

## Unbuilt Sixties: The Unsuccessful Entries in the Christchurch Town Hall Competition

Ian Lochhead, Fine Arts, Canterbury University

**ABSTRACT:** The completion of the Christchurch Town Hall in 1972 marked the end of a process which had begun in 1964 with a national competition, the largest and most prestigious of the post-war era in New Zealand and one of the major architectural events of the 1960s. Although Warren and Mahoney's winning design has assumed a prominent place in New Zealand architecture, unsuccessful designs by among others, Pascoe & Linton; Lawry & Sellars; Austin, Dixon & Pepper; Gabites & Beard and Thorpe, Cutter, Pickmere, Douglas & Partners, are virtually forgotten. These designs deserve to be better known since they offer an invaluable insight into the range of architectural approaches being employed during the mid sixties. Standing apart from the short listed designs is Peter Beaven's more widely published entry, which was singled out by the jury as being especially meritorious. The paper will examine unrealised designs for the Christchurch Town Hall in the context of contemporary attitudes towards concert hall and civic centre design. Approaches ranged from the Miesian international modernism of Lawry and Sellars to the sculptural forms of Beaven's proposal in which influences as diverse as Aalto, Scharoun and Mountfort are strikingly integrated. The paper will also assess Warren and Mahoney's unbuilt civic centre design within the framework of the competition entries as a whole. Such unbuilt designs constitute an important, but largely invisible part of the architecture of the 1960s and deserve to be re-inscribed within in the history of the period.

Almost 40 years after it was designed, it is now difficult to imagine any other building occupying the site of Warren and Mahoney's Christchurch Town Hall. The clarity of the building's cross axial plan, the exterior legibility of its internal functions, and the integration of the complex with its Avon River bank setting have achieved a level of inevitability which says much for the quality of the original design. Since its opening in 1972 the building has remained virtually unchanged and continues to meet the needs specified in the original brief.<sup>1</sup> If it has not displaced Christchurch Cathedral as the city's iconic building it has become, nevertheless, a building in which the city takes considerable

pride. For Warren and Mahoney the Town Hall was a commission of fundamental importance, propelling them from being a highly-regarded regional practice to the forefront of New Zealand architecture, with offices in Wellington and Auckland as well as Christchurch.<sup>2</sup> In international terms the building was also of significance as it helped to break the mould of the long-established shoe-box form of concert hall design. Of particular significance here was the contribution of the acoustic design consultant, Harold Marshall.<sup>3</sup>

Although its completion date lies outside the decade, the Christchurch Town Hall was, without question, one of the key New Zealand buildings of the 1960s. It has been widely published and much discussed but it is often forgotten that the building was the result of a major national competition which elicited 58 entries from New Zealand architects working both within the country and abroad. The competition was advertised in July 1965, with a closing date of 31 January 1966. From the initial group of 58 entries, the jury, made up of

"sound from the sides" theory. Large overhead reflectors along the side walls of the room provide the required amount of early lateral sound for good source broadening. The room has at least 500 seats more than previously thought practical, layed out in a difficult elliptical plan." O'Keefe "The New Understanding of Acoustics" unpaginated.

<sup>1</sup> For a detailed history of the Town Hall see Brittenden *A Dream Come True*.

<sup>2</sup> See Warren *Warren and Mahoney: Architects* p 26.

<sup>3</sup> See for example the following statement by O'Keefe: "If there is a new confidence in room acoustics design, the turning point would probably be found in Christchurch, New Zealand, circa 1972. Its 2650 seat arena shaped Town Hall was the first room to be designed using the

the architects Ronald Muston from Wellington (chairman), Aubrey de Lisle from Hamilton and Ted McCoy from Dunedin, plus two Christchurch City Councillors, Hamish Hay and George Griffiths, selected five designs for development to a further stage. The five finalists were announced on 15 February and developed schemes were submitted on 31 May. Warren and Mahoney were announced as the winners of the competition on 17 June 1966.<sup>4</sup> At the conclusion of the competition process the full range of entries was exhibited at the Canterbury Society of Arts Gallery but, with the exception of Peter Beaven's design, which was singled out by the jury for particular comment, virtually all the submitted designs have disappeared from view. Beaven's competition perspective, along with a cross section of Paul Pascoe and Walter Linton's stage-two design, were exhibited in the 1991 exhibition, *Unbuilt Christchurch*, but the only record of the remaining unsuccessful entries are the small, and sometimes indistinct reproductions included in the *NZIA Journal's* review of the competition.<sup>5</sup> As was normal practice drawings were returned to the entrants and

the Christchurch City Council now has few records of the major architectural event it had sponsored. Forty years on it would be a mammoth task to track down even a proportion of the unsuccessful designs, and it is likely that many no longer survive. For the present purpose I have restricted my discussion to the Pascoe and Beaven drawings now in the University of Canterbury's Architectural Drawings Collection, and those reproduced in the *NZIA Journal*.

In addition to Warren and Mahoney's winning scheme and those of Beaven and Pascoe and Linton, nine other entries, including all those selected for Stage Two of the competition, are documented in the *NZIA Journal*. Also included are the jury's comments on each entry. These are of particular interest as much for what they do not mention as for the issues they address. The overwhelming preoccupation of the jury seems to have been with the degree to which entries met the requirements of the brief and with concerns over the siting of the complex. The pragmatic concern of whether individual proposals could be constructed within the Council's stipulated budget was also an ongoing concern. Surprisingly there is little comment on the formal qualities of individual

schemes beyond comments of a very generalised nature. What these reports reveal is a modernist approach based on a functionalist analysis of the relationship of building elements to the brief. Within this approach the form of the building is generated by the individual components of the design and their disposition on the site. On the evidence of the jury's report little attention seems to have been given to the expressive or symbolic qualities of the forms beyond such generalised phrases as that applied to entry 22 by Maurice Tebbs: "The external form has a strong and pleasing architectural character and is sympathetically handled in the setting."<sup>6</sup> Conversely, flamboyant gestures that seemed to have little functional justification were criticised. The "undue dominance" of the "soaring roof forms over the service areas" in Austin, Dixon and Pepper's design seemed "hard to reconcile with the composition of the remainder of the design."<sup>7</sup> The measured tones of the jury's analysis belies the considerable diversity of the designs themselves and raises the question of the extent to which individual designs arose from the strictly rationalist approach

<sup>4</sup> Brittenden *A Dream Come True* p 42.

<sup>5</sup> Lochhead *Unbuilt Christchurch* nos 20 & 21; "Christchurch New Town Hall" pp 292-326.

<sup>6</sup> "Christchurch New Town Hall" p 325.

<sup>7</sup> "Christchurch New Town Hall" p 315.

applied by the jury or whether other considerations came into play.

This conflict is highlighted by the design of Peter Beaven, a proposal to which the jury responded with guarded enthusiasm, describing it as "one of the most adventurous and original submitted." This enthusiasm was tempered by their belief that it "would be difficult to execute within the stipulated budget." In spite of this caveat, it is hard to understand why the jury excluded Beaven's entry from stage two since further development of the proposal may well have answered their concerns about costs. Their acknowledgement that "the rather complicated design approach is full of pitfalls and difficult to execute successfully, but here the difficulties have on the whole been competently resolved" suggests that further development would have further allayed their anxiety. Similarly they also recognised that their concern that "the roof seems to present certain problems of construction cost and maintenance" could be "solved with much ingenuity and perhaps a few grey hairs."<sup>8</sup> Yet having answered their own criticisms the jury opted for the safety of exclusion, rather than

the future dilemma of having to decide between the very different qualities of Beaven's and Warren and Mahoney's entries.

In contrast to the strongly axial arrangement of Warren and Mahoney's plan, Beaven favoured a more organic approach with the concert hall, theatre and banqueting hall oriented to the river and an enclosed central courtyard formed by the council offices aligned along Kilmore Street to the north. The other key difference between their designs was Beaven's decision to raise all the principal space above a generous foyer that extended in an unbroken flow along the Avon River bank between the Victoria Street and Colombo Street bridges. The drama of the foyers is punctuated by sweeping flights of stairs that rise through double and triple-height spaces, the entry to the balcony of the concert hall, across a top-lit bridge suspended in space, being particularly dramatic. The theatre complex is crowned by the sweeping, sculptural roof forms that caused the jury anxiety but which also gave the design a dynamic, expressive quality that was conspicuously absent from the majority of the published designs.

These roof forms also played a key role in

linking the performance venues with the buildings of stage two, the council chamber, library and civic offices. What Beaven envisaged was less a cultural acropolis than a civic village in which the library and performing arts dominated the service functions of council chamber and offices. Significantly the library incorporates a tower with an extensively glazed and metal sheathed crown, giving it a prominence almost equal to that of the town hall itself. Perhaps more clearly than in any other design Beaven established a clear hierarchy of forms and functions in which cultural values dominate. The contrast with Warren and Mahoney's assertive modernist tower, standing apart from the performance venues, could not be more clear. Beaven's design as a whole contrasts with what has been described as the Beaux Arts qualities of the winning design but its specific qualities seem to derive from recent debates over "townscape."<sup>9</sup> As a subscriber to the *Architectural Review* since the 1940s Beaven would have been well aware of the discussion of "townscape" and the "Picturesque" which filled the pages of the journal from the mid 1940s.<sup>10</sup> The informal,

<sup>9</sup> "Reticence Versus Fun" p 402.

<sup>10</sup> See Causey "Pevsner and Englishness" pp 169-170, and Rosso ""The Rediscovery of the Picturesque" Nikolaus

<sup>8</sup> "Christchurch New Town Hall" p 312.

flowing composition and the integration of buildings and landscape that are central to Beaven's design are strongly linked to these concepts. Townscape and the Picturesque were seen as a distinctly English strand of post-war modernism and was promoted by the *Architectural Review* as the basis for post-war reconstruction. In a city which still took pride in its English origins, such aesthetic concepts had a particular appropriateness.

In a marked departure from its comments on every other design, the jury remarked on the sources of Beaven's inspiration in the work of two Modern Movement masters, Alvar Aalto and Hans Scharoun, yet it also conceded that these influences were fully integrated into what they recognised as "an original work." Given the prominence of Scharoun's Philharmonie in Berlin, completed in 1963, it is perhaps surprising that his influence was not more evident in other designs, although the building's neo-expressionist formal complexity, multiple levels and "in-the-round" seating configuration made it a challenging model to follow given the budgetary constraints of the Christchurch brief.<sup>11</sup> Apart

Pevsner and the work of architects and planners during and after the Second World War" pp 195-212.

<sup>11</sup> See Blundell Jones *Hans Scharoun* pp 174-190.

from the obvious links between the sculptural roofs of the Philharmonie and Beaven's design, Scharoun's decision to raise the concert hall above the foyers was also adopted by Beaven, along with his recognition of the ways in which stairs can be used to introduce spatial drama and dynamism. Inspiration from Aalto is more evident in Beaven's concept of the "civic village" than in formal borrowings. The Town Hall at Säynätsalo of 1949-1952 is the classic example here but Aalto was to execute as series of important civic complexes during the 'fifties and early 'sixties.<sup>12</sup> Significantly Beaven's sources of inspiration avoided the mainstream modernism that directed the designs of many other entrants.

A source not mentioned by the jury but of equal significance to Beaven, was the work of his Christchurch predecessor, Benjamin Mountfort, and in particular, Mountfort's Canterbury Provincial Council Buildings, sited, like the proposed town hall, on the banks of the Avon.<sup>13</sup> Mountfort's High Victorian Gothic buildings are composed around a cloistered courtyard, similar in form

<sup>12</sup> See *Weston Town Hall, Säynätsalo, Alvar Aalto*.

<sup>13</sup> Ware "Competition Entries and Unbuilt Projects" pp 13-14.

to the enclosed space formed between Beaven's Town Hall and Council offices. In a gesture that is familiar from later projects by Beaven an L-shaped lake is inserted into this court in the angle between the banqueting hall and concert chamber foyers. The transparency of the glazed foyer means that both the Avon River and the lake can be seen from within the building, reinforcing the connection between the courtyard and Victoria Square beyond.

Beaven's design combines an unusually rich amalgam of formal, spatial and landscape qualities with a range of symbolic and historical references that further add to the richness of the architectural experience. It is a design that can be said to transcend, rather than simply meet the prescriptions of the brief, offering a great deal more than a satisfactory resolution of a series of functional design problems. In a brief note in the June 1967 issue of the *Architectural Review* headed "Reticence versus Fun," the "good-mannered, decently reticent, clean cut and from good stock" qualities of Warren and Mahoney's design were contrasted with the "witty display of Scharounery" displayed by

Beaven's entry.<sup>14</sup> Although not explicitly stated the *AR* was clearly suggesting that the judges should have favoured the more adventurous option.

In singling out Beaven's design as a viable alternative to Warren and Mahoney's building the *AR* defined the way in which both designs would be perceived in the future. In this regard Shaw is symptomatic; while emphasising the significance of the Warren and Mahoney building he feels obliged to record the fact that "Peter Beaven also produced a notable though ultimately unsuccessful submission."<sup>15</sup> One effect of this pairing of successful and unsuccessful designs by Christchurch's most prominent architects has been to deflect attention from the other published entries. An examination of these designs makes it clear that there were more than two ways of designing a town hall complex in the mid 'sixties.

The third Christchurch entry to have a significant impact was that of Paul Pascoe and Walter Linton. Unlike Warren and Mahoney and Beaven, Pascoe had been in practice since

the 1930s, having worked for the Tecton Group in Britain between 1936 and 1937.<sup>16</sup> Pascoe's modernism had been shaped fundamentally by that experience and this is apparent in his town hall proposal. In plan the two auditoria are enclosed within a single rectangular block. The design is an exercise in formalist geometry, with the circular concert hall to the east and the rectangular theatre to west, separated by a shared entrance foyer that bisects the complex. The banqueting hall occupies the upper level of the south-west corner. With its recessed ground floor and combination of glazed and screen walls on the upper level, the design recalls Newman, Smith and Greenough's Wanganui Civic Centre of 1958, although here the scale is much larger. Internal functions are made legible from the exterior through features such as the folded canopy above the north and south entrances, the rectangular mass of the fly tower, and the faceted circular dome over the concert hall.

Pascoe's design has a slightly artificial "Festival of Britain" celebratory quality that looks back to the early 'fifties, an aspect that is reinforced by the schematic podium and

tower of the administration building and the bland cubic mass of the library. The council chamber, a free-standing element to the south of the principal building, continued the theme of geometric interplay with a circular space enclosed within an octagon, the sides of which were concave. The jury approved the positioning of the Council Chamber and admired the model, executed in kauri and mahogany by Pat Mulcahy, as well as the overall clarity of the plan, but felt the "rectangular massing of the main block ... was less in harmony with the informal nature of the site than those schemes which present a less rigid frontage to the park."<sup>17</sup> The circular concert hall was admired but there were reservations about the theatre which was "felt to lack some spark in its interior form of treatment."<sup>18</sup> This observation effectively sums up Pascoe and Linton's entry; although it was selected for stage two it is rooted in the "Heroic Modernism" of the 1930s and had it been built, it would have appeared as seriously dated by the time of completion in the early 1970s.<sup>19</sup>

<sup>17</sup> "Christchurch New Town Hall" p 300.

<sup>18</sup> "Christchurch New Town Hall" p 302.

<sup>19</sup> See Ussher "The Modern Movement in Canterbury" pp 121-129.

<sup>14</sup> "Reticence Versus Fun" pp 402-403.

<sup>15</sup> Shaw *A History of Architecture* p 174.

<sup>16</sup> Ussher "The Modern Movement in Canterbury" p 29.

It was perhaps inevitable that the three most-discussed designs in the competition came from Christchurch architects, coincidentally entries 15 (Pascoe), 16 (Warren & Mahoney) and 17 (Beaven), but the other entries for which records are available reveal a range of differing possibilities, yet few resolved the conflicting demands of the brief with the conviction of either the winning entry or the two just discussed. Thorpe, Cutter, Pickmere and Douglas's combined aspects of both the Warren and Mahoney scheme and the Pascoe design, with strongly modelled elements encased in rectilinear foyer spaces on the south side facing Victoria Square. The more organic forms of the auditoria contrasted with the plied-up rectilinear units of the administrative wing which created an enclosed court to the west of the concert hall. Both in their desire to create clusters of monumental elements and in their use of strongly modelled concrete forms the design suggests the influence of Paul Rudolph, an architect whose reputation reached its highpoint during the sixties.<sup>20</sup> The scheme was admired for the way in which it related to the river-bank setting but a major weakness was identified in the failure to adequately link

the foyer areas of the two halls. This problem was almost certainly exacerbated by the decision to place the two spaces side by side, rather than end to end as in the Warren and Mahoney plan, a remarkably efficient solution that few other entrants employed.

One scheme that did employ this approach was Porter and Martin's, their decision to skew the halls in relation to one another leading to a foyer space that narrowed towards the centre of the building. In contrast to the winning scheme and most other designs, Porter and Martin chose to make the river side of the complex the principal entry for road traffic. This resulted in separation of the buildings from the park which, in spite of the proposal advancing to stage two, was ultimately seen as a fatal flaw. Had this not ruled out the design its bland external appearance would have surely sunk it; although the jury showed considerable reluctance to express aesthetic judgements the mundane forms in which Porter and Martin clothed the functional requirements of the brief can have done little to assist their cause. Significantly the jury observed that the "admirable freedom of the initial proposal has

been lost" in its development to stage two.<sup>21</sup>

The remaining schemes selected for publication in the *NZIA Journal* reveal differing levels of accomplishment. Austin, Dixon and Pepper's scheme presented a striking, but ultimately confusing array of strong shapes in which service areas were given greater visual prominence than the town hall itself, an undeveloped rectangular unit on the north side of the site. "The external form and massing of the buildings" in Norman Sheppard's entry possessed "a quality and competence which few schemes reached," although the decision to place the concert hall and theatre at right angles to one another created circulation problems.<sup>22</sup> The way in which the vertical elements of the auditoria broke through the emphatic horizontals of the enclosing circulation and service spaces suggests that Sheppard had been looking at recent Japanese concert hall design such as Mayekawa's Tokyo Metropolitan Festival Hall (1960) although his design for Christchurch lacks the Corbusian sculptural energy that Mayekawa's building displays.<sup>23</sup> A different kind of Japanese

<sup>21</sup> "Christchurch New Town Hall" p 307.

<sup>22</sup> "Christchurch New Town Hall" p 317.

<sup>23</sup> See Kulterman *New Architecture in Japan* pp 45-47.

<sup>20</sup> See Rudolph *The Architecture of Paul Rudolph*.

influence is apparent in the entry of Gabites and Beard, in which the main auditorium is dominated by a pyramidal pavilion roof, a form that is repeated as the crown of the administrative tower. Additional functions are subsumed within a horizontal block that functions as a podium for the two raised elements. The arena form of the main auditorium was seen as inappropriately directionless for the anticipated use of the building and it is hard to imagine that the form of the building would have ever been at home in the Christchurch urban environment.

The entry of Maurice Tebbs, then based in England, was in plan, probably the closest to the winning entry, with town hall and theatre backing on to a common foyer. It differed from the Warren and Mahoney design in the emphatic horizontality of its composition, with individual levels expressed as a series of stacked trays. The most distinctive feature of the design was the use of free-standing, stepped, external stairs along both flanks of the town hall. If there is a suggestion of influence from the works of Denys Lasdun here, it is worth remembering that Lasdun's National Theatre in London was only

completed in 1977.<sup>24</sup>

Two designs which occupy opposite extremes are those of Newland and Ding, and Lawry and Sellars. Newland and Ding's solution was to stack the functions within a single, monumental form, with the restaurants and assembly hall sandwiched between the concert hall at the top and concert chamber at the bottom. The horizontal mass of this form was counter balanced by the equally massive vertical slab of the administration tower. As the jury recognised, the scheme's massing was "much too dominant for this informal park setting."<sup>25</sup> Significantly the architects were based in Sydney and their lack of familiarity with the site clearly told; what may have seemed appropriate for an expansive, lakeside setting was out of scale in the intimate surroundings of Victoria Square and the Avon River.

My final example exemplifies the minimalist approach of Miesian modernism. Lawry and

<sup>24</sup> Emphatic horizontal planes had been a feature of Lasdun's buildings since the mid 'fifties. See Curtis "Perspective" pp 52-54. In formal terms this feature has its origins in Le Corbusier's Dom-ino skeleton construction system of 1914.

<sup>25</sup> "Christchurch New Town Hall" p 319.

Sellars' plan is a simple rectangle raised on a podium with a shared, central foyer and concert hall and concert chamber at opposite ends. The whole is sheathed in glass curtain walls of extreme simplicity, the only differentiation being the darker tinting of the glass in the foyer zone. The presence of the larger hall is indicated by the gently curved swell of the roof at the eastern end. To the west, across a paved plaza, sits the dark cubic mass of the administration building. The allure of Mies van der Rohe's austere brand of modernism was clearly still potent in the mid sixties and the jury described Lawry and Sellars' scheme as "one of the most elegant" submitted."<sup>26</sup> The sacrifices necessary to achieve this elegance were a concert hall that was seen as too elongated and inadequate backstage facilities. The perspective drawing was, however, described as "perhaps the finest submitted."

Following the announcement of Warren and Mahoney as winners of the Christchurch Town Hall competition all 58 entries were displayed in the Canterbury Society of Arts Durham Street Gallery. This was the only occasion on which the public had the

<sup>26</sup> "Christchurch New Town Hall" p 321.

opportunity to see the designs as a whole. An article in the Christchurch *Press* concluded that the winning design "is good-mannered, decently reticent, clean cut and from good stock – very much as Christchurch itself would like to be."<sup>27</sup> The way in which the Town Hall has merged into its site and been embraced by the people of the city is surely a vindication of this judgement. The article's other conclusion was that the competition itself had demonstrated "how few architects could rise to its challenge." The jury had found few proposals entirely satisfactory and Warren and Mahoney's entry was an uncontroversial winner. Unlike recent competitions for high profile public buildings, for Te Papa and the Christchurch Art Gallery, there was widespread acceptance of the decision and almost universal praise for the completed building. This outcome may have been a consequence, at least in part, of a greater willingness to accept the decisions of "experts" than exists today, a passivity that was itself a casualty of the challenge to authority that was one outcome of the social revolution of the late sixties. It probably also reflects a widespread view that in the sixties Christchurch architecture was at the forefront

of New Zealand architecture. Since that time architecture has become much more diverse and the certainties that made it possible for a distinctive regional school of design to emerge in Canterbury no longer exist. Indeed, when we look at the entries for the Christchurch Town Hall competition it is clear that already there were many paths available to architects in what has sometimes been characterised as the narrow compass of modernism. Perhaps equally surprising is the resistance to some of the more obvious international models revealed by the published designs. The influence of the Royal Festival Hall (1951) in London is not immediately obvious, although Scharoun's Philharmonie clearly influenced others as well as Beaven. The limited impact of contemporary Japanese architecture is also notable. Although the sixties was a decade of active construction of performing arts venues in the United States, direct links are hard to pin down. The most high profile of these centres, Lincoln Centre in New York City (1962-1967), was not a useful model for a New Zealand city. Frank Lloyd Wright's posthumous Grady Gammage Memorial Auditorium (1964) in Tempe, Arizona, is an obvious model for circular auditoria, but it was too idiosyncratic to have widespread influence. The brief for the Canadian Center

for the Performing Arts in Ottawa (completed in 1967), was remarkably similar to that for the Christchurch project and further investigation may well reveal significant parallels.

Forty years on there can be little disagreement that the competition jury made the right decision. Warren and Mahoney's design showed both confidence and assurance in handling a complex brief and bringing it to a successful conclusion. The contribution of Harold Marshall also ensured that the building has taken its place within the international history of concert hall design. Yet, had the jury taken a different course and, in spite of its reservations about cost and difficult roofs, opted for Peter Beaven's design what might the outcome have been? Had Beaven's design been built rather than remaining a tantalising vision on paper it is possible to imagine the subsequent history of New Zealand architecture taking a very different course.

<sup>27</sup> "Variations on a Town Hall" p 326.



## REFERENCES

- Blundell Jones, Peter *Hans Scharoun* London: Phaidon, 1995.
- Brittenden, W.J.A. *A Dream Come True: The Christchurch Town Hall*, Christchurch: Christchurch Town Hall Committee, 1972.
- Causey, Andrew "Pevsner and Englishness" *Reassessing Nikolaus Pevsner* Peter Draper (ed) Aldershot: Ashgate, 2004: 169-170.
- Corporation of the City of Christchurch, *New Town Hall and Civic Centre, Architectural Competition: Conditions of Competition*, Christchurch, 1965.
- "Christchurch New Town Hall and Civic Centre Competition" *NZIA Journal* (October 1966) 33(10):292-325.
- Fukuda, Norie & Shin-Ichiro Ohnishi, "do.co.mo.mo. – Japan: the 100 selections" *Japan Architect* (Spring 2005):57.
- Jacobus, John *Twentieth Century Architecture 1940-1965* London: Thames & Hudson, 1966.
- Kulterman, Udo *New Architecture in Japan* London: Thames & Hudson, 1967.
- Lochhead, Ian *Peter Beaven: Buildings and Projects*. Christchurch: School of Fine Arts, 1995.
- Lochhead, Ian *Unbuilt Christchurch, An Exhibition of Architectural Drawings from 1850 to the 1990s*. Christchurch: Robert McDougall Art Annex, 1991.
- Muston, R.C. *Report of the Assessors on the Architectural Competition for the Christchurch Town Hall and Civic Centre*. Christchurch, 1966.
- Curtis, William "Perspective" *The National Theatre* Colin Amery (ed) London: Architectural Press, 1977: 52-54.
- O'Keefe, John "The New Understanding of Acoustics" [www.aercoustics.com/tutorial/acoustic/acou.html](http://www.aercoustics.com/tutorial/acoustic/acou.html).
- "Reticence Versus Fun" *Architectural Review* (June 1967) 141(844):402-403.
- Rosso, Michela ""The Rediscovery of the Picturesque" Nikolaus Pevsner and the work of architects and planners during and after the Second World War" *Reassessing Nikolaus Pevsner* Peter Draper (ed) Aldershot: Ashgate, 2004: 195-212.
- Rudolph, Paul *The Architecture of Paul Rudolph* London: Thames & Hudson, 1970.
- Shaw, Peter *A History of New Zealand Architecture* Auckland: Hodder Moe Beckett, 2003.
- Silverman, Maxwell *Contemporary Theatre Architecture: An Illustrated survey* New York: New York Public Library, 1965.
- Ussher, R.M. "The Modern Movement in Canterbury: The Architecture of Paul Pascoe" MA thesis: University of Canterbury, 1986.
- "Variations on a Town Hall" *Press* (14 July 1966), reprinted in *NZIA Journal* (October 1966) 33(10):326.
- Ware, Frank "Competition Entries and Unbuilt Projects" Lochhead, Ian *Peter Beaven: Buildings and Projects*. Christchurch: School of Fine Arts, 1995: 13-14.
- Warren, F.M. *Warren and Mahoney: Architects* Christchurch: Warren & Mahoney, 1989.
- Weston, Richard *Town Hall, Saynatslo, Alvar Aalto* London: Phaidon, 1993.
- Williams Ellis, Clough *Royal Festival Hall* London: Max Parrish, 1951.