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Connell, Ward & Lucas: towards a complex critique

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The practice of Connell, Ward & Lucas, active in Britain in the 1930s, produced a number of concrete houses which conventionally have been regarded as worthy but flawed attempts to implement European Modernist principles, especially those associated with Le Corbusier. Connell and Ward were New Zealanders, and it has also been assumed that they came to Britain in order to acquire cultural and technological understanding previously unavailable to them. However, this paper argues that such assumptions are unsound. Their work, even after they were joined by their third partner Lucas, was not exclusively Corbusian and it was infused with advanced technological and aesthetic principles which, in the case of Connell and Ward, were substantially absorbed before they came to Europe. It is also argued here that the work of the practice in the late 1930s became fundamentally fractured as tensions between discriminating and ideological uses of Corbusian principles became irreconcilable. Other critics have seen this as evidence of inconsistency, but here it is regarded as a questioning and informed admission of Modernist principles into practice – and therefore as a badge of integrity – which may only be evaluated by means of an inclusive and complex critique.

The practice of Connell, Ward & Lucas (CWL) has a ubiquitous presence in the literature of British Modernist architecture of the 1930s. It is noted for its key role in introducing flat-roofed, multi-coloured, concrete houses into southern England, and for engaging in public inquiries that succeeded in modifying planning law to the benefit of fellow Modernists. Its principals – the New Zealanders Amyas Connell and Basil Ward, and the Englishman Colin Lucas – are celebrated individually and collectively. However, references to CWL, though numerous, are restrained. The practice is credited with uncompromising but ultimately exhausting opposition to reactionary interests, and with an idealistic but unsophisticated programme. Its 'objectives' are

interpreted *simplistically*, as having constituted the importation of a generalized European Modernism into Britain.¹ The consensus view is patronizing: CWL made a decent attempt at popularizing Modernist architecture, for which task it was not itself fully equipped and for which Britain was unready. Such modest achievement does not explain CWL's evocative presence in accounts of British Modernism of the 1930s, nor the continuing tacit acknowledgement of its importance. There is a nagging sense of real attributes having been obscured by the cursory memorializing, not to say the caricaturing, that has become the norm: for example, 'The truth seems to be that Connell's houses were original and flashy, Ward's sound and

sometimes very good . . . and Lucas's often minor masterpieces . . .'²

The prime objective of this essay is to begin to reconstruct CWL's achievement so that a full evaluation of its significance may at last be attempted. As CWL is *insistently* significant yet is diminished by simplistic interpretation, it seems reasonable to investigate the appropriateness of a *complex* critique, identifying differences of intentionality within the partnership as well as its deviations from conventional accounts of the Modernist 'project'. For it is safe to assume that if CWL's achievements had reinforced conventional critiques then its presence in the dedicated literature would not have remained tacit: the practice would have been celebrated as one of the few exceptions to a generally disparaging appraisal of British Modernism in the 1930s. The dominant critical model has valued exclusive commitment to a revolutionary architecture predicated on complete dislocation with past styles – including, in the domestic realm, traditional client-lifestyles. Any apparent willingness to 'dilute' or 'contaminate' a Modernist architectural vocabulary has been regarded as, at best, evidence of canonic ignorance. CWL confuses such criticism by demonstrating virtuous command of a Modernist aesthetic while also seeding it with features considered 'incompatible' with the privileged ideology.

Evidence of this kind of ambivalence is fairly common in British architecture of the period, for many practitioners made honest attempts to modernize their discipline while retaining hold on the established culture. Such apparent diffidence towards Modernism supported a view of early twentieth century British architecture as reactionary and

insular, which became ingrained in first-generation critical texts. The most influential of these featured the persuasive International Style paradigm, devised at the Museum of Modern Art, New York, in 1932, which proposed continental European and American centres of origin for Modernism. Britain's great contributions were said to have included the fostering of a vigorous proto-Modernism (Arts and Crafts theory and practice and a highly original variant of Art Nouveau) which revolutionized European architecture and design without, however, affecting deeply the culture of its homeland.³ Modernism had, in effect, to be re-imported in the 1930s,⁴ assisted by European architects migrating before fascism, several of whom (among them Walter Gropius, Marcel Breuer and László Moholy-Nagy) practised briefly in Britain before moving on to the USA. Even in the postwar years the small, dedicated literature of British Modernism (for example, Reyner Banham's *New Brutalism*, 1955)⁵ celebrated European influences and sought comparability to the American works of Gropius and Mies van der Rohe. In general, British contemporary architecture – particularly of the first half of the twentieth century – was excluded from serious Modernist critiques as having contributed little to the International Style. CWL harboured no pretence to International Style affiliation (Connell observed in retrospect that the International Style had not existed at the time of several of CWL's major achievements), and no European used the practice as a stepping stone to America. It is therefore not surprising that CWL is absent from International Style literature. But resistance to affiliation has been taken to signify *insularity*, and this rather absurd

notion offers the first real purchase on a conventional critique.

First in a general sense: the proposal that the avant-garde faction might differ (in being insular) from the rest of British architecture does not submit to common-sense analysis. In the 1920s and 1930s British architecture was still an imperial phenomenon, enjoying success comparable to that of US architecture in the latter third of the century, in the sense that the majority of institutional and other prestigious buildings around the world were of British design or inspiration. Throughout the Empire, expatriates were re-creating Britain abroad, and an imperial-scale economy ensured full employment for British architects while their counterparts in, say, Germany survived economic collapse by devoting themselves to 'paper' projects. It is said that such frustrations brought out the visionaries in German architects, and that what they envisioned was rooted in Arts and Crafts principles imported from Britain, which British architects had unaccountably rejected. If there were an ebb and flow of architectural intelligence between Britain and abroad, how much more likely is it that it would have involved centres of vigorous architectural development in British colonies and dominions rather than centres of architectural theorizing in Germany? Conventional acceptance of the latter can only be countered with specifics, and here Connell and Ward are especially instructive.

New Zealanders, they came to Britain in 1924 as very young men to join London practices and enter higher architectural education at the Bartlett School, each having completed his articulated pupilage between 1917 and 1923. Connell had worked

in the Wellington office of Stanley Fearn, an English devotee of his homeland's domestic architecture. Ward's pupilage had been with Louis Hay, a man of Scottish-German descent, especially knowledgeable about current American (Frank Lloyd Wright) and European (Art Nouveau, Sezessionist) innovations. They met in 1923 and travelled to Britain the following year,⁶ presumably sharing their influences and discovering the essential compatibility that would sustain their future partnership. Their talents were so prodigious that in 1926 they took Britain's two major academic prizes, Connell the Prix de Rome and Ward the Jarvis Scholarship.⁷ So much has long been known,⁸ but it has sustained the false image of their capabilities and ambitions which may be summarized as follows. They were well trained in what Nikolaus Pevsner has called the 'Edwardian Imperial' style – combining English Palladian and an American blend of neo-classical and the Beaux Arts⁹ – especially to be valued in provincial colonial centres for its dignifying effect on young communities. At the domestic scale they were equally familiar with English vernacular, though translated into carpentry forms appropriate to the commonest building material of their homeland. They had glimpsed Modernism and wished to practise it, hoping that Britain would provide a base from which to address European sources directly. And they did so imperfectly because their inherited knowledge clouded appreciation of an authentic ideology, because their pragmatic use of its characteristic material – concrete – diluted the purity of the formal vocabulary they tried to emulate, and because of the British architectural establishment's resistance.

This composite has remained unmodified; it aligns well with the 'hiatus' critique, according to which British progressive architecture amounted to little¹⁰ during the time of great European Modernist innovation. The tactics employed by Connell and Ward (and Lucas, after he joined them in 1934) in order simply to make positive interventions into the prevailing despond are said to condone their diversion from 'authentic' Modernism. This state of affairs is said also to have conditioned progressive British architecture in general, though CWL is acknowledged for an untypically robust attitude to its critics, thus ensuring its niche in the annals of British Modernism.

However, damning CWL with faint praise in this way has actually obscured important factors capable of sustaining a quite different critique. First, knowledge of English domestic architecture in New Zealand embraced its latest manifestations. New Zealand had in fact hosted one of the most comprehensive exhibitions ever held of late Victorian and early Edwardian Arts and Crafts architectural derivatives,¹¹ in the British Architecture section of the New Zealand International Exhibition, Christchurch, 1906–7. Almost two million people visited this exhibition, indicating the degree of its penetration of the New Zealand consciousness.¹² It is not suggested that Connell and Ward were directly affected by this occurrence (born respectively in 1901 and 1902, they were infants at the time), but that the influence of the most significant cultural event in the dominion's history was still pervading architectural practice at the time of their training a decade later. A stated objective of the exhibition was to alert the world to the

presence of a 'New England of the Southern Seas', 'British in thought and blood':¹³ it is certainly not inappropriate to suggest that the two young architects who came to Britain in 1924 were steeped in both a British national identity and a Free Style vocabulary of architectural form.

This vocabulary would have included such typical attributes as asymmetrical planning and elevational composition; exploded geometry, for example by means of multifaceted or curvilinear projections; strongly contrasting planes and recesses; fine decorative finishes including strong coloration; eclectic combination of cultural references; and assimilated Renaissance features, particularly as evident in Georgian urban domestic design. The legacy of the Christchurch exhibition also included developments at the leading edge of Free Style planning and construction: the 'butterfly' (or truncated Y- or X-shaped) plan,¹⁴ and the concrete flat slab roof.¹⁵ It will be evident that both the flat concrete roof and the Y-shaped plan characterized Connell's entry into practice in 1928,¹⁶ as did several other Free Style attributes, and that he was also exceptionally adept at concrete technology. His knowledge of this material was *intimate*. Concrete raft construction was already routine in New Zealand, affected by threat of earthquakes, and the general use of concrete was in any case more common in the colonies, where skilled labour was scarce, than in Britain where it was plentiful.¹⁷ But in the place and at the time of Connell's apprenticeship to Fearn there was also a fine example of concrete technological development that was second to none: F. de Clere's St Mary of the Angels Church, Wellington (1919–22) was then under construc-

tion, and Connell must certainly have followed with interest the creation of a structure described as having 'concrete framing of such slenderness internally as to bring the work of Auguste Perret to mind'¹⁸ – especially considering that Perret's Church of Notre Dame du Raincy (the obvious comparator) was not completed until two years later. Decisively, the fact that Connell was usually to act as his own 'consultant engineer' and to handle confidently such complicated structures as cantilevered and spiral staircases (without relevant instruction having been available at either the Bartlett School or the British School at Rome) indicates that profound understanding arrived with him from New Zealand.

A more appropriate critique, then, would have at least the two original partners of CWL as being highly knowledgeable about the English Free Style and ready to participate in the *evolution* of an appropriate British Modernism, substantially by developing further the Free Style rationale while experimenting with the potential of concrete technology. Clearly they would have been expected to admit *valid* European Modernist principles as they became apparent. While studying at the Bartlett School they had visited the Paris Exposition des Arts Decoratifs in 1925, largely to see Le Corbusier's Pavillon de l'Esprit Nouveau, though they had also appreciated Konstantin Melnikov's Russian Pavilion. They had also diverted to see work by André Lur at.¹⁹ On leave from Rome in 1927 or 1928 Connell visited the Weissenhof Siedlung at Stuttgart; and in 1931 or 1932 Ward visited the Berlin Bauhaus and met Mies van der Rohe.²⁰

Connell and Ward read whatever they could find on European Modernism, becoming as knowl-

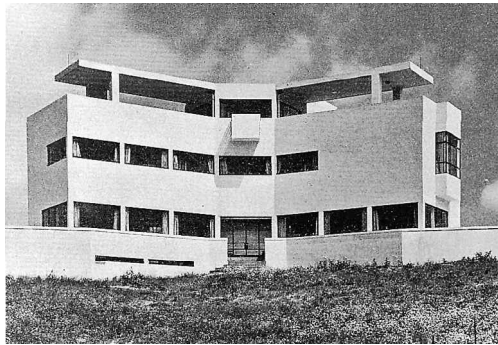


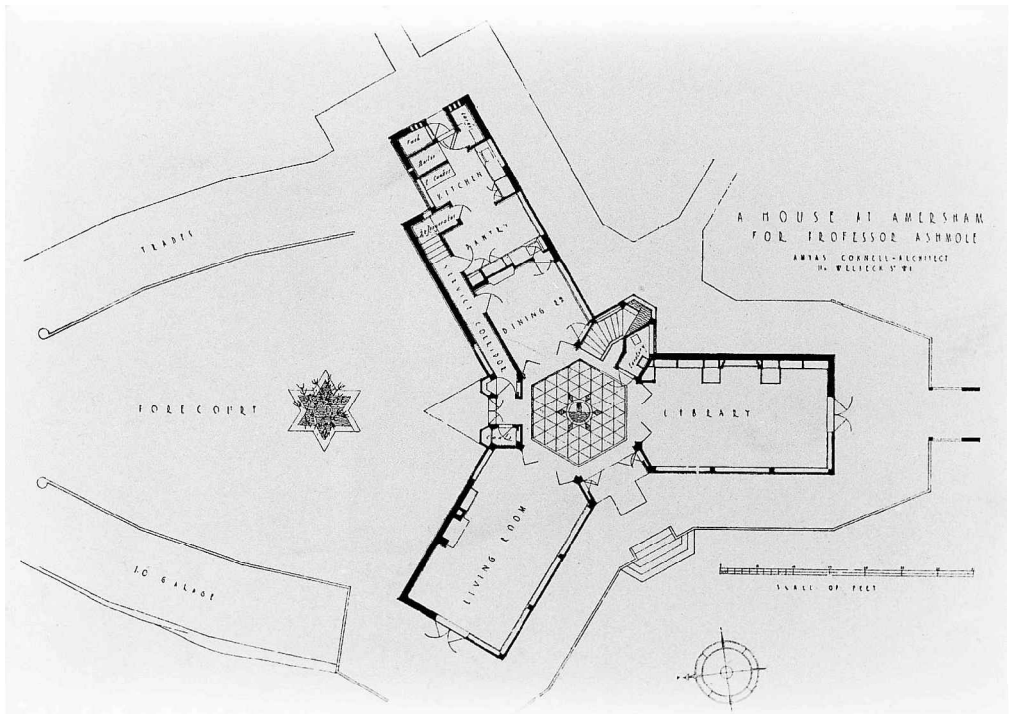
Figure 1. High and Over, Amersham (1928–30). Main elevation. Photo: Architect & Building News, 26 June 1931.

edgeable as any British-based architects about Le Corbusier, the Bauhaus and Russian Constructivism, having the significance of their first-hand observations confirmed on reading Bruno Taut's *Modern Architecture*, published in English in 1929. Taut's *evolutionary* interpretation of British proto-Modernism was later upstaged by Pevsner's hiatus critique, but it is clear that Connell and Ward found Taut the more convincing, and that Ward, in particular, regarded Taut's favoured Expressionism as assimilable to the Free Style. It becomes apparent, therefore, that an alternative critique of Connell and Ward (which ought to accommodate Lucas, as it is reasonable to assume that he knew what he was joining) is both evolutionary and complex, featuring ramifications of the Free Style, including Expressionism, besides *qualified* admission of Corbusian principles and others deriving from what might collectively be termed 'Constructivism'. Consideration of typical buildings²¹ attributable to the various permutations of Connell, Ward and Lucas – Connell first practised alone from 1928 until 1931, then entered partnership with Ward

Figure 2. High and Over, Amersham (1928–30).

Ground floor plan.

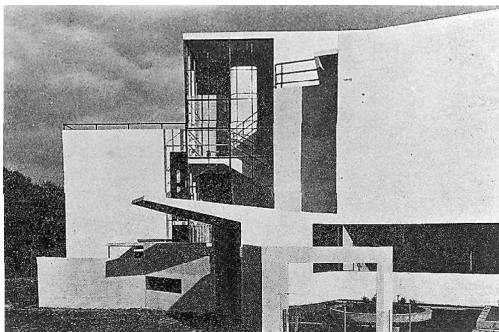
Photo: Architect & Building News,
26 June 1931.



until 1934, when they were joined by Lucas until the practice was dissolved in 1939, though Lucas increasingly worked on his own projects after 1936 – does indeed reveal such characteristics and, moreover, identifies discrete aspects of the critique with individual partners.

High and Over, Amersham (1928–30) (Fig. 1), Connell's first house and a solo achievement, has Corbusian properties which play second fiddle to its exuberant Free Style planning and interior design. Corbusian aspects include reinforced

concrete frame with brick infill walls and a canopied roof terrace. The whole is rendered to appear monolithic and is painted white. Descendant characteristics of the Free Style include a natural extrapolation of the butterfly plan into an equiangular Y embracing three views from the house across its own grounds and surrounding countryside (Fig. 2), and a magnificent two-storey hexagonal hall, rich in fine woods, marble and chromium, and with a single jet fountain playing throughout its height. A glazed staircase – which



was to become a Connell (and CWL) hallmark – was here set proud within the angle of the rear elevation, containing a cantilevered spiral concrete stair which he himself calculated and detailed. The hall, staircase and fountain suggest a conflation of the hall, staircase and basin court in Edwin Lutyens' Papillon Hall, Market Harborough (1903), which, together with Edward Prior's Holme Place, Kelling (1904) and The Barn, Exmouth (1899), are High and Over's convincing antecedents. This has signified to some that Connell was an inadequate Corbusian, but in fact he was highly discriminating in his trialling of borrowed principles. High and Over would have been even less Corbusian had his contractors been able to master the system of reusable metal shuttering Connell had designed for what was intended to be a monolithic concrete construction.²²

It is tempting to regard Connell's second house, New Farm, Haslemere (1932) (Fig. 3) – designed after the formation of his partnership with Ward, but according to the latter mainly the work of Connell²³ – as encapsulating the dimin-

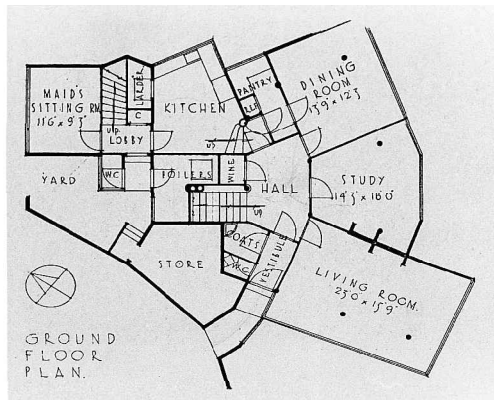


Figure 3. New Farm, Haslemere (1932). Main entrance. Photo: Architect & Building News, 10 March 1933.

Figure 4. New Farm, Haslemere (1932). Ground floor plan. Photo: Architect & Building News, 10 March 1933.

ishing significance of the Free Style and a corresponding increase in Corbusian influences. Again it is a variation of the Y plan (Fig. 4) with, on the ground floor, a study set in the acute angle between living and dining rooms oriented towards formal gardens, a central hall, a high glazed staircase over the entrance (constituting the third projection of the Y) giving access to the upper storey and roof terrace, and an offset kitchen and servants' wing occupying the left-hand obtuse angle. The first floor planning is an almost exact overlay of this arrangement, and except for its monolithic concrete construction so much is recognizable as descendent from Prior and Lutyens. Such similarities end, however, with the garden elevations (Fig. 5), which are distinctly Corbusian, particularly in their ribbon fenestration, which returns strategic corners in order to admit wide views. Here loadbearing construction gives way to cantilevered slab and suspended envelope, with freestanding

Figure 5. New Farm,
Haslemere (1932).
Garden elevation.
Photo: Architect &
Building News,
10 March 1933.

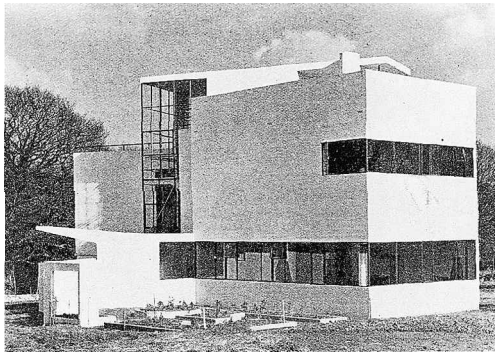


Figure 6. Nos 97–99 Park
Avenue, Ruislip (1933–35).
Photographed in 1992.



structural columns distributed throughout all prime rooms. Painted a crimson pink, the house as seen from its garden would have appeared unquestionably Corbusian. However, in spite of obvious planning freedoms associated with column and cantilever (which here at least did not translate into functional facility because the columns were always intrusive), Connell displayed reluctance to repeat in future what was obviously a pragmatic experiment, thus further indicating that his Corbusianism was conditional and selective.

Among the first tangible fruits of the Connell & Ward partnership were houses at Nos 97–99 (a semi-detached pair) (Fig. 6) and 101 Park Avenue, Ruislip (1933–35). Their first designs for the speculative market, these were substantially the work of Ward, and marked his entry into British practice. In this regard it is significant that they bore minimal Corbusian references (apart from their roof terraces) but instead evoked Constructivism as exemplified in the Bauhaus work that Ward had so recently appraised. However, they located firmly in a tradition of British interior plan-

ning – at the ground floor, living room to the street elevation, overlooking a small front garden, with kitchen and dining to the rear; above, three differently sized bedrooms and a bathroom – in effect ‘reclotting’ this familiar arrangement in an aesthetic peculiar to the new material, monolithic concrete. Ward achieved unusually generous interior space standards by removing vertical circulation from the main envelope to a glazed external staircase rising to the roof terrace. This had the bonus of ‘expressing’ its function dramatically, particularly on the front elevation, which Ward would have emphasized further with panes of obscured glass following the rake of the stairs.²⁴ The reduction by one third of the staircase glazing, however, was a condition of planning approval – very grudgingly allowed after numerous rejections, appeals and eventual referral to the Ministry of Health.

The *Architects’ Journal* took a close interest in these proceedings, and reported them fully²⁵ in illustration of its longstanding opposition to the ‘panel system’ of arbitration, which required such

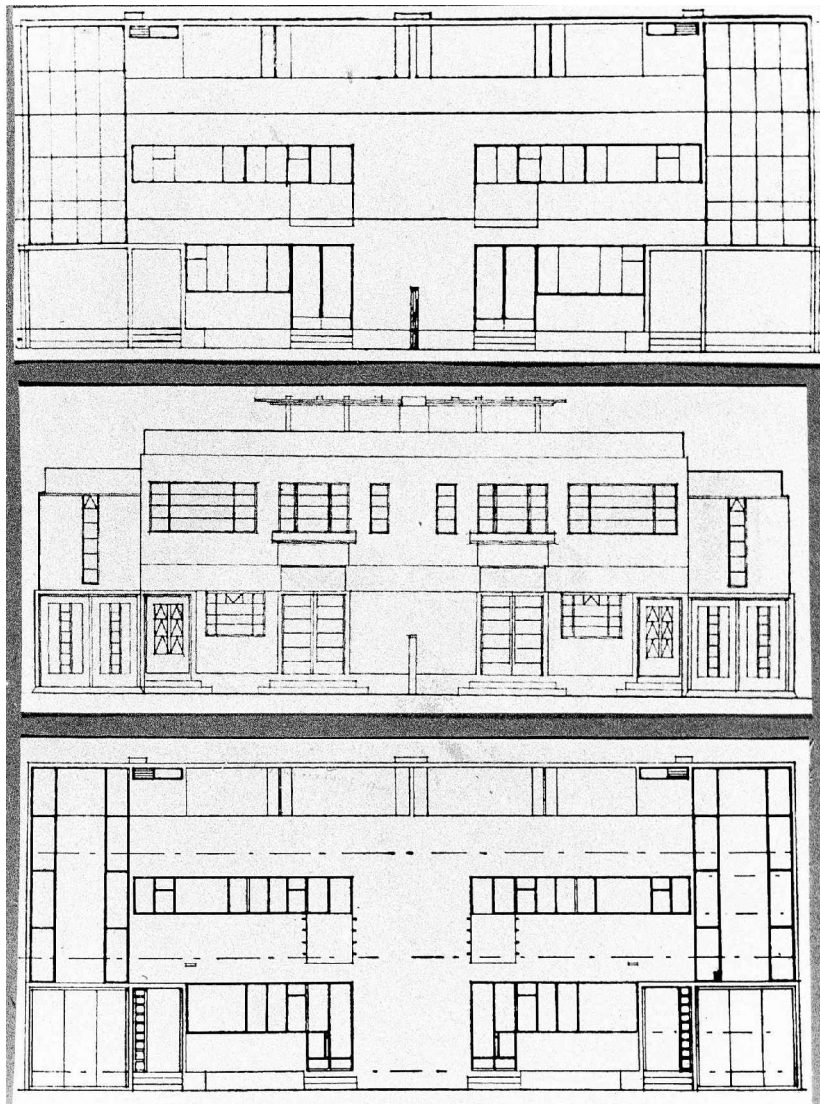


Figure 7. Nos 97–99 Park Avenue, Ruislip (1933–35).
Top: original design.
Centre: the Local Authority's recommendations.
Bottom: the finally accepted design.
Photos: Architects' Journal, 27 September 1934.

disputed schemes to be reviewed by peer professionals (who could of course be chosen for their prejudices). The 'Ruislip Case', as it became known, was in fact a decisive nail in the coffin of this system precisely because Connell and Ward were able to demonstrate its potential for malice, here fuelled by ignorance of the intrinsic properties of concrete. The local authority architect presumed to instruct them on a more favourable approach to this material (Fig. 7), suggesting surface modelling (which could not be accommodated in walls only 100 mm thick), mouldings (from which the shuttering would have been irretrievable), and juxtapositions of materials that would quickly have failed because of differential movement. The local authority was not objecting to unconventional appearance – its own suggestions were equally unconventional for houses, and would have clothed them in a scaled-down civic classicism associated with small banks and branch libraries of the period – but was in fact demanding horizontal striations and protuberances associated with brickwork and stone, and quite inappropriate to concrete.

What this suggests is that resistance to concrete focused on its application to familiar problematics, especially those traditions of domestic design that Connell and Ward were conscious of respecting. Comparable pioneering uses of concrete elsewhere – for example, Owen Williams's Boots Factory, Beeston (1930–32) or Erich Mendelsohn & Serge Chermayeff's De La Warr Pavilion, Bexhill-on-Sea (1930–35) – met with less automatic resistance because they were allied to unconventional problematics. Connell and Ward's commitment to the evolutionary rather than the revolutionary thus,

perversely, militated against their success. So also did the low technical competence of the building industry; the general lack of expertise in concrete meant they had to educate their contractors, and they naturally tended to re-employ those willing to develop specialist expertise. This obliged them to invest unusually heavily in site supervision, which had the effect of localizing their achievements, confining them as it did to their contractor's range of operations. This may well have been a contributory reason for accepting Colin Lucas into partnership in 1934, for he had been working along similar lines, and he brought the additional contracting expertise of the builders that he had previously employed.

This is one of the few obvious reasons why they would have needed a third principal (though having an English partner would clearly have been strategically advantageous). Lucas came with a history of designing houses in concrete, but his buildings had been modestly scaled and very simply planned, with for example none of Connell's or Ward's consciousness of British traditions (though he was only four years younger than Ward this was perhaps sufficient to detach him from cultural values that in any case had been intensified in New Zealand). He had studied architecture at Cambridge, and he had visited France to see the work of Le Corbusier, particularly his housing at Pessac Garden City near Bordeaux. He had then exploited his father's building firm, Lucas Lloyd, for empirical experience of concrete construction and had in fact devised a construction method very similar to Connell's use of 4 in (100 mm) monolithic concrete walls with 'Cellotex' insulation board

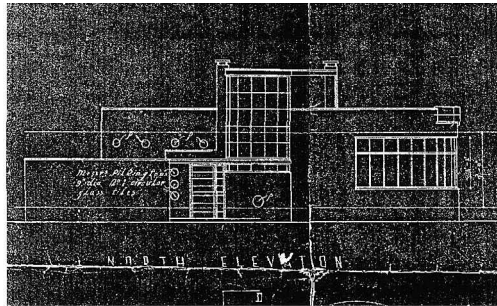
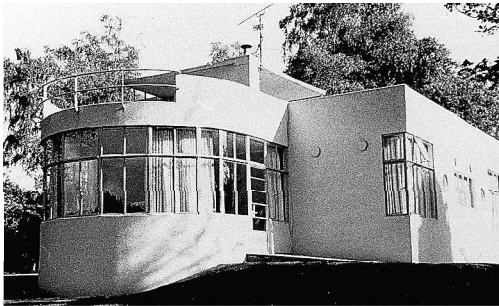


Figure 8. House for T. Usherwood near Guildford, Surrey (1934). Photographed in 1996.

Figure 9. House for T. Usherwood near Guildford, Surrey (1934). Architects' drawing; principal section.

cast onto the interior surface. It seems fair to say that Lucas's Modernism had few British antecedents – unlike the others, he was conscious of transplanting a European idiom – and from the time of his arrival CWL thus embraced varieties of Modernism that were not easily compatible. Connell's and Ward's sense of cultural continuity was still paramount; Connell was alive to Corbusian ideas but in an increasingly selective way, and he gathered whatever information he could on Russian Constructivism; Ward was more of a Corbusian, favouring also Lur at and the Expressionist essence of Bauhaus principles as exemplified in the Miesian use of glass; and Lucas was a *committed* Corbusian. Their work was therefore fractured, exacerbated by the general fact – not always the case, it is true – of their working with their 'own' regular contractors. Now as critics have tended to look for Corbusian principles in the work of CWL after 1934 it is not surprising that they have found inconsistencies and an occasional lack of Corbusian integrity. CWL must be viewed as a site of complex and conflicting ideologies, manifesting variously in different buildings

depending on the interests of the partner or partners concerned. Four further schemes will serve to amplify this observation: one in Ward's catchment area, one attributed to Lucas (certainly assisted by his partners), one acknowledged as Lucas's prime achievement, and an exactly contemporaneous comparator in the work of Ward.

The first of these is the recently-discovered House for T. Usherwood near Guildford, Surrey (1934) (Fig. 8), the last product of the Connell and Ward partnership²⁶ before the admission of Lucas and, unusually for CWL, a bungalow. Its plan is an exploded square with a 26 ft × 28 ft (7.9 m × 8.5 m) core extended by a semicircular bay of 14 ft (4.25 m) radius. On the principal elevation, a semicircular projecting staircase, glazed above the head height of the main entrance to one side, serves the partly canopied roof terrace. This is only 10 ft (3.05 m) clear of the ground, and (unlike the Corbusian equivalent) it retains extraordinary contact with the mature landscape of the gardens – a most successful example of what Ward termed 'having the ground all over again'. It is one of several 'moderated Corbusian' features, another

Figure 10. The Dragons,
Woodmancote (1935–36).
South elevation showing
projecting bay.
Photo: Architectural
Review, December 1936.

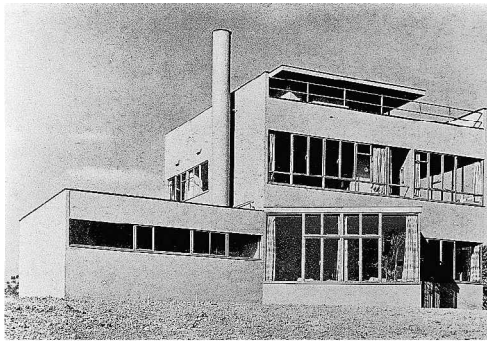
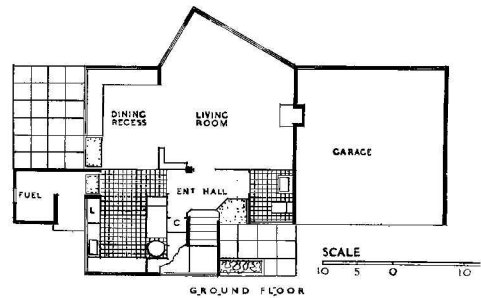


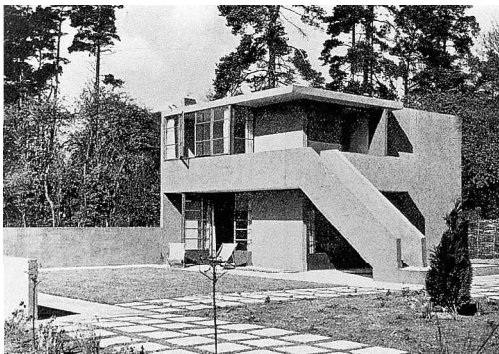
Figure 11. The Dragons,
Woodmancote (1935–36).
Ground floor plan.
Photo: Architectural
Review, December 1936.



being the open planning of its principal interior space, in which living room, hall and kitchen overlap (though the latter may be curtained off). But the most astonishing feature of the House near Guildford is its large projecting bay, comprising roughly half of the living room area. Because it is semicircular in plan, its roof slab cantilevers further without intermediate support than if it were rectangular (Fig. 9). Its 32 ft (9.75 m) of continuous fenestration effects a virtual interpenetration of interior and garden, translating Corbusian ideology (curved fenestration, yes, but within the cubic frame) into the more appropriate technology of monolithic concrete (in which the whole building is regarded as a structural unit, with the walls carrying loads and combining the functions of stanchions, beams and partitions). It also respects the English tradition of the 'winter garden' at the periphery of the house, as well as the continuing importance of a Free Style archetype, the great curved bay window. If this house had been known previously, no doubt critics would have dismissed it as 'moderne' and incompetently Corbusian. In fact it represents the

fullest extent of the practice's scepticism towards Corbusian principles before the arrival of Lucas led to their reassertion.

The first completed CWL house attributed to Lucas as principal architect was *The Dragons*, Woodmancote (1935–36),²⁷ a modestly scaled holiday home on an elevated site in open country (Fig. 10). This house has two notable factors of significance: the clients' lifestyle was idiosyncratically Corbusian (they would take all meals out of doors; they wished for large, low-silled fenestration in the bedrooms in order to view the surrounding countryside from their beds; and they required maximum exposure to fresh air and sunlight); and the technical press welcomed the building as exemplifying the virtues of concrete construction finally liberated from the inadequacies of frame and infill. The *Architect and Building News* was typical in asserting that CWL's system of monolithic reinforced concrete construction signalled an end to the problems of differential settlement associated with the concrete frame. It also acknowledged that something of the lightness and plasticity



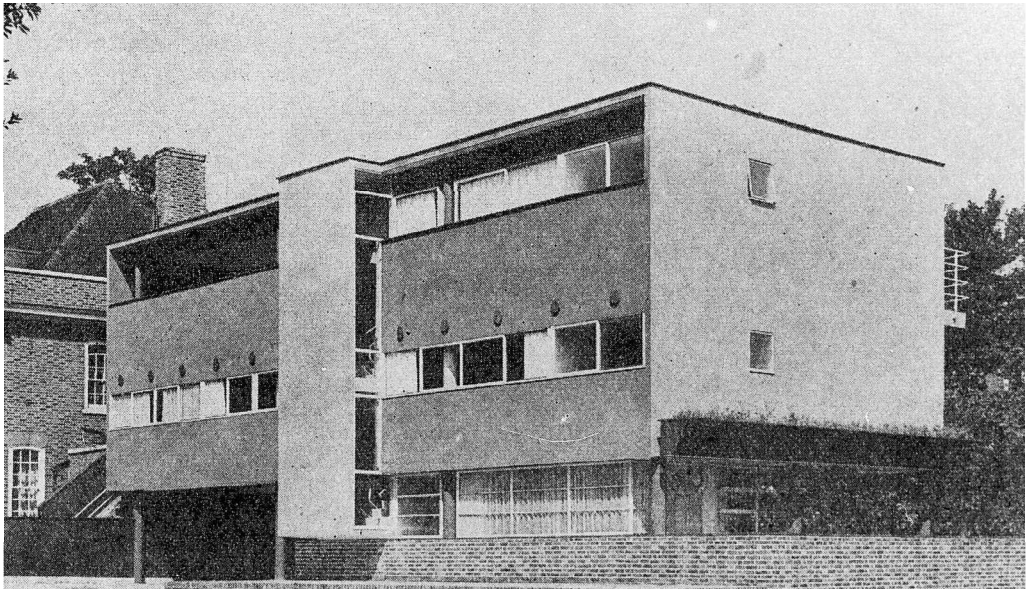
achievable with monolithic concrete had been realized here.²⁸ By this it was referring to the planning and not the form, for the main dwelling was a cubic envelope of two levels of living accommodation topped with a roof terrace. But it was a cube with a proportion of aperture that would have defied explanation to those accustomed to the logic of the regular frame. The first storey sailed over a minimum of stanchions (three), cantilevered over the one substantial wall separating house and garage (this structural logic resulting in the garage's vast oversizing) (Fig. 11). Ribbon windows returned the corners of ground and first storey elevations without the benefit of set-back Corbusian pillars, in an admittedly small scheme: the house minus garage effectively occupied a 25 ft (7.6 m) square. The lounge 'projected' in plan at 30/60° to the orthogonal, admitting a wide panoramic view. The great vertical void of the glazed entrance hall and staircase – the hallmark CWL motif – further confounded notions of mass associated with this construction medium.

This design ingenuity was attributed to Lucas,²⁹ suggesting that he brought new levels of technical competence to the practice. *Exclusive* attribution, however, must be queried. Only two years earlier the house that Lucas had designed for himself, The Hop Field, Wrotham (1933) (Fig. 12), had exhibited far less technical command. With a 24 × 18 ft (7.3 m × 5.5 m) footprint, this was even smaller than The Dragons, and while it is true that the mass and materiality of reinforced concrete cannot reduce indefinitely commensurate with diminution of scale, even so this was an over-structured building. It was a two-storey, cubiform house with (inaccessible) flat slab roof. One and a half sides of the cube were 'open' and, to conventional scrutiny, would have seemed structurally precarious. In addition, the upper storey overhung the lower by 3 ft (91.5 mm) at precisely the open section of the envelope. At ground level the openness achieved contiguity of interior and garden, while at the first storey it served a roofed sleeping platform, otherwise openable to the elements. Critical appreciation focused on this fusion of naturalist and technological expression at The Hop Field, ignoring the ample provision of stanchions behind the elevations, the four-square stolidity of the rest of the structure, and the structural extravagance of the (perhaps visually comforting) external stair from balcony to garden.³⁰

This really applied to monolithic construction the visual logic of the frame, and it must seriously be suggested that the technical and aesthetic leap subsequently evident in The Dragons was effected with the help of Connell and Ward, rather than providing evidence that Lucas brought superior

Figure 12. The Hop Field, Wrotham (1933). Photo: Architects' Journal, 20 July 1933.

Figure 13. No. 66 Frognal,
Hampstead (1936–38).
Photo: RIBA Journal,
19 December 1938.



expertise to the practice. This may also confirm that Lucas was an especially adept learner, and that CWL profited because its latent technological expertise enabled him to achieve a 'Corbusian' structural lightness and plasticity without the regularity of Le Corbusier's columnar grid. This is of course to relate Lucas's work to what Le Corbusier would have been known to stand for at this particular time, and it suggests that Lucas, the most consistent Corbusian of the three partners, was – when under the others' influence – more of a translator than an ideologue. However, the reverse appears to have been true once Lucas began to work more or less independently within the practice. He recorded that his scheme at No. 66 Frognal

was the last project that Connell, Ward and he carried out together,³¹ and it is clear that here there was a far greater emulation of Le Corbusier than is apparent in a contemporaneous scheme led by Ward: No. 6 Temple Gardens, Moor Park, Rickmansworth.

No. 66 Frognal, Hampstead (1936–38) (Fig. 13) is regarded as Lucas's prime achievement within the CWL practice. It is a large house hard by the street, occupying the full width of its site to three levels of accommodation, with all principal rooms and an expansive roof terrace oriented towards a modest garden to the rear. The structure is a regular grid of columns (pilotis at one end of the ground storey) set on continuous strip foundations, and

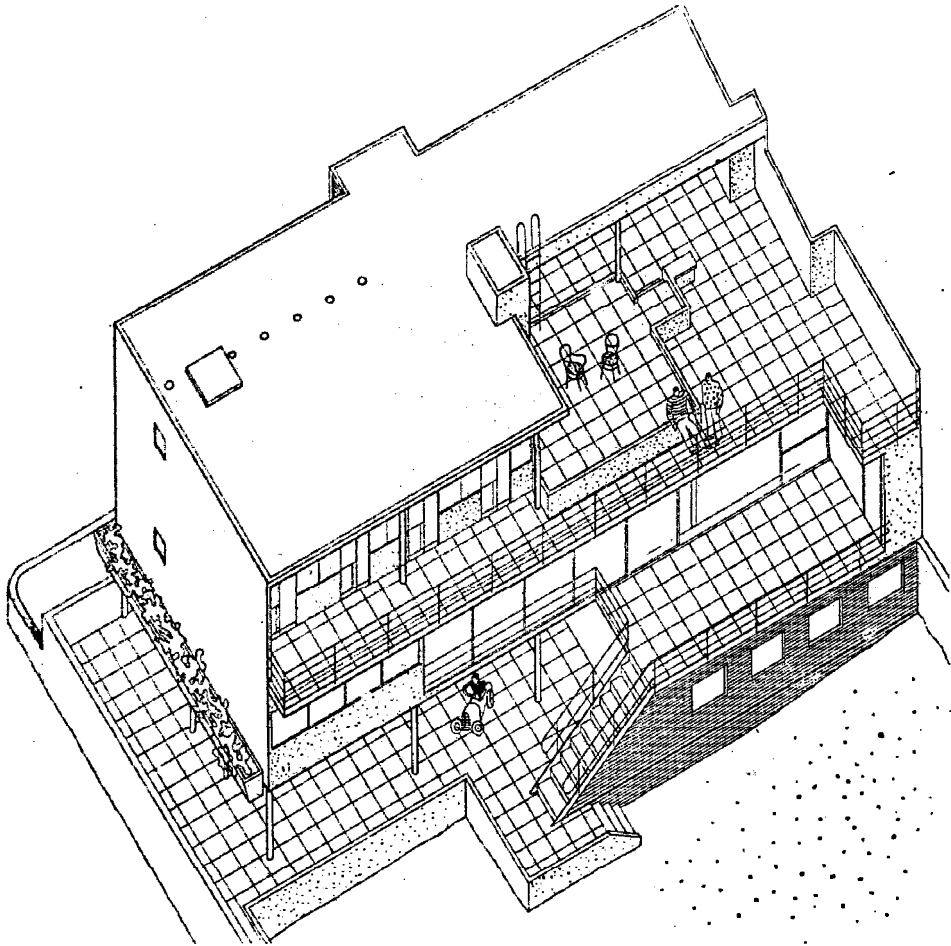


Figure 14. No. 66 Frognal,
Hampstead (1936–38).
Axonometric.
Photo: RIBA Journal, 19
December 1938.

Figure 15. No. 66 Frognal,
Hampstead (1936–38).

Garden elevation.

Photo: RIBA Journal,
19 December 1938.

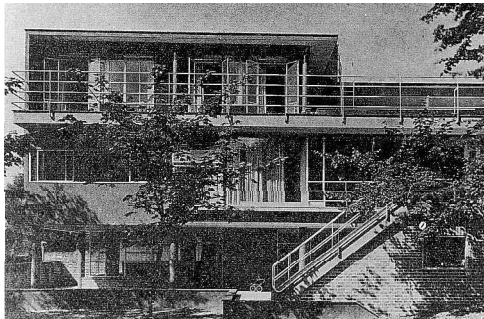
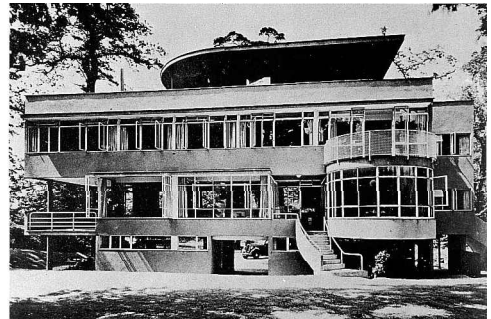


Figure 16. No. 6 Temple
Gardens, Moor Park,
Rickmansworth (1935–37).

Garden elevation.

Photo: Country Life,
2 April 1938.



beams carrying floor and roof slabs (Fig. 14). It is a rectangular box raised clear of the ground, with monolithic concrete end walls and some cross-walling, and brickwork used to signal the non-loadbearing status of all vertical enclosure at the ground storey. The main staircase is expressed on the street elevation, projecting forward the depth of its half-landings, glazed only in its returns. Continuous horizontal bands of fenestration characterize the two main elevations, shallow on the street side, floor-to-ceiling on the garden side facing east (Fig.15). This latter elevation attracted most favourable critical comment in its day, in recognition that the 45 ft (13.7 m) of living room window (half of which was retractable, opening onto a first floor terrace), the comparable inter-relationship of ground floor nursery and garden, and that of the second floor children's suite and the roof terrace play area, reflected accurately the way in which the client wished his lifestyle to be enhanced.³² It was a case of an appropriate biography coinciding with Lucas's Corbusian aspirations. And if the ribbon fenestration did not return at the corners of the building, if the main facades had to

be painted brown as a form of camouflage, and if the interior planning was an arrangement of corridors and rooms, these facts were forgiven Lucas because of site restrictions and regulations. Ironically – as his practice was becoming increasingly distinctive and unlike the others' – Lucas was perceived as leading CWL towards a more authentic Corbusianism.

Yet this is exactly what his partners were resisting, suggesting a cause of the bifurcation within CWL that, though publicly unacknowledged, is evident in contemporaneous works such as No. 6 Temple Gardens, Moor Park, Rickmansworth (1935–37). This house, of which Ward was principal architect, embodies Connell and Ward's counter-proposal to Corbusian Modernism at the point at which Lucas was beginning to detach himself from the practice. Comparable in scale and provision to No. 66 Frognal – though occupying a much more expansive site – No.6 Temple Gardens appears also to share several of its attributes. The southeast (garden) elevation (Fig. 16) has continuous fenestration to all of its second storey bedrooms and dressing rooms, the thin partitioning of this accom-

modation coinciding with the window mullions, which are clearly too insubstantial to be structural. As this fenestration also turns the south corner, the roof and its terrace appear to defy gravity. It is also at this corner that the second floor is carried on columns 10 ft (3.05 m) beyond the lower storeys, and cantilevered forward some 4 ft (1.22 m). Suspicions of a Corbusian columnar grid are excited by free-standing stanchions clearly evident through the first storey living room window, and the fact that much of this southeast elevation is suspended over garaging and service accommodation at the ground.

Corbusian suspicions are dampened, however, by Ward's willingness to make internal (and some external) walls structural whenever necessary,³³ thus creating what purists would have seen as something of a hybrid. Hybridized also would have seemed the lifestyle being catered for: modern in the open air of the roof terrace but distinctly traditional in the large semicircular bay of the dining room, projecting 12 ft (3.66 m) into the garden. This conception of Ward's was the descendant of that at the House near Guildford, though at No. 6 Temple Gardens it cantilevered over open space. With other curving ramps and stairs this seemed to assert a distinctive design personality in defiance or in ignorance of the Modernist ethos of 'anonymity'.

This problematic concept – problematic because all canonic Modernist buildings evoke one or more of the paradigmatic 'Master' personalities – was evident in No. 66 Froggnal's consistent deference to Le Corbusier. Completed slightly earlier, No. 6 Temple Gardens was assumed to fall short of this goal. For example, Connell and Ward's dramatic,

curved canopy, suspended like a sail over the roof terrace, placed their own 'signature' at the very part of the building, where homage might have been paid to Le Corbusier in the form of a Platonic sculptural display. Hence the ill-informed conventional critique of CWL which this paper began by addressing: '... Connell's houses were original and flashy, Ward's sound and sometimes very good ... and Lucas's often minor masterpieces ...' This could conceivably have been meaningful only if Lucas's (Corbusian) anonymity, as exemplified in No. 66 Froggnal, were held to represent CWL's profound objective, and all its preceding houses were thought to mark stages in the gradual shedding of complexities – not least the two original partners' deep cultural references and their respect for ideologically 'unsound' precedents. No. 6 Temple Gardens, however, is to be regarded as a true embodiment of CWL objectives in its *complexity*, and like the great majority of this practice's production it deserves the application of an equally complex critique.

Notes and references

1. Simplistic comment on CWL is typified in Henry-Russell Hitchcock, *Modern Architecture in England* (New York, Museum of Modern Art, 1937; reprint edition New York, Arno Press, 1969), in which CWL is described as representative of the 'English school' owing its 'architectural principles ultimately to the Continent' (pp. 30–31), and where it is maintained that the practice attempted to purge British architecture of its traditional forms but weakened its own efforts through mere repetition of an alternative

- vocabulary (p. 38). Hitchcock illustrates the work of CWL with two houses designed by Colin Lucas before he joined the practice, thus demonstrating another simplicity – that of assuming that the principals shared a common intentionality. A considered discussion of CWL in relation to contemporary British architecture is evident in Anthony Jackson, *The Politics of Architecture: A History of Modern Architecture in Britain* (London, Architectural Press, 1970). However, even this work treats CWL simplistically, maintaining, for example, that the work of the practice was inspired principally by the deliberately crude geometry of De Stijl.
2. I. Nairn and N. Pevsner, *The Buildings of England: Surrey* (Harmondsworth, Penguin, 1962), p. 224.
 3. Cf Nikolaus Pevsner, *Pioneers of the Modern Movement: from William Morris to Walter Gropius* (London, Faber, 1936).
 4. 'Finally, and not before time, MODERN ARCHITECTURE. As England had wilfully turned away from its own native modern architecture, it had to come in as a continental importation, twice as shocking as it need have been – cubist houses, bright (at first) with concrete walls and stainless steel or chromium stair-wells, done in a deliberate and necessary spirit of *épater le bourgeois*.' Nairn and Pevsner, op cit. p.69, thus preface references to CWL's Surrey houses, creating a strong impression that CWL were involved in 'continental importation'.
 5. Reyner Banham, *New Brutalism* (London, Architectural Press, 1955).
 6. Working their passage as coal-trimmers on the *SS Karamea*.
 7. Ward was subsequently disqualified when it was realized that he was not yet a registered student of the RIBA, but granted a year's study in Rome, at the same time as Connell, by way of compensation.
 8. See, for example, Basil Ward's own account: Basil Ward, 'Connell, Ward and Lucas', in: Dennis Sharp (ed.), *Planning and Architecture: Essays Presented to Arthur Korn by The Architectural Association* (London, Barrie & Rockcliff, 1967), pp.73–86.
 9. Nikolaus Pevsner, 'Nine swallows – no summer', *Architectural Review*, 91: 545 (1942), p. 109.
 10. Pevsner, *ibid*.
 11. Including the work of, *inter alia*, John Belcher, John Bentley, W.H. Bidlake, Reginald Blomfield, G. Washington Browne, W. Douglas Carøe, Basil Champneys, Herbert Cresswell, E. Guy Dawber, William Flockhart, Ernest George, Henry Hare, Gerald Horsley, T. Graham Jackson, William Leiper, Edwin Lutyens, Temple Moore, Edward Mountford, Ernest Newton, Charles Nicholson, Beresford Pite, Edward S. Prior, Charles Reilly, R. Weir Schultz, John Simpson, Leonard A. Stokes, Walter Tapper, Charles Voysey, Fairfax Wade, Alfred Waterhouse, Aston Webb and Edgar Wood. See Sir Isidore Spielman (comp.), *The British Government Exhibit at the New Zealand International Exhibition (1906–1907)* (London, British Government Committee, 1908), pp. 225–42.
 12. 1.97 million visitors, many of course counted on multiple occasions or from overseas (total

- population of New Zealand 975 000 in 1906–7); *British Government Exhibit*, p. 26. Compare this attendance with the effect that Hermann Muthesius's book *Das Englische Haus* (Berlin, 1904–5) is said to have had in 'uniquely' sustaining recognition of the English Arts and Crafts Movement abroad.
13. Opening speech by Lord Plunket, Governor General of New Zealand, 1 November 1906; *British Government Exhibit*, p. 21.
 14. Evident in Edward Prior's Holme Place, Kelling, Norfolk (1904), exhibited in three photographs (a larger development of his innovatory 'butterfly' plan for The Barn, Exmouth, Devon (1899)).
 15. Exemplified in Edgar Wood's watercolour drawings of Dronsfield Bros. Offices, Oldham (1906–7), and his House at Edgerton, Huddersfield.
 16. He formally resigned his studentship at the British School at Rome in January 1929, but he had already begun work on his first commission: a house for Bernard Ashmore (Director of the School), High and Over, Amersham, for which he applied for local authority planning permission in November 1928.
 17. Peter Collins, *Concrete: the Vision of a New Architecture: A Study of Auguste Perret and his Precursors* (London, Faber & Faber, 1929), p. 53.
 18. J. Stacpool and P. Beaven, *New Zealand Art and Architecture 1820–1970* (Wellington, Sydney, London, A.H. & A.W. Reed, 1972), p. 61.
 19. It is not known which of Lur at's works they visited, but his Guggenbühl House, Paris, 1924–6, and his Bomsel House, Versailles, 1925–6, were then under construction.
 20. Ward's studentship at Rome expired in 1927 when he joined government's architectural service in Burma until late 1930. He visited the Bauhaus after the cessation of this appointment and obviously before its closure in 1933.
 21. There is insufficient space here for a full discussion of all CWL's buildings. A representative selection has therefore been made of their houses, neglecting other buildings and projects. The authors are preparing a book that deals comprehensively with all known work of the practice and other buildings they have discovered in their research. One such discovery is included here: a House for T. Usherwood near Guildford (1934).
 22. As his contractors (Howard & Co., Covent Garden, London, who had built the grandstand at Epsom Racecourse in 1926) were regarded as among the most expert in the business, this both indicates Connell's superior technological understanding and explains why CWL was to work with very few contracting firms, which had to be trained by the practice to work to its standards and specifications.
 23. Basil Ward, 'Houses of the Thirties', *Concrete Quarterly*, April–May (1970), 12. See also Basil Ward, 'Things remembered: heroic relics', *Architecture Northwest*, June–July (1968), 13.
 24. Nonetheless, the objection that inhabitants would be seen in their nightclothes was a major plank in the planning authority's initial case against the scheme.

25. See, for example, 'Proposed houses at Ruislip', *Architects' Journal*, 1 February 1934, 'The Ruislip result', *Architects' Journal*, 24 May 1934. 'The Ruislip case: the full history', *Architects' Journal*, 31 May 1934.
26. A sheet of plans, sections and elevations in the possession of the current owners is signed 'Connell & Ward' and dated May 1934.
27. Plans were submitted to the local authority in May 1935, and permission granted one month later, subject to the requirement that the exterior be painted 'buff, cream or broken white' or be faced in brick.
28. *Architect and Building News*, 17 April 1936, 69–73.
29. See the table of attributions of CWL houses in 'Connell, Ward and Lucas 1927–1939', *Architectural Association Journal*, LXXII: 806 (1956), 113–14. Basil Ward, responding in a subsequent edition, did not question the attributions. Basil Ward, 'Correspondence: Connell, Ward and Lucas', *Architectural Association Journal*, LXXII: 810 (1957), 207–9.
30. See 'The Hop Field, St Mary's Platt, Kent', *Architects' Journal*, 78 (20 July 1933), 88.
31. Colin Lucas, Script of a talk given at the RIBA, 2 March 1976; Lucas Archives, courtesy of Mark Lucas.
32. See Geoffrey Walford, 'A client on his house', *Journal of the Royal Institute of British Architects*, 3rd Series, 46: 4 (1938), 180–5.
33. In a late recapitulation, Ward noted that CWL had been aware of Le Corbusier's 'Dom-Ino' structural system but developed their own system in which 'floors, walls (where these were required), columns, beams, [were] tied together to form a structural whole ... [designing] floor slabs as horizontal flat beams and external walling as upright flat beams.' Basil Ward, in Dennis Sharp (ed.), *Planning and Architecture*, (London, Barrie & Rockcliff, 1967), p. 80.