John and Phyllis Murphy, Kevin Borland and Peter McIntrye Architects, Melbourne Olympic Pool, Victoria, 1953—1956.
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Public swimming pools in Australia

BY HANNAH LEWI

In Australia the image of sporting prowess and easy access to swimming venues – both natural and artificial – has ensured that public swimming pools became a site of modern architectural interest and design experimentation from the 1930s onwards. Ranging from prosaic, local amenities to award-winning significant complexes, public pools are fascinating and potent places of individual and community memories and experiences. Many still exist but many others have been lost or detrimentally altered in the last two decades. As a modern type they deserve further documentation and careful conservation and adaptation to suit contemporary use.

A sustained self-image of modern Australia has been built around its national association with water; from the mythologizing of the beach, to sporting prowess in the "artificial" location of the Olympic swimming pool. Arguably up until around ten years ago, there has been a lack of scholarly or architectural interest in the history of places for collective swimming. However, appreciation has recently surged, reflected in the theme of the Australian pavilion at the Venice Architecture Biennale on *The Pool – Architecture, Culture and Identity in Australia* in 2016, which literally turned the new Australian pavilion building designed by Denton Corker Marshall Architects into a shallow interior public swimming pool experience. The exhibition was accompanied by a 'broadsheet' and book on the histories, memories of all kinds of pools, both public and private, in Australia. The exhibition was a great success on location in the hot summer of Venice, and then subsequently translated into the National Gallery of Victoria in 2018.

This article reflects the author's long-standing interest in the history of public swimming pools in Australia and their conservation, and her collaboration with the Venice Biennale team, and involvement in other exhibitions and publications[1]. The research was inspired by the feeling that many pools were currently under threat or had already been left to decay. And the fundamental observation that public pools offer a way of understanding Australian modern design, in an everyday setting, that created a very particular kind of public place which most Australians have had access to. They speak of a collective desire for shared public amenities that afford leisure, sport, intimacy and fantasy.

International precedents for experimentation

While it might seem that modern pools are essentially very prosaic structures, with little architectural merit — no more than a hole in the ground filled with water — they can exhibit distinctive architectural elements and stylistic and functional characteristics that strongly reflect the broader concerns of Modernism in the 20th century. In terms of their design language, public pools reflect the functional concerns of building modern community buildings for health and education. They often involved the use of innovative structural and mechanical solutions that enabled a close integration between exterior and interior spaces. They allowed for experimental deployment of new materials, and the servicing for hygienic and comfort standards was complex. Landscaping helped to embed the pools in their contexts — whether urban, suburban or waterside, and sometimes added a touch of the exotic.

Architectural solutions were interlinked with changing social, governmental and individual attitudes to social behaviors in public, accessibility and privacy, and the modernizing and democratization of leisure and sport. Aside from a handful of pools built for elite sporting events like the Olympic and Commonwealth Games in Australia, most were realized by necessarily economic means, typically funded through a combination of government and local community fund-raising. While some mid-century pools became "useful monuments" to commemorate war service and sacrifice particularly after WWII. Thus, any narrative on the history of public pools needs to account for architectural innovation, but also social change and the nexus between governmental strategies promoting a healthy citizenry, and how such strategies were furthered in architectural terms through modernism.

In looking at architecturally innovative pools alongside the general history of public pools, we can see their development as analogous to broader modernizing processes of abstraction and domestication; of transforming natural bodies of water — whether river, ocean, lake or pond — into artificial, contained, controlled and specialized environments. After all, the whole pursuit of swimming is artificial as drowning comes far more naturally! As one article from the

01 W. G. Bennett Architects, Lord Forrest Pool Olympic Swimming Pool, Kalgoorlie Western Australia, 1938. © Photographer Robert McKeich, State Library Western Australia (WA).

RIBA *Journal* of 1934 stated, the reason that sport and open-air pursuits had taken off in the greater community was due to the enormous growth of towns and the "artificialized" environments of factory, shop and office life:

> *The search for wealth and amusement that can only be obtained in urban surroundings has been followed by a realization of the vital necessity of maintaining physical health and well-being in conditions that are less than favorable*[2].

This modernizing process which came to fruition in the early 20th century was prefaced by the growing importance of artificial water in domestic life generally, from the late 18th century on, in ways such as modern plumbing in the home and the integration of water in the picturesque garden. However, as early as 1750 the "detergent action" of seawater was discovered, and bathing for health and cleanliness began to be promoted[3]. The history of modern swimming pools — as distinct from religious, decorative, illicit and medicinal pools — is largely a product of Continental Enlightenment. With the design of a number of floating baths and pools in Europe in the late 18th century came the first real interest in swimming instruction. As was the case with the evolution of many modern practices and spaces, military organization also played a large role in popularizing swimming. More widespread interest in physical health, athleticism and education coincided with military swimming training as a way of keeping armies maneuverable and fit[4]. In England, the first public baths were opened in Liverpool in 1828, and an Act of Parliament granting local authorities permission to build public baths to combat disease was passed in 1846. While the archaeological discovery of the Roman baths in Bath in 1871 further fueled English interest in public bathing[5], and these ancient classical associations also provided a design precedent for future bathing and pool architecture. New types of urban swimming facilities appeared during the latter 19th century when bathing became more strictly codified by taking on the functions of public facilities for hygiene or for sport. France was particularly innovative in providing open-air pools and indoor heated pools in this period. There were also many, often fraught, attempts to create simulated swimming instruction environments and mechanical swimming machines.

By the end of the 19th century swimming as a formal and codified sport became recognized with amateur and increasingly professionalized competitions at local, regional and national levels[6]. Architecture was a key agent in this transformation of swimming into a structured sport, for modern pools could provide segregated and comfortable places for spectators and the press, and exacting conditions in terms of lighting, water control and measurements to uphold rules and statistical records of competitions.

Just how "public" public pools really were is revealing[7]. For, although swimming for health and survival was beginning to be widely promoted by the first decades of the 20th century, it was a pursuit not fully accessible to all. Women were heavily constrained by conventions of segregation, modesty and decorum. And the boundaries of proper bodily exposure and risk were nowhere more tested than in the public pool, along with conventions of dress, sexuality and emancipation. By the 1920s, bathing costumes became far more body-hugging which released women from the very real fear of drowning under their heavy layered Victorian costumes. This lightening of the swimming body was to parallel the growing transparency of the swimming enclosure. The beach was apparently far more liberated, or at least a far more difficult place to regulate, and by the 1930s the strict codes still enforced in municipal pools had lapsed elsewhere. However, with ever increasing promotion of health and fitness, mixed bathing became generally accepted. In Australia, segregation did not only apply to women, but also to racial groups, particularly Aborigines, who were restricted entry to many pools until well into the 20th century.

Whether for sport or leisure, by the 1930s in Europe, America and Australia, swimming became closely aligned with attaining the desirable image of the healthy body and of the Naturalism Movement, both of which were also aligned with the development of modernism. For example, this period of strengthening an Aryan Olympic spirit was captured by Leni Riefenstahl's (1902–2003) flying divers, and Suren's athletic nude swimmers. Concurrently, Germany rose to prominence in modern pool design, and would remain innovative into the 1960s[8]. For example, John Richards (1931–2003), the architect for the Royal Commonwealth Pool in Edinburgh (1967–1970), noted the influence of German pool programs: "every German city had a central pool and an opera house"[9]. England saw a need to improve facilities, as noted by the *RIBA Journal* of 1928; "our playgrounds and bathing places are still far from adequate to the needs of the community, and in particular the provision of places for light and air baths is almost unknown"[10]. This need was again reinforced in 1934: "The provision of facilities for open-air bathing is not a luxury if the standard of physique of our people is considered to be an asset economically"[11]. Gradually swimming instruction became part of government education aims, and casual and social bathing began to be replaced by set swimming strokes and drills. Some of these military undertones have prevailed, with the widespread adherence to rectangular pools and straight lane design, and an emphasis on precision, instruction, order and ritual. This contrasts greatly with the evolution of private pools that have often been the object of organic, exotic fantasy — particularly in post WWII America, where the domestic pool industry surged and the image of the "kidney pool" was popularized[12].

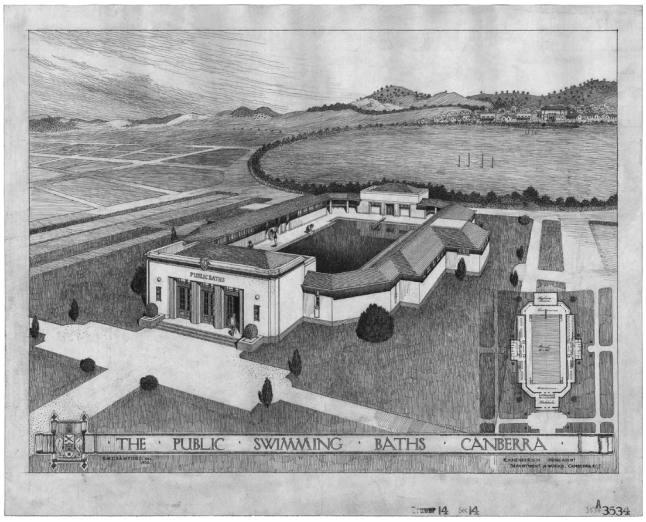
In terms of design language, early 20th century pools reflected a period of transition in which predominantly classical styling was employed to clothe a thoroughly modern type and function. For example, the Memorial Gymnasium at the University of Berkley (1925), California by Phoebe Hearst (1842–1919) and the Marshall Street Baths in London (1934), by A & K Cross, both had barrel-vaults and coffered panels in the manner of a Roman bath-house[13]. In the decades around WWII, pool design would benefit from a number of material advances, particularly in ceramic tiles, which would become and remain a key aesthetic opportunity for surface patterning by combining hygienic and waterproofing properties. As in the development of many modern building types, in this period there is evident a growing desire for structural experimentation and expression using reinforced concrete, steel framing and structural glazing, along with an increased attention to the health-giving properties of ventilation and natural lighting. Some pools and spa centers of the 1930s that entered the international modern canon include the De La Werr Pavillion (1935) by architects Chermayeff & Mendelsohn, the Finsbury Health Centre (1935–1938), London, by architects Lubetkin & Tecton, and the Empire Swimming Pool (1933–1934), by Owen Williams (1890–1969)[14].

In an effort to simulate outdoor conditions in fully enclosed pools, the use of glazing became characteristic. For example, an early influential Austrian pool of the 1930s by von Liebe and Stigler had a flat roof and fully glazed sliding doors along two sides. Completely glazed-in pools would be realized post-WWII, including, for example, the Mainz Swimming Bath (1960), by architects Pel, Beckert & Becker. Thus driven by the necessities of both function and form, swimming pool design pursued Modernist interest in transparency, and the full apprehension of built form appreciated from multiple and moving viewpoints, as promoted by Sigfried Giedion (1888–1968) and others[15]. This lessening of distinctions between the interior and exterior of modern buildings through the exploration of the transparent skin and window-wall aimed to dissolve physical barriers. Yet, as Richard Sennett (b. 1943) has persuasively argued, it also replaced them with new kinds of barriers that facilitated the visual sensation of bringing the outside in, but isolated all other sensory perceptions: "a visibility that was both enabling yet isolating"[16]. As Richard Sennett summarizes, modern transparent buildings achieved their integrity of objectness, but in so doing they aroused "an intimate of absence, of untouchableness. This is our experience of the sublime"[17].

Building Pools in Australia

In the Australian context, European militaristic and instructional associations were tempered by the American image of the backyard pool being the focus for entertainment and family life. Both pools for athleticism and for leisure were introduced into communities in the mid-century which coincided with a growing national prosperity, and associated transformation of the labor market that now required less physical labor and time so that working families looked to improve their leisure time facilities. The popularity of sport and swimming was bolstered specifically by the implementation of a National Fitness Movement in each Australian state in the 1930s, widespread swimming lessons,

02 Sketch for Manuka Swimming Baths, Canberra, Australian Capital Territory (ACT), 1930. © National Archives of Australia.



03 Eggleston, Macdonald & Secomb Architects, Beaurepaire Pool, University of Melbourne campus, Victoria, 1957. © Photographer Christine Francis.

and some government promotion of pool building. Not that it seemed much encouragement was needed for Australians to be interested in sport, as it would become enshrined as a potent index of morality, social fabric and fame, with swimming particularly capturing iconic images of a carefree land of sun and surf[18].

In the context of the expanding suburbs and inland towns, despite Australia's predominance of coastal urban settlements, the beach was often quite far away for easy day-trip access, and pools were seen as a good substitute. However, the building of local community facilities was patchy and lagged behind expectations. Taking the case of Western Australia, for example, the development of swimming was severely hampered by the lack of provision of public pools. There was only one Olympic pool in the state until the 1950s, and that was in the remote inland goldfields town of Kalgoorlie[19]. Many rural towns and suburban areas struggled to raise money for their own pools, and a government policy, referred to as the "Ribbon of Blue Scheme" was implemented to provide assistance to local authorities that were more than 35 miles (56 kilometers) from the coast[20]. It was widely recognized in parliamentary debates that pools provided important social capital to local communities, but generally funding was not particularly forthcoming and many pools were built through local fund-raising efforts.

There are few notable examples of public pool architecture in Australia before WWII, but by the late 1930s a number of Olympic standard pools had been built across the country including the Manuka Pool, Canberra (1931), and the Enfield (1933), Bankstown (1933), Granville (1936) and North Sydney Pool (1936) all in Sydney and designed by the architectural firm of Rudder & Grout. The North Sydney Pool would become one of the most iconic pools in Australia, not only because of its spectacular location on Sydney's north shore under the shadow of the newly completed Sydney Harbour Bridge (1923–1932) and Luna Park (1935), but also because of its use in the Empire Games competitions of 1938 and 1958. The design features polychromatic brickwork with horizontal banding, simple classical archways and arcading, elaborate glazed tiling, and glass and stucco decorations of parrots, frogs, scallop shells and other marine motifs. The filtration system was seen to be one of the most advanced in the world. Despite the economic depression, this first wave of public pool building came at a time when Australia's reputation in international swimming events was growing, notably with their dominance in the swimming at the Los Angeles Olympic Games of 1932. This decade was to see the coming of age of women's competitive swimming across the nation, signaling the full integration of female swimmers in the public pool.

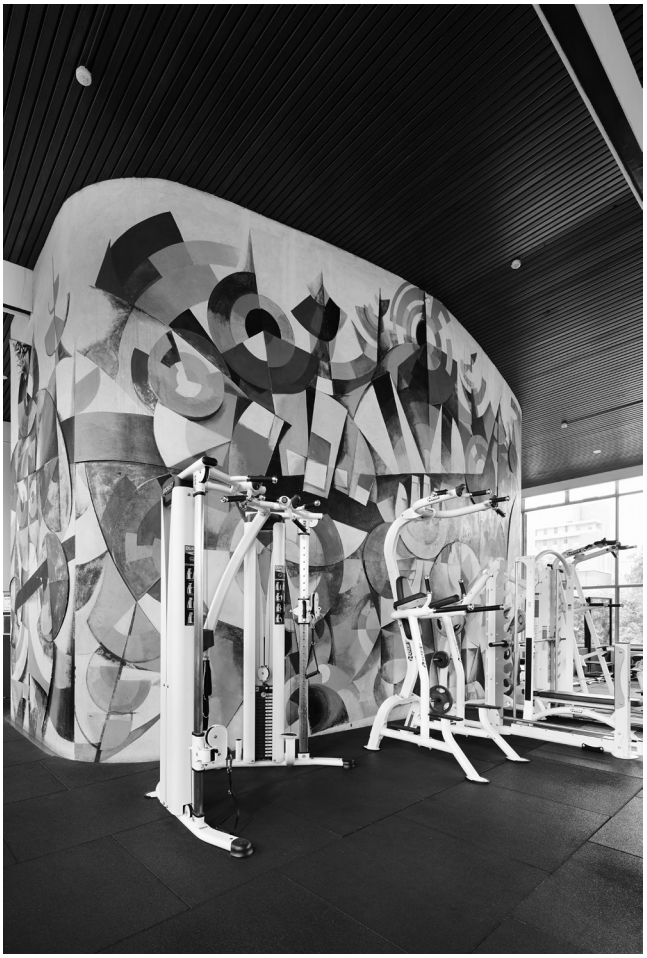
Between 1945 and 1972, a great number of public pools were constructed around the country of varying types — both outdoor and indoor. Some 32 pools opened in Sydney alone between 1945 and 1972, and through the 1950s and 1960s, a number of notable architectural designs: for example the Canberra Olympic Pool was nominated for the Royal Australian Institute of Architects, Sulman Award in 1955[21]. While the Tobruk Memorial Baths and Pool, Townsville, Queensland (1951) and the Liverpool Memorial Olympic Pool, New South Wales (1959), were built as commemorative structures, honoring war service and affirming their role as significant community places.

Another notable Melbourne example of a fully enclosed modern pool was built on the University of Melbourne campus, the Beaurepaire Centre (1954–1957) was designed by architects Eggleston, Macdonald & Secomb[22]. The perceived need for a facility of international standards came at a time of heightened sporting awareness in the lead up to Melbourne hosting the Olympic Games in 1956. It was this generation of Melbourne architects that architect and critic Robin Boyd (1919–1971) would refer to as the cradle of modernity that lent the "weight of a generation of pioneers" to the architecture of the 1950s[23].

The resulting design enclosed the pool area with a bold but simply expressed portal frame structure forming a series of free-span bays over the 25-meter pool and amenities. Full-height glazed walls to the north and south, which originally included sliding doors, created visual connection

between inside the pool and outside to the northern end of the campus, and a feeling of transparency to the whole complex. Indeed, in reference to Richard Sennett's description of the modern sublimity of transparency, there is something quite strange about walking past the glazed wall of the pool on a cold day watching the lap swimmers inside, but hearing and feeling nothing. The architects were also very forward thinking in commissioning the well-known Australian artist Leonard French (1928–2017) to create a mosaic tiled mural on the upper gymnasium and trophy space titled "Symmetry of Sport" the geometric, colorful and abstract image was integrated into the building, accompanied by a striking horizontal tiled frieze on the exterior of the façade, and a mosaic reception desk (now lost).

Also constructed for the 16th Olympiad of 1956, and an important structure in international Olympic Games history, the Melbourne Olympic Stadium complex was the first to be fully enclosed and roofed[24]. The competition-winning swimming pool scheme was designed by the architectural team of John (1920–2004) and Phyllis Murphy (b. 1924), Kevin Borland (1926–2000) and Peter McIntyre (b. 1950) with the engineer Bill Irwin (1917–2000). Upon winning the competition, in 1953, Robin Boyd (who was one of the competition judges) commented that: "This is a modern building in every sense of the word"[25].



04 Leonard French mural "Symmetry of Sport" in gymnasium above Beaurepaire Pool, University of Melbourne campus, Victoria. © Photographer Christine Francis.

05 Canberra Department of Works, Canberra Olympic Pool, ACT, 1955. © Australian Capital Territory Heritage Library.

Although much optimism prevailed about the design, it then went through hasty and major amendments including moving the site, and omitting the restaurant, eastside concourse and some of the dressing rooms, re-thinking the number, size and use of indoor and outdoor pools, and increasing the seating capacity of the main pool stadium to 5,500. The pool itself was scaled at 55 yards (50.292 meters), with a temporary wall at one end to make it 50 meters for the Olympic event, as in Australia at that time all swimming competitions were still typically raced in yards. The structural design of the Swimming Stadium is experimental and expressive, using a series of 14 tubular steel roof trusses and tension rods that support the roof, and angled girders that support the cantilevered spectator seating. The end walls are glazed, in the manner of earlier pool designs, to allow connection between inside and out, and strip glazing is inserted above the seating. Particular attention was placed on the provision of the latest technology in diving boards for these Games. Diving boards are a potentially important element of any pool; having the ability to transform from the passive, the leisurely and the ornamental to a pool charged with dynamism and purpose. And a large ceramic sculpture by the Australian artist Arthur Boyd (1920–1999) was commissioned for the north side of the building. Despite early teething problems with leaks in the pools, the Melbourne Olympic Stadium was highly innovative and influential, both nationally and abroad[26]. The association of dynamic and expressive tensile structures with pool design would prevail in international architecture for the next decades, with key examples including the Olympic Pools for Rome (1960) by Pier Luigi Nervi (1891–1979), Tokyo (1964) by Kenzo Tange (1913–2005), and Munich (1972) by Frei Otto (1925–2015) and Günter Behnisch (1922–2010)[27].

Locally a number of more experimental pool structures also followed Melbourne including Australian architect James Birrell's (b. 1928) design for the Centenary Swimming Pools in Brisbane (1957–1959). The organic planning of the complex is influenced by the aesthetics of modern artists and architects including Hans Arp (1886–1966), Laszlo

06 James Birrell Architect, Centenary Pool Brisbane, Spring Hill, Queensland, 1957–1959. © Photographer Jim Fenwick © Newspix.

Maholy-Nagy (1895–1946) and Oscar Niemeyer (1907–2012)[28]. The loose composition is further accentuated by the daring cantilever of the free-form restaurant building, and the flowing patterns delineated in the pool tiling. James Birrell's design thus deviates from the almost militaristic insistence on order and regularity of most public pools.

The staging of the 7th British Empire and Commonwealth Games in Perth in 1962 was another international sporting event that gave the opportunity to improve on the lack of swimming facilities in Perth, Western Australia. The pool complex as constructed consisted of three outdoor pools capitalizing on the typically Mediterranean climate, with a capacity for 1,200 bathers and 5,500 spectators in U-shaped seating galleries, shaded by cantilevered canopies. The seating areas were externally faced in glazed curtain wall and blue spandrel panels. The entrance was defined by a colonnade of deep blue glazed tiled columns. Although not architecturally adventurous it was a successful example of its type, in an international modern style, and featured very up-to-date facilities for public swimming and competition conditions:

> *Indirect lighting on the concourse, illumination from underwater and spotlights on each competitor as well as long bands of light to light rockeries and fountains at the glass faced entrance will give the centre a dazzling effect*[29].

Other innovations centered on surveillance: an underwater photography and observation room with glass windows set into the wall of the pool; an air system that created ripples on the water to make it easier for divers to judge the distance from the surface; and a competition room allowing observation to the diving boards[30]. The complex has also endured as a public pool for the Northern suburbs of Perth, with major renovations however that have significantly altered the original schema.

Among the other notable pools constructed around Australia in the 1960s and early 1970s, one of particular architectural significance is the Harold Holt Swim Centre, constructed in 1969 in Melbourne, Victoria. Designed by the architects Kevin Borland (1926–2000) and Daryl Jackson (b. 1937), off-form raw concrete and glass compose its muscular form. Sometimes attributed as one of Melbourne's earliest Brutalist buildings, here the pool's services, structure and circulation zones of ramps, mezzanines and walkways, are emphasized as expressive elements in the whole composition. The pool complex's form and overall planning signaled Borland's interest in trapezoidal and angular geometries. Some parts of the building are highly transparent, exploiting natural lighting and an industrial aesthetic, while the change rooms, are darker and more cavernous[31]. The outdoor pools are enclosed and protected by grassy berms, cypress and date palms, with a dramatic diving tower completing the northern end of the complex. The design strongly reflects the aesthetic and social aims of community-building in Australia in the late 1960s. Despite pressures to destructively renovate the pool over a decade ago, a more sensitive renewal was enacted and some level of heritage protection that ensured the retention of most of the significant architectural elements and updating of amenities for a 21st century public.

The Fate of Modern Public Pools

Due to their adoption of new materials and mechanical servicing, alongside changing attitudes towards water sustainability and sun exposure in Australia, modern public pools (in particular the outdoor pool) have certainly faced serious and challenging issues regarding their retention and conservation. With a steady decline in patronage and repair, a number of less notable pools around the country have not fared well in terms of their longevity and have been closed, privatized or significantly and irretrievably altered in the last two decades. With this loss of physical amenity comes the loss of localized, personal and collective memories and attachments to ordinary yet often formative places of sensory experiences. As Siegfried Giedion promoted, modern architecture was not just about the expression of movement in structure, but also about capturing the possibilities of engaging in the feeling of dynamic space. Through playful and ritualistic movement in water — the

07 Borland & Jackson Architects, Harold Holt Memorial Swimming Centre, Malvern, Victoria, 1969. © Courtesy Doug Evans.

sensory experience of reflective light, the smell of chlorine, or the sounds of swimming — modern pools hold a special and often nostalgic place in Australian popular and architectural culture of the 20th century.

Notes

1 Previous publications on pools by the author: Hannah Lewi contributions to *From the Edge*, Exhibition Guide and book Venice Architecture Biennale 2016 "The Pool", edited by Michelle Tabet, Amelia Holliday and Isabelle Toland. Published by the Australian Institute of Architects, 2016; Hannah Lewi, "Making Space for Recreation" in Hannah Lewi, David Nichols (eds), *Community: Making Modern Australia*, 2010; Hannah Lewi "Modern Pools: The Triumph of the Artificial", in Ann Stephen, Philip Goad, Andrew McNamara (eds), *Modern Times: The Untold Story of Modernism in Australia*, Melbourne, Miegunyah Press, 2008; Christine Phillips, Hannah Lewi "Immersed at the water's edge: Modern British and Australian seaside pools as sites of 'Good Living'", *Architectural Research Quarterly* 17:3–4, 2013, 281–291.
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7 Catherine Horwood, "Girls Who Arouse Dangerous Passions", *Women's History Review*, Vol. 9, N. 4, 2000, 653–673.
8 Kenneth Cross, op.cit., 216.
9 Interview with John Richards in Miles Glendinning (ed), *Rebuilding Scotland: the postwar vision 1945-1975*, Edinburgh, Tuckwell Press, 1997, 126.
10 "Health and recreation Centres", *Journal of the Royal Institute of British Architects*, 12 May 1928, 448.
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12 Rem Koolhaas mythologises this architectural contrast between old Europe and new America with the story of a floating pool — born of European ancestry and symbolic of ruthless Soviet simplicity; "so rectilinear… no shear, no tension, no wit"— that propels itself over a period of decades to New York where it then appears totally out of context. *Delirious New York A Retroactive Manifesto for Manhattan*, Rotterdam, 010 Publishers, 1978, 310.
13 Kenneth Cross, op.cit., 223.
14 This pool used reinforced concrete in the form of a gabled roof, with cantilevered beams expressed on the elevation and emphasised with a row of fin-like vertical counterweights. See RIBA *Journal* , 1928, 444; RIBA *Journal*, 1935, 1082.
15 Sigfried Giedion, *Space, Time and Architecture: the growth of a new tradition*, Cambridge, Mass: Harvard Uni Press, sixth printing, 1976; Richard Sennett, *The Conscience of the Eye: the Design and Social Life of Cities*, London, Faber and Faber, 1990, 103.
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17 Ibid., 117.
18 Jaques and Pavia, *Sport in Australia*, Sydney, McGraw-Hill, 1976.
19 Lord Forrest Pool, constructed in 1938 and thereby being only the second Olympic pool in the country, designed by W.G. Bennett (1896-1977). Aris, Erickson & Taylor, *Lord Forrest Olympic Pool, Heritage Assessment and Conservation Plan*, Kalgoorlie, 2002.
20 *The West Australian*, 6 August, 1957; See *Parliamentary Debates*, Vol. 148, 1957, 2699.
21 *Architecture Australia*, 45, 4, 1956, 36–37.
22 The facility was funded by university benefactor Sir Frank Beaurepaire, who aside from being a highly successful businessman, had also been an Olympic swimming champion.
23 See *Architecture in Australia*, 46, 2, 1957, 40–42.
24 Conrad Hamann, "Olympic Swimming Stadium", *Kevin Borland Architecture from the Heart,* ed. D Evans, Melbourne, RMIT University Press, 2006, 116.
25 *The Age*, 30 December, 1952. Boyd's accolades for this building have been well written up elsewhere. See for example, Philip Goad, "Optimism and Experimentation", *Architecture Australia*, 1990, 34–49.
26 For example, appeared in *Architectural Record*, May 1953.
27 Philip Goad, "Competition and Circumstance: Urban Legacies of the Olympics", *Debating the City*, Jennifer Barrett and Caroline Butler-Bowdon (eds), Sydney, Historic Houses Trust of New South Wales, 2001, 147.
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31 See Conrad Hamann, "Harold Holt Memorial Swimming Centre", *Architecture from the Heart*, 167.

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