the Commonwealth Department of Works, Maccormick was given the task of designing the main body of the pavilion.¹⁴ Maccormick's paper proposes the premise of 'The Good Earth', a title taken from Pearl Buck's 1931 novel, as the basis for Australia's response to the exposition's overall theme of 'Progress and Harmony for Mankind'. Maccormick's paper also makes reference to the Walt Disney film, *The Living Desert* (1953) and

suggests various people for the role of 'exhibits architect'. Boyd's name is at the top of this list, above Gordon Andrews, Douglas Annand and fourteen others. The second player in the nomination of pavilion themes was E.K. Sinclair, a bureaucrat in the Prime Minister's Department. Writing on 14 December 1967, Sinclair argues for the sub-themes of Gold, Wool, Minerals and Maritime Exploration for the pavilion, with "an emphasis on Australia's Mineral Resources."¹⁵ Although the documentary record does not unequivocally establish that Boyd, once employed as Exhibits Architect, conceived the exhibition program, his report of 3 May 1968, 'Expo 70, Osaka: The Australian Pavilion. Proposals for the Exhibits', is the only detailed description of the pavilion exhibits.¹⁶ A 1968 letter by Boyd to D.G. Price of the Snowy Mountains Hydro-Electric Authority indicates Boyd's primary involvement in conceiving the exhibits program, stating:

We are as you doubtless know going through the exercise again of revising Expo exhibits, this time for Expo '70 Osaka. We want to show the Snowy Mountains scheme again, but in some entirely new way. Our technique of display this time, anyway, has certain limitations that demand a completely fresh approach to all the exhibits.¹⁷

The exhibition program, moreover, reflects many of Boyd's previous efforts to promote Australian modernist design and manufacturing, to document its history and reprogram the Australian cultural psyche to embrace the modern. As one of Australia's leading architects, Boyd's role in curating exhibits for the Australian pavilion was somewhat unusual. McCormick and Boyd had worked previously as pavilion architect and exhibition curator and designer in the development of the Australian pavilion at Expo '67, Montreal. Boyd's biographer, Geoffrey Serle, surmises that although Boyd was always ambitious for Australia, financial pressures forced him to accept the arduous and subsidiary role of exhibits designers on both occasions.¹⁸ However, Boyd's repute as a social and cultural commentator with specific experience in organising exhibitions made him a credible suggestion for the role.¹⁹

Expo '70

Expo '70 was to be the first international exhibition held in Asia. In acknowledging Japan's rapid economic growth since the 1950s, the exposition marked the expansion of European modernity to an important, non-European part of the world. The theme for the exposition was 'Progress and Harmony for Mankind'. Architect Kenzo Tange planned the expo site as a city of the future to show how synergies in science, technology and the arts might humanise modern urban life. A number of younger architects of the Japanese avant-garde, of whom Robin Boyd was well aware,

contributed experimental designs for pavilions and public areas on the site. Their work reflected Japan's growing economic focus on electronics and information technology as well as the Japanese government's interest in developing progressive transport and communication systems to further the nation's socio-economic advance.²⁰ The Japanese organisers' engagement with modernity was not exclusively positive. Japanese contributions to the expo explored 'the problems of urbanisation, over-population, and pollution of the environment' shared by many nations.²¹ The *Tower of the Sun*, an anthropomorphic column with outstretched arms and three faces designed by the artist Taro Okamoto, was commissioned to symbolise the expo theme. With its top section jutting through the roof of the Festival Plaza Okamoto's aim was to jolt expo visitors out of the distraction and formlessness of everyday experience.²²

Australia at Expo '70

The invitation to exhibit at Expo '70 came during a period of economic transition for Australia. Until the mid-1960s, Britain was the main market for Australian rural exports and a principal source of manufactured goods and investment funds.²³ At international and British Empire exhibitions Australia typically represented itself as a successful producer of foodstuffs and raw materials, complementing Britain's lead role as the manufacturing nation, an image which diverged from the emphasis at international expositions on cultural and technological progress in industrial modernity. The rise of Japan to the position of Australia's main trading partner in 1966 prompted the Australian Government to see Expo '70 as a useful opportunity for cultural diplomacy and business promotion. In 1970, the Japanese saw Australia as a vast, wealthy land with plentiful natural resources, but which engendered little respect since Japan had risen to economic prominence without such advantages.²⁴

In preparing for Expo '70, Maccormick and Boyd worked from two briefing papers prepared by The Department of External Affairs. These argued that the Australian pavilion should 'strike a cord of sympathy' in the Japanese audience 'by showing that certain values of the Japanese, held to be good, are also respected and striven for in Australia'.²⁵ James Maccormick's pavilion design featured a free-hanging circular roof in pressed aluminium, suspended from a giant, steel-clad cantilever arm. To show Australian cultural awareness, its design incorporated diverse allusions to historical Japanese architectural and philosophical traditions, while demonstrating Australia's engineering capacity and the creative application of its metal exports.²⁶ Boyd's exhibition program responded more to Japan's consolidating position as an industrial powerhouse, in possession of advanced technology. His role as exhibits designer encompassed curating exhibits for the

Figure 1

Model of Australian pavilion at Expo '70, Osaka. (Courtesy of National Archives of Australia (A1200, L74996)).



pavilion and designing the exhibition area in which the majority of the displays would be presented. Dubbed the 'space tube', this area sat to the side and beneath the main body of the pavilion. Conceived as a narrow, sloping tunnel, its interior took the form of 'an immersive and partial multimedia environment'.²⁷ Twin moving walkways carried pavilion visitors past Boyd's carefully organised narrative of Australian progress, preventing them from steering their own path through the exhibit or lingering over particular displays.

The program of exhibits represented Australia as a scientifically and technologically capable, design conscious, and socially and culturally developed partner in the Asia Pacific. Historical examples of Australian agricultural technology were displayed beside science and technology exhibits from the twentieth century, supporting the idea that technology and design innovation were inherent to the formation of the modern Australian nation. Working models and diagrams of inventions such as the wheat stripper machine (1843), the stump-jump plough (1876), H.V. McKay Harvester (1884), sheep shearing machine (1885), rotary hoe (1920) and mechanised cheese production (1958) established a history of Australian invention. The scope of Australian technological acumen was then extended through examples of Australian medical research into cancer, immunology, infectious diseases, neurology, and vaccines; Australian high technology in the areas of radio and

Figure 2

'Space Tube', Australian Pavilion, Expo '70, Osaka. (Courtesy of National Archives of Australia (A1200, L86233)).



optical astronomy; pioneering Australian work in computing such as Pearcey's 1946 memory storing computer; Australian funded Antarctic research with international partners; and the heroic engineering project of the Snowy Mountains Hydro-electricity Scheme.

The Department of External Affairs paper that served Boyd as a project brief stressed the exhibit should, 'Make the Japanese people realise that our industries are expanding and extremely important to our future even though we can provide food and raw materials.'²⁸ Yet it cautioned that displays should be realistic and not exaggerate Australia's capabilities, 'as an innovator, except in those cases in which we clearly have something to present'.²⁹ To this end, Boyd included specific exhibits to resonate with a Japanese audience. For example, the world-beating, Australian designed and manufactured Repco Brabham formula one racing car engine made a targeted claim about Australian design capacity to a nation rapidly developing a world-competitive automobile industry. The briefing paper likewise warned about 'undue emphasis' on Australian 'primary and secondary products [since] Australian trade fairs and exhibitions in Japan have been many and frequent'.³⁰ Boyd thus focused on Australia's diverse manufacturing industries and professional design capacity. The 'Modern Living' section, which was closest to Boyd's expertise and interest, included a range of quality, Australian designed products for everyday use: appliances, furniture, fabrics, carpets, hardware, home wares, tools and implements, and food products.

Many of these were presented in a full-size replica of the interior of a model Australian home, including the living room, kitchen, bedroom, playroom and sun-terrace and intended to be located in a breakout area near the 'space tube'. The inclusion of a model of Canberra, Australia's purpose-built capital, suggested Australia's commitment to developing rationally planned communities. Another group of exhibits, entitled 'Enjoyment of Life' focused on Australia's



Figure 3

Expo – Crowd with Expo 70 Pavilion in background (Osaka). Courtesy of National Archives of Australia (A1200 L86522).

active outdoor and sporting life. These three displays showed that Australia partook in the political economy of post-war capitalism, 'leisure', 'consumption' and 'urbanisation' having become discrete and integral aspects of developed societies. In exemplifying the breadth and egalitarianism of Australian modernity, Boyd's program suggested that Australian inventiveness had afforded the Australian people significant material resources and life opportunities, enabling them to develop noteworthy intellectual and cultural pursuits.

Historical Revision in the Service of Markets

The technologised container of the 'space tube' made a broad statement about Australian cultural and technological advance, its merging of form and content predicting the amalgamation of visual, material and technological categories in many contemporary museum exhibitions. Boyd wove a multiplicity of elements and themes into his representation of Australia. The exhibition program cut across historical epochs, and social and cultural categories to provide an alternative representation of Australian productive and intellectual capacity, in response to the government program and the conventions and aims of World Exhibitions.

However, when a profusion of objects and ideas is presented in close proximity meanings are not easily controlled. Other aspects of the program subscribed to a more conventional paradigm of universal history. Boyd titled the first display in the exhibition's 'Man' section 'Origins of Humanity'. His written curatorial proposal describes this exhibit as encompassing, 'Australian anthropological and prehistoric studies, set against the immensity, antiquity and mystery of our continent. The Talgai Skull will be shown (actually, or simulated).'³¹ The remains of an adolescent boy, the skull was found in 1884 at Talgai station in southern Queensland. It was the first skeletal evidence of early human habitation in Australia and became the subject of intense scholarly debate. Letters reveal that after prolonged discussion Boyd approached several sculptors to create a facsimile skull, rather than include the real one.³² Either way, beginning the exhibit with this object – framed by anthropologists' efforts to account for Australia's indigenous peoples – adds an evolutionary dimension to the pavilion's narrative of Australian progress, revealing Boyd's developmentalist outlook and underscoring the sense of 'European political and epistemic domination' of Australia.³³

Boyd's narrative of national progress exposes the destructive side of Australian modernity in the representation of problems of the ecological environment as a postscript to the continent's induction into the capitalist economic system that produced modernity. Exhibit 7 of the 'Man and Nature' section, 'Exploiting and preserving resources', was dedicated to explaining the Snowy Mountains Hydro-Electric scheme, which diverted a whole river. Exhibit 6, 'Soil and water', included CSIRO research into rainmaking

in the 1940s, research into solar water distillation at Coober Pedy in the 1960s and the latest Australian developments in the science of desalination, revealing the inherent challenges of Australia as a place for European habitation. The 'Origins of Humanity' and 'Soil and water' exhibits were minor elements in Boyd's program, but indicated the enormous human and environmental cost of Australian modernity. Boyd's program embellished the Commonwealth Government's agenda for developing Australia's trade relationship with Japan. It was innovative in moving beyond rural enterprise and the landscape as symbolic sources of Australian national identity to address Australia's contemporary socio-economic and cultural complexity. However, as the work of a leading Australian designer and design commentator, it explains much about the role of Australian design in structuring and promoting unsustainable ways of life.

Specifically, the program places Australia's pre-colonial environment and indigenous peoples outside history and understanding, while endorsing the historical role of capital and instrumental reason through the agencies of science, technology, industry and design in developing Australia. It suggests Australian designers' closure to the biosphere as a valuable source of design principles and Australia's indigenous peoples as a source of knowledge about how to understand and act in the Australian environment.³⁴ Boyd's recourse to science as a source of technological solutions to the ecological problems produced by modernity is especially revealing here. Viewed critically, the unreason and Eurocentrism of Boyd's historiography becomes apparent.³⁵

Australian Design History at the Crossroads

Design history has struggled to establish itself as a field of academic enquiry in Australia. In 1988, Tony Fry represented it as a poorly conceived offshoot of art history, mired in superficial, object-centred stylistic analysis, uncritical conventions of canon-formation and nebulous principles of quality.³⁶ In challenging its objects of investigation, methodological frameworks and scholarly and epistemological aims, Fry sketched out the parameters for a substantial social and economic history of Australian design. In 1989, he argued for the potential of a critical Australian design history to highlight the regressive effects of modernity.³⁷ Although the profile of Australian design has grown exponentially since the late 1980s, design history has been mostly overtaken by alternative culturalist approaches that consider an array of visual and material artefacts and socio-cultural practices in terms of signification and discursivity. The anthology *Modern Times: The untold story of modernism in Australia* (2008) exemplifies this development, but does not substantially move beyond the primary historical narrative set out in Robin Boyd's exhibition program for Expo '70, or its representation of design. Its principal aim remains uncovering

Australian modernity as reflected in Australia's high and mass cultures, patterns of everyday life and urban development.

The book's editors highlight the interdisciplinary nature of modern cultural practices in Australia in spanning the fields of animation, architecture, design, fashion, film and photography, popular culture and visual art.³⁸ Arguing that Australian modernists were typically involved in a range of practices and applications, they challenge the validity of interpretations of the modern from the visual arts that reduce modernism to formal experiment within discrete media. Yet the book's structure fails to engage the transcendent constructive and mediating forces in Australian modernity, breaking its discussion into a plethora of neat sub-categories: fountains, swimming pools, blue-collar bars, milk bars, neon signs, exhibitions, specific architectural types, the practices of a few select artists, designers and filmmakers, the representation of science, industry and the space age through design, and more. Like Boyd's program of exhibits at Expo '70, *Modern Times* treats design as part of a richly textured, modern Australian consumer culture, reinforcing Australia's participation in the expansion of European modernity. This is perhaps not surprising. Arturo Escoba observes that most theories of modernity, regardless of their political orientation, approach modernity as eventually extending everywhere. In accepting the reduction of all world cultures and societies to a manifestation of European history and culture, they infer only one world order is capable of becoming global.³⁹

For Escoba, this is implausible when knowledge and understanding of 'peripheral' modernities is so partial and underdeveloped.⁴⁰ In representing the broad amalgam of popular and vanguard culture in modern Australia, *Modern Times* assembles abundant information about the aesthetic and social resonances of Australian modernism, its key players and events, but this is mostly divorced from discussion of larger socio-economic and historical forces, particularly negative ones. The essays focus on the rhetorical aspects of cultural artefacts, with little discussion of the contradictions, conflicts and problematics of Australian modernity apart from considering the use of indigenous culture by non-indigenous artists and designers. There is some recognition of modernity's effects on the human body, but no significant discussion of the impact of capitalist production and consumption on the environment, ecology, biology and nature, or the role of Australian design and designers. For example, an essay on the spread of modernist designed public pools across Australia becomes a discussion of architectural styles, designers, respite from a dry climate and 'Australia's self-image as a nation of sun-worship and prowess in the water.'⁴¹ The focus on the discursive and symbolic overtakes the link between the material reality of swimming pools, their architecturally encoded values and unsustainable patterns of water use. *Modern Times* shows

that the scholarly investigation of Australia's visual and material culture and built environment has grown into an adaptable and expansive field of study. It reflects the emergence of everyday life as a site of academic engagement, challenging, as its editors argue, the previous tendency in Australian cultural scholarship to focus on circumscribed and elite cultural practices such as art and architecture. Yet in treating the commercialised products, activities and services constituting design as part of a generalised modern culture, the text neglects what Tony Fry crucially represents as the agency and consequences of the 'already designed' for the future.⁴²

Iván Castañeda argues that the conjoint study of high and low cultural artefacts reflects 'the culture industry's growing homogenization of culture under global capitalism'.⁴³ Following Jameson, he challenges writers to understand that in today's 'highly commodified system of cultural promotion and exchange' approaching cultural products as equivalent risks overlooking their economic and ideological investment.⁴⁴ In their own ways, both Boyd's program of exhibits at Expo '70 and *Modern Times* represent a codification of culture attuned to a period in history in which the autonomy of the arts has evaporated and cultural industries are numbered among the productive sectors of the economy. An analogous production of new knowledge frameworks through market pressures exists in the unfolding of design theory. Here, changing commercial and social conditions for design practice, especially in respect of shifting consumer expectations, have generated new theoretical approaches and bodies of knowledge, to be seen in the rise of research and writing about the affective dimensions of design which augments established interest in design's functional, stylistic and semantic aspects to the exclusion of its regressive effects in the world.⁴⁵

Design History, Critical Revisionism and the Ecological Environment

In 1990, the art historian Stephen Bann declared the need for 'a continuing, self-critical historiography, which is attentive both to the plasticity of the historical imagination, and to the immense variety of forms in which it can acquire a concrete manifestation'.⁴⁶ Positing 'argument' as the basis of historiography, he reasoned that the indeterminacy of history demands the constant, critical examination of facts and positions.⁴⁷ More pointedly, Mark Freed argues that, 'If the humanities ... want to maintain their ability to interpret human experience, they will increasingly have to take account of the interactions between humans and nonhumans'.⁴⁸ Sustainability frameworks are an established provocation for design practice, Victor Papanek's *The Green Imperative* (1995) marking the broad articulation of the needs of the ecological environment in respect of design practice.⁴⁹ Australian design history currently

incorporates a variety of theoretical approaches, but its established interest in aesthetics, materiality, visuality and the communication of meaning is yet to be widely challenged by a cross-disciplinary dialogue with environmental history and science. Indeed, the increasing breakdown of disciplinary boundaries between art history, design history, cultural studies, design studies, anthropology, visual culture, material culture, and film and media studies is a barrier to perceiving and investigating design's historical role in ecological degradation. The emphasis on symbolic communication in the analysis of past design works hides their material impact in the world, environmental concerns having limited traction where the discussion of signification and discursivity is the aim.

Considering the environmental effects of design developments in history does not suggest a reductive historiography. In arguing for the application of anthropological methods to the analysis of art as an alternative to semiotic approaches, Alfred Gell called for art works to be understood as a 'system of action' and to address 'the practical mediatory role of art objects in the social process' rejecting 'the interpretation of objects "as if" they were texts.'⁵⁰ Design is equally 'a system of action', intended to have impact in the world as well as constituting a sequence of symbolic propositions about it. Incorporating sustainability parameters into the historiography of design, would, as Gell demands of art analysis, stress 'agency, intention, causation, result, and transformation'.⁵¹ Such a transposition would produce new design historical knowledge, complementing engagement with sustainability perspectives in design theory, practice and pedagogy. Without this, design history is at odds with the understanding that meanings and discourses play an ideological role in relation to the future of the ecological environment. This is what Michael Hardt and Antonio Negri argued in highlighting the biopolitical character of production and reproduction in the new global paradigm.⁵² Their concept of biopower stresses how representations deeply affect fundamental conceptions of life and the world.⁵³ The adoption of sustainability perspectives in the analysis of Australian design history will augment the historical examination of design in its social, cultural, economic and political contexts, amplifying the project of history as interdisciplinary inquiry. It will challenge the status of modernity as a totalising project by revealing the limits to its claims to universality, both at an abstract level and in terms of modernity's ability to control a world that is a natural system with its own capacity to exercise power.

Conclusion

In response to Australia's shifting trade and strategic interests, Robin Boyd's program of exhibits for the Australian pavilion at Expo '70 represented Australia according to the cornerstones of European modernity: a social order founded on the progress of

capital, science and technology, urbanisation, cultural innovation and everyday life as a primary site of consumption. Undoubtedly, the program's comprehensive, tightly woven and overwhelmingly positive representation sought to admit no outside or disruption to Australian modernity, but minor references to the environment and Australia's indigenous peoples revealed unsustainability and dispossession to be fundamental to Australia's induction into the capitalist economic system that produced modernity. In failing to recognise these implications, Boyd effectively acted on behalf of exploitative practices and perspectives and the dualistic and anthropocentric character of Australian design thinking in the mid-century.

There were other unsustainable dimensions to Boyd's contribution to the Australian pavilion that might have been explored here and which suggest the ways in which modernist design has exercised agency over the future to the detriment of the ecological environment. The pavilion was a monumental temporary building that made a feature of its extravagant use of materials. Its application of design, engineering and technology for pure effect also exemplifies the misdirected efforts and agency of the modernist designer in Australia. The 'space tube' viewing area was innovative in conceiving pavilion visitors' affective responses as producing a form of knowledge about Australia. However, its innovation served a primarily symbolic purpose and there were basic deficiencies in the area's operation as an exhibition space due to Boyd's focus on technological solutions rather than visitor's needs and interests.

Design history is currently a tenuous area of research in Australia, experiencing strong competition from more broad-based approaches to the explication of cultural artifacts. Elsewhere, such approaches have delivered powerful critiques of culture, including debates on gender, race, ethnicity, identity, representation, difference, contingency and power.⁵⁴ In Australian design history, however, the consideration of design as part of a generalised modern culture has not substantially disrupted the dominant historical narrative and characterisation of Australian design. To date, discussions have been limited to matters of national identity, regional specificity and designers' efforts to develop climatically appropriate designs and use local materials. Design historians have yet to consider the impact of design across the whole spectrum of its conception, production, distribution and reception. As a consequence Australian design history has so far failed to substantially challenge the understanding and practice of Australian design, despite the broad aim of cultural studies to change social practices and ways of thinking.⁵⁵

In investigating a particular episode in Australian design history, this paper has provided a concrete example of Australian design's historical blindness to environmental questions. Relations between

human and non-human realms in design continue to sit outside the normative frames of Australian design history. Opening its scope and objectives to such considerations will offer new impetus to the practice of design history, enabling it to more effectively address what has been valued and devalued in Australian history. A history of Australian design that takes the ecological environment as a point of critique has the scope to expose the contradictions and limits to capital, forging, as Tony Fry argues 'its own nonuniversal model.'⁵⁶ On a broader scale, the collectivity of localised design histories might, as Anna Calvera proposes, build a far more complex picture of world design history, the points of similarity and difference identifying new models of historical interpretation.⁵⁷ Certainly, Robin Boyd's program of exhibits at Expo '70 and the recent anthology *Modern Times* show that the primary need in Australia is not to reveal its modernity, but to challenge it. For Fry, design history should not be striving for disciplinary autonomy, but rather seeking to develop critical knowledge that change 'how design is viewed, heard, thought, understood, explained and done.'⁵⁸ To achieve this, design history needs to renegotiate its relationship to the abundance of design-centric considerations, which, in fact, represent a form of reductionism in the face of design's historical impact on the world. Likewise, overcoming the anthropocentrism of design history is equally crucial to explaining how designs, once produced, negatively affect non-humans realms and, in doing so, people.

Notes

1. Arturo Escobar 'Worlds and Knowledges Otherwise' *Cultural Studies* Vol 21 No 2, 2007, p. 197.
2. See Tony Fry 'A Geography of Power: Design History and Marginality' *Design Issues* Vol 6 No 1, 1989, pp. 15–30; Peter McNeil 'Rarely Looking in: The Writing of Australian Design History, c.1900–1990' *Journal of Australian Studies* Vol 1 No 44, 1995, pp. 48–63.
3. See, for example, Ann Stephen, Philip Goad and Andrew McNamara 'Introduction' in Ann Stephen, Philip Goad and Andrew McNamara (eds) *Modern Times: The untold story of modernism in Australia* Melbourne: The Miegunyah Press and Sydney: Powerhouse Publishing 2008, pp. xviii–xxxiii.
4. Arjun Appadurai *Modernity at Large* Minneapolis: University of Minnesota Press, 1996.
5. Fry 'A Geography of Power' p. 29; Tony Fry *A New Design Philosophy: An introduction to defuturing* Sydney: University of New South Wales Press, 1999.
6. See for example, Robin Boyd *The Australian Ugliness* Melbourne: F.W. Cheshire, 1960.
7. Robin Boyd 'The Look of Australia' in Peter Coleman (ed.) *Australian Civilisation* Melbourne: F.W. Cheshire 1962, pp. 71–72.

8. *Ibid.*, p. 70.
9. Joe Rollo *Contemporary Melbourne Architecture* Sydney: UNSW Press 1999, p. 17.
10. Robin Boyd *Australia's Home: Its origins, builders and occupiers* Harmondsworth: Penguin 1952, pp. 220–221.
11. James Maccormick *Report by Pavilion Architect J. C. Maccormick Commonwealth Department of Works. Design Philosophy of Australian Pavilion. Expo 70* NAA: A976, 1976/2099 Part 1, 1968, p. 2
12. Fry, *A New Design Philosophy* p. 3.
13. James Maccormick *Preliminary Report Expo'70 Osaka Japan Australian Pavilion* [1967]. Personal archive of James Maccormick.
14. *Ibid.*
15. E.K. Sinclair 'Suggested Theme and Presentation for Australia', 14 December 1967, quoted in Maccormick, *Design Philosophy of Australian Pavilion. Expo 70* p. 5.
16. Robin Boyd *Expo 70, Osaka: The Australian Pavilion. Proposals for the Exhibits* [3 May 1968] NAA: A976 1976/2099 Part 2, pp. 8–11.
17. Robin Boyd *Letter to Mr D.G. Price, Snowy Mountains Hydro-Electric Authority*, 12 July 1968. Osaka Correspondence. Exhibits 1–12. SLV:Australian Manuscripts Collection:MS 13363 Box 103/1 (9), Collection: Grounds, Romberg and Boyd.
18. Geoffrey Serle *Robin Boyd: A Life* Carlton: Melbourne University Press 1995, p. 35.
19. See, Judith Callahan 'The "House of Tomorrow"' in Stephen, Goad and McNamara (eds) *Modern Times* pp. 158–165.
20. Angus Lockyer 'The Logic of Spectacle c. 1970' *Art History* Vol 30 No, 4 2007, pp. 571–589.
21. Judith Vanderwall 'Expo '70: Japan's World Fair at Osaka' *American Artist* Vol 34 No 4, 1970, p. 24.
22. Lockyer p. 571.
23. Britain applied for entry to the EEC in 1961, 1967 and 1970 before gaining membership in January 1973. See Andrea Benvenuti 'Layin' Low and Sayin' Nuffin': Australia's policy towards Britain's second bid to join the European Economic Community (1966–67)' *Australian Economic History Review* Vol 46 No 2, 2006, pp. 156–175.
24. Masayo Tada 'Japanese Newspaper Representations of Australia 1970–1996' *Journal of Australian Studies* September 2000, pp. 170–179.
25. Department of External Affairs, Canberra, Working Draft from the Department of External Affairs *Expo '70 – Possible Themes for Australia* NAA 53 p. 4.
26. See our previous published paper on the subject.
27. P. Raisbeck and S. Wollan 2003 "Boyd as 'bower bird': Robin Boyd's space tube and the global avant-garde" *Proceedings*

- of the Twentieth Annual Conference of the Society of Architectural Historians, Australia and New Zealand*, Sydney, Australia 2003, p. 256. The interior of Okamoto's Tower was also designed, as Angus Lockyer writes, as 'an immersive experience, taking the visitor from a subterranean depiction of the origins of life to a world of the future suspended in mid-air.' Lockyer, p. 571.
28. Department of External Affairs, Canberra, Working Draft from the Department of External Affairs *Expo '70 – Possible Themes for Australia* NAA 53 p. 4.
 29. *Ibid.*, p. 4.
 30. *Ibid.*, p.4.
 31. *Boyd Expo 70, Osaka* p. 8.
 32. Robin Boyd *Osaka Correspondence* 1968 Exhibits 1–12. SLV:Australian Manuscripts Collection: MS 13363 Box 103/1 p. 9.
 33. Antonio Y Vázquez-Arroyo 'Universal history disavowed: on critical theory and postcolonialism', *Postcolonial Studies*, Vol 11 No 4, 2008, p. 451.
 34. See Escobar p. 197.
 35. See Fry 'A Geography of Power' p. 22.
 36. Tony Fry *Design History Australia* Sydney: Hale and Iremonger, 1988.
 37. Fry 'A Geography of Power', pp. 15–31.
 38. Stephen, Goad and McNamara 'Introduction' p. xviii.
 39. Escobar, p. 183.
 40. *Ibid.*, p. 183.
 41. Hannah Lewi 'Modern pools: The triumph of the artificial' in Stephen, Goad and McNamara, pp. 76–83.
 42. Fry *A New Design Philosophy* p. 12.
 43. Iván Castañeda 'Visual Culture, Art History and the Humanities' *Arts and Humanities in Higher Education* 8 2009, p. 47.
 44. *Ibid.*, p. 47.
 45. See, for example, Donald Norman *The Design of Everyday Things* New York: Doubleday 1990; Mika Pantzar 'Consumption as Work, Play, and Art: representation of the consumer in future scenarios' *Design Issues* Vol 16 No 3 Autumn 2000, pp. 13–18; Virginia Postrel *The Substance of Style: how the rise of aesthetic value is remarking commerce, culture, and consciousness* New York: Harper Collins 2003; Pieter Desmet and Paul Hekkert 'Framework of product experience' *International Journal of Design* Vol 1 No 1 2007, pp. 57–66.
 46. Stephen Bann *The inventions of history: Essays on the representation of the past* Manchester: Manchester University Press 1990, p. 47.
 47. *Ibid.*, p. 58.

48. Mark Freed 'Latour, Lyotard, and The Problematics of Legitimation' *Angelaki: Journal of Theoretical Humanities* Vol 10 No 3 2005, p. 99.
49. Victor Papanek *The Green Imperative: Natural Design for the Real World* New York: Thames and Hudson 1995.
50. Alfred Gell *Art and Agency: An Anthropological Theory* Oxford: Clarendon 1998, p. 6.
51. *Ibid.*, p. 6.
52. Castañeda 'Visual Culture, Art History and the Humanities' *Arts and Humanities in Higher Education* 8 2009, p. 51.
53. Michael Hardt and Antonio Negri *Empire* Cambridge, MA and London: Harvard University Press 2000, p. 24.
54. See Jennifer Daryl Slack 'Resisting Ecocultural Studies' *Cultural Studies* Vol 22 Nos 3–4 2008, pp. 477–497.
55. *Ibid.*, pp. 477–497.
56. Fry 'A Geography of Power' p. 21.
57. Anna Calvera 'Local, Regional, National, Global and Feedback: Several Issues to be Faced with When Constructing Regional Narratives' *Journal of Design History* Vol 18 No 4 2005, p. 372.
58. Fry 'A Geography of Power' p. 29.