

ATTACHMENT 3

**Lovell Chen (with Harry Seidler &
Associates), Statement of Design
Principles, November 2020**

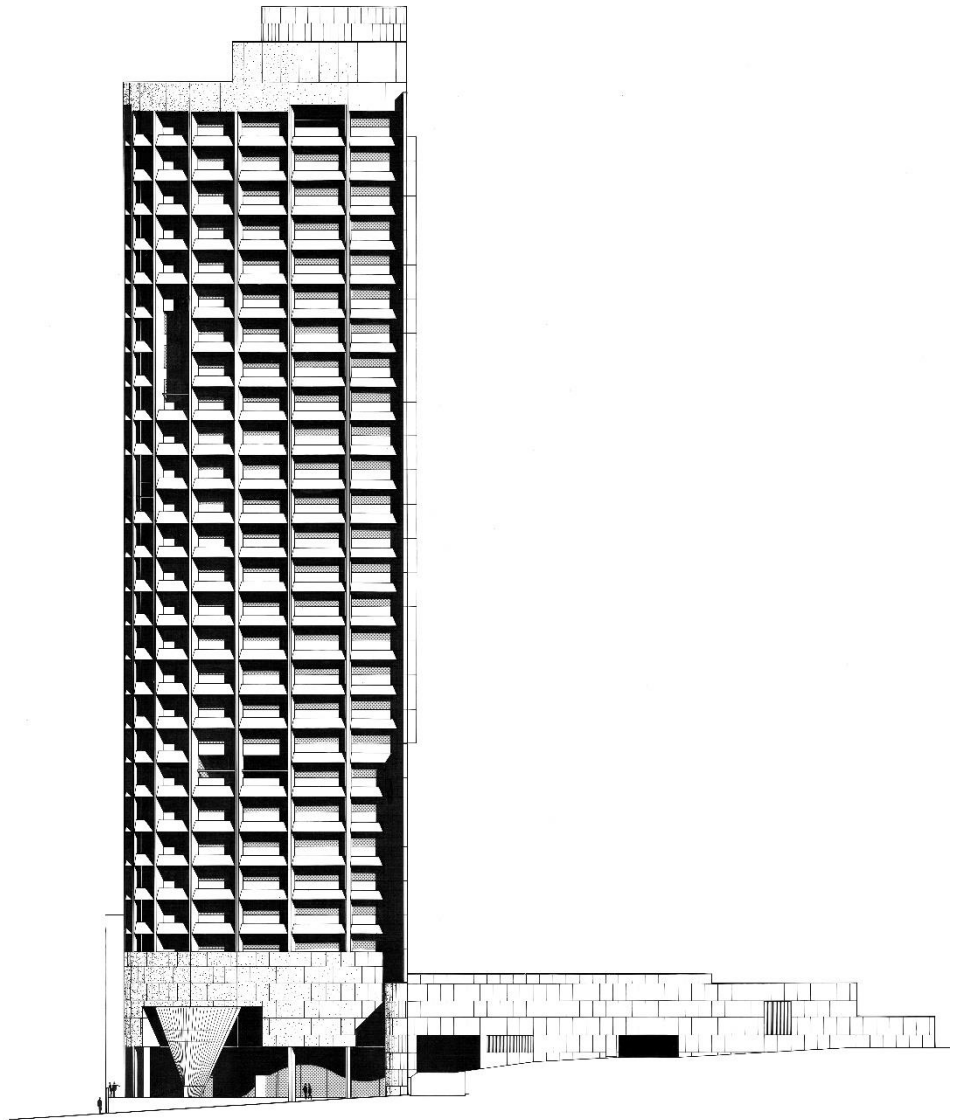




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Statement of Design Principles

1 Spring Street (former Shell House)
Melbourne, Victoria



November 2020

Prepared by

Prepared for

LOVELL CHEN

Phillip Nominees Pty Ltd

Quality Assurance Register

The following quality assurance register documents the development and issue of this report prepared by Lovell Chen Pty Ltd in accordance with our quality management system.

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Referencing

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Cover image: Pen and Ink drawing depicting the east elevation of 1 Spring Street, 1985 (Source: Harry Seidler & Associates)

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EXECUTIVE SUMMARY

1 Spring Street (former Shell House) was designed by the exceptional Sydney-based architect Harry Seidler. Completed some forty years after Seidler's arrival in Australia, 1 Spring Street is the work of a mature architect with an uncommon mastery of visual design, structural engineering, and the management of space, as well as the economics of tall building construction.

In its planning, form, relationship with its context and with the original programme brief, 1 Spring Street is a physical manifestation of a range of influences and sources that had variously preoccupied and inspired Seidler during his extensive career as one of the premiere voices of architectural modernism both in Australia and internationally.

1 Spring Street is also one of a group of four commercial towers realised from 1982-1991 in Sydney, Brisbane, Melbourne and Perth, which were designed by Seidler on the basis of a mature set of design principles and which not only display his mastery of expressive form, materials and visual effect, but accentuate this through a coherent architectural grammar shared across the four projects. The shared principles and pedigree of these towers make them a particularly compelling study of the capabilities of a committed modernist programme at a time when this was giving way to the far looser commitments of post-modernism and the fluid expressionism that has followed it in the contemporary period.

Purpose of this document

This Statement of Design Principles has been prepared to fulfill the following core requirements:

- To understand the design essence of the building's planning, formal articulation, spatial arrangement and materiality, as related to its architectural and aesthetic significance; and
- To provide a practical basis to guide the heritage conservation and management of 1 Spring Street.

When change is required or contemplated at 1 Spring Street, the principles should inform the approach adopted, in consultation with the moral rights holder (Penelope Seidler). The Conservation Management Plan (CMP) for the building provides a greater level of detail on the implications of the design principles as related to particular areas, elements and attributes of the place, and policy guidance as to the use of the principles in developing an approach to adaptation and change within the place where this is required.

Design Principles

As with all of Seidler's buildings, 1 Spring Street was executed as a *gesamtkunstwerk*, a total artwork that served to integrate and extend the modernist architectural programme across the whole of the environment within the development. This combined the masterful coordination of the tower's functional and aesthetic design, as executed through the principles detailed below, with an attention to a consistently high quality of physical and material resolution of elements throughout the site.

Planning the site's total environment

For Seidler, the opportunities of modernism began in the integration and resolution of the entirety of the site's programme and relationships as part of the total environment of the building. The building plan could be tailored not only to respond rationally and efficiently to the program brief and opportunities of the site, but to create its own monumentality and unique articulations of space and time (as further developed in later principles, refer below). At 1 Spring Street, this total approach to site planning can be seen expressed in:

- the tower's curvilinear presentation and outlook to the south and east, its setbacks and definition where it meets the ground,
- the highly resolved internal circulation sequence, and
- the incorporation of artwork in conversation with the structure's architectural intent.

Integration of building form and function

Seidler consistently sought a sculptural outcome for the rational technique at the core of the architectural modernism, optimising each building's functional economy and revealing this in pursuit of aesthetic expression. The methods at the root of Seidler's modernism included:

- *Elaboration from elemental geometry*, as expressed in both the tower's curvilinear plan and in internal spatial details and sequencing;
- *Marriage of building form, technology and economy*, as expressed in the details of the structural system and external cladding and façade components; and the
- *Harnessing of building systems for sculptural effect*, as expressed in the tapered transfer column at the Spring Street foyer, the dramatic visual articulation of the façade, and integration of exhaust systems, boundary screening and load bearing structure at each end of the tower.

An architecture of space and time

Building on the logics developed in integrating building form and function, Seidler's architecture is articulated to exercise control of its expressive qualities and the perceptual experience of both space and time within the site. Extending lessons from visual theory and modernist sculpture, 1 Spring Street achieves its coordinated expression through:

- *Visual and spatial tension*, as expressed in the arrangement of windows and deeper openings in the tower façade, the sequencing of curvilinear partitions and other features within key internal circulation spaces and the external plazas; and
- *Contrast and visual order*, as expressed in the formal arrangement of the tower elevation, details accentuating the effect of light and shadow both on the elevation and in major internal spaces, and the select use of saturated primary colours in the major internal amenities.

1.0 DOCUMENT SCOPE AND PURPOSE

This Statement of Design Principles describes the spatial, aesthetic and technical principles and the theoretical preoccupations that are distilled in the design of 1 Spring Street, Melbourne, the former Shell House tower. The preparation and adoption of such a document is premised on an understanding that recognition of the principles that underpin the place is fundamental to the ongoing management of its conceptual integrity and the valued aspects and elements of its formal presentation. The principles are set out at Section 4.0.

The document provides the foundation for considering matters relating to the conservation of significant elements, areas and characteristics of the 1 Spring Street tower and its site (refer Section 1.3). Issues relating to the use and operation of the place are not addressed here in detail.

This Statement of Design Principles should be read in conjunction with the Conservation Management Plan for 1 Spring Street (refer Section 1.4).

1.1 Authorship

This document was written by Lovell Chen, in association with Harry Seidler & Associates.

Harry Seidler wrote and presented extensively on the theoretical and practical underpinnings of architectural practice. Seidler worked to ensure that many of his new buildings were featured in London's *Architectural Review* or other international journals, assisted in the publication of books about his practice, and was an active contributor to architectural education at UNSW and as a guest of schools in the US, UK and Europe. His recorded and published lectures offer an important record of his practical and philosophical approach to architecture; in particular, a key sequence of five lectures recorded at UNSW in 1980 captures Seidler's own curated precis of the lessons gleaned from his graduate education with former Bauhaus masters from 1946-48.

The specific formulation of *design principles* for 1 Spring Street has been developed by the authors with the involvement of Harry Seidler & Associates, and with reference to Seidler's original words and publications as well as additional material produced by the firm.

Since Seidler's death in 2006, Harry Seidler & Associates have worked to sustain and advance his legacy, managing careful adaptation works at many of the firm's original buildings and contributing to the ongoing appreciation of that legacy through exhibitions, publications and other engagements.

The authors are grateful for the assistance of Greg Holman of Harry Seidler & Associates, and of Polly Seidler, Harry's daughter. Greg Holman joined the Seidler office in 1980, working in the role of Project Architect on two of the firm's 1980s towers, Riverside Centre in Brisbane and QV1 in Perth, along with later projects. He has provided advice on refit and adaptation works for many of Seidler's buildings, including refurbishment works undertaken at 1 Spring Street since 2018. Holman provided extensive input to this document as a key informant and reviewer. Polly Seidler is a copyright lawyer and has had a longstanding involvement in a research and curatorial capacity with her father's work and records; she provided detailed review comments on a draft version of this document.

The document has also drawn on materials held in the firm's archives, and on the wealth of information collated and presented in published sources over the last twenty-five years.

1.2 Management of Artistic Integrity Rights

Harry Seidler's architectural drawings and other work products remain under copyright. Likewise, his moral rights of artistic integrity under Australia's Copyright Act 1968 Part IXA remain in place and are managed by the moral rights owner, Penelope Seidler. Under this law, the moral rights owner requires that a consent be given for any alterations to Seidler's buildings, so that their architectural and design integrity is upheld.

1.3 Identification of the place

No. 1 Spring Street (former Shell House) is a 28-storey office tower located on an L-shaped parcel on the south-east corner of Melbourne's CBD. The approximately 0.5 hectare site was assembled from several discrete properties, and includes Milton House, a three-storey masonry building constructed in 1901, as well as an underground railway easement. The primary address of the tower is to the intersection of Spring Street and Flinders Street, with a secondary entrance from Flinders Lane and a long service frontage to Throssell Lane.

The former Shell House tower at 1 Spring Street was designed by Harry Seidler & Associates, a Sydney-based practice. Harry Seidler was one of Australia's best known modernist architects, and achieved an unrivalled level of international recognition due to his deep and enduring connection with key figures in inter-war and post-war modernism. Beginning from 1948 designing highly noteworthy residences in Sydney's post-war suburbs, Seidler soon moved into the design of larger-scale residential and commercial projects. Australia Square (1961-1967) and later the MLC Centre (1971-1978), both in Sydney, established Seidler as a major force in the design of commercial towers, with a string of projects following from this culminating in four projects undertaken during the 1980s boom which share a set of highly resolved design principles and a consistent pattern of formal, spatial and material resolution, including the tower at 1 Spring Street, Melbourne.

The 1 Spring Street complex was originally designed to house the corporate head offices of Shell of Australia, including executive suites and corporate amenities scaled to the profile and prestige of a major international concern. The public profile of this site, the project brief, and the selection of Harry Seidler as architect all expressed the intent of the project as an expression of Shell Australia's corporate ambition in the 1980s.

The tower has a curvilinear plan which comes to ground as a freestanding structure on its primary elevation to Flinders Street and the corner at Spring Street/Wellington Parade and is set back from the street front behind paved garden plazas. The main free span tower levels wrap around a tower core set to the rear (north), with an underground car park and amenities wing also set to the north. The façade is clad principally in prefabricated cast columns and spandrels of reconstituted polished granite; with natural granite facing applied to both the base levels of the building and to the south-facing elevation of the building core where this is exposed to the terraced roof garden at Levels 27 and 28. Granite facing is also used extensively within the publicly trafficked areas of the building interior. A multi-level public circulation space connects the main lobby facing Spring Street with the lower lobby at Flinders Street, and with corporate amenities at levels 1-2 and a secondary entrance from Flinders Lane to the north.

No. 1 Spring Street was Seidler's only commercial project to be built in Victoria. In addition to Shell House, Seidler was commissioned to design three municipal complexes in Melbourne's eastern suburbs; those projects share many of the Seidler design principles and his deep reading of architectural and artistic modernism, albeit at a much smaller scale and without the monumentality achieved in his tower designs.

1.4 Cultural heritage significance

No. 1 Spring Street is a place of representative and aesthetic (architectural) significance to the State of Victoria. It is included in the Victorian Heritage Register (H2365) and is managed under the provisions of the *Heritage Act 2017* (Victoria). Milton House has been separately included in the Victorian Heritage Register (H0582) as being of architectural significance; it is described here only where relevant to an understanding of the design history and principles of the 1 Spring Street development.

Summary of significance

No. 1 Spring Street is an outstanding example of a late modernist office tower. Designed by the renowned Australian architect Harry Seidler as a headquarters for the Shell Company of Australia, it is one of an important series of high rise towers designed by Seidler, and the only one to be constructed in

Victoria. It is expressive of modernist design principles developed by Seidler over the course of his career, which contribute to the tower's resolution as a fine example of its type. (*Heritage Council of Victoria (HCV) criterion 'D'*)

No. 1 Spring Street is of significance to Victoria for its aesthetic (architectural) qualities. In both its external form and major internal circulation and amenity spaces, the tower is a highly sculptural and visually expressive architectural outcome but one that is grounded in Seidler's command of a core modernist language of structural and visual technique as summarised in the design principles detailed below. 1 Spring Street received state and national awards from the Royal Australian Institute of Architects, and other honours. (*HCV criterion 'E'*)

1.5 Relationship with the Conservation Management Plan

The Statement of Design Principles is a companion to the CMP for 1 Spring Street (former Shell House). Together they form a framework for the conservation and management of 1 Spring Street from a heritage perspective.

The Statement of Design Principles is conceived as a permanent reference, although the document may be updated or modified to incorporate new information and/or perspectives as required.

The CMP will be updated periodically to reflect evolving understandings of 'value' and to align with strategic priorities for management of the place.

2.0 HARRY SEIDLER

2.1 Biographical outline¹

Harry Seidler (1923-2006) was born in Vienna, the second son of an affluent Jewish family. Following the German annexation of Austria in 1938, the family was forced to emigrate, with Seidler sent to England where he was sponsored by an upper class family in Cambridge and briefly studied English and a course in building studies. Spending two years in internment camps in England and Canada after the outbreak of World War 2, on release in October 1941 Seidler enrolled in the architecture program at the University of Manitoba, graduating in 1944 and after working briefly in Toronto achieving his initial registration as an architect. He had also earned a scholarship to attend the Masters program at the Graduate School of Design at Harvard in the United States, travelling there in 1945 to study as a graduate in a program that had been transformed under the influence of Walter Gropius. The experiences he gained at Harvard, in a short course at Black Mountain College, and in subsequent employment in the U.S. and Brazil set the stage for a remarkable career as one of the key proponents of architectural modernism in Australia and internationally in the second half of the twentieth century.

Seidler left the U.S. in 1948 to re-join his parents and brother in Australia, where they had settled in Sydney. Arriving initially as a temporary visitor, Seidler completed his first architectural commission—a house for his parents—that same year and soon assembled a successful portfolio of homes designed on modernist principles throughout suburban Sydney. Seidler's practice soon took on larger propositions in commercial and public architecture, informed by his modernist education, key collaborations with domestic and international practitioners across construction, engineering and the fine arts, and his own advanced understanding of the economics, physics and aesthetics of building construction. From the 1960s to the early 2000s, Seidler designed some of Australia's most celebrated tall buildings, as well as important overseas projects in Hong Kong, Mexico and Europe, culminating in a group of exceptional commercial towers designed and constructed in Sydney, Brisbane, Melbourne and Perth during the 1980s.

Seidler married Penelope Evatt, daughter of one of Sydney's leading political and legal families, in 1958; Penelope earned a Bachelor in Architecture from the University of Sydney and later a degree in business, and joined the office in 1964; Harry Seidler & Associates continues under her management. The couple had two children. Seidler received honours throughout his career, including the Royal Australian Institute of Architects Gold Medal (1976), the Gold Medal of the City of Vienna (1990), and the Royal Institute of British Architects Gold Medal (1996); he was granted an OBE in 1971 and later made a Companion to the Order of Australia (1987). Penelope Seidler is herself a Member of the Order of Australia and a Life Member of the Australian Institute of Architects.

2.2 Education

At the time of Seidler's wartime education in Canada, the University of Manitoba's School of Architecture was one of just three English-language programs in the country, and supervised from 1929-1946 by Milton Osborne, an American architect trained at Ohio State and Columbia who embraced modernism and would have overseen the evolution of the school's program away from its Beaux-Arts roots.² This program, in which Seidler earned first class honours, set the stage for a stunning two years of graduate studies and work in the United States, where from 1945 to 1948 he studied and apprenticed under luminaries of pre-war European modernism and shared classrooms with many of architectural modernism's next generation of leaders.

2.2.1 *Walter Gropius, Marcel Breuer, Harvard Graduate School of Design*

The Graduate School of Design at Harvard was officially established in 1936, combining existing programs in architecture, urban design and landscape architecture. The next year, the school appointed Walter Gropius, who was soon confirmed as Chair of the Department of Architecture.

Walter Gropius (1883-1969) was born and raised in Berlin, where as little more than a student in 1908 he joined the office of architect and industrial designer Peter Behrens, working alongside other young staff including Mies van de Rohe and Le Corbusier. Leaving in 1910 to start his own firm with Adolf Meyer, after the upheavals of World War I Gropius was appointed master of the Grand Ducal School of Arts and Crafts at Weimar, which he transformed into the Bauhaus, a globally-famous experimental academy that educated and attracted modernists from across Europe, including Paul Klee, Johannes Itten, Josef Albers, Herbert Bayer, Laszlo Moholy-Nagy, Otto Bartning and Wassily Kandinsky.

Gropius is best known as a leading proponent of architectural modernism, a movement which arose in Europe in the 1920s and received widespread international adoption in the 1950s and 1960s. The templates set by Gropius at the Bauhaus for collaborative teaching and practice across a range of artistic and technical disciplines were equally innovative, and this philosophical approach to learning and architectural production shaped not only Seidler's initial education and connections with Josef Albers and others (refer below), but also his life-long engagement with modernist artists as both influences and collaborators. Leaving the Bauhaus in 1928 to return to Berlin, Gropius (whose second wife Ilse Frank was Jewish) was soon driven out of Germany by the rise of Hitler and the National Socialists, arriving in Britain in 1934 and the United States in 1937.

The Harvard Graduate School of Design brought together a number of other leading designers who had been forced to flee wartime Europe, including the architect and industrial designer Marcel Breuer and the planner Martin Wagner, and enjoyed Gropius' continuing connections with other former members of the Bauhaus school and other modernists that had similarly been displaced to the United States, including Josef Albers at Black Mountain College (refer below). The Finnish architect Alvar Aalto, who taught intermittently as a professor at the nearby Massachusetts Institute of Technology and completed a number of American commissions in the 1940s and 1950s also featured as part of this milieu, as did the Swiss architectural historian Sigfried Giedion, whose pioneering history of modern architecture and planning *Space, Time and Architecture: The Growth of a New Tradition* (1941) developed out of an invited lecture series given at the GSD in 1938 and instantly became required reading. Seidler recalled purchasing Giedion's book in 1944 and studying it intently.³

In 1945-1946, the masters student cohort Seidler joined was similarly exceptional, including Henry Cobb, John Parkin, Ed Barnes, Donald Olsen, Peter Oberlander, and John Harkness. Recent graduate I.M. Pei had stayed on as a teaching assistant.⁴

During his time at Harvard, Seidler took vacation work for Alvar Aalto, drafting plans for the Baker House dormitory at MIT, and following graduation and a summer course at Black Mountain College (refer below), Seidler went to work for Marcel Breuer, who had left Harvard to return to professional practice in New York. Working for Breuer from 1946-1948, Seidler drew the plans for a series of residential commissions undertaken by Breuer in the U.S. northeast, including Breuer's own house at New Canaan, Connecticut, and the Robinson House in Williamstown, MA where Seidler stood in as project architect while Breuer was away in Argentina during 1947.

2.2.2 Josef Albers

In 1946, on the advice and introduction of Gropius, Seidler took a visual aesthetics course with Josef Albers (1888-1976) at Black Mountain College, an experimental arts school in North Carolina which had become an important centre for the American avant-garde.

Albers was a German art teacher and journeyman glass painter who had joined the Bauhaus in 1920. While at the Bauhaus, Albers began to develop theories of visual design and colour stemming from his practical work with stained glass and broader engagement with the evolving fields of art and design at the Bauhaus. Displaced to the United States in 1933, Albers was offered a position at the new Black Mountain school. From 1950, Albers led the department of design at Yale University, and following retirement in 1958 published *Interaction of Color*, a summation of his practical and theoretical teachings on the perception of colour in design.

Seidler's notes on *Design* and *Color*, made during his course with Albers, are now in the collection of Museum of Modern Art in New York. He observed later that 'without it [the Albers courses] ... I wouldn't have succeeded in things as I believe I did over the many years that I've practiced architecture.'⁵

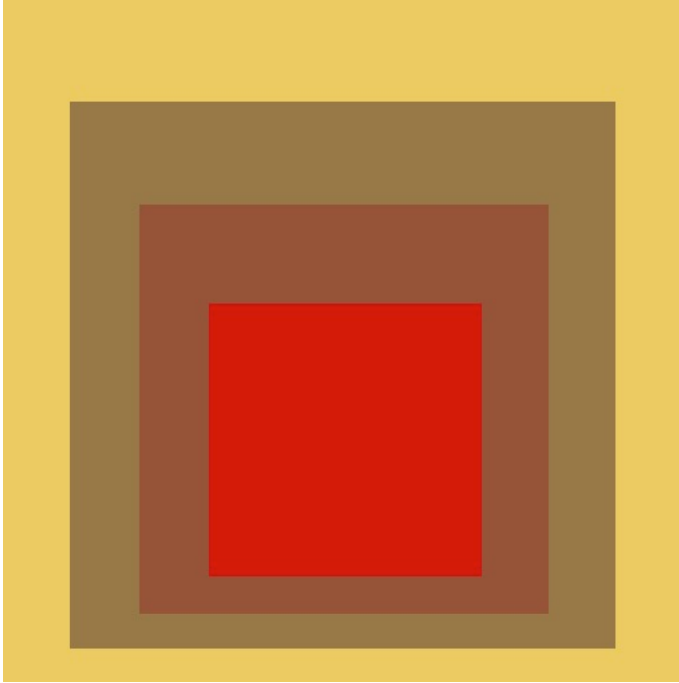


Figure 1 Josef Albers, 'Homage to the Square' (1967)
Source: Wikimedia Commons



Figure 2 Josef Albers, 'Wrestling' (1977), aluminium sculpture at MLC Centre in Sydney, an update of Albers' earlier 1960s 'Structural Constellations' series of prints
Source: Max Dupain photograph, courtesy Harry Seidler & Associates

2.2.3 Early modern artists

The Bauhaus naturally engaged a broader sphere of contemporary and radical arts in the 1920s, which became signposts for understanding the architectural and visual logics of the twentieth century.

One such artist was Theo van Doesburg (1883-1931), a Dutch painter who worked at the intersection of art, architecture, poetry and prose and founded the abstract *De Stijl* movement. Both a vehement critic of competing schools of modernism, including Futurism and the early expressionist architecture produced by the Dutch avant garde, and a true believer in the spiritual clarity of his own movement, van Doesburg visited the Bauhaus and his work had an influence there, although he never received the approval he had sought from Gropius and the school's other masters.

Nevertheless, his works so clearly described the spatial and aesthetic technologies of architectural modernism that they became touchstones in the post-war period; van Doesburg's work was included in Giedion's *Space, Time and Architecture*, and it was subsequently featured in the American touring exhibition *Painting towards Architecture* (1947-1952). Having seen the exhibition in its debut at Hartford,⁶ Seidler later collected van Doesburg's work himself, and referred to it throughout his career in lectures and papers describing his approach to visual aesthetics. Seidler bought 'Space-time construction #3' in 1992; following his death the work was donated by Penelope Seidler to the National Gallery of Australia in 2010.

Van Doesburg's works generated balance from complex asymmetrical compositions rendered as abstract plat plans (like Mondrian's, refer below) or in some compositions effectively three dimensional compositions of spatial planes. The influence of van Doesburg's depictions of 'hovering planes' and 'flowing space' on Seidler's approach to visual and spatial composition is apparent throughout his career; from the *Space-time construction* series (Figure 3) which makes plain the technologies of spatial arrangement, flow and experience as executed in modern buildings, to the *Rhythm of the Russian Dance* (Figure 4), an earlier work that showcases the combination of balance and tension elicited from an asymmetrical arrangement of simple forms, an approach to graphical composition that Seidler would adopt in later arrangements of material and volumetric details in his tower designs.

Piet Mondrian (1872-1944), a Dutch painter and visual theorist who co-founded the *De Stijl* and developed a universalist abstract style that became synonymous with the modernist currents in art and design through his *Tableau* and *Composition* series executed in asymmetrical rectilinear grid forms with primary colours (Figure 5). Like van Doesburg, Mondrian created abstract and often flat format geometric paintings in primary colours that alluded to the clarity and freedom of contemporary architectural arrangements.

Other notable artists who explored similar intersections of visual theory and architectural composition included the Russian pioneer of Suprematism Kazimir Malevich (1879-1935), and several other members of Gropius' Bauhaus, including Wassily Kandinsky (1866-1944), the Hungarian painter Laszlo Moholy-Nagy (1895-1946) and German-American graphic designer and curator Herbert Bayer (1900-1985).

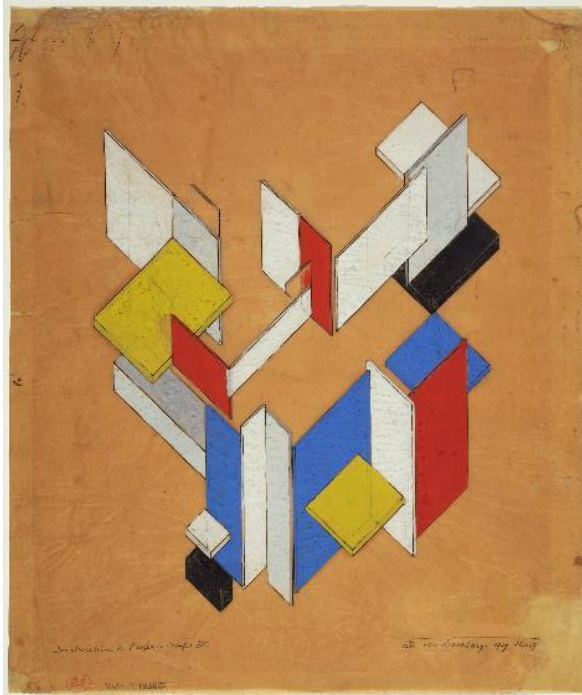


Figure 3 Theo van Doesburg, 'Space-time construction #3' (1923), a work purchased by Harry Seidler and later donated to the National Gallery of Australia Source: NGA

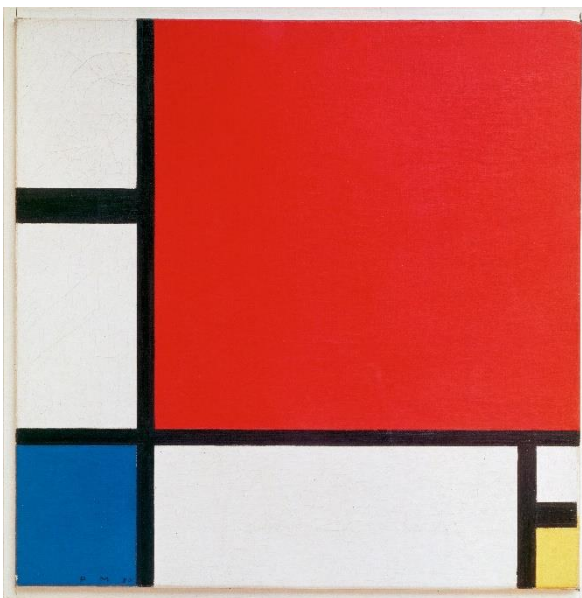


Figure 5 Piet Mondrian, 'Composition with Red, Blue and Yellow' (1930)
Source: Wikimedia Commons

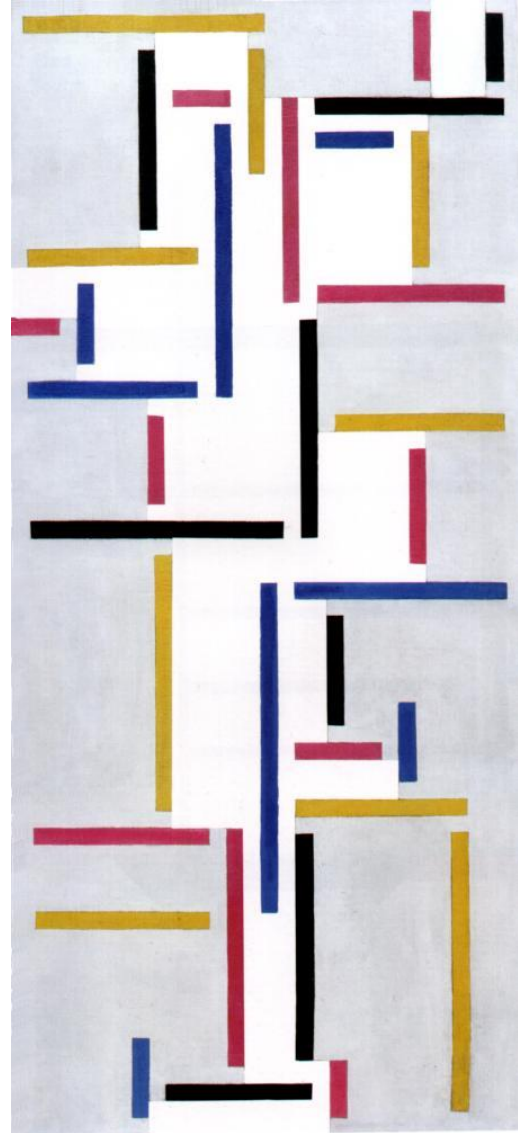


Figure 4 Theo van Doesburg, 'Rhythm of a Russian Dance' (1918)
Source: Wikimedia Commons

2.3 Further influences and collaborations

An avid student of art, craft and technology, Harry Seidler cultivated collaborative relationships with artists and designers throughout his professional career. Several appear crucial to understanding the influences that drove his development of an approach to modernist buildings that reached its apex with his 1980s towers, 1 Spring Street included.

2.3.1 Oscar Niemeyer, Brazilian architect

After leaving New York in 1948, Seidler did not travel directly to Australia, but first took passage south to Brazil where he secured an opportunity to work for Oscar Niemeyer, spending two months shadowing this emerging master and visiting the architect's recently completed projects at Pampulha.

Oscar Niemeyer (1907-2012) graduated with a Bachelor of Arts in Architecture from the National School of Fine Arts in Rio de Janeiro in 1934. After graduating, he convinced the partnership of Lucio Costa, Gregori Warchavchik and Carlos Leão to employ him as an unpaid draftsman. In 1936, Costa had secured a commission to design the new Ministry of Education and Health in Rio, and insisted that the Ministry hire Le Corbusier as an additional consultant. Niemeyer was allowed to work on the project, and later took charge of it in 1939. Completed in 1943, the Ministry of Education tower (Figure 6) was widely published, a building that combined the principles of international modernism with local materials and techniques, sun shades, and external landscapes by Roberto Burle Marx.

Niemeyer went on to design the Brazilian pavilion for the 1939 New York World's Fair with Costa, and then the Banco Boa Vista tower in Rio (constructed 1946-48) and a series of commissions from 1940-1943 for the new suburb of Pampulha on the outskirts of Belo Horizonte, which also included landscapes by Burle Marx. Both those latter projects developed Niemeyer's structural experimentalism, including the use of curvilinear plan forms in both external and internal spaces. Seidler's brief visit came a year after Niemeyer had returned from New York, where the design for the United Nations headquarters developed by a global committee of architects ultimately centred on the contributions of Niemeyer and Le Corbusier. Within a few years he would be at work on the architecture of Brasilia, the country's new capital; a military coup in 1962 disrupted Niemeyer's continuing work (Figure 7) in Brazil and the architect practiced from exile in Paris until the return of democratic government in 1985.

As a student and graduate, Seidler had seen published photographs of the Ministry of Education building and Niemeyer's projects at Pampulha,⁷ and his recognition of the importance of the Brazilian's work spurred his visit to Brazil. 'I gained a great deal from Niemeyer in terms of ... an exuberant attitude to matters of design.'⁸ The Melbourne architectural historian Philip Goad has recently argued⁹ that the importance of Niemeyer and his South American adaptation of modernist principles has been underrated in accounts of Seidler's own life-long synthesis and imaginative extension of architectural themes, and that the richness of this engagement is particularly evident in Seidler's 1980s projects.

In 1994, Seidler contributed a comment on Niemeyer's practice to the Swiss architectural journal *Werk, Bauen + Wohn*, including his recollections on his brief time in the Brazilian master's employ: (translated)

'In 1948 I worked for a few months with Niemeyer and watched his work, noticing that this was more like the work of a painter or sculptor, in contrast to the European-American method known to me. Sketches, intuitive gestures, ideas, presented in a way that would instil fear to the mind of the rationalistic designer. But the distrust soon disappeared in the gradual realisation of the basic inviolability of his logic, and the credibility of his clarity of structure and construction.'¹⁰

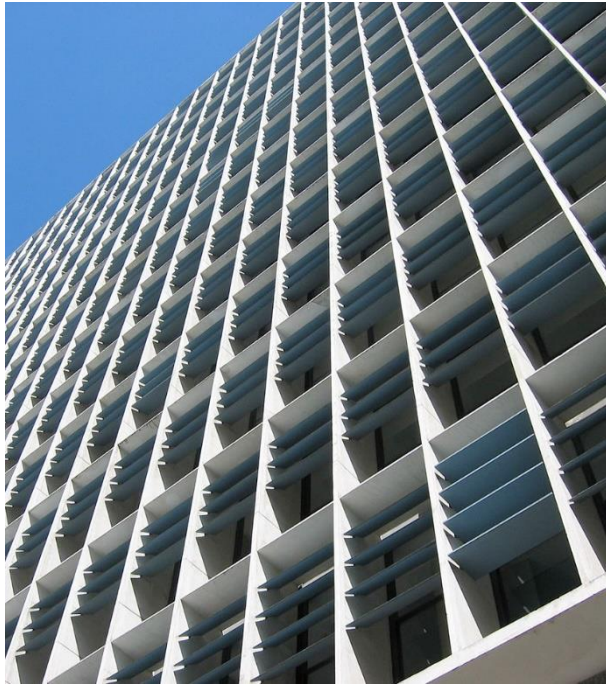


Figure 6 Ministry of Education and Health (1943), Rio de Janeiro
Source: Wikimedia Commons



Figure 7 Edificio Copan (1952-1966), Sao Paulo Source: Wikimedia Commons (u:Rodrigo Argenton)

2.3.2 *Pier Luigi Nervi, Italian engineer and architect, and others*

Seidler developed key collaborating relationships with structural engineers. In 1951, he sought out the Sydney structural engineer Peter Miller to solve structural certification issues with the Williamson House (Igloo House), forging a career-long relationship that would also see the two collaborate on international travel and their own Sydney-area development projects.¹¹

Peter Owen Miller (1922-2013) was an Australian-trained engineer; in 1957 he formed Miller Milston and Ferris (MM&F) with two colleagues, an engineering consultancy that would work on a number of Seidler projects directly and provide informal advice on others. Both MM&F and Seidler moved into offices in Caltex House, a tower developed and built by Gerardus Dusseldorp's Civil & Civic (later Lend Lease) in 1955-57; Seidler was soon undertaking projects with Dusseldorp. Although rarely engaged directly on Seidler's commercial work as these often relied upon the builder's own in-house personnel or preferred consulting engineer, MM&F were the primary structural engineers for Seidler's Trade Group Offices in Canberra (now known as the Edmund Barton Building), as well as notable Canberra projects by other architects including the National Gallery of Australia and the High Court of Australia.¹²

It was on a trip to Europe with Miller in 1955 that Seidler first met Pier Luigi Nervi, an Italian building engineer whose career had re-engaged with earlier experimentation into the potential for concrete structure to be shaped into sculptural forms. In Paris, they visited the UNESCO headquarters, under construction to a design by Marcel Breuer, the French architect Bernard Zehruss, and Nervi.¹³

Pier Luigi Nervi (1891-1979) was born in a village in the Italian Alps and trained at the Civil Engineering School in Bologna, under the tutelage of Silvio Canevazzi and Attilio Muggia, two early pioneers in the structural use and principles of design using reinforced concrete. Graduating in 1913, he joined Muggia's company, the Società Anonima di Costruzioni Cementizie (Anonymous Cement Construction Company), at the time a leading of reinforced concrete applications. Nervi formed his own firm in 1920 to pursue design-and-build projects, where he was able to control both design and construction. A series of incredible concrete stadium structures (Giovanni Berta Sports Stadium in Florence, 1930-32;

Rome's Olympic Flaminio Stadium, 1957-59, Figure 8) made Nervi's reputation internationally, and in later years he was increasingly sought after as a consulting engineer on projects around the world.

Nervi worked with complete command of both the fundamentals of structural physics and the economies of construction, calibrating his structures to maximise both values and achieve profound sculptural effects rooted in the forces acting through the reinforced concrete. As Nervi described it, he found economies of material by 'following the "static guide" of the structure [which] "gave suggestions which in themselves were aesthetically expressive when translated into drawings"'.¹⁴ Nervi also developed material innovations, including prefabricated 'ferro-cement' that allowed thin structural elements to be pre-cast at site using available labourers and lifted into position with lightweight hoists.

In 1963, after Seidler had struggled with Civil & Civic's structural team to deliver on his circular tower concept for Australia Square, he convinced the builder to engage Nervi on the strength of the engineer's UNESCO collaboration with Breuer. Over several meetings in 1963 and 1964, Nervi introduced key innovations to the Australia Square design, including the concentration of rigid structure in the building core and employment of ferro-cement to produce lightweight precast exterior columns. These and other insights delivered Seidler's intended 'organic' resolution of the tower and became a key learning for all of his subsequent commercial work.¹⁵ Seidler would engage Nervi as structural consultant for three more major projects undertaken from the late 1960s through the 1970s: MLC Centre (Figure 9), the Trade Group Offices (Edmund Barton Building) in Canberra, and the Australian Embassy in Paris.

Seidler acknowledged Nervi's contribution at the completion of the Trade Group Offices, 'I have often not only gained more beautiful forms from our collaboration but also construction techniques and systems which were easily, almost inevitably, translated into reality.'¹⁶ For the Paris Embassy, Nervi assisted the development of the fan-shaped gathered columns and a precast T-beam used to execute the Embassy's curved plan, structural devices that were re-employed by Seidler at 1 Spring Street.¹⁷

Following Nervi's death in 1979, Seidler built upon the lessons learned in their collaborations and continued to work with Nervi's former partner, fellow Italian engineer Mario Desideri, on his 1980s towers, training up a new generation of Australian structural engineers and builders along the way. Seidler continued to pay tribute to Nervi's lessons, describing how 'Not only did he give us marvellous structural concepts, he also taught us how to build,' and elaborating that 'As I had the privilege of working with people like Nervi, you learn to understand how stresses and strains really should be ideally expressed in order to use a minimum amount of material for a maximum amount of result.'¹⁸



Figure 8 (above) Olympic stadium, Rome
Source: Wikimedia Commons



Figure 9 (right) MLC Centre, Sydney, on which Nervi consulted
Source: Photograph by Max Dupain, courtesy of Harry Seidler & Associates

2.3.3 *Frank Stella, Norman Carlberg, and Charles O. Perry, American artists*

Building on the formative engagement with contemporary art and visual principles instilled in his graduate education in the United States, Seidler maintained a life-long interaction with contemporary art and artists as a designer, collector and patron. Seidler was drawn to work that served to inspire and clarify his own ongoing exploration of the potentials of visual principles, elemental geometries and the marshalling of space and time in the architecture of his buildings.

Seidler also identified in these artworks a valuable rubric that served to extend and interpret the logics of his finished structures, ensuring that key works were purchased or commissioned for inclusion in effectively all of his major commercial and institutional projects and in many cases acting as an ongoing patron of these artists. Penelope Seidler also played a key role in this curatorial side of the practice, which later extended into governance roles with arts institutions both domestically and internationally, contributions alongside her architectural roles for which she was recognised in 2008 as a Member of the Order of Australia. Three artists are particularly notable in the context of the design of 1 Spring Street.

Frank Stella (1936—) is an American painter, sculptor and printmaker whose works have explored the geometric possibilities of minimalism and post-minimalist abstraction, initially as a rejection of the direction abstract expressionists like Jackson Pollock and Franz Kline and later engaging increasingly sculptural and three-dimensional, borrowing elements from platonic solids, architectural and decorative arts, and consumer forms.

Three large-scale relief paintings from Stella's *Cones and Pillars* series were installed in the lobby of Seidler's Grosvenor Place tower in Sydney, however it was the artist's *Protractor* series (1967-71) that has been widely noted as an influence on Seidler's ongoing exploration of elemental geometry in circular forms after Australia Square. In this group of roughly 90 original paintings, Stella explored the potential forms producible from the simple shape of a protractor (comprising a semi-circle and straight edge). The paintings are rendered in bright, interlaced bands of colour (Figure 10) that also recall the Albers' colour studies in a more exuberant mode.

Norman Carlberg (1928-2018) was an American artist who studied under Josef Albers and the sculptor Erwin Hauer at the Yale School of Art. His work in sculpture and print media explored the effects generated by assemblages of circular forms in both two and three dimensions, ranging from works reminiscent of Stella's protractors extruded into three dimensional forms to more complex iterations exploring the limits of abstract modular construction in both volumetrics and contrast patterning. These were all subjects of ongoing interest to Seidler, who was introduced to Carlberg's work by Josef Albers on later visits to the U.S.,¹⁹ and included sculptures by Carlberg at both the Trade Group Offices (Figure 12) and Riverside Centre.

Charles O. Perry (1929-2011) studied architecture at Yale University, where he also took courses with Albers. Graduating in 1958, he joined the San Francisco offices of the influential commercial architecture firm Skidmore, Owings and Merrill, while also developing his practice as a sculptor; he left the firm in 1963 and was awarded the Rome Prize from the American Academy in Rome, granting him two years of study in Italy. Buoyed in part by Seidler's patronage, he built a successful public art practice on his return to the United States, exploring the formal elegance of complex three-dimensional geometric objects. Perry's sculptures were included in several Seidler buildings, and nod both to geometries executed in structural systems (particularly at the MLC Centre) and to the dramatic spatial arrangements of curvilinear forms as embedded in external and internal fabric at many of Seidler's later projects. Perry's *Shell Mace* is the defining sculptural feature of the main plaza at 1 Spring Street (Figure 11).



Figure 10 Frank Stella, 'Harran II' (1967)
Source: Wikimedia Commons

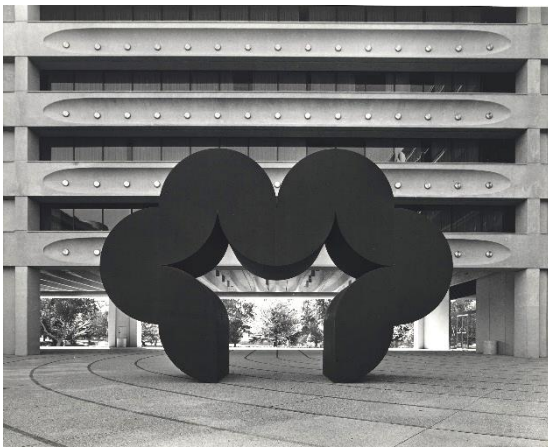


Figure 12 Norman Carlberg, 'Black Widow' (c. 1974) at the Seidler-designed Trade Group Offices, Canberra (now Edmund Barton Building)
Source: Max Dupain photograph (1976), copyright Penelope Seidler



Figure 11 Charles Perry, 'Shell Mace' (1988) at 1 Spring Street

3.0 THE MODERN OFFICE TOWER

3.1 Core considerations

The modern tower building was an American development applied first to commercial offices and later to multi-unit residential structures, and adopted around the world in the early twentieth century wherever supported by the economic logics of urban real estate and building construction.

The development by the 1890s of advances in steel-frame construction, efficient mechanical lift systems and improved methods of analysing and modelling structural stresses and loading enabled the construction of tower buildings responsive to the value and scarcity of urban real estate. The functional pattern of the office tower was set very early in its development. Louis H. Sullivan's 1896 summary of the qualities of the 'tall office building' holds true today save for a few minor anachronisms in language.²⁰

The structural design of the tower must balance a few key objectives: to sustain the dead and live loads and forces acting on the building, to meet the developer's target for lettable floor area (on each level and in total), to provide sufficient sunlight to all primary interior spaces, to provide efficient building infrastructure in the form of lift systems, air conditioning, plumbing, power and communications, and to

generate a visually successful formal result. The ultimate form and dimensions of the building are then a response to this context, and to the available material and structural systems, the form of the site and the economic considerations of builder and developer. The structural system, in its division of the forces and load-bearing vertical structure between the building's services core and an arrangement of external columns and/or shear walls, is a key factor in achieving those other objectives.

The nature of the tower's form and costs as a building type encourages selection of structural elements and procedures that allow the application of a repetitive form construction system; a wide variety of structural arrangements and material systems were developed over the course of the twentieth and twenty-first centuries to increase the building's physical practicality and reduce construction costs, while generating an ongoing evolution in the aesthetic treatment of tower exteriors.

3.2 Seidler's towers

Seidler's designs for tower buildings were structured by a set of visual and spatial principles which attended to what Philip Drew has described as 'the need... to avoid the attendant monotony which so often results from the mechanical repetition of identical elements.'²¹ Composed in this way, Seidler's buildings delivered the effect of visual novelty and experimentation while retaining coherence through their underlying commitment to order derived from consistent elemental forms and logic. For Seidler, this was not only an irrevocable commitment to the program of architectural modernism, but a path to the ongoing evolution and renewal of its aesthetic and social value.

The structural aesthetics of Australia Square (1967) and MLC Centre (1978), as well as the low-rise Trade Group Offices (1974) and Paris Embassy (1977), all incorporating key engineering insights by Nervi, established the foundation for Seidler's subsequent crystallisation of these lessons into a coherent aesthetic program as strikingly realised within four 1980s towers: Grosvenor Place (Sydney), Riverside Centre (Brisbane), Shell House / 1 Spring Street (Melbourne) and QV1 (Perth) (Figure 13). Within this group, 1 Spring Street incorporates the strongly single-sided building form and key structural devices developed for the Paris Embassy, but is otherwise of a suite with the other three towers, to the extent of their shared structural and visual design principles and materiality.

Other projects developed by Seidler in this decade, most prominently the Capita Centre tower (1989) on a more constrained mid-block parcel in Sydney, adopted a different structural design response and materiality, although many of the same fundamental principles of planning and visual design can also be seen to be applied to this tower.

Empowered in part by the savings offered by Seidler's command of economical repetitive construction methods, the office was often able to undertake the preparation of bespoke design detail for common elements throughout their commercial towers. This meant that elements that would have been typically delivered to a generic or commodity resolution, such as upper level core lobbies and amenity areas, could be resolved as part of each tower's holistic design, a commitment that extended to furnishings, hardware details and artwork.



Figure 13 (clockwise from top left) Grosvenor Place, Sydney; Riverside Centre, Brisbane; QV1 tower, Perth, all designed by Seidler in the 1980s and which are expressive of many of the same principles and material techniques embedded in the design of 1 Spring Street. Source: Max Dupain photographs, courtesy Harry Seidler & Associates

As Seidler embarked on his 1980s towers, the office had flown to the U.S. to study American best practice, visiting towers by Philip Johnson, Skidmore Owings & Merrill, and others in New York, Chicago, Dallas, Houston and L.A. Although their external presentation varied, internally those towers remained highly resolved modernist buildings with impressive technical solutions, material finishes and hardware.

The diversity of industrial designed products on offer to American architects at the time was not available from Australian suppliers and importers. As a result, Seidler's office found that to achieve the resolution of material details seen in comparable American commercial towers they were often required to undertake to design and detail custom resolution of everything from ashtrays to lift cabin controls to air conditioning grilles, and in many cases train up Australian suppliers to these standards.²²

3.3 Shell House project brief and design response

In the early 1980s, buoyed by then-record energy prices and Shell's involvement in the North West Shelf offshore gas development in WA, Shell Australia determined to vacate the previous 'Shell House' at the corner of Bourke and William streets and construct a new headquarters in the Melbourne CBD.

The company purchased the 1 Spring Street property and then sold it under a leaseback arrangement to Melbourne's Grollo Group, a three-generation family business of builders and developers which from the 1980s-2000s was responsible for building many of the city's highest profile buildings as well as projects throughout Australia. The building and the L-shaped property would be initially owned by Grollo, with Shell occupying the bulk of the building's lettable area on a thirty-year lease in exchange for the right to design of the building.²³

The building program as developed by the two clients required a lettable floor area of 30,000 m², with the site's height limits dictated 1,100 m² tower floor plates to meet this requirement. The property was constrained by an underground railway tunnel, which cut a curve from north to west below the site's south-east corner at Spring Street, and by a three-storey heritage building in Milton House, adjoining Flinders Lane in the north part of the property.

In response to this brief, Seidler arrived at an S-shaped curved tower form made from convex and concave curves, required to avoid the railway tunnel while also delivering the required floor plates by extending the length of the tower at the west end in comparison to what would have been achievable with a rectangular plan. With its primary facing to the south and south-east, making best use of the site's corner aspect to generate views towards leafy southern suburbs, Port Phillip Bay and the Dandenong Ranges, the tower wrapped around a core structure located on the rear (north) side of the structure. That externalised core, along with screen walls at either end of the tower, provides most of the building's rigidity and wind resistance.

Shell's amenity requirements for the complex combined traditional corporate campus expectations – a staff cafeteria, conference centre including lecture theatre and meeting rooms, executive suites and other employee amenities – with advanced computer mainframe and data communications systems.

Seidler's initial design was presented in 1985, with detailed design carried out in 1986-87 and the building constructed 1987-1989 (Figure 14). The consultant team included Bonacci Winward Pty Ltd (Primary Structural); Mario Desideri (Structural Consultant); Lincolne Scott Australia Pty Ltd (Mechanical, Electrical, Hydraulic and Lift); Claude R Engle (Lighting Consultant); Rider Hunt & Partners (QS); and Tract Consulting (Landscape Architect).

The internal fit-out was divided between Seidler, who retained responsibility for internal common areas and the major corporate amenities, and Woods Bagot, who were commissioned by Shell to deliver the balance of the office fit-out. Penelope Seidler contributed to the selection of artworks for Shell's executive amenities levels (Levels 27-28). Built by Grollo Constructions, the building's precast concrete was manufactured by Beton Industries. The constructed cost was \$100 million (1989 dollars).²⁴

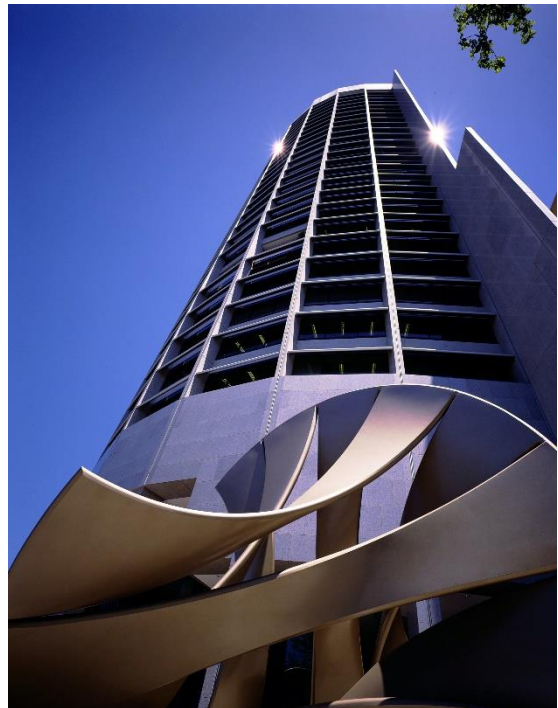


Figure 14 Photographs of the 1 Spring Street tower at completion in 1989
Source: Photographs by John Gollings, courtesy Harry Seidler & Associates; top left photograph has been cropped

3.4 Public debates

3.4.1 Post-modernism

Seidler's 1980s towers present as a physical manifesto against the then-ascendant post-modernist style. Through the 1970s and 1980s this new architectural current arising in the United States made itself felt internationally, including in Australia. As a reembrace and reinterpretation of disharmony, of human scales and influences, and of eclectic markers of the past, post-modernism had swept through other cultural disciplines in the 1950s and 1960s, but its most influential early expressions in an American architectural and planning context have generally been held to be Jane Jacobs' *Death and Life of Great American Cities* (1961) and Robert Venturi's *Complexity and Contradiction in Architecture* (1966).

Against the American post-war planning orthodoxy, Jacobs chronicled the worst outcomes of modernism, seeking to conserve 18th and 19th century neighbourhoods and to embed their principles into future city planning. Those objectives were quickly embraced both by citizen advocates and by a new generation of planners not only in the U.S. but internationally. Against the orthodoxy of late modernist architecture, Venturi declared his allegiances at the outset of *Complexity and Contradiction*:

'I like elements which are hybrid rather than "pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," per-verse as well as impersonal, boring as well as "interesting," conventional rather than "designed," accommodating rather than excluding, redundant rather than simple, vestigial as well as innovating, inconsistent and equivocal rather than direct and clear. I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality.'²⁵

A similar conversation was occurring in Europe, with the Italian architect Aldo Rossi at the forefront of the challenge to modernism. These early manifestos fed a burgeoning architectural movement over the next two decades, as not only new entrants but established names in American modernism like Michael Graves and Phillip Johnson adopted the principles of the movement.

In both international circles and domestically in Australia, Harry Seidler was a critical voice against the outcomes of these developments in architecture. This opposition could often be polemical; lecturing as a Visiting Professor at Harvard in 1976, Seidler described post-modernism as 'fraudulent, degenerate, sick, commercial illiterate, debased, unworthy of civil man.'²⁶

However, Seidler's opposition was also expressed more constructively in his lectures of this period, in published work, and most prominently in his own buildings. His criticism was opposed not so much to the humanist impulses of post-modernism and its commitments to ideas like place-making and the pedestrian experience, but to a perceived absence of rigour in post-modern architecture's approach to space, aesthetics, building form and construction, elements which if arranged through modernist principles were fully capable of structuring a human architectural experience without resort to the ornamental fluidity of post-modernism.

Seidler actively sought to dispel misconceptions about the principles at the core of modernism and to separate these from the failures of much post-war architecture and planning, pointing to the diversity of architectural expression and experiential outcomes that could be derived from the approach to architectural problem-solving promoted by Gropius and the Bauhaus, through 'the bringing into unison considerations of social needs and usage, expressive and to the designer valid art forms of the time, with the most technology can offer to help mould and materialize the results.'²⁷

At the core of his own approach to architectural expression, Seidler increasingly explored the parallels of modernist architecture and the experiential humanism of Baroque architecture. As a collection, Seidler's 1980s commercial towers, including 1 Spring Street, are expressive of this direction in Seidler's work and public statements, which he would continue to develop in further tower projects over the course of the 1990s and early 2000s.

3.4.2 *Urban design*

Seidler's opposition to post-modernism was also deeply rooted in conflict with planning prescriptions that nurtured and embraced this new school.

Throughout his career, Seidler fought against standard planning dictates, and frequently won. As the practice undertook a striking sequence of designs for tower buildings first in Sydney and then in capital cities across Australia, this conflict entered a new phase in which he was poised against planners won over by the reaction against post-war clearances and now pursuing the protection of heritage buildings and the reconstitution of a 19th century urban form at ground level.

His commercial tower developments with relatively few exceptions produced freestanding towers within fully designed parcels containing a mix of outdoor amenities and satellite facilities. These reflected Seidler's spatial and aesthetic commitments, but also a concern he frequently expressed about the lack of pedestrian space in Australia's urban cores and the unfulfilled need to make more room for the volume of foot traffic that thronged those narrow footpaths at 5 pm every day.

Seidler's designs, which extended the modernist planning of Le Corbusier, Breuer, Niemeyer and others, were enough of a departure from planning orthodoxy in Sydney's irregular grid, but were especially and famously divergent from the prevailing context of Melbourne. Since then, Melbourne has begun to address the deficiencies of footpaths on streets like Flinders Lane with increasingly ambitious measures to slow vehicle traffic and accommodate a shared space within the carriageway.

Melbourne's fine-grained original survey ('the Hoddle Grid') had produced by the 1980s almost 150 years of commercial structures built to the property boundaries and an almost uninterrupted public street wall. This was a pattern that the City of Melbourne sought to perpetuate through its planning process, and which Seidler's own design principles and proposed design for 1 Spring Street famously ran up against.

Setting the development's ground level structure back from the street edge on all three public frontages (excepting Throssell Lane), Seidler refused to accept the requirement from Melbourne's planners that the building meet the street front on both Flinders Street and Flinders Lane, arguing against these as changes that were not supported by the program and economics of the site, that would produce internal spaces of much reduced quality (due to increasing distance to light access) and that would compromise the design integrity of the tower's primary elevation to Flinders Street.

Supported by the client and after considerable lobbying, Seidler won the approval of the Minister for Planning and the building was built as designed. The history of this dispute is explored in more detail in the accompanying CMP (Lovell Chen, 2020).

4.0 DESIGN PRINCIPLES

In all his projects, Harry Seidler sought to harness the totality of the development in the delivery of a *gesamtkunstwerk*, a 'total artwork'. In this sense, the term describes the synthesis or the effort to conduct and harness all the forms of art and craft that are brought together in the building, to exercise the control and the awareness of outcome such that nothing is left to incidental or default selection.

As reviewed above, Seidler's approach was anchored in a set of modernist design principles which reflected both his foundational education and ongoing technical and aesthetic innovation. As a realisation of this modernist programme, Seidler's work relied upon the careful control of structural engineering technique, construction methodology and building technologies to achieve aesthetic and functional effects.

At 1 Spring Street, the application of these design principles centred unsurprisingly in the planning and formal presentation of the tower. However, Seidler's commitment to delivery of a total artwork extended to a broader set of internal and external spaces and details in which the application of architectural consideration could elicit a relevant experiential outcome. The design of the building's circulation and major amenity areas exhibited the direct extension of the design principles to the site's internal architectural space, while considerable care and control over finished details and materials was also exerted throughout the common elements and areas of the development.

The principles by which this was accomplished are detailed below under three parallel but interrelated rubrics:

- Planning the total environment (Section 4.1)
- Integration of building form and function (Section 4.2), including
 - Elaboration of elemental geometry
 - Marriage of building form, technology and economy
 - Harnessing of building systems for sculptural effect
- An architecture of space and time (Section 4.3), including
 - Visual and spatial tension
 - Contrast and visual order

4.1 Planning the total environment

'It is [a] hollow victory indeed to end up with a superb piece of architecture if it is in fact placed in the middle of environmental chaos; it will be of no great advantage to the community.'²⁸ (Harry Seidler, 1980)

For Seidler, the brief for any major work necessarily included the architectural consideration and resolution of the entirety of the site programme, including the integration of the building plan with its surrounding environment, and the articulation and design of external spaces, pedestrian connectivity and sequencing, and key internal spaces as part of this total environment of the site. Much of the design report produced by Seidler for presentation in 1985 is devoted to explaining the planning decisions embedded in the tower design (Figure 15).

At 1 Spring Street, this principle is expressed in the:

- Tower form organised to assign primacy to the south-east elevations in their visual outlook and architectural presentation
- Setbacks of the tower and its ground-level structures, and definition and control of the external spaces created
- Highly resolved internal public circulation sequence
- Incorporation of artworks in conversation with the structure's architectural intent, with the integral Charles Perry sculpture 'Shell Mace' in the Spring Street plaza primary among them.

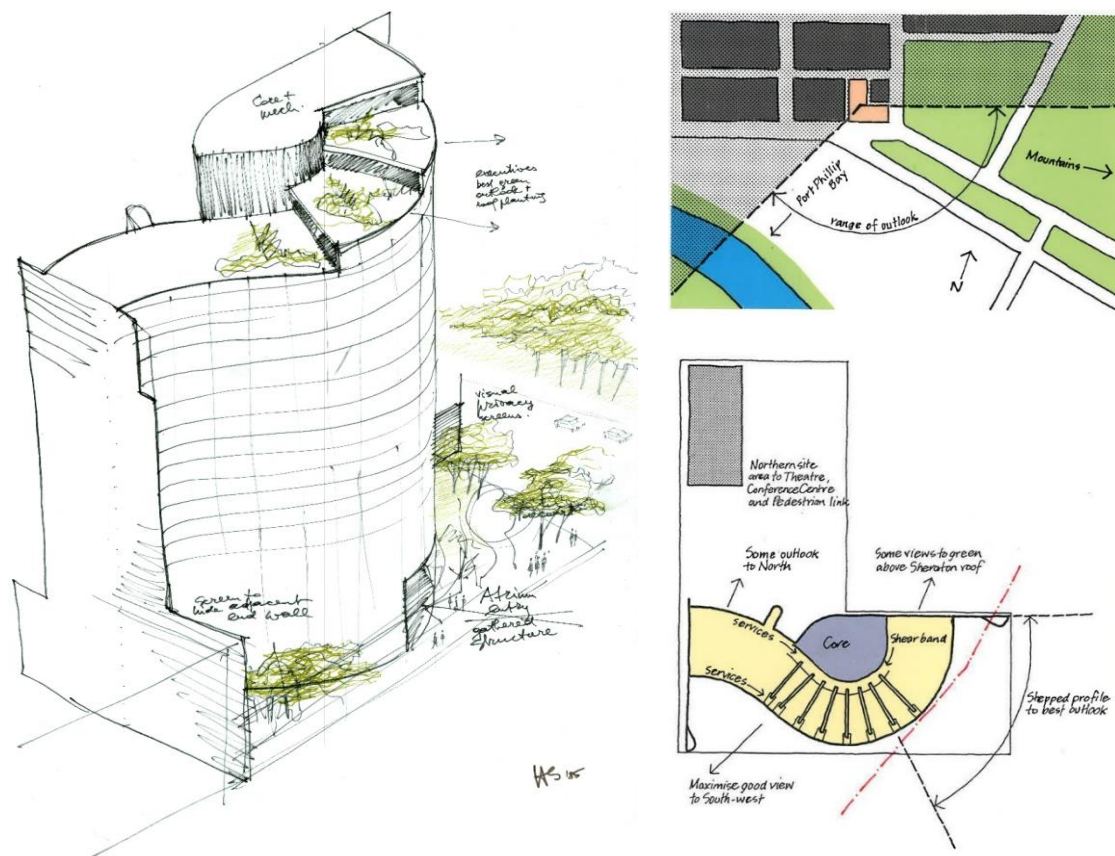


Figure 15 Sketch and key plans depicting 1 Spring Street tower design rationale
Source: 1985 Design Report, Harry Seidler & Associates

4.2 Integration of building form and function

'Architectural design in any concept is only as viable as the techniques that are envisaged and proven to be economically possible for its implementation. Without it I think we only plan castles in the air.'²⁹ (Harry Seidler, 1980)

No. 1 Spring Street exhibits the core modernist tenets found throughout Seidler's buildings: a commitment to elemental geometric forms, to the techniques and economies of construction, and to expressing the fundamentals of the building's structure in its resolved form.

Concurrently, Seidler's modernism sought a sculptural outcome for rational technique. His tower plans harnessed lessons from modern artists' exploration of elemental geometry to generate intensely sculptural solutions from the elemental characteristics of building systems. Recovering the visual impulses of the Baroque and drawing upon the expertise of collaborating engineers, Seidler's buildings harnessed the inherent forces and functional performance of their reinforced concrete structural systems to visual effect.

Elaboration of elemental geometry

In plan, the 1 Spring Street tower harnesses two quadrants in series, one convex and the other concave, to generate a curvilinear plan building that exploits its south-east vistas and maximises the internal functionality and development potential of an irregular site. In particular, while the east curve at Spring Street was essentially unavoidable because of the underground transport tunnel and its easement, the second opposing curve to the west maximised the net lettable floor area in contrast to a more conventional rectangular arrangement of the west side of the tower. At the same time, the curved plan simplified the structural engineering of the building by eliminating corners and facilitating an effectively single solution to the design of all beams and columns within the tower (Figure 16).

This exploration of elemental geometry is expressed in the:

- Tower plan of juxtaposed convex and concave curves
- Exploration of curvilinear forms (curve and counter-curve arrangements) in internal spatial sequencing
- Circular skylight/fountain
- Charles Perry sculpture as a similar exploration of the possibilities of elemental forms.

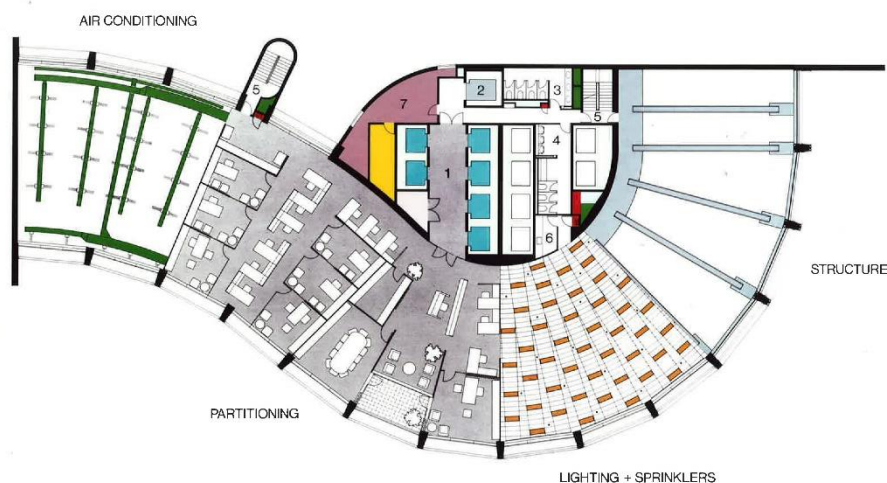


Figure 16 Plan showing services, structure and partitions
Source: 1985 Design Report, courtesy Harry Seidler & Associates

Marriage of building form, technology and economy

'Free reign must be given to the expression of the laws of nature – not what is imagined to be so by many structurally naïve architects, but the unassailable, physical truth of statics.'³⁰ (Harry Seidler, 1984)

From a foundation in elemental geometry, the structure of the tower was established to maximise its functional economy and the potentials of its internal plan to facilitate the use of a repetitive floor construction system and the integration of other technological and economic requirements.

This principle is expressed in:

- Clear-span beams of a single length
- Beams shaped to provide space for services at both the core wall and perimeter column
- Window bays of equal width
- Separation of building core (as well as a secondary stair core and ventilation structures) from the tower's clear span area
- Sunshades as an integral component of the external envelope.

Harnessing of building systems for sculptural effect

Technical engineering was harnessed for sculptural effect, creating an expressive structure out of technical forms. This is developed most prominently in the active management of solids and voids (positive and negative space) within the façade to allow for purposeful interruptions at both ground and upper levels.

This principle is expressed in the:

- Three gathered structural columns in a single expressed transfer structure at the Spring Street lobby entrance, to make space at ground level for the principal address and entrance (Figure 17)
- Dramatic visual techniques executed in the articulation of the façade systems and the creation of larger functional voids (known as façade gardens or sky gardens) (refer also below)
- Integration of exhaust systems, boundary screen walls and load-bearing structure.



Figure 17 Photograph (c. 1989) showing the inverted triangular transfer column at the Spring Street entrance, which gathers three external tower columns onto a single footing
Source: courtesy Harry Seidler & Associates

4.3 An architecture of space and time

'I believe the twentieth century craves *space* in a new and changing way that only our advancing technology can achieve. Instead of assemblies of connected finite volumes, we seek a sense of the infinite and simultaneously intimate – a sense of the beyond. *Visual tension* ... speaks our language. The *economy of visual means* heightens the value of the result. Once a strong form element is evolved, it must find its re-use, its echo, throughout the work (as against the arbitrary assemblage of unrelated geometries).'³¹ (Harry Seidler, 1984)

Seidler identified with the earlier advances of the Baroque as a key period of discovery of the capacities of architecture to exert control over space and time in combination to shape the experience of the visitor; in modern twentieth-century modes he found similar commitments and developed them further to maximise the expressive potential of elemental forms through their effects on perception in both two and three dimensions.

As discussed above, his approach was shaped by the visual theories of Joseph Albers and by the explorations undertaken by two generations of European and American artists of techniques to produce complex and dramatic visual and perceptual effects from simple forms. Seidler applied these lessons to the three-dimensional articulation of his buildings, both in their presentation and internal programme.

Visual and spatial tension

'I believe that visual tension, not the phlegmatic earthbound images of the past, speaks to our time; the channelling of space and surfaces in opposition, curve against countercurve, sun and shadow, the juxtaposition of compression to the surprise of release.'³² (Harry Seidler, 1992)

Building from the discoveries of the De Stijl painters and others, the symmetry of the building's elemental orders is broken in the juxtaposition of opposing elements which are arranged to create their own dynamic balance. These create visual drama both in the tableau of the tower façade and in the experience of moving through the site and being confronted by counterposed circulation spaces.

This is expressed in the:

- Arrangement of external garden courts and other larger and deeper openings which interrupt the regular grid of window bays on the upper levels of the primary façade (Figure 18)
- Arrangement of fenestration on the tower's lower service levels, both as originally designed and as reconfigured (2019-2020) based on the original design principles
- Juxtaposition of curved and linear partitions to sculptural and experiential effect within key internal circulation sequences:
 - the multi-level internal circulation path between Spring Street and Flinders Lane, including the Spring Street lobby, Level 1 and 2 concourses, and adjoining conference centre at Level 2 (Figure 19); and
 - the amenities corridor adjoining the lower lobby, which originally served as a staff entrance
- Arrangement of curved external screen walls, structure and ground plane elements to similarly structure the site's external spaces.

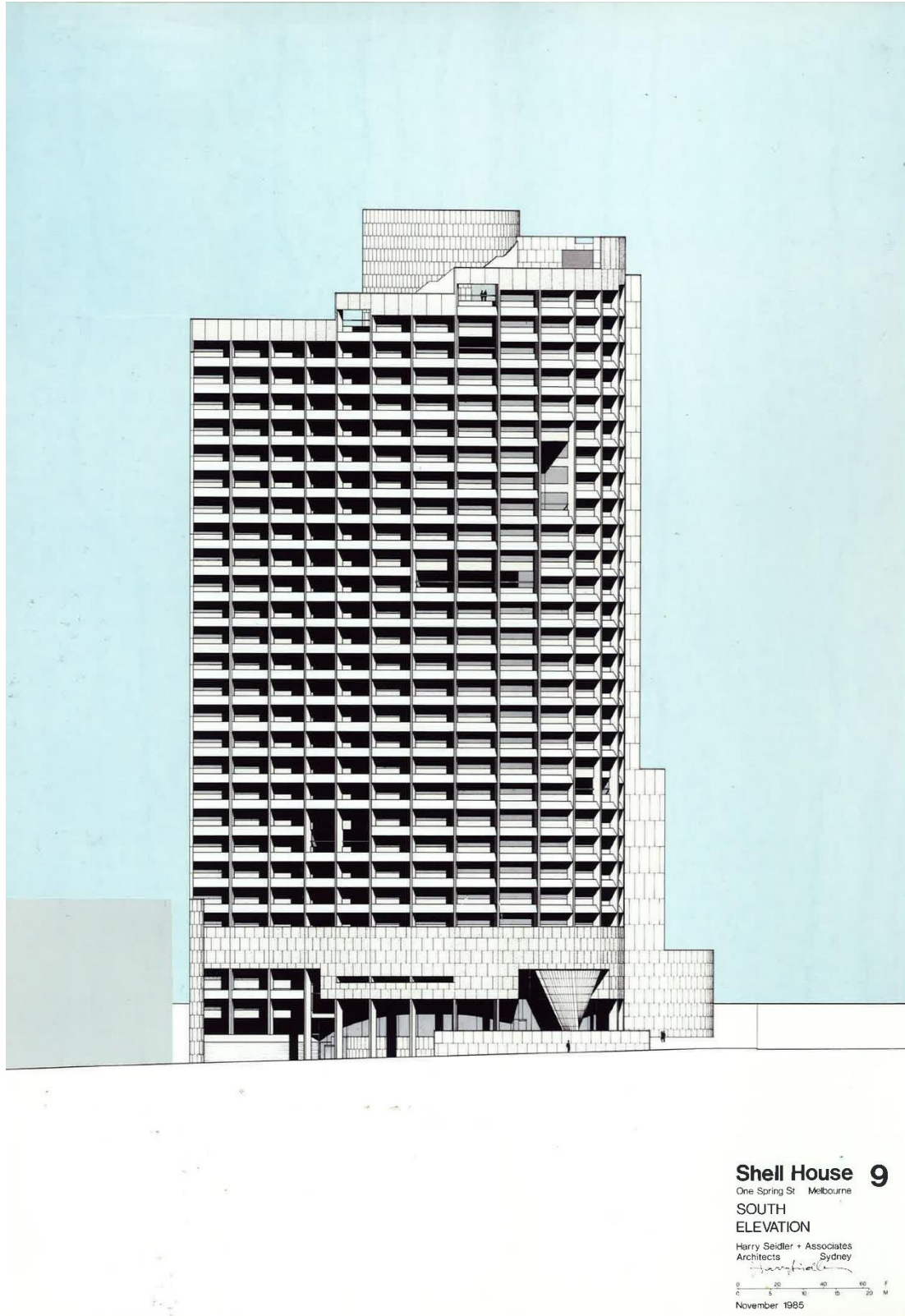


Figure 18 Pen and ink drawing of south elevation, showing the design's careful management and visual effect of façade elements including sun shades and deeper voids ('sky gardens')
 Source: 1985 Design Report, courtesy Harry Seidler & Associates

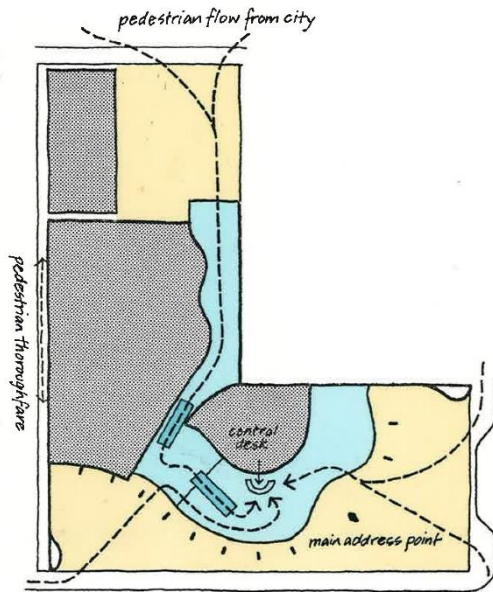


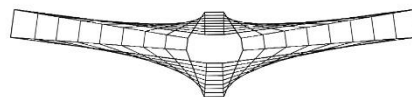
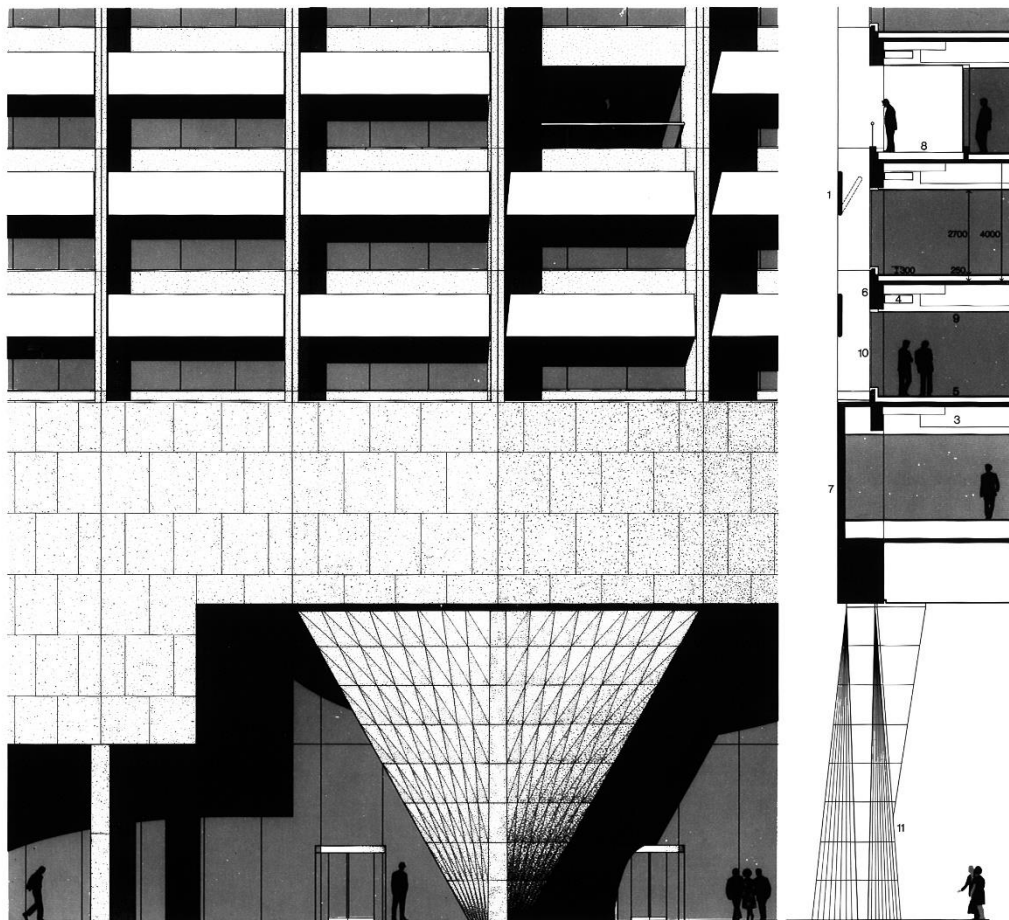
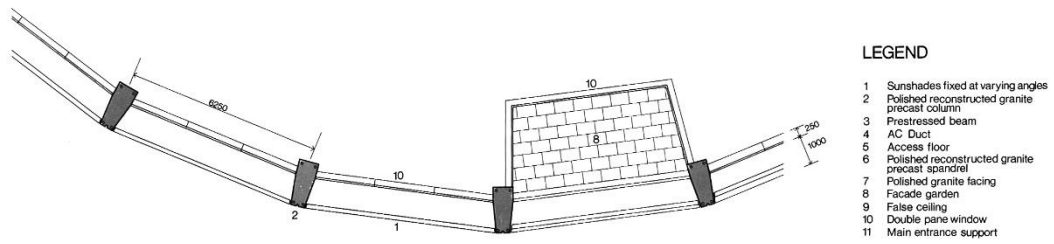
Figure 19 Key drawing showing entry sequence
Source: 1985 Design Report, courtesy Harry Seidler & Associates

Contrast and visual order

The use of contrast and the exercise of control over the formal order of vertical elements to maximise the visual effect of the architectural composition were lessons derived by Seidler from the first generation of European modernist architects and in particular from Albers' teachings, in which he found explanations for why these compositions were so visually effective.

At 1 Spring Street, this is expressed in the:

- Contrasting tripartite form of the tower elevation (foyers and opaque service levels, typical floor levels, and opaque service / roof levels)
- The form and finished detail of major lobbies and amenities
- Lighting effects as generated in the location and treatment of light wells and other glazing, in the interior lighting design, in material finishes (on the lobby transfer structure and screen walls at Spring Street), and in the arrangement of focal artworks and elements of structure
- Dense arrangement of light and shadow on the building's primary elevation, created by sun shades and punctuated by the larger sky garden openings (Figure 20)
- Limited use of saturated primary colours in major internal spaces.



Shell House 13

One Spring St Melbourne

FACADE DETAIL

Harry Seidler + Associates
Architects Sydney

November 1985

Figure 20 Pen and ink drawing exhibiting detailing of the tower façade, including the inverted pyramid of the gathered columns at the lobby entrance (1985)
Source: Harry Seidler & Associates

ENDNOTES

- 1 This biographical outline has been developed with reference to a number of sources, including: Helen O'Neill, *Harry Seidler: A Singular Vision*, 2014; and 'Harry Seidler (1923-2006)', *Docomomo* 35, September 2006, pp. 100-102.
- 2 'Milton S. Osborne,' Biographical Dictionary of Architects in Canada, <http://dictionaryofarchitectsincanada.org/node/126>
- 3 Polly Seidler, pers comm., 28 October 2020, per Harry Seidler and Penelope Seidler interviewed by Craig McGregor, 11 February 1990, National Library of Australia, 6416295
- 4 O'Neill, *Harry Seidler: A Singular Vision*, pp. 96-97; Polly Seidler, pers comm., 28 October 2020
- 5 Quoted in O'Neill, *Harry Seidler: A Singular Vision*, p. 107
- 6 Polly Seidler, pers comm., 28 October 2020
- 7 Polly Seidler, pers comm., 28 October 2020
- 8 Harry Seidler interviewed by Hazel de Berg, 13 January 1972, National Library of Australia, 635548
- 9 Philip Goad, 'New World: Harry Seidler, South America and the Australian City,' conference paper, Society of Architectural Historians 2020 International Conference.
- 10 Harry Seidler, 'Seidler uber Niemeyer', *Werk, Bauen + Wohnen* 81 (12), 1994, p. 66-67, translated from original German.
- 11 Greg Holman, pers comm., 4 September 2020
- 12 Both buildings by Edwards Madigan Torzillo and Briggs (EMTB).
- 13 O'Neill, *Harry Seidler: A Singular Vision*, 147
- 14 'Pier Luigi Nervi in the World', Form Finding Lab, 18 March 2019; <https://formfindinglab.wordpress.com/2019/03/18/pier-luigi-nervi-in-the-world-italy-uk-and-kuwait/>
- 15 Thomas Leslie, 'Inevitably translated: Pier Luigi Nervi's Work in Australia,' 2018 pre-print, https://www.researchgate.net/publication/323225787_Inevitably_Translated_Pier_Luigi_Nervi%27s_Work_in_Australia
- 16 'Canberra criteria,' *The Architectural Review*, March 1977, p. 141
- 17 Leslie, 'Inevitably translated: Pier Luigi Nervi's Work in Australia,' 2018
- 18 Both quotes in Leslie, 'Inevitably translated: Pier Luigi Nervi's Work in Australia,' 2018.
- 19 Polly Seidler, pers comm, 28 October 2020
- 20 Louis H. Sullivan, 'The tall office building artistically considered,' *Lippincott's Magazine*, 1896
- 21 Philip Drew, 'The migration of an idea', in *Harry Seidler: Four Decades of Architecture*, 1992, p. 28.
- 22 Greg Holman, pers comm., 27 August 2020
- 23 Age 6 April 1989; Greg Holman, pers comm., 7 February 2017
- 24 *Construction Review* 1989.
- 25 Robert Venturi, *Complexity and Contradiction in Architecture*, 2nd edition, 2002 (1966), p. 16
- 26 O'Neill, *Harry Seidler: A Singular Vision*, p. 255
- 27 Gropius, 'Living Architecture,' *Design* 1946, quoted in Seidler, 'A perspective on architectural directions,' in L.S. Beedle (ed.), *Second Century of the Skyscraper*, 1988, p. 170
- 28 Harry Seidler, UNSW lectures, 1980

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- 29 Harry Seidler, UNSW lectures, 1980
- 30 Harry Seidler lecture to the RIBA, as excerpted in *International Architect* issue 4, 1984, p. 46
- 31 Harry Seidler lecture to the RIBA, as excerpted in *International Architect* issue 4, 1984, p. 46
- 32 Harry Seidler, 'Planning and Architecture at the end of our Century', in *Harry Seidler: Four Decades of Architecture*, 1992, p. 383

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