

# 1. Age of the Masters: Establishing a scientific and intellectual community in Canberra, 1946–1968

## The Formation of The Australian National University

Having proven their worth in wartime, scientists in the 1950s were as powerful as they ever had been, confident of their own capacity to change the world, and dismissive of those who stood in their way.

— Stephen Foster and Margaret Varghese<sup>1</sup>

The architect must be entirely subordinated to the scientific requirements of those who are to inhabit [the building]...I will not be pushed around by an architect for architectural reasons.

— Sir Howard Florey<sup>2</sup>

One evening in April 1946, Australian Prime Minister, Ben Chifley, in London for the first postwar Commonwealth Prime Ministers' Conference, booked a large table for dinner at The Savoy Hotel in The Strand. Also dining with him that night was a thirty-six-year-old economist and planner, Herbert Cole ('Nugget') Coombs,<sup>3</sup> whom he had appointed Director-General of the Commonwealth Department of Post-War Reconstruction, Dr Herbert Vere ('Doc') Evatt, the Minister for External Affairs, and other members of the official party. The Savoy, one of London's most distinguished and elegant hotels, was upgrading its menu now that rationing was over, and under the French maître-chef, dishes from the Normandy region such as *Tripes à la Mode de Caen* and *Canard à la Rouennaise* were available. It is possible that former British Prime Minister Sir Winston Churchill was also there; a frequent patron, he was known to have dined there as often as five times a fortnight.<sup>4</sup> But Chifley was not interested in the guests

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1 Stephen G. Foster and Margaret M. Varghese, *The Making of The Australian National University 1946–96* (St Leonards, NSW: Allen & Unwin, 1996), 256.

2 Ibid., 72; Howard Florey to Douglas Copland, Vice-Chancellor, ANU, Trevor Williams, *Howard Florey: Penicillin and After* (Oxford: Oxford University Press, 1984), 251–2.

3 For a detailed account of the various explanations for this unusual nickname, see Tim Rowse, *Nugget Coombs: A Reforming Life* (New York: Cambridge University Press, 2002), 1–2.

4 Alison Lech, ed., *The Savoy Food and Drink Book* (London: Pyramid, 1988), 25.

at other tables that evening. He had invited Mark Oliphant,<sup>5</sup> an expatriate Australian nuclear physicist, to join his party, and was transfixed by what he was telling him. Oliphant held the Poynting Chair of Physics at the University of Birmingham, and already had an impressive career: he had worked with Oppenheimer on the Manhattan Project, with MAUD, a secret British committee that investigated the uranium bomb, with the British Admiralty to develop new microwave technology for radar—the one weapon that Hitler conceded had prevented German victory in the Atlantic—and with revered New Zealand-born physicist Ernest Rutherford at the Cavendish Laboratory in Cambridge.<sup>6</sup>

Chifley began by asking Oliphant the question that was on everyone's mind: what was the likely impact of the atomic bomb on the balance of world power? His guest duly obliged, and conveyed a sense of the excitement he had experienced working on the Manhattan Project. He then digressed to his favourite topic: how a new world order would be built around the use of nuclear power for energy purposes. Oliphant was a great communicator; his knowledge and passion soon had his audience captivated. He described his proton synchrotron project at Birmingham, and ventured to add that, under the right circumstances, Australia could be a world leader in nuclear physics. As Coombs later recalled, Oliphant 'was absolutely at his spell-binding best, we were all ga ga...the impact on Chifley was tremendous'.<sup>7</sup>

The Prime Ministers' Conference was not the only reason that Chifley and Coombs were in postwar London—they were also headhunting. The cornerstones of Coombs' vision for postwar Australia were the construction, in Canberra, of a new, research-based national university—an 'intellectual powerhouse for the rebuilding of society'<sup>8</sup>—and the reconstruction of the existing Council for Scientific and Industrial Research (CSIR). Coombs, who sometimes referred to himself as an 'economic scientist', was a practical idealist who believed that a combination of careful planning and strategic government intervention would improve Australia's physical and social environment. His vision was essentially utilitarian, based on the premise that improved education in social sciences would result in improved government, and that increased scientific research—particularly in nuclear physics—would allow science to 'serve humanitarian purposes as forcefully as it had served those of mass destruction'.<sup>9</sup> While the origins of his ideologies have been generally credited to Keynesian economic rationalism, Coombs' position was similar to the declarations laid down by a

5 Oliphant was named 'Marcus' after Marcus Clarke, the Australian author, whom his parents knew. Most people knew him as 'Marc' until he was knighted in 1959. From then on he changed the spelling to 'Mark'. In spite of the unusual surname they shared, Mark Oliphant was not related to Canberra architect Ken Oliphant.

6 Stewart Cockburn and David Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant* (Adelaide: Axiom, 1981), 89.

7 Ibid., 145; Foster and Varghese, *The Making of The Australian National University 1946–96*, 21.

8 Ibid., 19.

9 H. C. Coombs, *Trial Balance* (South Melbourne: Macmillan, 1981), 20, 27.

group of prominent modern architects at the Congrès International d'Architecture Moderne (CIAM; the International Congress for Modern Architecture) at La Sarraz and Athens. CIAM envisaged a holistic and integrated approach to planning and building that was 'intimately associated with the evolution and development of human life', in order to satisfy its 'spiritual, intellectual and material needs'.<sup>10</sup>

In the old hospital buildings at Acton, Canberra, where the Department of Post-War Reconstruction was located from early 1943 until its abolition in 1946, Coombs had assembled a group of 'brilliant staff'—including one architect, Grenfell ('Gren') Rudduck—who were credited with providing a significant boost to the intellectual life of the city.<sup>11</sup> One of the plans they hatched there involved luring the cream of Australasian scientists and scholars—all of whom were ensconced in prestigious overseas positions—to Canberra to head up the schools, and to become the 'founding fathers' of the proposed national university. In the first instance, they would be invited to become 'Academic Advisers'. Once they became settled in that role—and once the buildings were established in Canberra—they would be asked to move permanently to Canberra as heads of the various research schools. It was firmly believed that if the top positions could be filled with highly respected names, the rest would follow; as Coombs' colleague Alfred Conlon stated, 'never mind about blueprints, pick the men and the rest will look after itself'.<sup>12</sup> Along with Oliphant, who was to head the Research School of Physical Sciences, the names on Coombs' list were the medical scientist Sir Howard Florey for the Research School of Medical Sciences, the historian William ('Keith') Hancock for the Research School of Social Sciences, and the New Zealand-born anthropologist Raymond Firth for the Research School of Pacific Studies.<sup>13</sup> John Dedman, Minister for Post-War Reconstruction, explained to Parliament the importance of bringing these men back to Australia: 'we must leave no stone unturned to secure their services.'<sup>14</sup>

Oliphant left The Savoy that evening in a buoyant mood, leaving those who remained at the table to ponder how they could possibly lure him back to Australia. 'It's going to cost a hell of a lot of money', said Coombs. Chifley wanted to know if Oliphant would really come. Coombs thought there was a good chance he would. Chifley's response was 'you get Oliphant. I'll persuade Cabinet to face up to it.' As usual, Coombs' hunch was correct: Oliphant was

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10 John Maynard Keynes' seminal work was *The General Theory of Employment, Interest and Money* (London: Macmillan, 1936). 'Reaffirmation of the Aims of CIAM: CIAM 6, Bridgewater', Joan Ockman, ed., *Architecture Culture 1943–1968* (New York: Rizzoli, 1993), 100–1.

11 Jim Gibbney, *Canberra 1913–1953* (Canberra: Australian Government Publishing Service, 1988), 209–10.

12 Foster and Varghese, *The Making of The Australian National University 1946–96*, 22. Conlon was chair of the Australian Army's Directorate of Research and Civil Affairs.

13 Frank Fenner and David Curtis, *The John Curtin School of Medical Research: The First Fifty Years 1949–1998* (Gundaroo, NSW: Brolga Press, 2001), 9.

14 Foster and Varghese, *The Making of The Australian National University 1946–96*, 22.

beginning to see the limitations of an 'old' country like Britain and was realising that the long-term future of the Commonwealth lay in newer countries like Australia, where 'fresh thinking about academic and technological activities' was possible.<sup>15</sup>



**Figure 1.1 Combs and Chifley in front of Palm House at Kew Gardens, London, 1946**

Photograph: National Archives of Australia. NAA: M2153, 22/4

Securing Florey, who was then Professor of Pathology at the University of Oxford, was no less a priority. A team headed by Florey and Ernst Chain had successfully

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15 Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 145–8.

converted Alexander Fleming's penicillin from a 'laboratory curiosity'<sup>16</sup> into an antibiotic, becoming 'the most significant medical discovery of the twentieth century', and earning Fleming, Florey and Chain a shared Nobel Prize.<sup>17</sup> But Florey had other attributes. On two significant occasions throughout an illustrious career, he demonstrated a commitment to architecture. As President of the Royal Society in London, he persuaded the organisation to move from a long-established location in Burlington House, off Piccadilly, and to refurbish numbers 6–9 Carlton House Terrace, a group of dilapidated grand mansions designed and built by John Nash. Nash was England's foremost architect of the Picturesque movement and its most successful civic designer. Later in life, Florey became Provost (President) of Queen's College, Oxford, and engaged English architect James Stirling, with whom he worked closely, to design new student residences on a site overlooking the River Cherwell in St Clements. While Florey died before the building was completed, it was named after him as a permanent memorial to his contribution. The Florey Building became one of Stirling's best-known works.<sup>18</sup> While Florey remained in Oxford, and was never 'brought back home' on a permanent basis, his role as Academic Adviser for almost a decade was crucial to the development of The Australian National University. Like Florey, Firth could not be persuaded to move to Canberra, and remained an Academic Adviser only.

With the process of securing the founding fathers under way, attention turned to the design of the university campus. Coombs envisaged a grand design—possibly the result of an architectural competition. But the advisers, particularly Oliphant, favoured a more pragmatic approach, believing that the provision of 'simple buildings' in a short time frame was more important than grand statements. They asked the council to appoint an architect immediately and, following the recommendation of a member, Roy ('Pansy') Wright, engaged Brian Lewis, Professor of Architecture at the University of Melbourne, as consulting architect in late 1947. Wright, who knew Lewis through his position as Professor of Physiology at the University of Melbourne, considered him a 'good fellow', and believed that his robust personality and no-nonsense approach would stand him in good stead for confronting the equally forthright Academic Advisers and Interim Council.<sup>19</sup> Others described the Tasmanian-born architect as 'a pugnacious and learned man, accustomed to having his own way', and 'short, red-haired, blunt, quick in repartee and even more aggressive by nature than Oliphant'.<sup>20</sup>

16 Fenner and Curtis, *The John Curtin School of Medical Research: The First Fifty Years 1949–1998*, 3.

17 Walter Isaacson, 'Cover notes', Eric Lax, *The Mould in Dr. Florey's Coat: The Story of the Penicillin Miracle* (New York: Henry Holt, 2004).

18 Florey passed away the same day that work was due to start on site. Williams, *Howard Florey: Penicillin and After*, 357–8.

19 Foster and Varghese, *The Making of The Australian National University 1946–96*, 67–9.

20 Geoffrey Serle, *Robin Boyd: A Life* (Melbourne: Melbourne University Press, 1995), 105; Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 154.

Lewis immediately prepared a master plan, which a majority of the Interim Council approved, and was sent off to London to meet the advisers. But even though the advisers—who were ‘known to be tetchy’<sup>21</sup>—had asked to meet him earlier in the year, they were piqued that Lewis apparently arrived without notice. Oliphant did not help by questioning the architect’s credentials for the job: ‘We were puzzled’, he recalled, ‘by the fact that Lewis was able to show us no examples of his work beyond some rather conventional housing and some lavatories for the Great Western Railway’.<sup>22</sup> Believing that he had come to discuss ‘their’ buildings—physics and medicine—Oliphant and Florey were further dismayed to see a site plan for the whole campus instead. And when they cast their eyes over that, they balked at an eight-storey structure for administration staff. Believing this was too prominent, they proceeded to give Lewis a lesson in university planning. An administration building, they explained, was lower in the university hierarchy, and should be small and efficient. Furthermore, Florey did not want his medical laboratories to be symmetrical with the other buildings on the campus—possibly because that implied some form of equality to which he did not subscribe. The architect and the council were immediately informed that all plans were to be considered ‘absolutely tentative’ only. But rather than returning to Australia with his tail between his legs, the irrepressible Lewis was cock-a-hoop. The advisers had all shown off to each other, he told Wright, and were ‘a bit bloody silly’. He had handled them well, he said, and had gained their confidence—especially by ‘saying what sods the Interim Council were’.<sup>23</sup> It would prove to be a massive misjudgment.

During Easter 1948, the Interim Council and Academic Advisers visited Canberra, and met in the Institute of Anatomy building, next to the university site. Lewis attended the meetings and expected to meet the advisers on site to discuss the proposed campus; however, he found himself snubbed, and complained ‘they were too busy on other things’. In fact, the advisers did meet on site, as Figure 1.2 shows—they just did not get around to asking him. On his last night in the capital, Lewis was on his way back to his room at the Hotel Canberra when he came across Oliphant, by chance, in the guests’ lounge. Oliphant had recently received the Faraday Medal, and was surrounded by a group of eager journalists. Beckoning the architect over, he called out: ‘Oh, Professor Lewis, would you give me a set of your plans—not that I’m interested myself, but my wife would be, she did art when she was at school.’ ‘Certainly, Professor’, Lewis replied. ‘And perhaps you could let me have a copy of your physics programme for my own wife. She did physics at school, you know.’ Lewis went on to suggest that,

21 Foster and Varghese, *The Making of The Australian National University 1946–96*, 33.

22 Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 154.

23 Foster and Varghese, *The Making of The Australian National University 1946–96*, 70.



in regard to the design of Oliphant's house, it might be a good idea for the scientist to find another architect. Oliphant agreed, adding that he might then get a competent one.<sup>24</sup>



**Figure 1.2 Oliphant, Hancock and Florey inspect the university site, Easter 1948. Lewis was not invited**

Photograph: Oliphant Papers, Barr Smith Library, University of Adelaide.

At the time, Oliphant and his wife, Rosa, were living on a country estate near Barnt Green, in Worcestershire. Covered with ancient oak trees, the five-acre site contained one of the remaining fragments of Arden Forest—the same forest in which Shakespeare's Orlando was said to have courted Rosalind whilst standing up to his knees in summer flowers.<sup>25</sup> When the Oliphants purchased the property in the late 1930s the main residence was beyond repair, so they built a large, two-and-a-half-storey extension to the original gatekeeper's cottage. Named 'Peto' after a family motto—*Altiora peto*: 'I seek higher things'—the first Oliphant House contained many trademarks of modern British architecture of the interwar period: uncompromising, block-like form, flat wall surfaces, brick construction, regular fenestration, steel-framed windows with small cantilevered hoods, a roof terrace with steel pipe handrails, and a flat roof.

<sup>24</sup> Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 154.

<sup>25</sup> William Shakespeare, *As You Like It* (1599–1600). The references to the forest of Arden and Shakespeare are cited by Cockburn and Ellyard in *Oliphant: The Life and Times of Sir Mark Oliphant*, 71.

Having ostracised Lewis, Oliphant was left to his own devices regarding architectural advice for his Canberra house. During the Easter 1948 visit, he approached Malcolm Moir, of the husband-and-wife architectural firm Moir and Sutherland. Oliphant, Moir and Charles Daley—who was known unofficially as ‘the Mayor of Canberra’—visited several potential sites. Eventually they decided on a large, elevated block that was part of Weetangera sheep station, just outside the surveyed limits of the city (now Dryandra Street, in the suburb of O’Connor).<sup>26</sup> The second Oliphant House was a disappointment to all those involved. A very large, conventional brick house with pitched tile roofs—like an over-inflated, interwar suburban bungalow—it appeared to be the outcome of clients who were obsessed with quantity rather than quality. Like her fictitious namesake, Rosa Oliphant was reluctant to leave the pastoral delights of Worcestershire, and ‘demanded solid proof of equal benefit’ in Canberra. Mark reminded the university of the sacrifices that he and his wife would be making by coming to Canberra, and insisted that they obtain accommodation equivalent to Peto’s 40 squares and six bedrooms.<sup>27</sup> The Oliphant House also suffered from severe budget cuts and design revisions, and protracted, long-distance communications between the clients, who remained in England, and Moir in Canberra.<sup>28</sup> Lewis was not impressed with the final result, noting that the main living-room windows ‘faced into a raw cutting driven by a bulldozer’ into the hillside, while the spectacular views on the other side were enjoyed by ‘the main bedroom, the garage and a second toilet’.<sup>29</sup>

According to the Oliphants’ daughter, Vivian, the house was too large for the family, and she felt embarrassed ‘by its size and relative grandeur’ in comparison with the modest homes of her school friends. Canberra was a small community, and the advantages of being a senior university employee did not go unnoticed. Many residents had their names down on a long waiting list for government housing and resented what appeared to be preferential treatment. Speculation was particularly rife about the Oliphant House—a situation that was not helped when the physicist complained to the local press about the poor

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26 ‘When Professor Oliphant decided to return to Australia he asked Mr. Malcolm Moir, of Moir and Sutherland which designed the Oliphant House, to find him a quiet spot out in the bush away from the city and, if possible, with a view.’ *Australian Home Beautiful* (March 1955): 47. Daley lived in a central location at 20 Balmain Crescent, Acton, but supported Canberra’s expansion into new territory. Locals recalled that during Easter 1948 Daley took Oliphant to ‘some rather strange places in the landscape’. Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 155.

27 Advising the university that Peto was worth about £12 000, he felt that a house worth about £10 000 in Canberra would be appropriate. Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 155.

28 The lowest tender, from Simmie and Company, came in at almost £16 000—more than 50 per cent over budget. The university offered to build the Oliphants a temporary house on the university site, but Rosa interpreted this as an attempt to avoid their obligations, and insisted that the house go ahead. With significant alterations to the documents to reduce costs, the Oliphant House was eventually built. Papers of Malcolm Moir (1903–1971), Manuscript Collection, National Library of Australia, MS 9169, Box 4, 1/55 O’Connor.

29 Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 155.



standard of houses in O'Connor that he could see from his upstairs bedroom. Arthur Shakespeare, a member of the Advisory Council, spoke out on behalf of those who were uncomfortable with the disparity between some academic staff and the general population, reporting that the university was 'declaring war on the security of the Canberra community, and, through power and opulence, was able to place itself in a position more advantageous than any other authority'.<sup>30</sup> By 1966, the Oliphants, tired of all the fuss—and most probably of the house as well—moved to a smaller house on the other side of Lake Burley Griffin at 37 Colvin Street, Hughes.<sup>31</sup>

The university attempted to provide accommodation on the campus for staff whose 'irregular hours of work and occasional periods of almost constant attendance, demand accommodation near their jobs', and their families. Lewis was instructed to design a series of houses to be built on university land overlooking the proposed lake—a task for which he enlisted the help of his colleague Grounds, who had replaced him as Professor of Architecture at the University of Melbourne when he took on the university consultancy.<sup>32</sup> A range of houses was developed for different categories of staff: the Vice-Chancellor's would be the largest, followed by a 'Type A' for senior staff, a 'Type D' for the Registrar, a 'Type E' for non-senior staff, right down to the smallest: a single-storey 'Type B' for 'other staff'.<sup>33</sup>

Following protracted discussions and some conflict between Lewis, the university and the National Capital Planning and Development Committee, it was eventually decided that a cluster of five, Lewis-designed 'Type F' staff cottages would be built. These linear, single-storey houses were arranged in two parallel rows that followed the natural contours of the site in order to provide views of the proposed lake.

Lewis also designed a residence for the ANU Vice-Chancellor, Sir Douglas Copland, and his wife, Lady Copland, on a site in Balmain Crescent, accessed via Mills Road. Lewis worked closely with Lady Copland on the design, and in May 1951 asked Canberra-based architect Ken Oliphant to assist with the preparation of specifications and site supervision.<sup>34</sup>

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30 Gibbney, *Canberra 1913–1953*, 261.

31 Australian Commonwealth Electoral Roll, 1966.

32 *Architecture* (April 1950): 45. The collaboration is also mentioned by Conrad Hamann in *Modern Architecture in Melbourne: The Architecture of Grounds, Romberg and Boyd, 1927–1971* (PhD dissertation, Visual Arts Department, Monash University, 1978), 2.1, 43.

33 Lewis to Acting Registrar, ANU, 16 March 1949, ANU Archives, University Records, ANUA 53, Correspondence files, Box 469, 12.1.2.9 (1).

34 In 1950 Lewis designed a large house for the Coplands on a site in McCoy Crescent, opposite the Institute of Anatomy building. Budget considerations, however, forced him to design a smaller residence for an alternative site in Balmain Crescent.

But with Lewis having lost the confidence of Mark Oliphant and Florey—as well as key figures in the university administration—his role in the design of the Research School of Physical Sciences and the Research School of Medical Sciences (by then known as the John Curtin School of Medical Research) was diminished. Florey was adamant from the outset that the John Curtin School was to be designed by himself and his scientist colleagues, with some assistance from an English architect with whom he was acquainted.<sup>35</sup> Lewis, the university's appointed architect, found himself relegated to documenting the external shell and having no real involvement with the design of the exterior or interior. When this situation became known in Canberra, everyone involved—from Lewis to members of the Building and Grounds Committee—was outraged.<sup>36</sup> Florey's steely response, from Oxford, left no doubt as to how he viewed the increasingly isolated architect's position:

The architect must be entirely subordinated to the scientific requirements of those who are to inhabit [the building]. As Professor Lewis has had no previous experience of constructing laboratories he may not be aware of this point of view. When this initial plan is received I will arrange to have it seen by those in this country with recent experience of building laboratories (scientists not architects!).<sup>37</sup>

Having just appointed the first three medical professors for the John Curtin School, Florey invited them to Oxford to discuss the proposed building. In 1949, Arnold ('Hugh') Ennor, Professor of Biochemistry,<sup>38</sup> Adrien Albert, Professor of Medical Chemistry, and Frank Fenner, Professor of Microbiology, met Florey and his associate, Gordon Sanders, to discuss the layout. Influenced by new laboratories at the British National Institute of Medical Research at Mill Hill, they sketched a 'H'-shaped plan. Inside each parallel wing were south-facing laboratories and service rooms on either side of a central corridor, while the connecting link contained shared facilities such as administration, a library and lecture theatres.<sup>39</sup> Lewis was not invited to the discussions, nor was he consulted; the first he heard about the layout was when Sanders travelled to Melbourne and presented it to him later that year. Lewis wrote to Copland, explaining his concerns that 'no step taken now will hinder it from being a building of world

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35 By early 1948, Florey decided that he was not happy with the architectural advice he was receiving from Australia, and asked Stephen Welsh, an English architect and Professor of Architecture at Sheffield, to design the medical school in collaboration with the Academic Advisers. This effectively relegated Lewis to the status of documentation architect. Williams, *Howard Florey: Penicillin and After*, 251–2.

36 Lewis was furious, especially when he realised that Welsh's fees were to be deducted from his own. He fired back a hostile response, claiming that Welsh had been 'unethical' and 'impertinent'. He threatened to take the matter to the RIBA and the RAIA, and to resign if the university did not retract. *Ibid.*, 251.

37 Florey to Copland, in *ibid.*, 251–2.

38 While Florey instigated planning of the medical school, it was Ennor, more than any other person, who was responsible for its development into a world-class research centre. He was knighted in 1965.

39 Foster and Varghese, *The Making of The Australian National University 1946–96*, 74; Williams, *Howard Florey: Penicillin and After*, 252–3.

importance’, and of the dangers of rushing into an ‘ill considered scheme’. He believed that the only way to avoid this was to establish ‘personal consultation between the Architect and the Scientists involved’—the very opposite approach to that taken by Florey and his colleagues.<sup>40</sup>

When Sanders visited Lewis’s Melbourne office again the following year, he reported back to Florey that ‘only one man’ was working on the project; this signalled Lewis’s denouement.<sup>41</sup> By 1953 his position was untenable, and, ‘given a hefty push’, he resigned as architect for the John Curtin School of Medical Research building.<sup>42</sup>

In 1957 Hancock requested that a house be built for himself and his family near the existing ‘Type F’ cottages. The university engaged Max Collard, of Max Collard and Guy Clarke in Sydney—who were architects for the ANU Rock Mechanics Laboratory in Rivett Road—to design it.<sup>43</sup> When Denis Winston—who had replaced Lewis as the university planner—attempted to change the orientation of the house, Hancock, who obviously understood the benefits of a north-facing house, confirmed his preference for the house to run ‘due east and west’. His only other concern was for some form of fencing to prevent horses from eating his shrubs.<sup>44</sup> The Hancocks lived in this house for a short time before moving to Campbell.

Lewis battled on designing Oliphant’s Research School of Physical Sciences building (later known as ‘The Cockroft Building’), despite Oliphant’s constant jibing that he was over-designing his laboratories by ‘building a palace’ when he wanted a shed, and accusations that he was amending drawings without consulting him.<sup>45</sup> Lewis did, however, remain design architect for one university building that neither Oliphant nor Florey had much influence over: University House. An attempt to introduce ‘gracious living’ to the campus, University House was largely Hancock’s idea, but was supported by his fellow advisers because they believed it would make Canberra a more tolerable destination for themselves and their wives. Initially referred to as a ‘faculty club’, it was based on traditional Oxford and Cambridge colleges. The main functions of University House were to accommodate single university staff members (Albert, a bachelor, lived at University House), researchers and visitors, and to provide

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40 Lewis to Copland, 21 July 1948, ANUA 53, Correspondence files, Box 469, 12.1.2.9 (1).

41 Fenner and Curtis, *The John Curtin School of Medical Research: The First Fifty Years 1949–1998*, 16; Williams, *Howard Florey: Penicillin and After*, 257.

42 Fenner and Curtis, *The John Curtin School of Medical Research: The First Fifty Years 1949–1998*, 16; Foster and Varghese, *The Making of The Australian National University 1946–96*, 74.

43 The Rock Mechanics Laboratory was completed in 1959. Collard, Clarke and Jackson designed the Research School of Earth Sciences in Mills Road, Acton, in 1959 and 1964, and collaborated with J. Scarborough and Partners on the R. G. Menzies Library building.

44 Extract from minutes of ANU Building and Grounds Committee, 11 September 1957; Hancock to Registrar, 25 September 1957, ANUA 53, Correspondence files, Box 980, 12.1.2.131 (1).

45 Cockburn and Ellyard, *Oliphant: The Life and Times of Sir Mark Oliphant*, 162.

a variety of formal and informal spaces for dining, meeting and study. As the centre of academic social life and the most frequented building on campus, it was to be a showcase of contemporary Australian art and design, demonstrating that while the university maintained Oxbridge traditions, it also supported contemporary Australian culture.<sup>46</sup> Melbourne-based designer Fred Ward—whose furniture design Boyd had praised in *Victorian Modern* in 1947<sup>47</sup>—was commissioned to design furniture and fittings in local timbers, and Australian paintings were hung on the walls. Lewis had recruited Ward to teach interior design in the Architecture Department at the University of Melbourne, and his design approach—a restrained, modernist interpretation of the English Arts and Crafts style, underscored by a sound knowledge of Australian timbers and construction methods—was the perfect match for his own architecture. University House was Lewis's most successful building in Canberra, earning him a Sulman Medal in 1953.



**Figure 1.3 University House, The Australian National University, 1954**

Photograph: National Archives of Australia. NAA: A1200, L17793

46 Foster and Varghese, *The Making of The Australian National University 1946–96*, 71–3.

47 Robin Boyd, 'Frederick Ward and the Raspberry Jam', *Victorian Modern: One Hundred Years of Modern Architecture in Victoria, Australia* (Melbourne: Architectural Students' Society of the Royal Victorian Institute of Architects, July 1947), 20, 45. The handles of a cabinet designed by Ward were made from raspberry jam wood, which smells like raspberry jam when being worked.

Ward moved to Canberra as head of the ANU Design Unit in 1952, and designed some 4000 furniture items, as well as fittings and accessories, for Canberra buildings over the next eight years. His work was incorporated in the John Curtin School of Medical Research, the Australian Academy of Science and the National Library of Australia. Ward's elegant and reductive designs were skilfully interpreted by a generation of European master-craftsmen and cabinet-makers who arrived in Canberra via the Snowy Mountains Hydro-Electric Scheme. Many of them went on to produce refined timber tables and chairs that graced the capital's best modern interiors. One, Oswald Paseka, commissioned an architect to design his hillside O'Connor house.<sup>48</sup>

In the 1950s, Ward's wife, Elinor ('Puss'), wrote a number of articles on architecture and design in Canberra for *Australian Home Beautiful*, becoming an unofficial publicist for the developing national capital. A March 1955 article claimed that Canberra was no longer a 'government town', dominated by politicians and bureaucrats, but that other, 'vital influences' had appeared. The reasons for this shift were due to the CSIRO, which had added a 'large body of scientists and their families', and The Australian National University, which had 'brought in more people of varied and exciting interests'.<sup>49</sup>

All of these new residents needed somewhere to live. While the procurement process for the Oliphant House had been highly unorthodox, the medical professors' houses were a truer reflection of the conditions under which the university appointed senior academics, and the way in which they set up residence in Canberra. At the time, these were circumstances that were not only superior to those enjoyed by other Canberra residents, but were also better than those offered by other Australian universities.<sup>50</sup> To build a university in a country town containing a small number of existing residences, it was essential to offer incentives to prospective employees. For this reason, the Department of the Interior provided professors with a temporary house upon arrival and a block of land upon which to build a house. They had some choice regarding the building site, which was granted at a nominal lease, on the condition that they commenced construction of their house within six months.

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48 Oswald Paseka built a house at 15 Yapunyah Street, O'Connor, designed by Rudi Krastins. Ann Whitelaw, 'An Open Plan on Sloping Block', *The Canberra Times* (10 February 1970). Other craftsmen who worked with Ward at The Australian National University included Heinz Frank, Kees Westra, Conrad Tobler and Alphonse Stuetz. The architect Derek Wrigley also worked in the Design Unit. Derek Wrigley, 'The ANU Years', in *Fred Ward: A Selection of Furniture and Drawings, Drill Hall Gallery: 2 May – 16 June 1996* (Canberra: Drill Hall Gallery, 1996).

49 These articles in *Australian Home Beautiful* included 'Changing City of Trees and Sunshine' (March 1955): 37–9; 'The House They Wouldn't Alter' (August 1957): 15–19; and 'Look—No Backyards!' (August 1958): 26–9. Canberra had been promoted as the Australian centre of scientific research as far back as 1947. *Australia: The Official Handbook* (Melbourne: Speciality Press, 1947).

50 Fenner and Curtis, *The John Curtin School of Medical Research: The First Fifty Years 1949–1998*, 12.



The fourth medical professor appointed by Florey, John ('Jack') Eccles, Professor of Physiology, insisted that the Department of the Interior provide him with a block of land commensurate with his academic standing and family size. It was to contain a house, 'a square dance lawn, a swimming pool and a tennis court' for his wife, Irene ('Rene'), and their nine children. Eccles described the process by which he acquired a large site at 28 Monaro Crescent, Red Hill:

One had to select a suitable block of land and then have a house built on it. I had officials of the ANU helping me and eventually on October 9th I selected a very large block of land in a very good site adjacent to the Embassy area. The government owned all the land and one had to make a nominal deposit and then pay a rental of £18 a year which I did on 9th October 1950 for a 99 year lease.

The neurophysiologist did not, however, avail himself of the services of a design architect, preferring to design the house himself and engage Tom Haseler, a Commonwealth Department of Works architect who had supervised University House, to complete the documentation and engage a builder.<sup>51</sup> While Eccles was proud of his efforts as an amateur architect, his daughter Mary thought otherwise: 'He might have been a brilliant scientist, but he was no architect. The house, with its two long dark passages at right angles to each other, was not the best design for living.'<sup>52</sup>

After considering one of Lewis's standard houses for senior staff, Eccles' neighbour Hugh Ennor engaged Robert Warren of Hocking and Warren to design a one-off house at 3 Vancouver Street, Red Hill.<sup>53</sup> Like his client, Warren had just moved from Melbourne, and anticipated great opportunities for architecture and building in the rapidly developing capital city. The Ennor House was built by Austrian immigrant Karl Schreiner. Schreiner had built the Hancock House and both the temporary and the permanent John Curtin School buildings, and his furniture had been featured in the Wards' article on local design.<sup>54</sup> The Wards described the Ennor House as typifying a 'new kind of architecture' that was appearing in Canberra in the 1950s—one that formed a complete break from previous styles.<sup>55</sup>

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51 John Eccles, *Papers of John Eccles (1911–1997)* (manuscript), National Library of Australia, MS 9330, Folder 1, 164. The Eccles House was demolished for Enrico Taglietti's 1976 Apostolic Nunciature.

52 Mary Mennis, *The Book of Eccles: A Portrait of Sir John Eccles, Australian Nobel Laureate and Scientist, 1903–1997* (Queensland: Lalong, 2003), 150.

53 Lewis to Robert ('Bob') Osborne, ANU Registrar, 8 November 1948, ANUA 53, Correspondence files, Box 469, 12.1.2.9 (1).

54 Schreiner arrived in Canberra in 1949 and built up a successful construction business based in Lonsdale Street, Braddon, with a factory in Cotter Road. He later returned to his native Austria. Gibbney, *Canberra 1913–1953*, 240.

55 *Australian Home Beautiful* (March 1955): 55–9.





**Figure 1.4 The four medical professors—Eccles, Albert, Fenner and Ennor—study plans for the John Curtin School of Medical Research, Canberra, August 1950**

Photograph: Australian News and Information Bureau, The Australian National University Collection

Another close neighbour was Fenner. When it came to choosing an architect, his decision was a direct result of the feud between Lewis and Oliphant. After looking at existing houses in Canberra and seeing nothing to his liking, Fenner asked Lewis if he could recommend an architect. With an oblique reference to the Oliphant House, which he obviously regarded as a failure, Lewis's blunt response was that there were 'two excellent architects in Melbourne—Roy Grounds and Robin Boyd—and none in Canberra'.<sup>56</sup> He distinguished between Grounds and Boyd by saying that 'if you choose Roy Grounds, he'll build you a nice house, but you'll live in the house that he designed. If you choose Robin Boyd he'll build you a nice house, but you'll live in the house that he designed *for you*. He will follow your wishes.' Based on this advice, Fenner contacted Boyd.<sup>57</sup>

On 29 September 1949, another future Boyd client left the comforts of Melbourne to begin a new life in the national capital. Although this event was not particularly significant in itself, the repercussions would have a major

<sup>56</sup> Serle, *Robin Boyd: A Life*, 133.

<sup>57</sup> Frank Fenner, Interview by the author, 18 October 2007. Serle's account of Fenner's recollection is essentially the same: 'the client would have to live in whatever house Grounds built, whereas Boyd would build a house that incorporated the wishes of the client.' Serle, *Robin Boyd: A Life*, 133.

impact on Australian historiography. When Australian historian Manning Clark left coastal Melbourne for the inland high country of the national capital to become foundation Professor of History at Canberra University College (later incorporated into The Australian National University), he was seen to be leaving behind outmoded ideals and practices and making a fresh start.

Manning and his wife, Dymphna, initially bought a large site at the foot of Red Hill, intending to build a house 'facing the blue hills behind Canberra'. But Manning became concerned that it was completely 'naked', stranded on the 'outskirts' of the city, and near an 'ugly rash of suburbia'. Fortunately, when Eccles arrived, a department official asked the Clarks if they wanted to exchange this large site, which would suit Eccles perfectly, for a smaller one, closer in. Manning and Dymphna inspected a site at 11 Tasmania Circle, Forrest, and immediately accepted the offer.

In 1952, Dymphna—to 'cheer' her husband up as he recovered from rheumatic fever—suggested to Manning that they engage Boyd to design a house for their new site. Boyd, whom they both knew from Melbourne, was reflecting on the nation's history of domestic architecture for *Australia's Home*,<sup>58</sup> and he travelled to Canberra to meet his clients. Discussing details of the interiors with Dymphna, Boyd proposed a 'dark soft red' for the living-room ceiling and as much natural light as possible. His client, however, opted for 'galah pink', and expressed concerns about large expanses of glass. Afterwards, as Boyd was rushing to catch his plane back to Melbourne, Manning called out to him: 'Is the house going to be single storey with my study in the basement?' Boyd paused, and shouted back: 'Single storey with the study upstairs.'<sup>59</sup> And so what began as an afterthought became Clark's celebrated rooftop study, accessible only by ladder, perched like a tree-house over the central link in the binuclear plan. In the week that the builders were finishing the house, Australian poet Alec Hope stood with Manning in the study, looked out of the windows towards Mount Ainslie and Black Mountain, and said 'I see books being written here'.<sup>60</sup> And he was right. It was there, as the suburb of Forrest was built around him, that Clark wrote his six consecutive volumes of *A History of Australia*.<sup>61</sup> The impact of this work on the national consciousness was so profound that, for a significant time

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58 Robin Boyd, *Australia's Home: Its Origins, Builders and Occupiers* (Melbourne: Melbourne University Press, 1952).

59 Papers of Manning Clark (1907–1992), Manuscript Collection, National Library of Australia, MS 7550, Box 27, Folder 223, 'Houses 1949–53', Robin Boyd to Dymphna Clark, 19 April 1952 and 2 July 1953, and Dymphna interviewed in *Australian Home Journal* (September 1973). My thanks to Mark McKenna for these sources. Similar descriptions of the conversation between Boyd and Clark were described by Serle in *Robin Boyd: A Life*, 132, and by Peter Freeman in 'Manning Clark House: An Architect's View', in Trevor Creighton, Peter Freeman and Roslyn Russell, *Manning Clark House Reflections* (Canberra: Manning Clark House, 2002), 36.

60 Creighton, Freeman and Russell, *Manning Clark House Reflections*, 37.

61 C. M. H. Clark, *A History of Australia* (Carlton, Vic.: Melbourne University Press, 1962).

afterwards, it was as if no previous Australian history existed.<sup>62</sup> Manning Clark House is now administered under a family trust for the purposes of scholarly and cultural pursuits.

The last of the ANU founding professors was known as ‘the father of the contraceptive pill’. While researching hormones for fighter pilots during World War II, Arthur Birch, Professor of Organic Chemistry at the University of Sydney, experimented with the manufacture of male hormones through a synthetic process, and by 1950 was able to prepare analogues of natural steroid hormones. The process he invented, but never patented—‘Birch Reduction’—became universal practice in modern synthetic organic chemistry, and paved the way for others to manufacture oral contraceptives in the 1960s.<sup>63</sup> In the late 1950s, when the idea of a research school of chemistry was raised, Ennor made it his priority to recruit Birch. But his quarry, by then established in Manchester, had reservations about moving to Canberra, and was hesitant to commit. After a lengthy period of negotiation, Birch issued an ultimatum to the university: he would come if he was paid a certain amount, was made head of school and could obtain a ‘decent house’. Sydney-based architects Bunning and Madden, who were then working on the Haydon-Allen Building for the Faculty of Arts and the National Library of Australia, were engaged to design the Birch House. Sydney University-trained Noel Potter, who had moved to Canberra with Bunning and Madden in 1962 to oversee the library, was appointed design architect.<sup>64</sup>

Arthur and his wife, Jessie, travelled to Canberra to meet Potter and to inspect five alternative sites offered by the commission (all of which had been set aside for diplomatic purposes). The site that was agreed upon—a private battleaxe block on the crest of a low rise at 3 Arkana Street, Yarralumla—was chosen because of the magnificent views it provided of the Brindabella Ranges. Arthur was so impressed that he shot an 8 mm film of the site to show his children when he arrived back in England. He and Jessie discussed the design with Potter. Arthur liked the concept of an ‘Australian house with verandahs all around’. Jessie suggested that the verandahs might face inwards, similar to the ‘flat-roofed, white-painted, Spanish-style haciendas’ they had admired in California and Mexico. Based on these discussions, Potter designed a rectangular, single-level house enclosing a central courtyard with swimming pool. With large expanses of glazing, the house was very open in character: panoramic views of the Brindabellas were obtained from the entire living areas, most rooms looked

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62 This view was identified, and then questioned, by Stuart Macintyre in his Trevor Reese Memorial Lecture of 28 April 1992 titled ‘History, the University and the Nation’, Sir Robert Menzies Centre for Australian Studies, Institute of Commonwealth Studies, University of London. The belief that no previous Australian history existed would not have been shared by Hancock, who wrote *Australia* (London: Ernest Benn, 1930).

63 ‘Chemist Had a Thirst for Research’, [Arthur Birch obituary], *The Australian* (19 December 1995); ‘A Medal for the Birch Reduction’, *The Canberra Times* (21 December 1972).

64 Noel Potter, Interview by Margaret Park, National Library of Australia, 16 August 2004.

into the internal courtyard, and a clear sightline was maintained from the front door right through the centre of the building to the landscape beyond.<sup>65</sup> When the family relocated to Canberra, Jessie was a frequent visitor to the building site and was involved in the selection of finishes, fittings and furniture.



**Figure 1.5 Birch House, central courtyard with swimming pool**

Photograph: Max Dupain, 1968. Max Dupain & Associates Archives

Arthur Birch was also involved with planning the new building for the Research School of Chemistry, which was designed by Victorian architects Eggleston, Macdonald and Secomb. Birch proudly described it as a ‘beautiful, simple, scientific building’—one that was ‘technically and aesthetically the best in the University’.<sup>66</sup> With his laboratories and house finalised, he was installed as foundation Dean of the University’s fifth research school, the Research School of Chemistry, in 1967.<sup>67</sup> The Birch House was awarded the C. S. Daley Award

65 Potter claimed that the openness of the design was influenced by an earlier house he had designed in Lightning Ridge, NSW, for Patricia Waterford. He described this precursor as ‘a slab on the ground, every room opened out, little courtyards. Every room you either had a courtyard or a garden you just walk through. Open plan and tiles all throughout.’ Ibid.

66 ‘A Medal for the Birch Reduction’, *The Canberra Times*.

67 Foster and Varghese, *The Making of The Australian National University 1946–96*, 120, 229–31.

(named after Charles Daley) for domestic architecture in Canberra by the Royal Australian Institute of Architects in 1968, was featured in *The Australian Women's Weekly* and *Australian House and Garden* in 1969,<sup>68</sup> and became a well-known venue for social functions in the capital city. When the Birch children had grown up and left home, the house was sold to the architect Romaldo ('Aldo') Giurgola, the designer of Australia's Parliament House. Potter was delighted when Giurgola phoned him to say 'it was the best house he ever lived in'.<sup>69</sup>

## The Reformation of the Council for Scientific and Industrial Research

[T]he great surge in the popularity of scientific education in the post-war era was...propelled...by the hope that scientific rationality would be able to fashion a new world order.

— Boris Schedvin<sup>70</sup>

At the second Annual General Meeting of the Australian Academy of Science, held in temporary premises at The Australian National University from 26 to 28 April 1956, the Treasurer, Hedley Marston, placed an architectural sketch on the table. Marston wanted the academy to build a national headquarters in Canberra, and had, along with Eccles, been given the task of finding a suitable architect. The sketch he presented to the other fellows had been prepared by an architect friend in Adelaide, and depicted a classical-styled structure with columns. Also attending the meeting were Oliphant, President of the Academy, Otto Frankel, Vice-President and Head of the Division of Plant Industry at the CSIRO, and John Nicholson, Secretary for Biological Sciences.

Frankel was the first to react. He was appalled by the proposal, believing it to be 'the kind of building that an Academy might have selected some 50 years ago'. Concerned that such a regressive style of architecture might become accepted as a 'pattern for the building', he vetoed it and initiated the appointment of a design committee.<sup>71</sup> Unbeknownst to the others, Frankel had already approached Oscar Bayne, a Melbourne architect who later worked for Grounds, to ask his opinion

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68 Ron Berg, 'Canberra House Wins Design Award', *The Australian Women's Weekly* (23 April 1969): 70–2; 'Contemporary Canberra, A Winner all the Way', *Australian House and Garden* (August 1969): 36–7, 78–9.

69 Noel Potter, Interview by Margaret Park.

70 Boris Schedvin, *Shaping Science and Industry: A History of Australia's Council for Scientific and Industrial Research, 1926–49* (North Sydney: Allen & Unwin, 1987), 287.

71 Otto Frankel, 'A Personal Memoir on the History of the Design of the Australian Academy of Science Building', 16 September 1970, Frankel, Sir O. H., FAA (1900–2007), Manuscript Collection, Adolph Bassier Library, Australian Academy of Science, MS 106, Box 13, Item C, 2.



about a suitable architect for the academy building. Bayne had accompanied Grounds and Geoffrey Mewton on an overseas trip between 1928 and 1933, and was well connected in Melbourne circles.<sup>72</sup>

Frankel had explained to Bayne that it was important to avoid 'the safe and conventional' route, and how he wanted to engage an architect who was 'modern in outlook', but whose competence could not be questioned. He wondered if Walter Gropius, founder of the Bauhaus School, would be suitable. Bayne replied that it was essential to employ an Australian architect—'it is Australia's job to do its best and let it stand or fall on that'—and provided Frankel with a list of prospective firms.<sup>73</sup> It was decided to hold a limited design competition and to invite those on Bayne's list to submit a proposal. When news of this came out, Frankel was confronted by Race Godfrey, President of the Royal Australian Institute of Architects, who claimed that the terms of the competition had to be in accordance with the institute's rules. But Frankel would not have a bar of it: he wanted scientists to be in control and was not about to be dictated to by architects. If the Institute of Architects took over, decision making would be removed from the scientists and placed in the hands of an external assessor. Frankel discussed with Oliphant the idea of having one architect sit alongside the scientists on the committee in an advisory capacity, as a form of adjudicator in case they got stuck on some technical matter. Fearful of receiving conservative advice from an unknown quantity—such as Godfrey—they asked Bayne if he would fulfil that role.<sup>74</sup>

For a fee of £50 to appease the institute, Bayne attended the one and only meeting of the Building Design Committee, held in Marston's library in Adelaide on 1 December 1956. By this time another entry had appeared on the scene: Warren, having heard that no Canberra architect had been invited, had complained to the academy and been given permission to submit a proposal.<sup>75</sup> Oliphant—who deferred to Frankel's better judgment when it came to matters of architectural aesthetics—asked Frankel to take the chair, and six design proposals were

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72 Phillip Goad, *The Modern House in Melbourne 1945–1975* (PhD dissertation, University of Melbourne, 1992), part 1, 30.

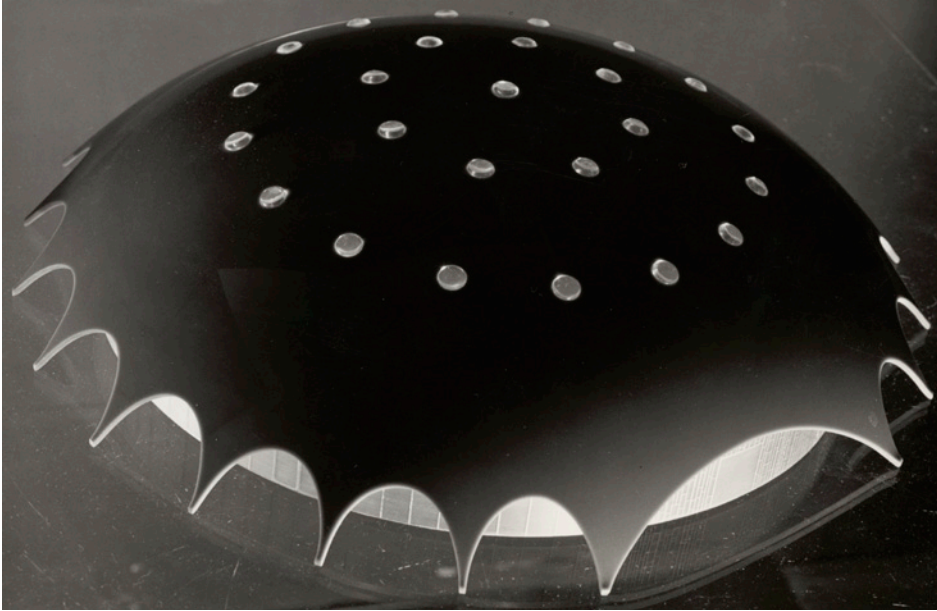
73 Bayne to Frankel, 17 May 1956, Frankel, Sir O. H., FAA (1900–2007), 13/C. Gropius had also been mentioned by Moir as a possible architect for University House. See Jill Waterhouse, *University House As They Experienced It: A History 1954–2004* (Canberra: The Australian National University, 2004), 26.

74 Bayne was a highly influential figure. Some time later, he was asked to advise on a list of suitable architects for the Victorian Arts Centre, for which Grounds was eventually selected. Vicki Fairfax, *A Place Across the River: They Aspired to Create the Victorian Arts Centre* (Victoria: Macmillan, 2000), 63.

75 Warren's design was a rectangular building with various elements cut in, or added, to the overall form: a fan-shaped entry on the Gordon Street side, an auditorium perched like a landed spacecraft on the roof, and a raised volume at the western end for accommodating visiting scientists. AAS Collection, Basser Library, MC 4, Items 10, 11, 12.



considered. Of these, the committee voted unanimously in favour of the dome-shaped proposal by Grounds, Romberg and Boyd, who were selected as architects for the Australian Academy of Science building.<sup>76</sup>



**Figure 1.6 Model of the Australian Academy of Science, Canberra**

Photograph: Wolfgang Sievers, 1963. National Library of Australia. nla.pic-vn4474852

Frankel looked back upon this process as ‘an adventure’. The committee, he recalled, was an ‘active and highly argumentative body’ whose members all contributed ideas and criticisms. He believed that the success of the completed building was due to a combination of Oliphant’s obsession with quality of material and services and his own concern with architectural design. Grounds’ contribution was an amalgam of ‘imaginative initiative, resilience, and, at times, tolerance’, and he believed that all those involved, including the architect, were ‘richer for the experience’.<sup>77</sup> The academy building, for which the architects won a Sulman Medal in 1959, was an unqualified success. Frankel described how it ‘helped to generate a corporate consciousness and, thanks to its architectural distinction, it enhanced a growing pride in the Academy. For the

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76 The submissions were by Borland, McIntyre & Murphy, Powell, Mansfield and Maclurcan, Grounds, Romberg & Boyd, Hassell and McConnell, Mockridge, Stahl & Mitchell, and Robert G. Warren. ‘The Academy Building’, Frankel, Sir O. H., FAA (1900–2007), Box 13, Item D, 3. For an account of the design submissions, see Philip Goad, ‘Shells, Spires and a Dome, Science and Spirit in the Space Age’, in Ann Stephen, Philip Goad and Andrew McNamara, *Modern Times: The Untold Story of Modernism in Australia* (Melbourne: Miegunyah Press, 2008), 134–41.

77 Otto Frankel, ‘A Personal Memoir on the History of the Design of the Australian Academy of Science Building’, 16 September 1970, Frankel, Sir O. H., FAA (1900–2007), Box 13, Item C, 5–6.

public it became a symbol of Australian science.’ Philip Goad described it as ‘Canberra’s, and Australia’s, first public building of national significance since World War II’, and ventured to add that it signified a turning point beyond which modernist ideals began to gain acceptance.<sup>78</sup>

Given Frankel’s background, it is no surprise that he played such a key role in the Academy of Science building. A charismatic, idealistic, but sometimes brusque man, he held strong convictions about a range of issues. One colleague described him as a ‘geneticist by training, plant breeder by occupation, cytologist by inclination, and genetic conservationist by acclaim’.<sup>79</sup> What he failed to mention was the scientist’s extraordinary contribution to the promotion and cultivation of modern architecture: it was Frankel, more than any other individual, who was responsible for creating what will be demonstrated to be an ‘architectural culture’ within the CSIRO during the 1950s and 1960s.

So where did Frankel’s passion for architecture come from? Born into a well-off family in Vienna in 1900, he studied at universities in Munich, Vienna and Giessen. An idealistic trait was evident from an early stage: Frankel withdrew from chemistry and enrolled in agriculture because he saw that as a better way to fight world hunger. Sometimes his strong convictions led to trouble: as a student in Vienna after World War I, he was a committed communist, and on one occasion was arrested for addressing a street gathering. This readiness to stand up for what he believed in remained with him throughout his career: at the age of eighty-nine, he was photographed at a Canberra rally protesting against government cutbacks to science budgets.<sup>80</sup>

In Berlin, Frankel gained a doctorate for a study of genetic linkage and married a German woman, Mathilde (‘Tilli’) Donsbach. He worked as a plant breeder on a private estate near Vienna and gained work experience in Palestine and England, before accepting a position as a geneticist in Christchurch, New Zealand, with the Wheat Research Institute. Frankel immersed himself in his work and in the many outdoor activities offered by New Zealand’s South Island—including tramping, camping and fly-fishing. A pioneer skier in Canterbury, he helped to establish the Christchurch Ski Club and facilities at Arthur’s Pass, and regularly competed in events throughout the South Island. But he always felt like a foreigner in Christchurch, stating that he was only really accepted in the ski huts.

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78 Otto Frankel, quoted by Lloyd Evans, ‘Otto Herzberg Frankel 4 November 1900—Elected FRS 1953’, Frankel, Sir O. H., FAA (1900–2007), MS 106, Box 12, Item A, 54; Philip Goad, in Ann Stephen, Andrew McNamara, Philip Goad, *Modernism & Australia: Documents on Art, Design and Architecture 1917–1967* (Melbourne: Miegunyah Press, 2006), 899–901.

79 Lloyd Evans, quoted in Brad Collis, *Fields of Discovery: Australia’s CSIRO* (Crows Nest, NSW: Allen & Unwin, 2002), 205–6.

80 Ibid., 205–6.



**Figure 1.7 ‘Margaret and Otto Honeymoon, 1940, Lake Wanaka, New Zealand’**

Photograph: Manuscript Collection, Adolph Basser Library, Australian Academy of Science. Frankel, Sir O. H., FAA (1900–2007), MS 106, Box 13

In 1937 Frankel divorced Tilli, and two years later married Margaret Anderson, a Christchurch artist and art teacher with whom he had conducted a secret affair for eight years—a very unusual practice in conservative, 1930s New Zealand.<sup>81</sup> A painter and potter, Margaret had studied art in New Zealand and had lived in Paris. With a group of artists and writers including Cora Wilding,

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81 Margaret Evans, Speech given on the occasion of Margaret Frankel’s eightieth birthday, 8 October 1982, Frankel, Sir O. H., FAA (1900–2007), Box 12, Item B. Otto met Margaret when she and some friends asked Tilli about German lessons. Even though she and Otto were living apart, Tilli would not agree to a divorce, so Otto and Margaret virtually lived together for nine years. In ‘discrete, NZ—Ch-Ch style’; however, during this time Margaret always returned home for breakfast. Lloyd Evans, Handwritten notes, ‘Otto’, Frankel, Sir O. H., FAA (1900–2007), Box 15, Item F, 202.

Dame Ngaio Marsh, Edith Wall, Evelyn ('Eve') Page and Viola McMillan Brown, she formed The Group, a breakaway from the conservative local arts society. Margaret and Page painted each other naked in the Port Hills, and arranged their own exhibitions.<sup>82</sup> The Frankels were regular visitors to Waitahuna, the Pages' homestead at Governor's Bay, which became a mecca for many of New Zealand's most prominent creative minds. Guests, who included the painter Toss Woollaston and the poet Denis Glover, were served culinary delights such as beef cooked according to a Virginia Woolf recipe. The Frankels became key figures in the Christchurch artistic and cultural world, associating with other progressive thinkers such as university academics, musicians, skiers and artists.<sup>83</sup> With Margaret's parents, they established the Risingholme Community Centre on the Anderson family estate (later known as Risingholme Park) in Opawa.



**Figure 1.8 'Otto's two wives Margaret Anderson and Tillie Donsbach in the Port Hills'**

Photograph: Manuscript Collection, Adolph Basser Library, Australian Academy of Science. Frankel, Sir O. H., FAA (1900–2007), MS 106, Box 13

82 Margaret Evans, Speech given at Margaret Frankel's funeral, 11 December 1997, Frankel, Sir O. H., FAA (1900–2007), Box 12, Item B. 'When Margaret F. described how she & Eve Page painted one another nude in a valley near Ch.Ch., Otto boasted "I soon cured her of her lesbian tendencies."' Lloyd Evans, 'Otto 31.10.84', Handwritten note, Frankel, Sir O. H., FAA (1900–2007), Box 15, Item E, 167.

83 Lloyd Evans, 'Otto Herzberg Frankel 4 November 1900—Elected FRS 1953'. The painter Toss (later Sir) Woollaston was among their Christchurch friends from that period. In later years, Otto and Margaret gifted two of his paintings to the National Gallery of Australia. Glover and the Virginia Woolf recipe are mentioned by Glenys Bowman in 'A Page of NZ Artistic History', *New Zealand Woman's Weekly* (23 February 1987): 35.



In the same year that he married Margaret, Otto made another commitment—one that would alter the trajectory of twentieth-century New Zealand architecture. From 1937 to 1939, he was secretary of a committee that assisted Jewish refugees to immigrate to New Zealand. Frankel and the chair of the committee, Karl Popper (who had attended the same school as Frankel in Vienna, in a class with his younger brother, Paul), favoured the importation of intellectuals. The New Zealand Government, however, believed there were already enough of those types in the country, and preferred migrants with more practical skills. After managing to bring in a number of Jewish intellectuals ‘under the guise of cabinetmakers and pastrycooks’, Frankel must have thought that Ernst Plischke, the young Viennese modernist architect whose immigration he sponsored in May 1939, offered the best of both worlds.<sup>84</sup> Frankel’s connection to Plischke had been established through his brother, Theo, who had commissioned the architect to design his house in Vienna.<sup>85</sup> Plischke had all the right credentials: he had studied in Peter Behrens’ Master School at the Vienna Academy—where his final project in 1926 had been an academy of science building—had worked in Behrens’ office, and was regarded as a leader of the European modern movement.<sup>86</sup> In New Zealand, he settled in Wellington, where he worked for the Housing Department from 1939 to 1947. He then went into private practice with Cedric Firth—who, coincidentally, was the brother of Raymond, the ANU Academic Adviser for the Research School of Pacific Studies.<sup>87</sup> Over the next two decades, Plischke became the architect of choice for Wellington’s intellectual and artistic elite, and one of New Zealand’s most important practitioners.

Frankel’s contribution to Plischke’s antipodean career was significant: he not only assisted the architect’s passage to New Zealand, he also provided him with his first house commission—the Frankel House, at 9 Ford Road, on part of the Anderson family’s Risingholme estate.

A single-storey, ‘L’-shaped timber house, the Frankel house was designed to maximise afternoon sun while providing privacy from both road and neighbours. With a functional plan that abandoned internal circulation in favour of a very optimistic ‘sunporch’, a flat roof, large sliding doors and austere, crisp forms, it was a radical concept for New Zealand in the late 1930s—particularly for the

84 Evans, ‘Otto Herzberg Frankel 4 November 1900—Elected FRS 1953’; Evans, Handwritten notes, ‘Otto 25/5/87, notes from dinner’, Frankel, Sir O. H., FAA (1900–2007), Box 15, Item E, p. 155, Note 3.

85 Evans, ‘Otto Herzberg Frankel 4 November 1900—Elected FRS 1953’. Another connection was through the modernist Viennese potter Lucie Rie and her husband, Hans, whom Theo Frankel met skiing at St Anton. The Ries had provided Plischke with one of his first commissions: the interior of their apartment at 24 Wollzeile in Vienna. In 1938, Theo assisted the Ries to move to England. Tony Birks, *Lucie Rye* (Somerset: Marston House, 1987), 28–9, 33.

86 Ernst Plischke, *On the Human Aspect in Modern Architecture* (Vienna: 1969), 18; D. G. Porter, ‘An Immigrant Brought Live Vision to New Zealand’, *The Dominion* (6 April 1963).

87 ‘His brother, Raymond Firth, had become an internationally acclaimed anthropologist.’ Greg Bowron, ‘Firth, Cedric Harold 1908–1994, Builder, Architect, Writer’, *Dictionary of New Zealand Biography*, <<http://www.dnzb.govt.nz>>

Dominion's most English city, where it generated 'as much notoriety as Frank Lloyd Wright's Taliesin House in Arizona'.<sup>88</sup> Frankel proudly claimed his house to be 'the first modern house in Christchurch'.<sup>89</sup> But the Frankels' assistance to Plischke's architectural career did not end with their own house; he went on to design a number of others for members of their social and artistic milieu.<sup>90</sup>



**Figure 1.9 Frankel House, Opawa, Christchurch, c. 1940**

Photograph: Manuscript Collection, Adolph Basser Library, Australian Academy of Science. Frankel, Sir O. H., FAA (1900–2007), MS 106, Box 13

In Christchurch, the Frankels established a number of living and working patterns that would stay with them for the remainder of their lives. By building a house that, for its time and place, was radically modern, they demonstrated a commitment to contemporary design. They developed gardens around their home that were described as 'a tribute' to their 'imaginative and energetic work', while at the Wheat Research Institute—where he became Chief Executive Officer in 1942—Otto embarked on a major construction program of new research facilities.<sup>91</sup>

88 Evans, Handwritten note quoting Nancy Sawyer, Bassar, Frankel, Sir O. H., FAA (1900–2007), Box 15, Item D, 74.

89 Evans, 'Otto Herzberg Frankel 4 November 1900—Elected FRS 1953'. See also Douglas Lloyd Jenkins, *At Home: A Century of New Zealand Design* (Auckland: Godwit, 2004), 82.

90 For instance, Evelyn Page and her husband, Frederick, commissioned a Plischke house at Waikanae, near Wellington, in 1951. This is mentioned in a letter that Frankel's first wife, Tilli, wrote to him about mutual friends 'Eve and Fred', and their dealings with Plischke. Tilli Aldrich to Otto Frankel, Takapau, Hawke's Bay, 30 October 1967, 3 November 1967, 4 November 1967 [same letter]. AAS Adolph Bassar Library, Frankel, O. H., MS 106, Box 13, Item B.

91 'New Post in Australia. Leading Plant Geneticist. Christchurch Pair Will Be Missed', *New Zealand Herald Free Lance* (19 September 1951): 22.



In 1949, the Australian Council for Scientific and Industrial Research acquired a new name—the Commonwealth Scientific and Industrial Research Organisation (CSIRO)—and appointed a new chairman, the agricultural scientist Ian Clunies-Ross. This was an important period for the organisation, which was benefiting from unprecedented confidence in Australian science and a dramatic increase in research funding.<sup>92</sup> But Clunies-Ross could see problems in the Division of Plant Industry, which was suffering from low morale and a lack of direction.<sup>93</sup> There was also the need to implement Coombs' vision, whereby the organisation would not only be capable of reacting to immediate problems, it would also be able to anticipate future tasks and act as a public advocate for scientific research.<sup>94</sup> One of the Chairman's first responsibilities was to appoint a scientist capable of heading the division and of addressing these issues. Frankel, still living in New Zealand, was somewhat surprised when he was offered the job, given his already formidable reputation as a critic and 'stormy petrel'.<sup>95</sup> But it was partly those qualities that attracted Clunies-Ross to him. A feeling of intellectual isolation in New Zealand, combined with a lack of 'old stones and modern art', led to Frankel's decision to accept the position in Canberra. Although he felt even less at home in the Australian landscape, and was no closer to the European culture that he longed for, Frankel claimed he was 'never made to feel a foreigner' in Australia.<sup>96</sup>

When Frankel arrived in Canberra, he noted that the division was 'getting older', and immediately set out to attract 'very good young people in scientific fields' whose expertise was directly related to the environmental problems facing Australia.<sup>97</sup> The atmosphere of scientific autonomy that pervaded the CSIRO, combined with the postwar impetus, provided a context in which he was able to recruit highly qualified scientists.<sup>98</sup> In the first two decades after

92 'In scale, range and self-confidence, the organization was unrecognisable in 1945 compared with the small and somewhat defensive entity of the late 1930s. The most obvious change was the four-fold increase in size...CSIR was in an exceptionally favourable position at the end of the war to achieve its scientific ideals. It received much of the credit for the rapid wartime technological progress, and had established itself as the premier scientific institution in the country.' Schedvin, *Shaping Science and Industry: A History of Australia's Council for Scientific and Industrial Research, 1926–49*, 309, 318. While biological and environmental scientists enjoyed the spoils of wartime success, the same could not be said for physicists. There was much unease about nuclear physics since atomic bombs had been dropped on Japanese cities, and 'Cold War paranoia' affected many scientists working in that field. *Ibid.*, 318.

93 Collis, *Fields of Discovery: Australia's CSIRO*, 206.

94 The Minister, John Dedman, stated that a postwar council needed to do more than solve technical problems. In March 1944, he began to urge the council to plan ahead, so that in a postwar environment it was ready to take on a broader role as public advocate of the benefits of scientific research: 'CSIR must be more than a great scientific organisation—it must...play an important part in public education, in foreseeing the problems which will cry out for solution in ten years' time.' Schedvin, *Shaping Science and Industry: A History of Australia's Council for Scientific and Industrial Research, 1926–49*, 325.

95 Bruce Juddery, *The Canberra Times* (29 May 1968).

96 Evans, 'Otto Herzberg Frankel 4 November 1900—Elected FRS 1953'.

97 Bruce Juddery, *The Canberra Times* (29 May 1968).

98 One of the founding principles of the organisation was that it would be managed by scientists rather than by bureaucrats, so that research priorities would be, as far as possible, insulated from potentially conflicting

World War II, ‘some of the world’s most brilliant minds’ arrived in Canberra to work in the rapidly expanding CSIRO. As Brad Collis explained, ‘the benefits to a young, developing country were incalculable’.<sup>99</sup>

At the same time, Frankel became convinced that he needed a ‘big science’ project to ‘put the division on the world map’, and to lift the CSIRO’s profile and morale. For Frankel, there was no better way to encapsulate the spirit of this venture than through architecture. The project soon evolved into the idea of a building, whose form would be a physical manifestation of the expertise, energy and goodwill that science was attracting. But the building could not be a mere symbol of Australian science’s improving fortunes; it required a function. The rationale for the building became more apparent as Frankel considered the myriad diverse climates and environments across the Australian continent, and the logistical problems associated with carrying out research in isolated locations. If a large building, capable of simulating various climates, could be constructed in Canberra, it would centralise plant research across Australia, eliminate weather hazards encountered in remote field stations and provide the CSIRO with major reductions in running costs. The only similar building in the world at the time—although it was closed shortly afterwards—was at the California Institute of Technology (‘Caltech’) in Pasadena.<sup>100</sup> Frankel and his colleagues developed a sophisticated concept that improved on the Caltech prototype. To reduce the amount of time and energy that was consumed transporting plants into different rooms, it was decided to reverse this process in Canberra so that the climates—controlled by the latest airconditioning and remote-control techniques—would be taken to the plants.<sup>101</sup> The ‘Phytotron’, as it became known, was designed by Grounds, with whom Frankel had nurtured a friendship through the Academy of Science building. It was subdivided into a series of individual chambers, each of which simulated a different climate, to enable scientists to research the responses of plants to varying climatic conditions.

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political agendas.

99 Collis, *Fields of Discovery: Australia’s CSIRO*, xii, vii, xiii.

100 The Caltech Phytotron at Pasadena existed largely due to Frits Went, a Dutch biologist who moved to Caltech in 1933. In 1949, with the support of a generous benefactor, Harry Earhart, Went constructed the Earhart Plant Research Laboratory, which his Caltech colleagues nicknamed the ‘Phytotron’. This building became the prototype for the Canberra installation and for others around the world. The Caltech Phytotron was demolished after a few years, when it became apparent that its enormous operating costs far exceeded the institute’s budget. *Biographical Memoirs, National Academy of Sciences (US)* (Washington, DC: National Academy Press), vol. 74, 351–2.

101 *Architecture in Australia* (December 1964): 108–9.



**Figure 1.10 Phytotron hothouse, Commonwealth Scientific and Industrial Research Organisation, Canberra, 1962**

Photograph: National Archives of Australia. NAA: A1200, L42101

## Legacy

Talents as well as bacteria need a nourishing medium in order to thrive.

— Siegfried Giedion<sup>102</sup>

The absolute power that the Academic Advisers—particularly Oliphant and Florey—exerted during their reign had profound consequences for the architecture of the ANU campus. At the core of their being was an unwavering belief that scientific rationality would build a better world, and that no-one—not even a highly regarded architect—was going to prevent them from achieving their goal. The control that Florey and the founding medical professors imposed over the design of the John Curtin School was based on function: they had clear

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<sup>102</sup> Giedion stated that the architect Richard Neutra would not have enjoyed the success that he did if he had not left Austria early in his career. Siegfried Giedion, 'R. J. Neutra, European and American', in *Richard Neutra 1923–50: Buildings and Projects* (London: Thames and Hudson, 1964), 8.

ideas about the overall form of the building (based on the success of a previous model) and about the internal requirements of the laboratories, with their specialised equipment. The medical professors, in their relentless pursuit of functionality, were prepared to relinquish control of only one part of the building: the external cladding; an aesthetic matter, it was of little concern to them. As Florey stated so unequivocally: 'The architect must be entirely subordinated to the scientific requirements of those who are to inhabit [the building].'<sup>103</sup> Sometimes the architectural results of this rigid, authoritarian approach—fed by their considerable personal successes—were unsuccessful: the first Oliphant house in Canberra was one example. But generally, the Academic Advisers were not driven by arrogance or hubris as much as they were motivated by the desire to implement Coombs' primary vision—that science should serve humanitarian purposes in an attempt to improve Australia's physical and social environment.

The Academic Advisers' parallel building project—constructing the personnel component of the university—brought to the national capital a group of young, highly qualified and highly specialised scientists and academics, many of whom were world leaders in their fields. In accordance with the spirit of postwar rejuvenation, all of the scientists who accepted chairs at the university were in their thirties or forties when appointed.<sup>104</sup> Most were well travelled; many had served overseas during World War II, or had completed postgraduate studies or work experience in Europe or North America. In this way, they had been directly exposed to new developments in modern architecture within university campuses, scientific institutions and private residences. Confident, forward thinking and optimistic about the modern world, they brought fresh impetus to the city. Furthermore, their involvement in building a new research university that was not restricted by the need to maintain established traditions or ideologies placed them in a professional context that actively encouraged new ways of thinking.

Through a network of contacts and recommendations, many of these new arrivals commissioned architects to design their houses. Fenner recommended Boyd to Dr Clark from the CSIRO, and to Dr Hilary Roche, a physician from the Department of Health.<sup>105</sup> One of Fenner's first appointments, the microbiologist Ian Marshall, and his wife, Kathleen, commissioned Theo Bischoff—who had moved from Melbourne to work on the John Curtin School—to design their

103 Florey to Copland, in Williams, *Howard Florey: Penicillin and After*, 251–2.

104 Fenner, Professor of Microbiology, was aged thirty-four; Ennor, Professor of Biochemistry, was thirty-five; Titterton, Professor of Nuclear Physics, was also in his mid-thirties; Albert, Professor of Chemistry, was forty-one; Eccles, Professor of Physiology, was aged forty-seven; while Birch, appointed Dean of Chemistry some years later, was in his mid-forties. The Academic Advisors were all under fifty years of age: Oliphant was forty-five; Florey—already a co-recipient of the Nobel Prize for the development of penicillin—and Hancock were both forty-eight.

105 Of these, only the Roche House, at 4 Bedford Street, Deakin, which Boyd designed in 1955, went ahead.

house in Curtin.<sup>106</sup> Vladimir ('Val') Paral, official photographer for the John Curtin School, and his wife, Heather, commissioned Derek Wrigley to design their house in Narrabundah.<sup>107</sup> Gordon Ada, who replaced Fenner as Professor of Microbiology in 1968 when he became Director of the John Curtin School, lived in a house in Pearce designed by Kevin Curtin.<sup>108</sup> Gutta Schoefl from the John Curtin School and her mathematician partner commissioned Roger Pegrum to design their Wamboin house. Ernest Titterton, appointed Professor of Nuclear Physics by Oliphant, and his wife, Peggy, built a modern house in Forrest; the geologist John Lovering and his wife, Kerry, engaged Sydney architects Ancher, Mortlock and Woolley for their house in Deakin; while geophysicist Mervyn Paterson and his wife, Katalin, commissioned Canberra-based architect Enrico Taglietti for their Aranda house.<sup>109</sup>

Many of these clients had firm ideas regarding the type of house they wanted to live in. Paola Favaro claimed that it was largely because of the Patersons' input that Taglietti—who had previously demonstrated a limited affinity with the Australian landscape—showed, in their house, a closer connection to the colours and textures of the surrounding environment.<sup>110</sup> Ken Charlton described how the fortress-like appearance of the Paterson House was the result of the clients' request for a private house that withdrew from its suburban neighbours. He also noted that Taglietti amended his design for the living-room fireplace so that the occupants could gather around the hearth, as was the practice in Katalin Paterson's native Hungary.<sup>111</sup>

University administrators, and academic staff from the general studies, social sciences and Pacific studies faculties, extended the network of house commissions. University Registrar, Ross Hohnen, and his wife, Phyllis, commissioned

106 Ian Marshall and Kathleen Sutton, a laboratory technician, moved to Canberra, from Melbourne, at the same time. But, as their former employer Fenner explained, they 'made the mistake of not getting married before they came up, so they were separately located in boarding houses. And they got married, and they had a hell of a job in trying to get a house built for themselves.' Frank Fenner, Interview by the author, 18 October 2007. The Marshall House, at 86 Morgan Crescent, Curtin, was designed by Bischoff in 1966. An upstairs extension has since been added. Ann Whitelaw, 'Children Have Their Own Living Area', *The Canberra Times* (9 July 1968).

107 The Paral House was at 22 Brockman Street, Narrabundah. In 1965 it received a Commendation from the Royal Australian Institute of Architects (ACT Chapter).

108 Whitelaw wrote that the Ada House, at 71 Parkhill Street, Pearce, was designed by Kevin Curtin and was being built for Mr H. Constable when the Adas bought it. 'Character in a House', [Homes and Building], *The Canberra Times* (30 June 1970).

109 The Schoefl–Miles House was at 1 Sutton Road, Wamboin, NSW; the now-demolished Titterton House was at 8 Somers Crescent, Forrest; the Lovering House of 1967 was at 38 Beauchamp Street, Deakin; and the Paterson House was at 7 Juad Place, Aranda. For the Lovering house, see Whitelaw, 'Reaching for the Stars at Deakin', [Homes and Building], *The Canberra Times* (12 November 1968).

110 Paola Favaro, *Drawn to Canberra: The Architectural Language of Enrico Taglietti* (PhD dissertation, Faculty of the Built Environment, University of New South Wales, 2009), 287–8, 292.

111 Ken Charlton, Bronwen Jones and Paola Favaro, *The Contribution of Enrico Taglietti to Canberra's Architecture* (Canberra: RAI, ACT Chapter, Register of Significant Twentieth Century Architecture Committee, 2007), 6, 51.



John Scollay—who had worked with Lewis on University House—to design a house in Deakin.<sup>112</sup> Economic historian Alan Barnard appointed Anthony Pegrum for his house in Campbell,<sup>113</sup> while Bischoff was engaged by Professor Douglas Pike—a historian whom Hancock had appointed founding Editor of the *Australian Dictionary of Biography*—to design a house for himself and his wife, Louisa, in Campbell.<sup>114</sup> Historians Deryck Scarr and Margaret Steven commissioned Hancock, Courtney and Renfree to design their houses in Curtin and Garran respectively, while anthropologist Derek Freeman and wife, Monica, engaged Wrigley for their Deakin house. Another who commissioned Wrigley was statistician Ted Hannan and his wife, Irene, whose house was in Red Hill.<sup>115</sup>

Oxford-trained philosopher Bruce Benjamin from the School of General Studies and his wife, Audrey, commissioned Melbourne architect Alex Jelinek to design their house at 10 Gawler Crescent, Deakin. In 1957, the Benjamin House overcame stiff opposition from such luminaries as Seidler, Boyd, Ancher, Mortlock and Murray, John Dalton and Peter Muller to be awarded House of the Year by the editors of *Architecture and Arts*.<sup>116</sup> Commonly known in Canberra as the ‘round house’, the Benjamin House was in fact based on a Pythagorean spiral. Due to its striking appearance and prominent corner location, it is probably the most well-known modern house in the capital city.

Through his overall influence on the CSIRO, and his personal involvement in a number of significant architectural commissions, Frankel’s contribution to the architecture of postwar Canberra was significant. In addition to his central roles in the Academy of Science building and the Phytotron, he built two modern houses for himself and Margaret in the capital (see Chapter 6). Frankel possessed as much confidence in his beliefs as his ANU equivalents, and at least as much commitment to carrying them out. Like them, he was single-minded, determined and dismissive of those whose opinions he did not respect. But he had additional qualities. When it came to architectural patronage, Frankel arrived in Canberra with considerable form, having worked with Plischke on his own house and having supervised the construction of new scientific facilities at the Wheat Research Institute. Frankel was a discerning aesthete with confidence in his

112 The Hohnen House, c. 1956, was located on the corner of Empire Circuit and Grey Street, Deakin.

113 The Barnard House, c. 1963, was at 18 Godfrey Street, Campbell. Patricia Clarke, ‘Couple Build Solar House for £7,500’, [Homemakers], *The Canberra Times* (17 July 1964).

114 The Pike House, designed by Bischoff in 1965, was at 2 Garsia Street, Campbell. See Whitleaw, ‘Courtyard and Fountain Provides Bright Focal Point’, *The Canberra Times* (4 June 1968).

115 The Scarr House, designed in 1966, was at 38 Munro Street and the corner of Munro Place, Curtin. Whitelaw, ‘House Which Seems Bigger than it Really Is’, [Homes and Building], *The Canberra Times* (30 August 1968). The Steven House of the same year, at 3 Bonwick Place, Garran, was not designed specifically for Steven; it was already under construction when she arranged to purchase it. Margaret Steven, In discussion with the author, 2007. The Freeman House was at 5 Daly Street, Deakin, while the Hannan House, c. 1962, was at 8 Penrhyn Street, Red Hill.

116 *Architecture and Arts* (March 1958 and June–July 1958). The Benjamin House, at 10 Gawler Crescent, Deakin, was designed by Jelinek in 1956. Bruce and Audrey’s son, Roger, is writing a book on the Benjamin House.

own aesthetic judgment, and he would not hesitate to back his own opinion when it came to questions of architectural language and form. These qualities were what led to the mutual respect, and close friendship, that he developed with Grounds—a working relationship that underscored (and survived) their collaboration on a number of houses and buildings.



**Figure 1.11 Benjamin House, view from north-west**

Photograph: Wolfgang Sievers, 1958. National Library of Australia. nla.pic-vn4503045

Grounds' continuing success in Canberra owed much to Frankel. In addition to the above buildings, he designed the School of Botany for The Australian National University. A number of Grounds' subsequent residential commissions for scientists were a direct result of these larger projects. In addition to the Frankel House, there were the Campbell houses for John Nicholson and his wife, Phyllis, John and Frances ('Fay') Philip and Bruce and Penny Griffing, the Philip and Moira Trudinger House in O'Connor, and an unbuilt proposal for Sir Rutherford ('Bob') Robertson.<sup>117</sup> Some of Grounds' commissions extended

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117 The Nicholson House, designed in 1965, was at 24 Cobby Street, Campbell; the Philip and Griffing houses, completed in 1961, were at 42 and 44 Vasey Crescent, Campbell; and the Trudinger House of 1965 was at 144 Dryandra Street, O'Connor. The Robertson House was not built. It was listed as a project of c. 1966 in Hamann, *Modern Architecture in Melbourne: The Architecture of Grounds*, Romberg and Boyd, 1927–1971, vol. 2, 66.

outside the boundaries of the Australian Capital Territory: in 1958, he designed a clubhouse building in Guthega for the 'Blue Cow' Ski Club, of which Frankel was a founding member.

But Grounds was not the only architect employed by scientists from the CSIRO. The entomologist Doug Waterhouse and his wife, Dawn, engaged Moir and Sutherland for their house at 58 National Circuit (corner of Melbourne Avenue), Deakin. A modern interpretation of the Georgian style, the Waterhouse House was reminiscent of Doug's family home, Eryldene, in Gordon, NSW, which was designed in 1913 by William Hardy Wilson for his parents.

The network of commissions extended to newer architectural firms in the capital city. George Stewart engaged Latvian immigrant architect Rudi Krastins, whom his wife, Valeska, had met through the local Latvian community, to design their house in O'Connor. Stewart's colleague Ralph Slatyer and wife, June, engaged Krastins for their house on an adjacent site. Keith and Mary Boardman hired Scollay to design a house in Forrest. When Aranda—to the north-west of the CSIRO's Black Mountain location—was developed, John and Enid Falk, and Colin and Pam Macdonald, employed Roger Pegrum to design their houses in that suburb.<sup>118</sup>

Underlying the way in which these scientist-clients approached the problem of building a house was an acute awareness of climate and environment—a situation that was not altogether unexpected, given the nature of their day jobs. When asked why they commissioned architects to design their houses, they invariably responded that it was due to a lack of appropriate housing at the time. Their criticisms of existing models were based on two major concerns: inappropriate style and lack of sensible, environmentally aware design. All considered the popular way of building in historical styles, such as 'Tudor' or 'Spanish', as totally inappropriate solutions to the problem of building a house in Australia. June Slatyer explained how she and Ralph wanted 'something that was more in tune with the land, more environmentally aware', and were impressed by the understated, well-orientated solution that Krastins had provided for the Stewarts. As a result, the Slatyers commissioned the same architect to design their house on an adjacent site. The Slatyer House was, June believed, 'one of the first solar passive houses, orientated for north sun', in Canberra.<sup>119</sup>

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118 The Stewart and Slatyer houses were at 6 and 8 Hobbs Street, O'Connor. For the Stewart House, see Whitelaw, 'The House with a Swinging Wall', [Homes and Building], *The Canberra Times* (25 November 1969). The Boardman House was at 6 Somers Crescent, Forrest; the Falk House was at 18 Araba Place, Aranda; and the Macdonald House was at 46 Mirning Crescent, Aranda.

119 Like Krastins, Stewart's wife was Latvian. June Slatyer believed this was the connection that linked the Stewarts to Krastins. Interestingly, the Slatyer House contained an oval-shaped kitchen that June Slatyer described as being 'very Freudian—an egg shape for the lady of the house'. Whether or not her husband,

John Zwar, a plant physiologist who was one of Frankel's earliest recruits to the Division of Plant Industry in 1952, went further afield by commissioning Sydney-based Seidler to design his house in O'Connor. Zwar believed that existing Canberra houses were 'pretty dreadful'. Describing the brick-and-tile houses that were constructed en masse in suburbs such as Turner in the immediate postwar years, he noted that they were 'very well built houses, brick houses...but there's no light in them at all!' Zwar considered that 'building houses in imitation of something in the past...was just the most stupid thing you could do'.<sup>120</sup> John and Frances Philip admired the way in which some early Australian buildings dealt with the harsh climate, but had specific ideas about how their own house should deal with issues of sun control and heating—both of which John was able to quantify to Grounds through mathematical calculations.<sup>121</sup>

The idea of an architecture based on rational, environmental principles was nurtured and propagated throughout the corridors and tearooms of the Acton campus and Black Mountain laboratories during the 1950s and 1960s, where scientists regularly discussed houses, and architecture in general, with their colleagues. Often the results of these encounters were profound: it was through discussions with his colleagues that Zwar ended up asking Seidler to design his house, while discussions between Frankel and Philip resulted in the complete replanning of Frankel's second Canberra house.<sup>122</sup> Many scientists and their partners demonstrated a wider concern for their adopted environment by becoming involved in environmental organisations and lobby groups. Five—Hancock, Slatyer, Fenner, Frankel and Audrey Benjamin—formed a residents' group with architect Wrigley and sought a legal injunction to stop construction of a telecommunication tower (now known as 'Telstra Tower') on Black Mountain.<sup>123</sup> That so many of those involved in building this scientific and intellectual community in the national capital were honoured with knighthoods for their work—Florey, Oliphant, Ennor, Copland, Clunies-Ross, Frankel, Hancock, Grounds, Titterton and Eccles (Eccles was also a recipient of the Nobel Prize and was Australian of the Year in 1963, while Coombs resisted the offer of a knighthood on several occasions)—is a measure of the enormity of their contributions. It was the legacy left by this extraordinary and unprecedented

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Ralph, spent a lot of time in that room is not particularly relevant, yet it seems that the ovoid space might have contained equal significance for a biological scientist. June Slatyer, In discussion with the author, 28 October 2008.

120 John Zwar, Interview by the author, 26 September 2008.

121 See Chapter 4.

122 Frankel to Grounds, 6 November 1969, Frankel, Sir O. H., FAA (1900–2007), Box 13, Item C.

123 Their attempt, in 1973, was unsuccessful. NLA Manuscripts Collection, MS5350; National Archives of Australia, NAA: 8869243, A10273.

colony of national capital inhabitants, fired by the uncompromising ideals, energies and enthusiasms of the Academic Advisers amongst them, which led to the building of the houses discussed in the following chapters.

May you live for as long as man will bend the knee, or doff the lid, to imagination, truth and integrity.

— Grounds' tribute to Otto Frankel upon his knighthood<sup>124</sup>

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124 Grounds to Frankel, 14 January 1966, Frankel, Sir O. H., FAA (1900–2007), Box 13, Item A.