

INTRODUCTION

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<https://doi.org/10.34074/aslm.2023201>

The *Asylum* journal continues to be committed to publishing peer-reviewed, quality-assured academic work and to presenting examples of a vibrant and active research culture that characterises Unitec’s School of Architecture. In close collaboration with our not-for-profit online publisher ePress, immediate open access to our content is provided, to support a greater global exchange of knowledge, nurture emerging scholars, and offer an alternative channel for scholarly dissemination.¹

The peer-reviewed section of *Asylum* 2023 comprises six academic papers, with scholarly research that is both practice based and theoretical. The papers investigate architectural and urban design, landscape architecture, architectural history, technology, professional practice and teaching innovations, and deal with fundamental questions critical for Aotearoa today.

David Turner’s paper “Intensifying Tāmaki Makaurau Auckland: Some Higher-Density Housing Outcomes after the Adoption of the Auckland Unitary Plan of 2016” opens the issue. This paper discusses and evaluates the housing-density objectives of the Auckland Unitary Plan in both a quantitative and qualitative way. An original methodology developed by Turner to correspond to the unique planning conditions of housing architecture in Tāmaki Makaurau during the period of rapid growth is shared and explained. Data was collected in a study of 100 higher-density developments within the Metropolitan Urban Limit completed under the AUP regulations, in order to gather evidence that might positively influence the rules and regulations around housing design. The paper is objective in its discussion and conclusions, and is careful to keep its focus on aspects of planning that affect the quality of life for all the people of Tāmaki Makaurau. The paper is also part of the ongoing research of Turner and the Housing Research Group, which he led, to offer planning, technical and architectural design research to the various government and council agencies in the field (Kāinga Ora – Homes and Communities, and Auckland Council), but also – increasingly – commentary and

advice to some of the newer operations, such as The Architecture Now website, OneRoof and The Property Crowd. This is also the last academic paper our dear colleague Dr David Turner submitted before he passed away in September this year. Although he had presented the topic to an international audience and had had opportunities to publish the results of his research with respected global publishers, Turner decided to publish it with our *Asylum* journal, deeply wanting the research to be visible in Tāmaki Makaurau, and sincerely devoted to contributing to our planning system.

Asylum 2023 marks the centenary of the establishment of the Gummer and Ford architecture firm. In his paper “The Design of the Domain Winter Gardens,” Cameron Moore comprehensively investigates the Domain Winter Gardens in Tāmaki Makaurau. Despite being listed as Historic Place Category 1 by Heritage New Zealand Pouhere Taonga and beloved by Aucklanders, the gardens remain under-researched in Aotearoa New Zealand’s architectural historiography. This paper is part of the ongoing research project devoted to the architectural firm founded in 1923 in Auckland by William Henry Gummer (1884–1966) and Charles Reginald Ford (1880–1972). Despite being one of the most prominent practices in this country’s architectural history, there are very few academic papers on Gummer and Ford and still no published monograph. Marking the centenary of Gummer and Ford’s establishment, this paper fills a gap in the literature. It addresses the design history of the Winter Gardens, first constructed in 1916, by conducting a formal analysis of their Beaux-Arts idiom. To deepen our understanding of architectural significance, Moore critically analyses the historical context, architectural design, spatial organisation, the unique relationship between architecture and gardens, the enclosure of space, the structural system, materials and architectural elements. The clarity of the paper is reinforced by the excellent diagrams. The paper avoids being entirely empirical by applying Allen Greenberg’s analysis of Lutyens to the planning of the Winter Gardens and finding “movement, accommodation and paradox” therein. Moore calmly and confidently

1 <https://www.unitec.ac.nz/about-us/unitec-te-pukenga-e-press-publications-promoting-open-access-scholarship>

continues to create and test links between architectural and historical research and design practice.

This approach is also evident in the second paper by Cameron Moore, “Embracing Tradition: Classical Studio in 2022.” This paper presents an education-based project and a pedagogical opportunity with a Classical Studio offered to second-year Design Studio students in Unitec School of Architecture’s Bachelor of Architectural Studies (BAS) programme. The paper explains the design process behind the studio, how the brief was interrogated and developed, and what steps the students took to learn how to design a classical building. More importantly, Moore discusses the lessons learned from following this process and how a sampling of classical instruction can fit into a modern architectural education. Moore argues that this approach offers a new opportunity to expand the students’ critical thinking about what architecture is and what it could be, as well as skills to generate and evaluate traditional design methodology. This is not necessarily with the goal of the students learning how to design a classical building, but rather to allow them a deeper understanding of proportional and compositional principles; a critical eye is opened by applying an iterative design methodology.

In “Embedding Mātauranga Māori in Architectural Education,” Hamish Foote, Marama Haines-Te Whare and Pip Newman reflect on an initiative and development of te reo Māori kuputaka (glossary) of architectural terminology, introduced in the foundational first-year Design Studio course in the Unitec School of Architecture BAS programme. Developing and implementing te reo Māori kuputaka within the briefs in the first-year Design Studio course has created foundations that successive years of architectural study can build on, and the opportunity for Indigenous design practices to be celebrated across the architecture programme. The authors acknowledge the importance of Aotearoa’s multicultural environment and the relevance of pedagogical strategies of embedding mātauranga Māori in architectural education, and clearly unpack the need for and benefits of having te reo Māori kuputaka of architectural terminology. The paper argues that this initiative helps our students to engage with the more Aotearoa-centred architectural content and provides our graduates with essential skills and the instruments to engage effectively within professional practice to shape our environment.

In the paper “Is Our Heritage Falling Through the Gaps?” Viola Vadász, Renata Jadresin Milic and Iman Raza Khan ask critical questions relevant to the cultural heritage in Aotearoa, and offer an alert based on the preliminary results of the final phase of the research

project (led by the School of Architecture’s Digital Heritage Research Centre² and the Conservation and Heritage Research Group), from a survey and organised focus-group interviews with Aotearoa New Zealand professionals. This opinion piece raises awareness of the importance of Aotearoa’s heritage, the existing problems, and the role of digital recording of heritage buildings and sites. The paper invites a more robust and regular implementation of Adaptive Reuse and System Thinking as a sector-wide approach, to keep us connected to our roots and represent a more sustainable alternative.

This year’s peer-reviewed section of *Asylum* concludes with the paper “Are Designers Diluting Culture? Connecting Theory to Practice,” authored by Lyrck Johnson. The paper deals with the topic of cultural acceptance, acknowledgement, collaboration and current engagement with mana whenua – all rightfully considered of national importance in Aotearoa when it comes to design. However, the author raises important questions about the effects of colonisation, an ongoing battle that still impacts Māori today, and about modern-day design practices that dilute Māori culture, and designers failing to acknowledge the colonial thinking embedded in their practice and thought processes. Through a review of recent landscape architectural projects and considering texts by Rod Barnett (Ngāti Raukawa) and Ocean Ripeka Mercier (Ngāti Porou), the author points out how delusional designers can be when addressing authenticity in their projects, however well-intentioned they are. The author argues for the necessary individual self-reflection and collective mind-shift needed to achieve co-habitability that embraces and empowers all. The freshness and boldness of the author’s arguments were underlined by the reviewers as an important quality of this paper.

We want to express our special gratitude to the reviewers, whose generous, valuable, constructive, and timely comments and suggestions for the authors and the *Asylum* editorial team have, again this year, helped us improve the quality of the papers published in this issue. We sincerely appreciate the effort and expertise you have contributed towards reviewing the papers, without which it would be impossible to maintain the high standards of our peer-reviewed journal. We would also like to take this opportunity to thank the Advisory Committee, whose voices are always appreciated.

This peer-reviewed section pays homage to and celebrates the work and life of Dr David Turner. We devote this issue to the loving memory of David.

2 <https://www.unitec.ac.nz/research-and-enterprise/digital-heritage-research-centre>

INTENSIFYING TĀMAKI MAKAURAU AUCKLAND

SOME HIGHER-DENSITY HOUSING OUTCOMES AFTER THE
ADOPTION OF THE AUCKLAND UNITARY PLAN OF 2016

DR DAVID TURNER

<https://doi.org/10.34074/aslm.2023202>

Abstract

Tāmaki Makaurau Auckland's housing paradigm has been in a process of transition since the 1990s, following a radical overhaul of planning legislation intended to address the city's continuing growth. Also driven by the imperatives of sustainable urban planning, the city has subsequently adopted a series of resource management policy revisions each designed to intensify the city's urban form by increasing permissible density of housing development. The Auckland Unitary Plan (AUP) is the most significant of these revisions. Since its adoption in 2016, the city has gained more than 50,000 housing units representing all the standard typologies ranging from detached houses to apartments in high-rise buildings. The AUP's purpose is to increase housing supply by reducing regulations without reducing other goals relating to sustainability of urban form. However, Tāmaki Makaurau Auckland continues to suffer from a housing shortage. This paper explores some of the data collected in a study of ninety higher-density developments within the Metropolitan Urban Limit completed under the AUP regulations. Its conclusions note the success of quantitative objectives of current policies while questioning other objectives, including the aim to supply affordable housing, and the aspirational proposition that the regulations proposed by the AUP will achieve high standards of design quality.

Keywords: Urban housing, housing intensification, Auckland Unitary Plan, building quality standards

Introduction

The transformation of Tāmaki Makaurau Auckland's housing paradigm started in the 1990s, following a radical overhaul of planning legislation intended to address the city's continuing growth. Also driven by the imperatives of sustainable urban planning, the city has subsequently adopted a series of resource management policy revisions designed to increase the permissible density of housing development. The most significant of these revisions is the Auckland Unitary Plan (AUP), a complex document that

emerged from the amalgamation of the region's seven independent cities in 2010, with the Plan itself becoming law in November 2016 after a five-year period of gestation.

The AUP realigned the previously uncoordinated local planning systems, most of which had already been modified to encourage higher housing densities; it placed all housing development in the region under a single set of regulations and encouraged further intensification in all parts of the city.

It is relevant to this paper to note that when decisions to intensify housing development by policy changes were made in the late 1990s, the urban population of the Auckland Region was about 900,000 people living in a mixed community of Pākehā, Māori and Pacific Island ethnicities. In 2023, the population has grown to 1.7 million people, and the addition of significant East Asian, Indian and South American communities has greatly increased its ethnic diversity. These figures represent a rate of growth that has doubled the size of Tāmaki Makaurau Auckland with each generation since the early twentieth century. The city's expansion since 1995, although apparently at a higher growth rate, corresponds to the pattern of the last 100 years.

The rationale for the priorities identified in the AUP policy to accommodate this growth is rooted in the principles of planning for a sustainable urban future. In the decades since the publication of the United Nation's Brundtland Report in 1987, these have focused on social and environmental aspects of urban development, including housing.

In pursuit of the same objectives, further revisions to the AUP were imposed through the passing of the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act by Parliament in November 2021. The Amendment Act promotes higher density by introducing more 'permissive' regulations. In 2023, its consequences for Tāmaki

Makaurau Auckland have been deferred while the Council considers the impact of additional relaxations of development rules as they affect housing density.

One of seven Research Groups at the School of Architecture, Unitec | Te Pūkenga, the Housing Research Group is engaged in a study of a representative sample of higher-density housing projects that have been built under the AUP regulations. This paper is concerned with the question of housing standards achieved in the context of the AUP revisions, with a focus on the relationship of environment and amenity to development density, and to other layout choices made available to developers by the AUP. The paper illustrates some of the results of our survey of post-2016 developments as an interim report on the efficacy of current legislation, and discusses implications for future policy amendments and regulations.

A Methodology for Housing Data Collection

The approach to the subject, and the selection process outlined above, is an original methodology developed to correspond to the unique planning conditions of housing architecture in Tāmaki Makaurau Auckland during this period of rapid growth. The format for documenting the key data-sets is adapted from housing studies in Britain and Australia, in which data priorities are similar.¹

A survey-based research methodology is used to select, visit, categorise and document in outline each development, with a brief commentary that notes its principal characteristics. Ninety projects have been documented in detail, including seventeen schemes consented before 2016 and seventy-three consented under AUP regulations. A further fifteen are in preparation at the time of writing. Projects on single suburban sections of up to 1,000m² site area were selected in order to explore the problem of applying intensification policy in a city in which land is highly fragmented by private ownerships. In 2010, when Tāmaki Makaurau Auckland's 'super city' was formed, it was clear that different regulations were needed to achieve housing densities that would reduce the city's environmental footprint in order to contain further growth within a sustainable paradigm.

Projects in the database are grouped in three categories, distinguishing small-scale schemes from

medium- and large-scale developments on multiple sections. These categories acknowledge the greater constraints that are presented by the long, thin quarter-acre section – the predominant form of the original subdivision in the city's low-density suburbs. The study includes definitions for generic house-types that suit low-rise higher-density development.²

The databank excludes all the masterplanned schemes (Long Bay, Flat Bush, Hobsonville and the very large tracts in the north-west and south-east city extensions such as Kumeū and Pōkeno) on the grounds that site planning on large greenfield projects can, and should in all cases, be competent in terms of contemporary planning. These tracts contribute about one third of Tāmaki Makaurau Auckland's growth housing, following the long-standing policy that most new housing is to be located within the Metropolitan Urban Limit and provided by suburban infill, or redevelopment of older low-density neighbourhoods.

A majority (68 percent) of the projects selected for the study are located in West Auckland suburbs. They are regulated by the same rules as those in all other districts in the city (excepting sites in heritage-designated areas) and use the same principles for site layouts and house types; as such, they represent the layout and house-type models that dominate the intensification programme in the city as a whole.

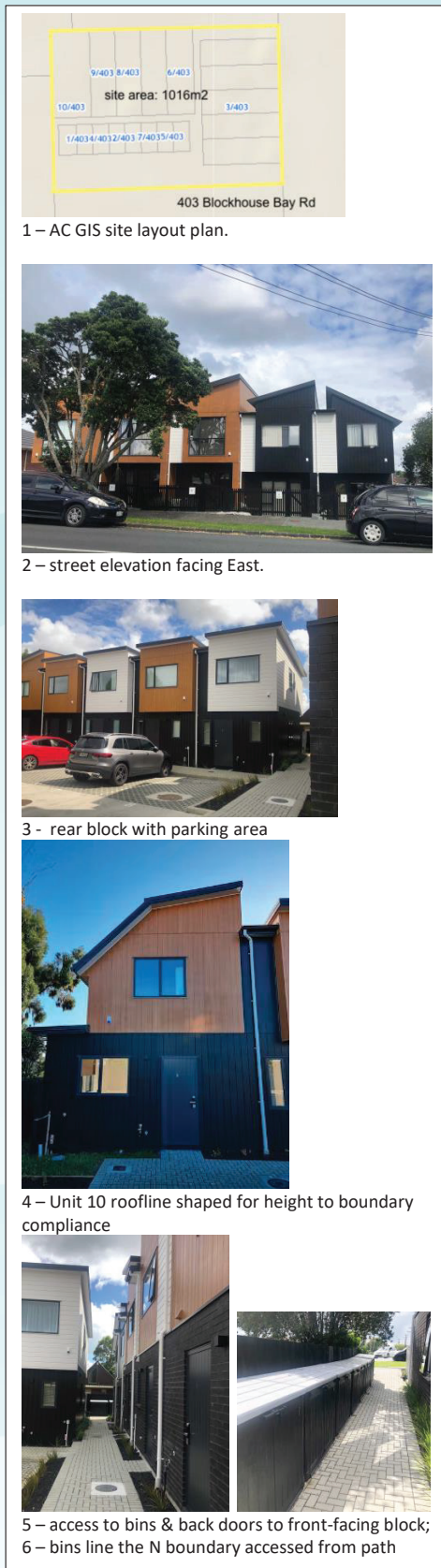
Each development is documented in a one-page summary data sheet that records place, date, number and type of units built.³ A typical summary sheet is shown in Figure 1. Density figures are calculated in dwelling units per hectare (du/ha) as a net site ratio, and, where data is available, density is also described in habitable rooms per hectare (hr/ha), and 'footprint' – the percentage of site occupied by building. In some studies a floor-area ratio calculation (FAR) is also relevant. Calculations follow the system for describing density used by Auckland Council Planning Department.

Illustrations are included in a left-hand sidebar with a variable menu of pre- and post-development site plans, an indication of the house type(s) used in plan form, and a street-view image to show the impact of the project in context. Wherever possible, the applicant's own drawings are used to illustrate site layouts, with drawings copied from public records.

1 Bruce Judd, *Designed for Urban Living: Recent Medium-Density Group Housing in Australia* (Canberra: The Royal Australian Institute of Architects, 1993); David Levitt, *The Housing Design Handbook: A Guide to Good Practice* (London: Routledge, 2010); Monica Pigeon, Robin Middleton, Theo Crosby et al. (eds.), *Architectural Design: Low and Medium Rise Housing Primer XXXVII* (September 1967).

2 Typologies are: D (detached); Tr (terraced housing with or without parking or garaging); Th (townhouses, generically a terraced two- or three-storey unit with a garage at ground-floor level); C (courtyard); A (apartment); M (mixed typologies).

3 Data sheets are now stored in a single file, coded and organised sequentially by a preliminary category of the project size and a unique number, followed by the dominant house-type used, and the density figure. The individual data sheets are supplemented by a project file containing notes, photos, data from websites including sales agents' material where relevant and, in a few instances, comments culled from media reports.



1 – AC GIS site layout plan.



2 – street elevation facing East.



3 - rear block with parking area



4 – Unit 10 roofline shaped for height to boundary compliance



5 – access to bins & back doors to front-facing block;
6 – bins line the N boundary accessed from path

403 Blockhouse Bay Rd

Housing as built (2022)

Ten terraced houses on a wide-frontage (26.9m) flat site facing E onto a primary distributor road with frequent bus services. Five units form a façade to the road with 5 in a block oriented N behind a parking area serving all houses (fig.1).

Refuse bins are stored in a pathway on the N boundary (fig.6)

Accommodation

All houses are 2st terraced 76m² dual aspect dual access with 2 bedrooms, 2 bathrooms & combined living-dining-kitchen ground floor, except 3 units in the rear block that do not have rear access. Several houses have an internal cupboard-study on the upper floor; some of these have a window on the gable wall; none of these spaces have been included in the D2 density figures.

Density:

D1: site area 1016m²; 10 units @ 101m²/unit = 99 du/ha.

D2: habitable rooms: 30 total, density = 296 hr/ha.

Footprint: 34.5%.

Analysis / comment

(i) high density (99du/ha) is achieved by the combination of the wide frontage site + a narrow-frontage house-type with a 35m² footprint & access from a semi-public path without set-backs on both blocks.

(ii) external private space: the front units 1-5 have a small yard on the public footpath & no rear private space; units 6-10 have N-facing back yards to AUP regulations. Over-looking is apparent on the rear wall of the front block. The layout would be better for all residents if 1 house had been deleted to allow a rear patio for the front block (figs. 3, 5).

(iii) material and window design articulates the project to achieve variety and expression of individuality.

(iv) the project meets AC policy ambitions of increased volume of housing with a design that generally satisfies other objectives of intensification with a good standard of urban design.

NOTE: 403 BBrD was sold for \$1.60m, 20June2020

(<https://www.ratemyagent.co.nz/real-estate-agency/ray-white-blockhouse-bay/property-listings/403-blockhouse-bay-road-blockhouse-bay-aah872>).

Sales figures indicate an average of \$800,000 @ approximately \$10,000/m².

Assuming development costs of about \$4,000/m² these sums suggest a profit margin of approximately 35-40%.

Sources

Photos: Tektus A&R

<https://www.propertyvalue.co.nz/auckland/auckland/blockhouse-bay-0600/3-403-blockhouse-bay-road-blockhouse-bay-aah872>

<https://www.myrent.co.nz/listings/GQXH5M>

<https://www.myrent.co.nz/listings/GQXH5M>

Figure 1: A typical summary sheet from the Housing Research Group database: 403 Blockhouse Bay Road (Ref. M_007Tr/99).

Comments are objective but also critical, identifying effective solutions and noting problems as they emerge from observations on site, and in subsequent discussion. Sources of information are listed, and include acknowledgement of information contributed by assignment studies in the elective courses within the Unitec | Te Pūkenga Architecture School's Bachelor of Architectural Studies and Master of Architecture (Professional) programmes.

Analysing Housing in Intensified Suburbs

This paper reviews the post-2016 housing data, with projects developed before 2016 used to illustrate statistics in Tables 1 and 2. It focuses on three features that mark the changes effected by the AUP. These are:

- (i) the higher density yields relative to development under previous regulations that are now being delivered;
- (ii) the provision or absence of on-site parking;
- (iii) the volume of supply of smaller housing typologies, mostly in the form of two-bedroom two- or three-storey terraced houses of 65–80m².

Density Increases After the Auckland Unitary Plan

Earlier studies have commented on the adoption of progressively more permissive density controls, for example:

The AUP dispensed with all forms of density controls and minimum ... space standards. These regulations were more permissive than those in the various District Plans in the Auckland region and have left developers free to make space-saving choices ...⁴

This comment applies equally to the reduction of site and layout regulations for post-2016 development and to internal planning within houses. As intended, 'space-saving' regulations have permitted site planning to increase densities: this increase is illustrated by twenty-four typical pre- and post-2016 examples of terraced housing – the predominant typology in use – which are summarised in Tables 1 and 2.

The tables include representative developments by Kāinga Ora, and house types are matched across the selection. Exceptionally high-density developments, such as projects that omit on-site provision for

Site	density
Balla Place (17)	34
38-50 Arawa St (10)	46
1-18 Torea Place (KO)	49
15 Gunner Drive (14)	62
42 Holly St (22)	62
Average 50du/ha	50
site	density
66 Seymour Rd	75
28 Croydon Rd	79
37 Ambler Ave	88
24 Tara Rd	90
163 Deep Creek Rd	90
34 Kudu Rd	91
10 Rimu St	89
Average 86du/ha	86

Densities under pre-AUP regulation

Densities under post 2016 regulations

Site	density
57 Edmonton Rd	47
2008 Great North Rd	57
6 Islington Ave	69
25-35 Garnet Rd	69
64-66 Delta Ave	73
Average 60du/ha	60
site	density
48 Woodglen Ave	88
122 Pooks Rd (KO)	89
6-8 Kereru Rd	91
50 Astley Ave	92
2 Walsall St	130
28 Walker Rd	82
12 Arawa St	79
Average 93du/ha	93

Table 1: Typology: two-storey terraced house-types with a garage or parking space.⁵

Table 2: Typology: three-storey terraced house-types with integral parking (includes townhouses).

4 David Turner, "What is Medium Density 'Done Well'?" Paper presented at the Resilient and Responsible Architecture and Urbanism Conference, Unitec | Te Pūkenga, Tāmaki Makaurau Auckland, April 20–22, 2023.

5 Note: figures in brackets (14, 17, 10, 22) in Table 1 refer to projects reviewed in David Turner, John Hewitt, Cesar Wagner, Bin Su, and Kathryn Davies, *Best Practice in Medium-Density Housing Design: A Report for Housing New Zealand Corporation* (Wellington: Housing New Zealand Corporation, 2004), https://www.researchgate.net/publication/351993158_Best_Practice_in_Medium_Density_Housing_Design_A_report_for_Housing_New_Zealand_Corporation

vehicles, and those with mixed typologies are excluded to avoid statistical distortion.⁶ Table 1 shows that densities have increased in the two-storey typologies by 55 percent, averaged over twelve typical examples (from an average of 50du/ha to an average of 86du/ha); Table 2 shows density increases averaging 72 percent between pre- and post-AUP-regulated three-storey typologies, with their average densities rising from 60du/ha to 93du/ha.

These steep density increases for the most frequently used house types validate the process and the effectiveness of the policies adopted in 2016. Increased densities also contribute to volume of supply, thus satisfying a primary objective of the AUP's policies.

Typologies and House-Type Floor Areas

Economists researching demographic trends in Tāmaki Makaurau Auckland's housing supply have drawn attention to the shortfall of small-unit typologies: the private sector's preference has traditionally been for house types with three or four bedrooms, designed for families.⁷ Kāinga Ora has addressed this shortfall in its programme by including a proportion of smaller typologies, usually in the form of one- and two-bedroom apartments in three-storey walk-up blocks.⁸

Since 2016, private-sector developers working in intensification neighbourhoods have begun to take advantage of AUP density relaxations to increase the number of two-bedroom typologies being built. The preferred house-type is based on a two-storey narrow-fronted dual-aspect terraced plan, used

extensively on large projects such as Woodglen Road, Glen Eden (Figure 2) with, on rare occasions, apartments similar to Kāinga Ora's model in some larger developments.

A majority of terraced houses in the study (85 percent) are designed to minimum floor areas, which, in the two-bedroom, variation provides between 65m² and 80m². One developer, at 8–10 and 22–24 Yeovil Road, Te Atatu, uses a two-bedroom, three-storey 81m² variation that has a footprint of 27m² and a bedroom on each of two upper floors, both planned with a shower room. A third variation is a two-bedroom, three-storey town house, where the ground floor accommodates the entrance and a single garage. An example of this is 5 Dellwood Avenue, Henderson (Figure 3).

Parking Provision in Higher-Density Housing Design

Mainstream suburban housing under regulations prior to the AUP has seldom been developed without parking for a minimum of one car per dwelling. However, layouts without parking on site are permitted under the AUP regulations. This is an infrequent but regular development option in post-2016 projects, most often occurring on the smallest sites. The decision to include or exclude on-site parking defines some of the primary differences in amenity, registering in perceptions of the project by the quality of its public spaces, its organisation of access footpaths, refuse storage and overlooking issues. Parking provision, provision of external space (private or public) and internal layouts in the two-bedroom projects vary considerably.



Figure 2. 123–125 Woodglen Road, Glen Eden, site layout for forty-seven terraced houses at 78du/ha. Photo: Anna Bulkeley.

6 Note: terraced house-type projects of similar size but built without on-site parking would, if included in the analysis, increase the post-2016 average densities to over 115du/ha.

7 Shamubeel Eaqub and Selena Eaqub, *Generation Rent: Rethinking New Zealand's Priorities* (Wellington: Bridget Williams Books, 2015).

8 For example, fifteen apartments at 30–34 Hutchinson Avenue, New Lynn.



Figure 3. 5 Dellwood Avenue, Henderson: a three-storey, two-bedroom, narrow-fronted terraced townhouse typology. Photo: Anna Bulkeley.

Relating these variations to density on developments that include parking, our calculated site densities range from 66du/ha to slightly under 100du/ha. On the seven developments where on-site parking has not been provided, densities increase to between 127du/ha and 149du/ha, equivalent to the densities of small apartment blocks.

Planning for on-site vehicles in smaller developments usually places a short paired or terraced group on the street frontage, with access on one side to a parking yard behind the front block serving all the houses in the scheme. The remaining houses are accessed by a footpath leading from the parking area, which is sometimes combined with a communal refuse-collection compound. Although there are exceptions, these car parks are usually designed to standard 90 percentile vehicular manoeuvring requirements and bay sizes, and thus are not well suited to larger SUVs and trade vans.

Site planning for vehicles in smaller developments includes access for service and delivery traffic, and the system chosen for refuse collection, for which there are two main alternatives. The standard arrangement is a council-operated collection from the street frontage, used in about 75 percent of the smaller schemes (under thirty dwellings). The alternative is a commercial collection service with communal bins located within the site, which adds management costs for residents but is common in the larger projects. Where sites are developed without parking, waste collection invariably relies on the council-operated collection system: bins are

taken by residents to the kerb or berm, where, for access by the collection vehicle, the site frontage needs to be kept clear of parking on a weekly basis. The system depends on availability of an accessible kerb or berm, and on-site management, which is not effective in every project (Figure 4).

Discussion and Analysis

The databank compiled by the Housing Research Group has informed enquiry into all aspects of housing standards achieved under the AUP regulations. This paper has focused on densities, house types, and provisions for private vehicles as three generalised features for discussion.



Figure 4. 55 Bolton Street, Blockhouse Bay: council-operated streetside bin collection for nine terraced houses at 90du/ha. Photo: David Turner.

The Unitary Plan's stated aim is "to create a higher quality and more compact" city. As the introduction to this paper noted, the AUP is, indeed, a complex instrument, backed up by thorough documentation and research. Among its objectives for urban housing developments there are requirements such as "[s]maller scale subdivision [that] needs to consider its relationship with the surrounding existing neighbourhood" (Section 3.1.4, Subdivision).⁹

Objectives stated in Sections E.27 and E.38 of the Unitary Plan reset the regulations for intensification projects, supported by clauses defining regulatory detail. A twenty-six page appendix (Appendix 27), H6. Residential Terrace Housing and Apartment Buildings Zone, includes a list of rules to be applied to projects in these zones. Referring to parking, for example, objectives are clarified by clauses such as: E.27.3.1(f): "the efficient use of on-street parking," and developers will be permitted to "[p]rovide for flexible on-site parking by not limiting or requiring parking for subdivision" (E.27.3.7). Section E.38.3 Policies refers to housing subdivisions, and "Require subdivision to be designed to achieve a high level of amenity and efficiency for residents..."¹⁰

Density increases of the magnitude permitted under Section 3.1.4 and Regulations under Section H6, (listed in Tables 1 and 2) have inevitable and sometimes measurably negative consequences for the housing environment. Conspicuous losses of amenities register in the absence of usable, private

open space: this can be observed as an inadequate set-back from a public street or under-sized rear patios in terraced layouts where very small yards are often compromised by 2,000-litre water retention tanks, heat pumps and refuse bin storage. Internal space standards, previously required to meet set minimum floor areas, are now determined by developers and their designers.

Basic planning principles for housing are frequently absent in post-2106 developments. A small dwelling (under 80m²) on a single level, such as an apartment, can be planned to use space efficiently, but for two-storey terraced housing the inclusion of a stair, which occupies at least 7–8m² and requires circulation space on both floor levels, reduces room sizes to impractically small dimensions.

One example is the three-storey two-bedroom terraced house-type with a total of 78m² floor space used on a Te Atatu development: with stairs in two different locations, the plan is wasteful of occupiable floor space (Figure 5); it is, however, reminiscent of the internal planning of 'back-to-back' housing last seen in the nineteenth century in the industrial cities of Britain.¹¹ Analysis of projects such as this lead to the conclusion that to maximise profit the highest possible number of units on sites is prioritised, with habitable room sizes over-compressed and all external shared spaces, including private spaces, built to bare-minimum dimensions.

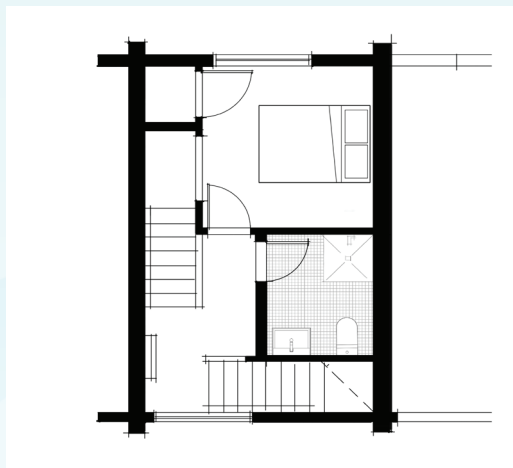


Figure 5. 8–10 Yeovil Road, Te Atatu: a site developed at a density of 134du/ha without on-site parking. The middle floor-plan of a three-storey, two-bedroom terraced house-type. Image: Peter McPherson.



Figure 6. 26 Moa Road, Point Chevalier: nine 65m² two-storey terraced houses without on-site parking or service provision, developed at a density of 149du/ha. Photo: David Turner.

9 Auckland Council, Auckland Unitary Plan. Part 3: Regional and District Objectives and Policies; 3.1 Auckland-Wide Objectives and Policies, accessed August 24, 2023, <https://unitaryplan.aucklandcouncil.govt.nz/html/3.1%20Auckland-wide%20objectives%20and%20policies.html>

10 Auckland Council, Appendix – Auckland Unitary Plan Objectives and Policies, accessed August 24, 2023, <https://www.epa.govt.nz/assets/Uploads/Documents/Fast-track-consenting/Omahu/Appendix-27-Unitary-Plan-Objectives-and-Policies.pdf>

11 Stefan Muthesius, *The English Terraced House* (New Haven, CT: Yale University Press, 1982).

Density yields are affected by the decision to include or exclude parking on site. As has been noted above, on-site parking is excluded on seven of the seventy-three post-2016 developments surveyed. The argument used to justify the omission is a permutation of environmental, social and economic factors, and factors that advantage the developer, tied in practice to the availability of the public street for parking. The nine-unit terrace at 26 Moa Road in Point Chevalier is a typical Code-compliant example: with total floor areas of 64.5m² each, the houses occupy the site at a density of 149du/ha, have no public space other than the shared-access footpath, and do not provide for parking or dedicated refuse collection space (Figure 6). Though the great majority of small-unit terraced layouts provide parking in a semi-secure area set back from a public road, one consequence of not providing parking is that socially valuable communal external spaces are rare on developments smaller than 25–30 units.

Market Forces and Influences on Future Design

It is noted that quality standards in housing fluctuate as market conditions change over time. Most of the developments in this study are aimed at first-time buyers and households with ordinary levels of income, and are products of the private sector of the industry.¹² Tāmaki Makaurau Auckland has traditionally relied on this source for the great majority of its housing stock. The AUP aims to improve the supply of affordable housing; this discussion is therefore extended to include a summary of current influences of the market, focusing on developments in the databank defined by their suburban locations, their densities and their selection of house types.

The imperatives of commercial interests are prominent in analyses drawing on the databank. It is argued that economic externalities, as well as unforeseen events, can impact on quality standards in a housing environment governed by market priorities. House builders operating as developers in the private sector are traditionally risk averse: an increase in bank lending rates, a post-pandemic period of domestic inflation, and extreme weather events have combined to increase risk and have affected market confidence in 2023

to the extent that house prices across Aotearoa New Zealand have fallen in the current year. Falling prices are evidenced by unsold properties in current but uncompleted projects, where sales in recent years have preceded completion. Other indicators of market reverses include warnings in real estate literature, stating: “Sales in this suburb over the last 12 months have averaged 13.24% below RV.”¹³ At the time of writing (August 2023), these statements indicate significant market uncertainty, and a market in retreat from a period of over-pricing. Unsold properties are now being advertised at negotiable, rather than fixed, prices; these and others are sometimes waiting for buyers for months, rather than days or weeks as previously.

As a relatively new housing paradigm, the architecture of higher-density projects benefits from developers willing to experiment: house-types, layouts and external materials are all tested in new conditions. It is to be expected, however, that market instability will have some effect on innovative design strategies: recognised market-proven solutions are preferred, and deviations are likely to be discouraged in a context of perceived higher risks.

In spite of such market reservations, unconventional typologies occasionally appear. A development at Dellwood Avenue in Henderson referred to earlier is an example (Figure 3).¹⁴ In style, density, house type and floor area, it is not a housing model within the conventions of this neighbourhood, but it reflects a trend towards more sophisticated design in the typology. This scheme stands out as an architecturally ambitious higher-density housing project: its framed mono-pitch ‘saw-tooth’ roofs identify the seven units individually, with the street elevation further articulated by projecting walls to screen first-floor living-room balconies, and with a vertical timber screen detail on the façade of the bedroom floor above. Excluding the garage, the floor areas, at 68m², are minimal, and the density (104du/ha) is higher than other small infill developments in the area, a reflection of inner-city densities, rather than densities in outlying suburbs.¹⁵ In its aim to improve higher-density design quality, the AUP can be credited with some instances of success through the emergence of such projects.

12 Seven projects developed by Kāinga Ora are included in the survey, five of which pre-date the AUP. Kāinga Ora has recently prioritised higher-density apartment developments in medium-rise (3–7 storey) blocks.

13 “2/2 Windermere Crescent, Blockhouse Bay, Auckland City,” OneRoof, accessed August 20, 2023, <https://www.oneroof.co.nz/estimate/2-2-windermere-crescent-blockhouse-bay-auckland-city-auckland-2195038>

14 The Dellwood Avenue, Henderson, development is also an example of market resistance to high prices. The seven two-bedroom three-storey dual-access townhouses were being marketed in January 2023 at \$970–990,000, and were re-advertised in July at \$790,000, a price reduction of over 20%.

15 Sources include: <https://static1.squarespace.com/static/5b35927b506f8e89333d9e1d/t/61845295b097ed7f9c9f14f7/1636061887032/5+Dellwood+Avenue+Brochure.pdf>, accessed August 16, 2023; <https://www.realestate.co.nz/42184164/residential/sale/5-dellwood-avenue-henderson>,

accessed July 27, 2023. Photo: Cameron Moore

Conclusion

This paper has introduced data collected for the study of higher-density housing in Tāmaki Makaurau Auckland developed in the period after 2010, when the region’s communities were unified into a single ‘super city’. At the time of writing, the databank has approximately 100 examples completed or in development. Architectural design trends are starting to be evident from the data: formal and spatial ideas are establishing a new language for housing design in Tāmaki Makaurau Auckland.

Basic statistics that demonstrate the success of the AUP can be drawn from this databank. For example, prior to redevelopment, the 108 houses that previously occupied eighty of the sites reviewed have been replaced by 1,203 units in various typologies at a replacement ratio of approximately 11:1.¹⁶ As it expands, the databank provides the material for analysis of major and minor trends in housing-supply typologies, and data to identify density thresholds as they affect housing-quality standards. Similarly, ratios of parking to unit numbers, which vary between typologies, and percentages of external space to gross floor areas can be calculated and related to both density and environmental amenity, including privacy standards.

Landscaping, a statutory requirement in most projects, is a critical element of all higher-density housing environments.¹⁷ Plans and images in the databank record the variable quality of solutions used to satisfy this requirement and offer examples for comparative analysis. The databank also offers an information base for post-occupancy studies that involve a programme to revisit projects dating from the earliest layouts in order to evaluate design strategies and, in some cases, suggest alternatives.

From this databank, the leap in site densities stands out as a major shift away from both Tāmaki Makaurau Auckland’s suburban tradition and the city’s preceding legislation, with many projects seen to be testing the boundaries of statements made in the AUP’s objectives and policies.

Some objectives are clearly aspirational, but are currently not being attained. A short summary includes the following:

- A majority of developments demonstrate that density controls (set-backs and height-to-boundary dimensions) are not effective if their purpose is to deliver high-quality housing environments.

- The absence of parking on some sites will generate significant losses of local amenity, and the removal of internal space standards is creating a legacy of impractically small houses in the two-bedroom terraces.
- Higher densities are not producing affordable housing.
- In market conditions affected by unstable bank lending rates, builders are not able to set prices for their developments.
- Aspirations – for instance, the proposition addressing the issue of context and inclusion that “[s]maller scale subdivision needs to consider its relationship with the surrounding existing neighbourhood” (Section 3.1.4 Subdivision)¹⁸ – conflict with reality when three-storey blocks are permitted on 15m-wide sections, or where three-storey townhouses are permitted on the north boundary of single-storey bungalows.

Responses to market forces in future resource consent applications may include site-planning strategies that will propose lower densities, and increase spatial proximities. These are also likely to include more generous external private and public spaces, and offer house types with larger floor areas. Such adjustments are already evident in some recent projects, such as that at Huri Road in Māngere Bridge, where the site density (62du/ha) is lower than that of the comparable developments studied.

In the Housing Research Group we recognise that this form of housing is at once technologically innovative in the context of Aotearoa New Zealand’s housing industry, transformative in terms of urban environments, and transitional in its social implications. Considered as a transitional housing model in its development stages, the first generation of post-2016 housing can be regarded as a series of prototypes through which layouts, densities, amenities and house types are tested against market preferences and social customs. The process will gradually refine the housing produced in order to identify those variations acceptable in the marketplace, thus refining the architect’s brief, and the urban outcomes. Eventually, Tāmaki Makaurau Auckland’s transition from a suburban housing culture to a mixed housing environment with evenly distributed urban densities will be delivered by this process. In conclusion, it is argued that for

16 Previously discussed in Turner, “What is Medium Density ‘Done Well’?”

17 Levitt, *The Housing Design Handbook*.

18 Auckland Council, Auckland Unitary Plan. Part 3: Regional and District Objectives and Policies.

the AUP to achieve its stated objectives it will be necessary to adopt a process that allows for further revisions as a continuous response to legitimate but unsatisfactory interpretations of the present development regulations.

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THE DESIGN OF THE DOMAIN WINTER GARDENS

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<https://doi.org/10.34074/aslm.2023203>

Abstract

First constructed in 1916, the Winter Gardens in Auckland was William Gummer's first public building in New Zealand. Listed as Category 1 by Heritage New Zealand Pouhere Taonga and beloved by Aucklanders, the gardens remain under-researched in Aotearoa New Zealand's architectural historiography. This paper aims to comprehensively analyse the Winter Gardens, exploring their historical context, architectural design, and the unique relationship between architecture and garden.

This study sheds light on the distinctive architectural character of the Winter Gardens. The spatial organisation and layout between the indoor and outdoor spaces, the enclosure of space, and the structural system, materials and architectural elements that define this character can be understood by examining the architectural principles employed by William Gummer, learned during his time at London's Royal Academy of Art and under the tutelage of Edwin Lutyens. This paper will also discuss the client's motivations and the building's construction history.

This research aims to deepen our understanding of the architectural significance of the Winter Gardens in Tāmaki Makaurau Auckland.

Keywords: Winter Gardens, William Gummer, Gummer and Ford, Auckland architecture, classical architecture, traditional architecture

Introduction

The Domain Winter Gardens were designed around 1916 with funds left over from the Auckland Industrial, Agricultural and Mining Exhibition of 1913–14, to commemorate the exhibition. It was

built in four stages: the Temperate House was completed in 1921, the Tropical House and Pergola were completed in 1928, and the Fernery was completed in 1930. Although the complex holds a Category 1 listing from Heritage New Zealand Pouhere Taonga and is a popular Tāmaki Makaurau Auckland destination, it remains vastly under-researched in Aotearoa New Zealand architectural historiography. This article aims to fill in the details about the buildings' design, what motivated the clients, how the architect, William Gummer, approached the architectural design, both in theory and in practice, and how these design principles and influences are evident in the building.

Background

The Auckland Industrial, Agricultural and Mining Exhibition was opened by its chairman, George Elliot, on 1 December 1913 to a crowd of 18,000 people (including the Prime Minister, William Massey, and thirty-five Members of Parliament¹) in the Auckland Domain.² Closing after Easter 1914, the Exhibition was considered a success, turning a surplus of about £3,000, and leaving a built legacy of flower beds and lawns, Domain Drive (the scoria was mined from the quarry behind the Winter Gardens, now the Fernery), a refurbished Bandstand Rotunda, and the Tea Kiosk.³ A total attendance of about 870,000 people was estimated, with the average season-ticket holder attending roughly thirty times.⁴

The surplus funds were "intended for the beautification of the domain."⁵ The allocation of funds took shape in September 1916 when William Gummer called tenders to construct one of the buildings for the Winter Gardens.⁶

3 "Table Talk," *Auckland Star*, November 29, 1913, <https://paperspast.natlib.govt.nz/newspapers/AS19131129.2.2>

4 "Auckland Exhibition Opened," *NZ Truth*, December 13, 1913, <https://paperspast.natlib.govt.nz/newspapers/NZTR19131213.2.27>

5 "The End of the Exhibition," *New Zealand Herald*, April 20, 1914, <https://paperspast.natlib.govt.nz/newspapers/NZH19140420.2.36>

6 Ibid.

7 "Local and General News," *New Zealand Herald*, May 14, 1914, <https://paperspast.natlib.govt.nz/newspapers/NZH19140514.2.31>

8 "Building Notes," *N.Z. Building Progress* XII, no. 1 (September 1, 1916): 728, <https://paperspast.natlib.govt.nz/periodicals/P19160901.2.20>

The Brief

According to the *Auckland Star*, the Winter Gardens “shall constitute a permanent memorial to the exhibition.”⁷⁷ The client, the Auckland City Council, had been considering a proposal, but “William Gummer, who, as secretary of the Town Planning League, took the initiative in suggesting something better than the council had under consideration.”⁷⁸ The question becomes, what would a memorial to the Auckland Exhibition be as an architectural proposition? There were two reasons for holding the Auckland Exhibition. For the Auckland business community, it was to promote the industrial, mining and agricultural sectors in the upper North Island after the examples

set by Melbourne, Dunedin, Christchurch and the previous Auckland Exhibition in 1898.⁹ For the Auckland City Council, it was to use the exhibition as a catalyst to develop part of the 40 hectares of land left under-developed as a recreational area since the area was set aside by the New Zealand Government in 1840.¹⁰

The exhibition was a varied and sprawling venture covering over 50 acres with six entrances and up to 400 exhibitors installed in the mining section, educational court, the tourist department’s court, an aquarium, and various government departments (insurance, postal, marine, defence, labour and



Figure 2. “The Exhibition Buildings from Across the Miniature Lakes,” *New Zealand Herald*, December 1, 1913. Note that the shape and position of the Concert Hall behind the Tea Kiosk could well have acted as a formal precedent for the Winter Gardens, see Figure 3.



Figure 3. Showing the new Winter Garden building (left), a building left over from the Auckland Exhibition, 1913–14 (centre behind the trees), probably the Art Gallery, and the Tea Kiosk (right) in the Auckland Domain, Parnell. Auckland Libraries Heritage Collection 35-R2296.

9 “Untitled,” *Auckland Star*, August 10, 1916, <https://paperspast.natlib.govt.nz/newspapers/AS19160810.2.30>

10 “Building Notes.”

11 “Exhibition Closes,” *New Zealand Herald*, April 20, 1914, <https://paperspast.natlib.govt.nz/newspapers/NZH19140420.2.111>

12 “A Great Exhibition,” *New Zealand Herald*, December 1, 1913, <https://paperspast.natlib.govt.nz/newspapers/NZH19131201.2.130.2>

printing). The Machinery Hall and Palace of Industries featured motorcars and various futuristic engineering appliances. There was a concert hall, an art gallery, and exhibitions from Fiji, Southland and Northland, the latter featuring a “cleverly contrived 25-foot stone representation of the Whangarei Waterfalls.”¹¹ The exhibition’s very popular playground was called Wonderland; it had a water chute, toboggans, a figure-eight railway (a precursor to a rollercoaster), a hippodrome, a haunted castle, a merry-go-round, a cyclorama depicting “Scott’s Dash to the Pole,” a model railway and other “amusing games.”¹² There were events planned every day from marching bands to flower shows to an exhibition basketball game.¹³

The Exhibition wasn’t without architectural merit, either. Covering the crest of Domain Hill, the buildings were designed in a “free classical style ... constructed from cost-effective, modern material, including three-ply, asbestos, corrugated iron, and plaster.”¹⁴ It commanded beautiful views, and, according to the *New Zealand Truth’s* Auckland Representative, the

overall visual effect of the Exhibition was that it was “picturesquely situated, architecturally it is neat but expensive, yet not gaudy or over-gay.”¹⁵ Construction started for the iconic Auckland War Memorial Museum on this site in 1925, after an extensive international competition, and was completed in 1929.

However, the main area of inspiration for William Gummer for a memorial to the Exhibition is in its landscaping legacy. As previously stated, this consisted of establishing gardens, lawns and winding pathways, transforming the bare volcanic clay into grass lawns and flowerbeds with “cleverness, care, and patience.”¹⁶

The site wasn’t limited by specific boundary lines – the area was bound by the quarry to the south, Domain Drive to the north, and somewhere opposite the Tea Kiosk. It appears that the only limiting factor was the amount of surplus funds available to be spent on the memorial, which would only cover about one-third of the cost of the scheme William Gummer put forth.



Figure 4. View of Wonderland, Auckland Exhibition, Auckland Domain, looking towards the water chute. Price, William Archer, 1866–1948: Collection of postcard negatives. Ref: 1/2-001132-G. Alexander Turnbull Library, Wellington, New Zealand. /records/22865253

13 “Machinery Hall,” *New Zealand Herald*, December 1, 1913, <https://paperspast.natlib.govt.nz/newspapers/NZH19131201.2.130.18>

14 *Ibid.*

15 *Ibid.*

16 Lucy Mackintosh, *Shifting Grounds: Deep Histories of Tāmaki Makaurau Auckland* (Wellington: Bridget Williams Books, 2021).

17 “Auckland Exhibition Opened.”

18 “A Beautiful Situation,” *New Zealand Herald*, December 1, 1913, <https://paperspast.natlib.govt.nz/newspapers/NZH19131201.2.130.4>

The Client(s)

The client for the project was ostensibly the Auckland City Council, but the driving force behind the scheme was the Chairman of the Auckland Exhibition, George Elliot. Born in 1865, after migrating to New Zealand he ran a newspaper in Tauranga before moving to Auckland to go into business. He became the president of the Auckland Chamber of Commerce in 1911–12, was the President of the Auckland Patriotic Society during World War One, and was the Chairman of the Bank of New Zealand from 1922 to 1931. He was knighted in 1923 at the age of 58. He was very well connected, “an arch-insider”¹⁷ in the Auckland business world. He was known to use insider knowledge from his myriad of business connections to outsmart the financial markets in a fashion that would not be possible today.¹⁸ He is best known today as the benefactor of the George Elliot Charitable Trust, which he set up prior to his death in 1956 to provide tertiary scholarships for Auckland students and grants for community building in New Zealand.

George Elliot knew that there wasn’t enough money in the surplus funds to cover the cost of the complex that William Gummer proposed, so after the Temperate House was completed in 1921, he led

a fundraising effort by contributing £4,000 of the £9,500 donated to have the complex completed by adding the Tropical House, the Pergola, the Lily Pond and the Fernery.¹⁹ The Pergola and the Tropical House were constructed by 1928, and the Fernery by 1932. In the spirit of civic-minded generosity, Gummer and Ford, and the building contractor Fletcher also donated a large portion of their professional fees.^{20,21}

The Architect

William Gummer was born in Auckland in December 1884. After an eight-year apprenticeship with Auckland architect W. A. Holman, Gummer travelled to London in 1908 for a three-year study tour of Europe. He was a student at the prestigious Royal Academy of the Arts, where he studied architecture under Reginald Bloomfield, Renee Spiers and William Lethaby, and worked for, among others, Edwin Lutyens. After arriving back in New Zealand in 1911, Gummer was invited to join the architectural firm Hoggard and Prouse, renaming it Hoggard, Prouse and Gummer, as the head of its newly opened Auckland office. Gummer had designed a kiosk for the Auckland Exhibition and had spent most of his time on domestic architecture commissions in the North

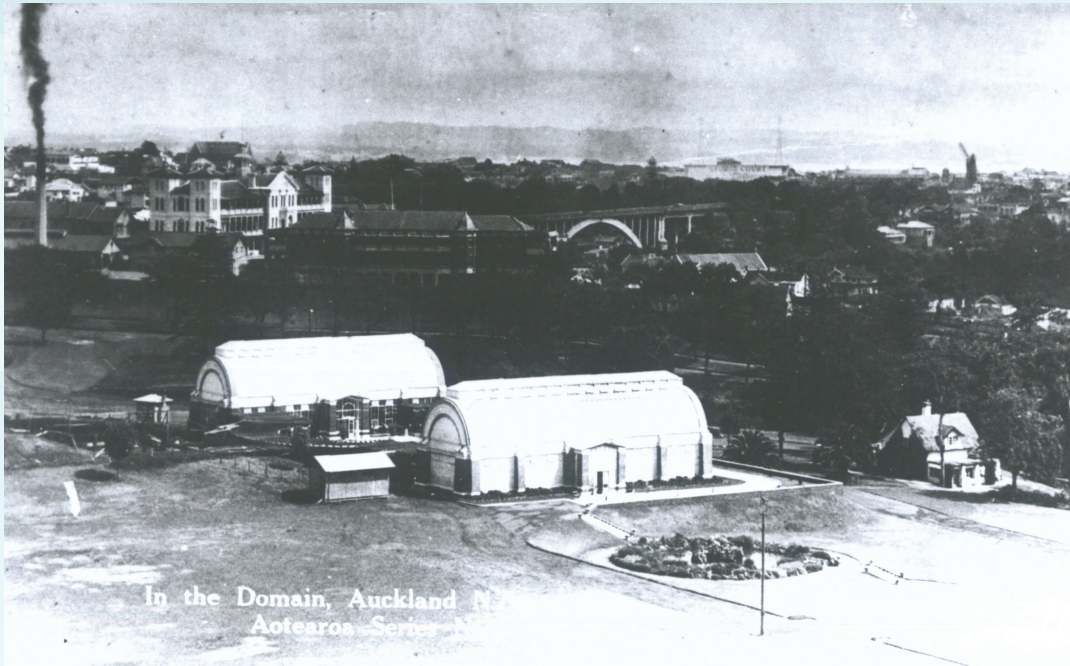


Figure 5. “In the Domain,” Hocken Snapshot, accessed September 1, 2023, <https://hocken.recollect.co.nz/nodes/view/4242>

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- 19 “The Life and Times of Sir George Elliot,” Sir George Elliot Charitable Trust, accessed July 21, 2023, <https://www.elliottrust.org.nz/about-the-trust/sir-george-elliott/>
- 20 Ibid.
- 21 “Gift to Auckland,” *New Zealand Herald*, April 16, 1927, <https://paperspast.natlib.govt.nz/newspapers/NZH19270416.2.35>
- 22 Jack Smith, *No Job Too Big: A History of Fletcher Construction*. Volume I, 1909–40 (Wellington: Steele Roberts, 2009).
- 23 “City Management,” *New Zealand Herald*, November 30, 1928, <https://paperspast.natlib.govt.nz/newspapers/NZH19281130.2.145>

Island, notably the residence of the incoming Mayor of Auckland, James Gunson, in 1913.²²

Gummer was attested into the New Zealand Army in September 1917, and was posted to the First Machine Gun Section in Egypt on the last day of 1918. He was discharged in Cairo in late August 1919,²³ after which he spent a few months travelling before returning to New Zealand. His time away from the profession goes some way to explaining the five years between the conception of the Winter Gardens and the start of their construction.

In 1923, William Gummer partnered with Reginald Ford to form Gummer and Ford, which would become one of the most influential architectural firms in New Zealand. Their work includes the Remuera Library (1926) and the Auckland Railway Station (1928), both N.Z.I. A. Gold Medal winners. Other notable public buildings include the Grey Lynn Library in Auckland (1923) and the Carillion and Dominion Museum in Wellington (1932, 1936).

Description

The Domain Winter Gardens consist of two barrel-vaulted glasshouses, the Temperate House to the east and the Tropical House to the west, separated by a rectilinear pond and connected by a Pergola on each side. The primary axis runs perpendicular to Domain Road, forming the main entrance stair to the gardens, running through the middle of the pond, the central pillar, and the entrance to the Fernery. This entrance is indicated by the semi-circular Pergola to the south. The cross-axis runs through the length of the interior pool and forms the entrances and exits to the two glasshouses. The Temperate House has another entry/exit to the complex on this axis. The predominant materials are red bricks with plaster accents, timber beams, rafters, and purlins. The two glasshouses have steel-framed vaulted glass roofs topped by elongated glass lanterns. The complex is surprisingly large – about 70 metres wide and 90 metres deep. The Winter Gardens glasshouses follow a tradition of iron or steel-structured glasshouses dating back to Joseph Paxton's Chatsworth Conservatory in 1837–40, followed after a few years by Richard Turner and Decimus Burton's Palm Stove at Kew.²⁴ According to Nicholas Pevsner, this typology became synonymous with large exhibition buildings in Europe, culminating

with the design of the Galerie du Machines designed by Ferdinand Dutert and Victor Contemin.²⁵ Perhaps the decision to design glasshouses as part of the memorial to the Auckland Exhibition was more than a functional one for Gummer – it is likely that he associated the glasshouse typology with large exhibition buildings, so the architectural character of an exhibition was carried through as well.

Design Influences

Gummer's most significant design influence can be traced back to the Royal Academy of Arts in London. This education instilled in Gummer an appreciation for a traditional design approach, which he summarised in his 1914 address to first-year students titled "The Study of Architecture."²⁶ In this address, Gummer emphasised the importance of functional considerations in building design, and understanding the characteristics and limitations of construction materials. In the Winter Gardens this is most seen in the choice of brick piers (to emphasise its compressive qualities), and with the timber beams and rafters to express the tensile quality of wood. The steel trusses in the glasshouses are also very expressive of the structure. In his address, Gummer also emphasised integrating architectural design with the site's natural features. In the Winter Gardens, this is best seen in the conversion of the quarry into a fernery. He urged students to familiarise themselves with the needs and preferences of building users and fully express themselves through mass, line, proportion, light and shade, and scale. At the Royal Academy, these were achieved using the principles of symmetry and axial compositions, a modular approach to design where the Greek and Roman orders influenced a building design's proportions, a comprehensive knowledge of architectural elements, and their incorporation into larger compositions. These design principles are all seen in the Winter Gardens, described in detail below. Gummer was also conscious of the visual impact of structural elements and understood the significance of proportion in infusing buildings with a humane and cheerful character.²⁷ He viewed ornamentation as a way to accentuate the already pleasing proportions of the structure on its façade.²⁸

This section also aims to unpack the assertion that the Winter Gardens were designed in the style of Edwin Lutyns.²⁹ As stated, William Gummer worked

24 Bruce Petry, "The Public Architecture of Gummer and Ford" (Master's thesis, The University of Auckland, 1992), 24.

25 A. B. Moore, "WW1 Corporal William Henry Gummer," Ministry of Defence Service Record, January 28, 1986.

26 Nikolaus Pevsner, *A History of Building Types* (London: Thames and Hudson, 1976), 240, <http://archive.org/details/historyofbuildin0000pevs>

27 Ibid, 248.

28 William Gummer, "The Study of Architecture," *N.Z. Building Progress* X, no. 9 (May 1915): 293–298.

29 Cameron Moore and Milica Mađanović, "The Design of the Dilworth Building," *Asylum* 1 (2022): 264–273, <https://doi.org/10.34074/aslm.2022102>

30 William Gummer, "Bridge Architecture," *N.Z.I.A. Journal* (October 1929): 88–95.

31 "Auckland Domain Wintergardens," New Zealand Gardens Trust, accessed July 28, 2023, <https://www.gardens.org.nz/visit/auckland-domain-wintergardens>

- planting
- water

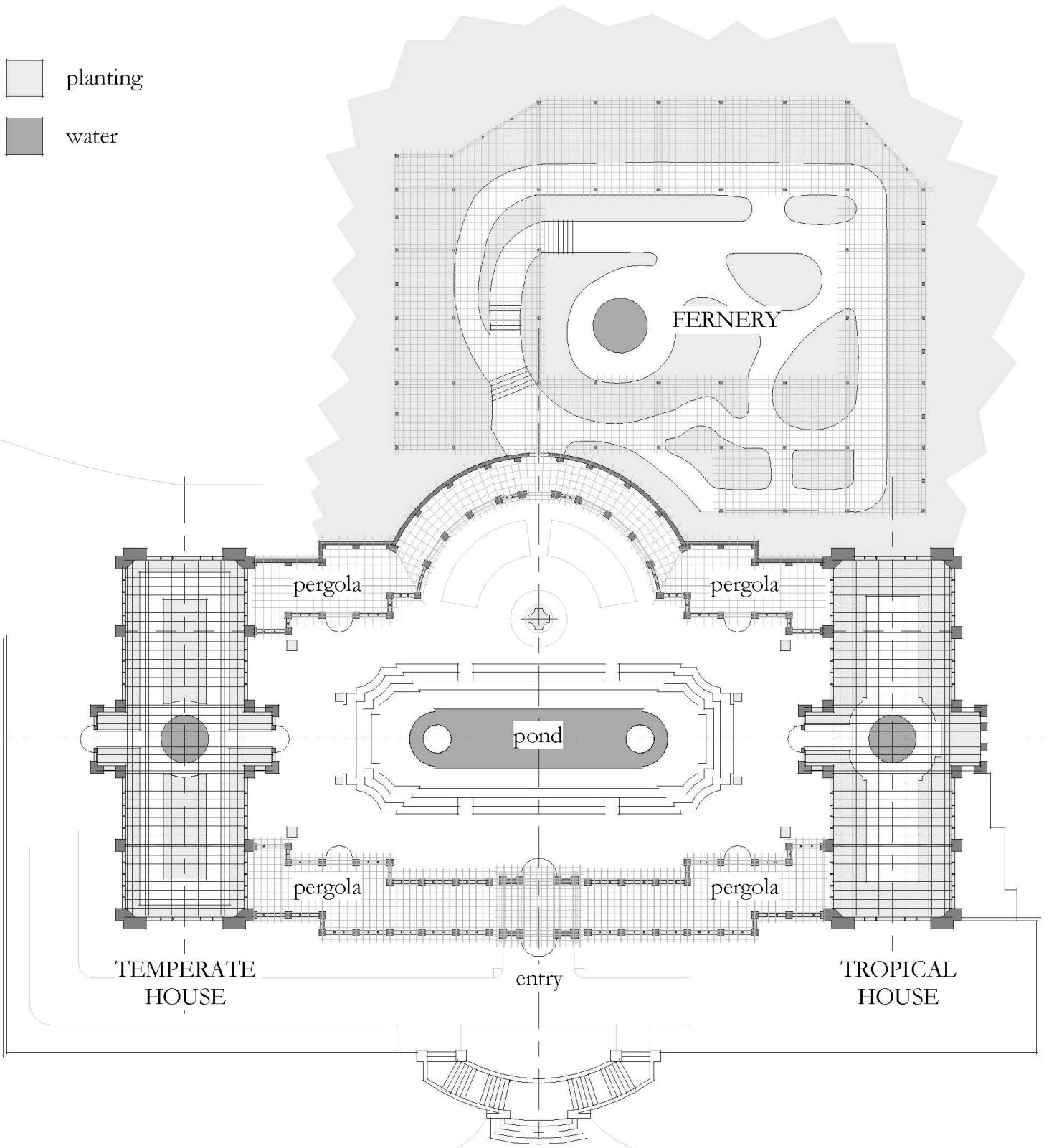


Figure 6. Plan of the Winter Gardens Complex. Image by the author.



Figure 7. (A) View from inside the Pergola.



(B) View of the Fernery. Photos: Cameron Moore.

in Lutyens' office for eight and a half months in 1911 as a student at the Royal Academy of Arts. According to Gummer's diaries, he worked primarily on the early sketch designs for Castle Drogo (it wasn't completed for another twenty years, bearing little resemblance to the first sketch designs³⁰) and the private residence, *Salutation*, at Sandwich.³¹ Gummer enjoyed working in Lutyens' office, writing in his diary, "a pleasure to work there, they are such decent chaps."³²

Lutyens' influence on the Winter Gardens can be found in Allan Greenberg's analysis of Lutyens' architecture in his article "Lutyens' Architecture Restudied." From an analysis of five of Lutyens' house designs (from 1903 to 1911, which overlaps Gummer's time in his office), Greenberg discovered four characteristics that apply to "almost all of Lutyens' houses"³³ and can be seen in the design of the Winter Gardens:

1. A square or H plan that emphasises symmetry in the massing, windows and other elements.
2. Crossing the principal axes is impossible – they are blocked with solid walls or voids.
3. The circulation systems in the houses are displaced off the principal axes.
4. The intricacy of the plan is not expressed in the houses' façades.

Greenberg posits that these four characteristics make up a basic design structure that sheds light on Lutyens's architectural thinking, which can be summed up in "movement, accommodation, and paradox,"³⁵ which can be found in Gummer's Winter Gardens.

Movement

Edwin Lutyens was interested in movement through a sequence of separate and distinct spaces, where the variation compels the visitor to move through the building. The compulsion to move through the complex is heightened by a sense of exploration that derives from providing a choice of movements through spaces that have a wide variation in geometric form with changes in the volume, shape, light intensity and, in the Winter Gardens case, a noticeable difference in the temperature between the spaces. At the top of the stairs before the entry, the long, narrow open space is framed by the tree line on one side, and the Pergola on the other. The path transitions into another long, narrow, darker enclosed space formed by the Pergola. This then transitions into an ample sunny central open space visually anchored by the symmetrical glasshouses on either side. Visitors who follow the cross-axis into the buildings find themselves in the barrel-vaulted interior space with exposed steel trusses under a glass roof. Suppose the visitor re-orientates back to the primary axis of the complex. In that case, the entry to

32 Peter Inskip, *Edwin Lutyens*, ed. David Dunster, 2nd ed. (London: Academy Editions / St. Martin's Press, 1980), 88.

33 William Gummer, "Diary Book 8," December 22, 1910.

34 Ibid.

35 Allan Greenberg, "Lutyens' Architecture Restudied," *Perspecta* 12 (1969): 129–152, <https://doi.org/10.2307/1566962>

36 Ibid, 130.

37 Ibid.

the fernery is found on the axis, denoted by the semi-circular Pergola, directly opposite the freestanding pillar marking the centre point for the Pergola's curve. The Fernery differs vastly from the main space. Its character is determined by the naturalness of the substantial slope and the shade formed by the Pergola overhead, in direct contrast with the strict symmetry of the rest of the complex. There are also various choices in circulation, with the upper paths enclosed, getting more exposed as the visitor descends. Lutyens also emphasised the thresholds between the spaces and the joints in the circulation. In the Winter Gardens, these thresholds are always highlighted by a single semi-circular step and, in the case of the glass-houses, double doors as well.

Accommodation

As defined by Allan Greenberg, accommodation is "the expanding of an idea or principle to relate to something outside its own nature without completely compromising its integrity."³⁶ In the Winter Gardens, this is found in the ubiquitous brick piers. These are the primary compositional elements in the Winter Gardens, determining the proportional relationship and visual coherence for the entire complex.

The first impression is that these piers are simple brick structures designed to enclose the outdoor

space and provide a pleasant environment to enjoy the gardens cost effectively. On further analysis, these piers were carefully designed along the strict proportions of Palladio's Ionic order. The plaster base of the pier is directly proportional to the base of the column, and the plaster facing at the top of the pier is directly proportional to the column's capital (Figure 4). One can also see abstracted square volutes on Gummer's piers, echoing the Ionic order. The beams and rafters of the Pergola are directly proportional to the entablature of the Ionic order without the cornice. The thickness of the Ionic pedestal directly determines the thickness of the piers. Furthermore, the piers are placed exactly four intercolumniations apart – as far apart as intercolumniations should go, according to Vitruvius,³⁷ and a proportion Gummer had used before on the Guardian Trust Building and later in the Mayfair Flats in Auckland. Gummer reproduced canonical Ionic colonnades for a fraction of the cost with brick piers and a timber entablature, and arguably designed a space that, because of the roughness and naturalness of timber and brick (compared to finely chiselled stone), led to a more successful combination with the garden's planting. He also made the most of the more flexible shape (the square, as opposed to the rounded column with entasis) to produce several variations to suit the many junctions and to emphasise the many thresholds.

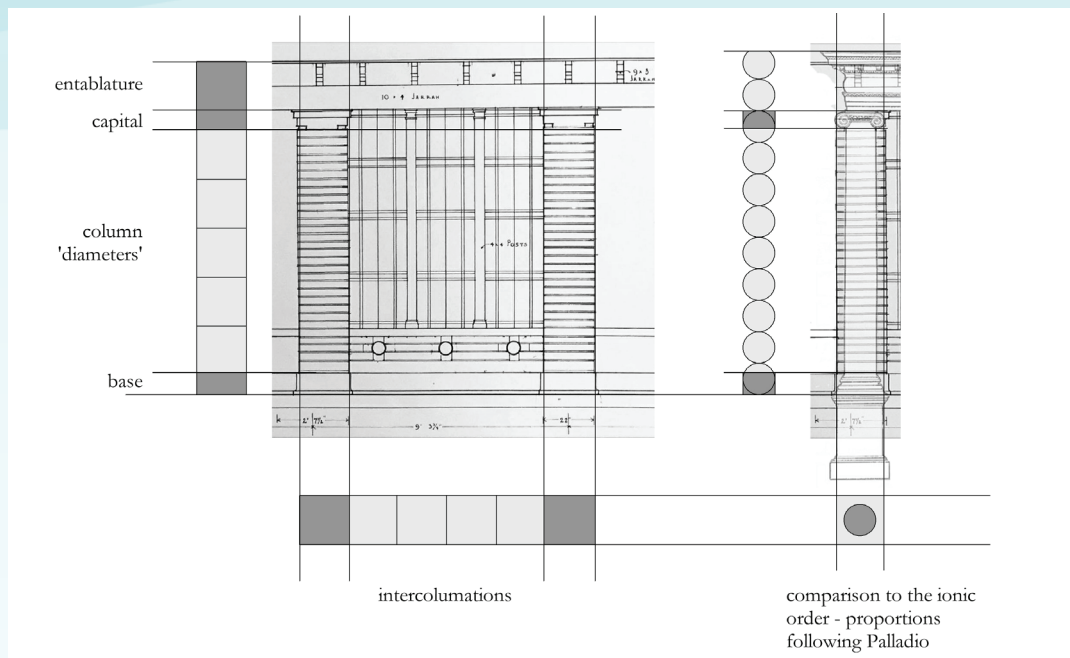


Figure 8. Proportional relationship of the brick piers and the Ionic order. Analysis by the author.

38 Ibid, 132.

39 Colen Campbell, *Vitruvius Britannicus, or, The British Architect: Containing the Plans, Elevations, and Sections of the Regular Buildings, Both Publick and Private, in Great Britain, with Variety of New Designs ...* (London: Printed and sold by the author ..., Andrew Bell ..., W. Taylor ..., Henry Clements ..., and Jos. Smith ..., 1715), http://archive.org/details/gri_33125008447589

The brick piers also determine the composition of the glasshouses. There are five bays; the entrance is in the central bay (as is traditional), framed by two piers superimposed on each side. The corners also have wider piers to suggest structural stability. Gummer plays Lutyens’s ‘high game’ where the wall meets the roof. Unconventionally, the piers are topped with an abstracted single plaster Ionic volute turned 90 degrees to resemble an upside-down corbel. The entablature hides the concrete beam that supports the steel trusses and, in a very original move, runs behind the capital.

Paradox

As in Lutyens’s architecture, paradox can be found in the movement through the complex that becomes dislocated from the principal axes. In the Winter Gardens, one is immediately forced off the central axis on the main entry stair and re-enters the complex on the primary axis. The semi-circular Pergola and the free-standing pillar emphasise this axis. Still, the line of movement is dislocated by the lily pond, compelling a visitor to move around these elements.

Contributing to this is the compulsion to walk down the Pergola on each side of the mini cross-axis upon entry, not to walk down the central axis at all. When the visitor re-orientates to the main cross-axis to view the glasshouses from the front, the occupation of the cross-axis inside the glasshouse is again blocked, this time by the ponds inside the glasshouses.

Elements

The architecture is complemented by a selection of stone statues donated mainly by George Elliot in the 1940s. Along with the outdoor pots, they are carefully arranged to accentuate the architectural elements – for example, at the corners of the pond area – and terminate the sub-axes created by the Pergola thresholds. The cat atop the central pillar has received some attention regarding its origins. Perhaps the most compelling reason for the cat comes from Kieran Shanahan, who guessed that Gummer put it there there “to lighten up the atmosphere of the gardens – to encourage children to paddle in the pond and enjoy the space ... It was, after all, a place designed to be enjoyed by the people of Auckland.”³⁸



Figure 9. The many variations of the brick pier module in the Winter Gardens. Photos: Cameron Moore.

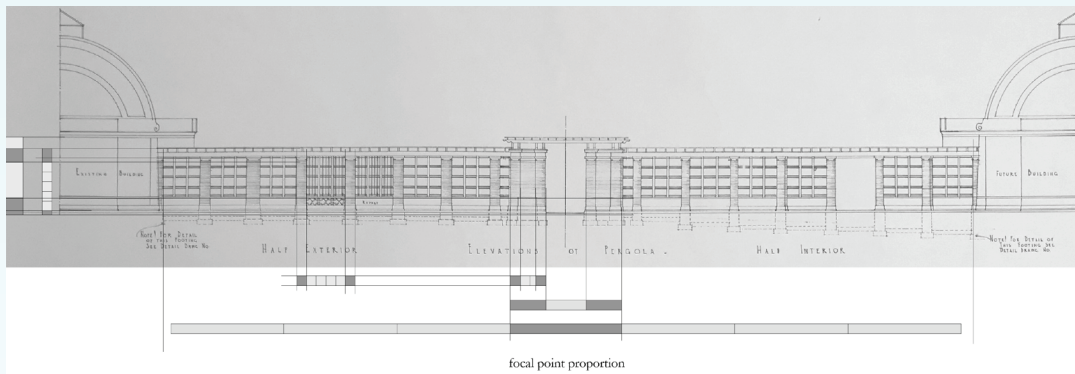


Figure 10. Diagram showing the proportions of the Pergola. Diagram by author, drawings from the Gummer & Ford Collection, GF33, Architecture Archive, Libraries and Learning Services, The University of Auckland.

40 Kieran Shanahan, “The Work of William H. Gummer, Architect” (Bachelor’s thesis, The University of Auckland, 1983), 270.

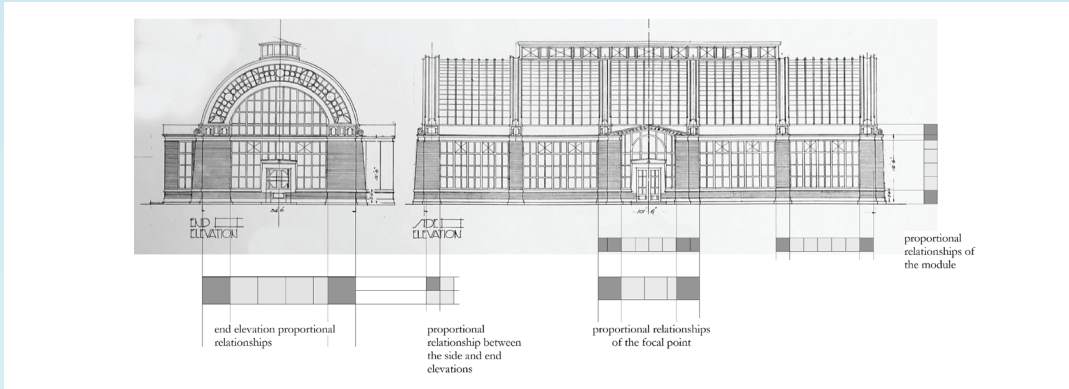


Figure 11. Diagram showing the proportional relationships in the façades of the glasshouses. Diagram by author, drawings from the Gummer & Ford Collection, GF33, Architecture Archive, Libraries and Learning Services, The University of Auckland.



Figure 12. Glasshouse façade. Photo: Cameron Moore.



Figure 13. View along the central axis from the entry. Photo: Cameron Moore.



Figure 14. Some architectural elements of the Winter Gardens. Photos: Cameron Moore.

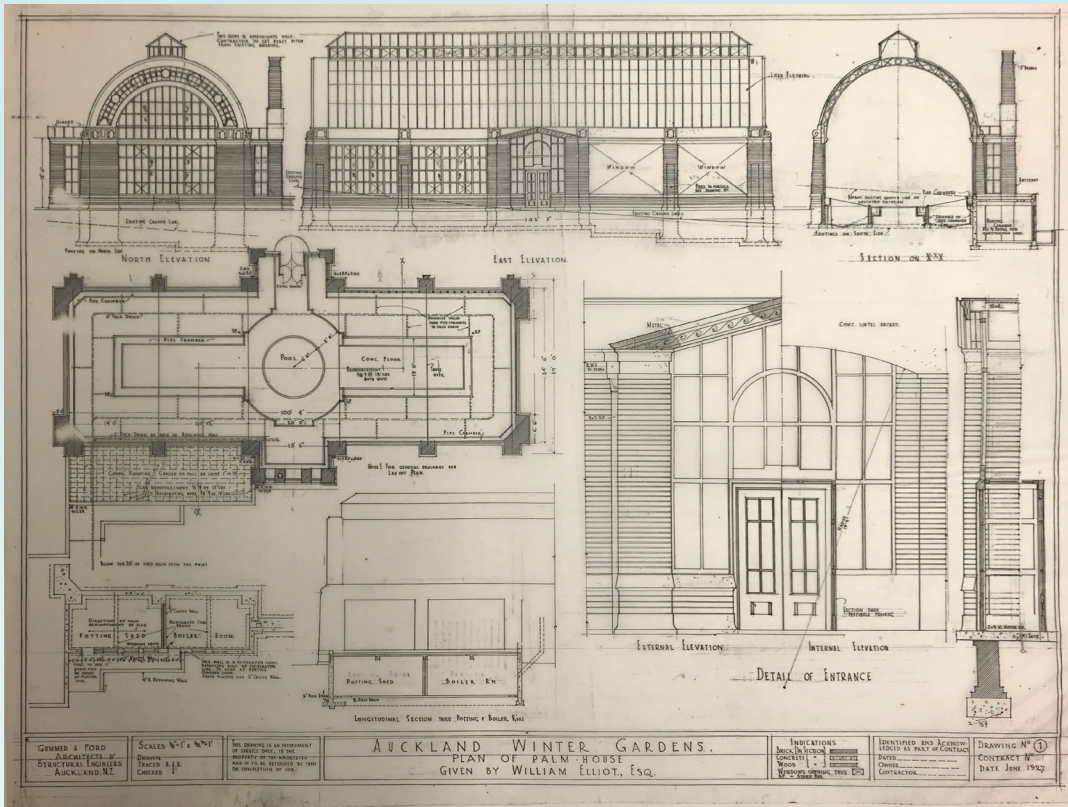


Figure 15. Auckland Winter Gardens, Plan of Palm House 1927. Drawings from the Gummer & Ford Collection, GF33, Architecture Archive, Libraries and Learning Services, The University of Auckland.

Technical Appreciation

In *Home*, architectural historian Linda Tyler calls the consistent temperature of the Tropical House ‘miraculous’, as Gummer was able to balance the heat from the sun, the underfloor heating, and the humidity caused by the watering system and plants with the ventilation encouraged by having opening

windows in the lantern.³⁹ The use of steel for the barrel vault structure was innovative (for New Zealand) and perhaps served as a precursor for the Guardian Trust Building, also designed by William Gummer on Auckland’s Queen Street, completed in 1917.⁴⁰

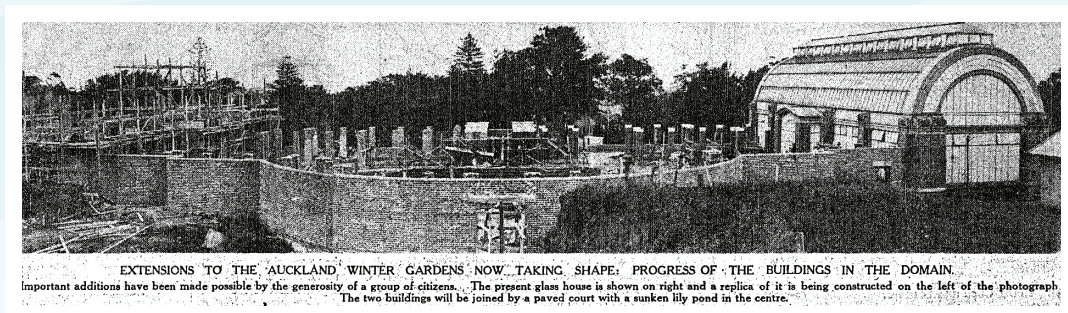


Figure 16. “Extensions to the Auckland Winter Gardens Now Taking Shape. Progress of the Building in the Domain,” *New Zealand Herald* LXIV, no. 19791, November 11, 1927, 8.

41 Linda Tyler, “Why Auckland’s Wintergardens Are an Example of Innovative Architecture,” *Home*, September 24, 2019, <https://homemagazine.nz/aucklands-wintergardens-are-an-example-of-innovative-architecture/>
 42 Milica Madanović, Cameron Moore, and Renata Jadresin Milic, “The Role of Architectural History Research: Auckland’s NZI Building as William Gummer’s Attempt at Humanity,” in *Proceedings of the Society of Architectural Historians, Australia and New Zealand: 38. ULTRA: Positions and Polarities Beyond Crisis*, Adelaide, Australia, 2021, 533–543, <https://doi.org/10.55939/a4007piywz>

Construction

The Winter Gardens were completed in two parts. Initially, the surplus funds from the Auckland Exhibition meant that only the Temperate House was built and opened to the public, on 12 October 1921.⁴¹ The Tropical House, Pergola, and Lily Pond were completed in 1928, after George Elliot led a fundraising effort to gift the remainder of the complex to the people of Auckland.⁴² In the spirit of the development, Fletcher completed the construction for the cost of the materials only – the labour was donated,⁴³ and Gummer and Ford charged only £100 to cover the drafting and overhead charges instead of the usual fee of about £2,500.⁴⁴ Unfortunately, the construction of the Tropical House, Lily Pond, and Pergolas in 1927–28 displaced thirteen tuberculosis shelters constructed in 1920.⁴⁵ The inhabitants were relocated to a more sheltered site elsewhere in the Domain.⁴⁶

Conclusion

The Winter Gardens project began as merely a way for Auckland City Council to spend the surplus funds from the Auckland Industrial, Agricultural and Mining Exhibition of 1913–14. William Gummer took the opportunity to design a memorial to the exhibition (without compensation) that he knew would far exceed the budget. Still, the quality of his design, an imaginative reinterpretation of an Ionic colonnade linking barrel-vaulted glasshouses, inspired Auckland's business community to raise enough money to complete the project. The contractor, Fletcher, also contributed significantly to it. Altruism was the primary motivating factor for everyone involved in the fundraising for, designing and building of the Winter Gardens. The goal was to leave a lasting memorial of the Auckland Exhibition to benefit the people of Auckland, and what resulted was a well-patronised civic space, even though the Auckland Exhibition has long been forgotten. This altruism shown in its inception and construction is still felt today, where anyone can come and enjoy the Winter Gardens without commercial expectation.

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43 "Domain Improvements," *New Zealand Herald*, October 12, 1921, <https://paperspast.natlib.govt.nz/newspapers/NZH19211012.2.28>

44 "Gift to Auckland."

45 Smith, *No Job Too Big*, 102

46 "City Management."

47 "Exit T. B. Shelters," *Auckland Star*, July 8, 1927, <https://paperspast.natlib.govt.nz/newspapers/AS19270708.2.129>

48 "New Site Chosen for T. B. Shelters," *Sun (Auckland)*, August 2, 1927, <https://paperspast.natlib.govt.nz/newspapers/SUNAK19270802.2.4>

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Our 77th Competition.

We offer a prize of £100 for the design adjudged the best for

AN ART GALLERY

required for a country town to which has been bequeathed a small number of pictures and a few pieces of sculpture collected in Italy by the testator, at one time resident in the town. A sum of money has also been left for the erection of the gallery, which under the terms of the will is to be designed in the Italian style. The amount at the disposal of the trustees will permit the building to be erected of stone and to be appropriately finished throughout. A brief inscription indicating that the gallery is the gift of John Markham is to be introduced into the design.

Accommodation required: Two galleries, each approximately 1,000 square feet; hall, approximately 300 square feet; vestibule and loggia, sizes at discretion of competitor.

Drawings to be on Whatman paper, Imperial size, in Indian ink only, and to comprise plan, section, elevation. Optional: Half-inch detail of exterior or interior feature.

Mr. C. Reginald Ford, of Wanganui, has kindly set this subject.

Designs must be sent in finished as above under a non-de-plume, addressed to the Editor "N.Z. Building Progress," 22 Wingfield Street, Wellington, and clearly marked "Seventy-seventh" Competition on outside, with a covering letter giving competitor's name, and address of employer. Designs must be sent in by July 27th, 1921.

EMBRACING TRADITION

CLASSICAL STUDIO IN 2022

CAMERON MOORE

<https://doi.org/10.34074/aslm.2023204>

Abstract

The year 2022 saw the return of Classical Studio within the Unitec | Te Pūkenga School of Architecture after a ten-year hiatus. In Classical Studio, the goal isn't necessarily to teach how to design a classical building, but to give third- and fourth-year students a deeper understanding of proportional and compositional principles, and a way to generate and evaluate with traditional design methodology.

This time the studio was offered to second-year students, presenting new pedagogical opportunities. The criteria for the second-year studio are outlined, as well as how a classical approach to architectural design is aligned with these criteria.

The brief was found in a 101-year-old issue of *N.Z. Building Progress*, in an architectural competition conceived and judged by Reginald Ford, the founding member of Gummer and Ford, perhaps New Zealand's most influential architectural practice.

In a departure from the traditional Unitec Classical Studio, the students were required to present their final designs with CAD instead of watercolour, the opportunities and challenges of which are discussed.

This article explains the design process behind the studio, how the brief was interrogated and developed, and what steps the students took to learn how to design a classical building. But more importantly, what lessons were learned from following this process, and how a sampling of classical instruction can fit into a modern architectural education.

Keywords: Architectural design studio, Classical Studio, William Gummer, Reginald Ford, architectural education, classical design

Introduction

It had been ten years since the last Classical Studio was run at Unitec's School of Architecture. Until 2012, under the tutelage of Professor Branko Mitrovic (who left at the end of 2013), third- and fourth-year students were offered the chance to design within a classical paradigm, learning the classical language and design principles. It was the only architecture school in Aotearoa New Zealand that ever provided such a thing. Learning to soak and stretch the paper to apply watercolour washes over beautiful, manually drafted elevations and sections was a memorable highlight of the quarter. The Classical Studio supplemented the students' usual Design Studio curriculum by prioritising compositional rigour and reliance on formal precedent far more than their regular design studios did. The goal wasn't necessarily how to design a classical building, but to give the students a deeper understanding of proportional and compositional principles, and a way to generate and evaluate their work with an iterative design methodology.¹ Unitec even produced a publication about it in 2003.²

The year 2022 saw a return to Classical Studio, with fifteen second-year students volunteering to participate in the second semester. The brief was influenced significantly by the course outline of Design Studio 2 (ARCH6112). The purpose of the course is to continue the development of design capabilities through small-scale projects of moderate complexity in two three-hour classes per week. This is assessed in three ways:

- Learning Outcome 1: Resolve elementary functional, constructional, aesthetic, and contextual problems of architectural design.
- Learning Outcome 2: Design residential-scaled buildings of moderate complexity in plan, section, and three-dimensional formats.

1 Cameron Moore, "If You Copy, You Will be Caught and a Mess Will Remain: The Role of Formal Precedent in Design Studio," *Asylum* 1 (2020): 154–163, <https://www.unitec.ac.nz/eypress/wp-content/uploads/2021/03/if-you-copy.pdf>

2 Branko Mitrovic, Rau Hoskins, and Carin Wilson, *Traditional Architecture: Work from the School of Architecture* (Auckland: Unitec School of Architecture, 2003).

- Learning Outcome 3: Employ effective presentation strategies, including 3D digital imaging and advanced virtual modelling techniques in the presentation of project work.³

The brief was also required to follow the course outline: “The course is based on a sequence of typological and thematic design problems of moderate complexity addressing fundamental architectural issues including light, scale, space, site, boundary, and context. Digital instruction: perspective, modelling, photographing physical models, advanced virtual representations.”⁴

This classical design studio is also built on the knowledge base and approach to architectural history in Critical Studies 1, coordinated and taught by Renata Jadresin Milic, which the students had had in the previous year. This architectural history course aimed to “[use] flexible and blended learning techniques to teach architectural history in a way that reinforces the connections between architectural history and problem-solving to inform the student’s design work in studio.”⁵

The Brief

In the April 1921 edition of *N.Z. Building Progress*, a design competition was presented by Reginald Ford (two years later to become the Ford in Gummer and Ford) that required the design of a 300-square-metre art gallery “for a country town which has been bequeathed a small number of pictures and a few pieces of sculpture collected in Italy by the testator, a one-time resident in the town. A sum of money has been left for the erection of a gallery.”⁶ It was to be designed in the ‘Italian style’ and built and appropriately finished throughout in stone. There were to be two art galleries, each approximately 100 square metres, a hall of about 30 square metres, with a vestibule and loggia, the sizes of each “at the discretion of the competitor.”⁷

The Site – 947 New North Road

No site was given in the competition brief, so a nearby site was chosen on Mt Albert’s main street, at 947 New North Road. At 1856 square metres, the area was large enough to accommodate the proposed art gallery and offered opportunities to improve the civic capacity of Mt Albert with the potential for a plaza, park and other amenities consistent with the original brief. The site also demanded that the students respond to the street and sun paths, train tracks,



Figure 2. Auckland Council GIS map showing the site.



Figure 3. Buildings on New North Road, Mt Albert. Photos: Cameron Moore.

3 myCourseDetails, Design Studio 2, Unitec, 2022, 1.

4 myCourseDetails, Design Studio 2, Unitec, 2022 1, 2.

5 Renata Jadresin Milic and Catherine Mitchell, “An Alternative Approach to Teaching Architectural History: Redrawing the Pedagogical Boundaries between Architectural History and Design Studio with Flexible and Blended Methods,” 2021: *ArcheA 103 – Manual of Best Practices for a Blended Flexible Training Activity in Architectural Higher Education* (December 10, 2021): 64–69, <https://doi.org/10.12838/fam/issn2039-0491/n0-2021/821>

6 Reginald Ford, “Our 77th Competition,” *N.Z. Building Progress* XVI, no. 8 (April 1921): 189.

7 Ibid.

pedestrian and cycle pathways, and neighbouring buildings. The area derives most of its character from the traditional, humble building stock that lines the street.

The twelve-week semester was divided into two parts: in the first six weeks (Quarter Three of the year), the students designed the building and its relationship to the context at a 1:100 scale with hand drawing only. The site plan, floor plan, reflected ceiling plans, sections and elevations were all to be developed concurrently by overlaying tracing paper and projecting the drawings onto each other. In the second six weeks (Quarter Four of the year), the students were required to use CAD software to continue the development of their buildings, particularly investigating materiality options and detail design, as well as presenting the building in perspective drawings, developing a fuller relationship to the site.

Quarter Three

The obvious departure from the competition brief was the introduction of the site, so a thorough site analysis, together with the massing of the building from the demands of the brief, was conducted in the first week. To both respond to the site's parameters and to apply classical architectural principles, an

iterative design process was strongly encouraged to allow the students to develop their initial architectural ideas. Because the brief was undemanding in terms of functionality, design emphasis was placed on the composition and sequencing of the spaces, the composition of the façades, and the civic duty of the site and how the building related to its setting. The hand-drawn aspect was important in this early stage, so that the students could more fully understand the relationships between the plans, sections and elevations, and get into a habit of designing by iteration – quickly discarding moves that didn't work by drawing a new plan to match the new section or elevation, and so on. At this stage in the student's development, this intensive hand-drawing process provides the opportunity to help further develop the student's drawing and analytical skills outside the Architectural Representation Stream.

The Organising Principle – Developing the Module

The students were instructed on how to develop a classical module by analysing the classical orders, particularly the difference in the height-to-diameter proportions and the ornamental complexity. Figure 4 shows the proportional differences between the orders by the relative thickness of the column, a far more helpful approach than what is commonly presented for students, where the ceiling height is a design decision.⁸

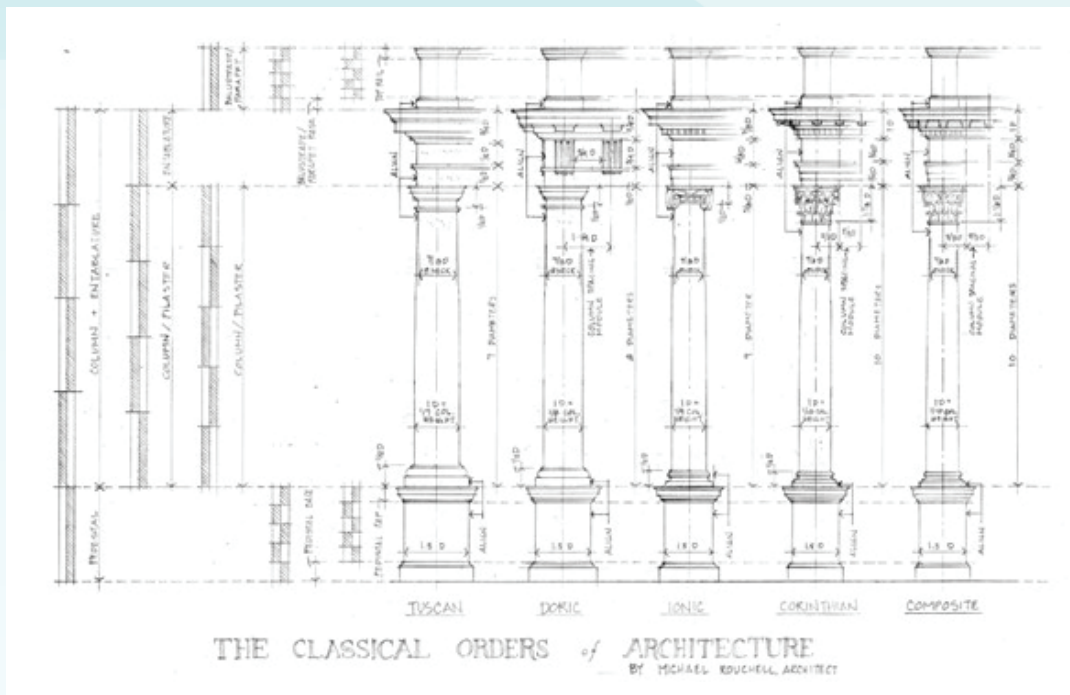


Figure 4: The Classical Orders of Architecture, by Michael Rouchell from W. A. Williams Architects, New Orleans, <https://mrouchell.wordpress.com/2013/03/11/the-classical-orders-a-simplified-approach-and-some-liberties-taken/>.

8 Michael Rouchell, "The Classical Orders – A Simplified Approach and Some Liberties Taken," *Michael Rouchell on Traditional Architecture* (blog), March 11, 2013, <https://mrouchell.wordpress.com/2013/03/11/the-classical-orders-a-simplified-approach-and-some-liberties-taken/>

The students found Jean-Francois Gabriel's *Classical Architecture for the Twenty-First Century*⁹ helpful in understanding the role of the module, and Robert Chitham's *The Classical Orders of Architecture*¹⁰ particularly useful in this stage, especially his work on the development of each of the orders from Vitruvius through the Italian, French, to the English Renaissance.¹¹

This more granular understanding of the orders and their canonisation than is taught in architectural history gave the students a better understanding of the flexibility and adaptability of the classical language. This notion was driven home when intercolumniation (how far apart the columns are) was discussed regarding the functionality (potential for access and light), the size and shape of the interior spaces and ceiling heights as part of developing the module. The students quickly realised that the openings between the columns determined the building's height, length and width, thus determining the building's primary proportional relationship.

Once developed, the module became the primary organising principle for the building in terms of plan, section and elevation, ready for the next step.

Axial and Spatial Design

The first design move was for the students to set up a central axis derived from points of interest or pedestrian movements observed in the site analysis. The building's axes determine how the visitor is oriented in the space, what they see and where – it's the architect's responsibility to control the visitor's spatial experience. The spaces were required to be well defined and considered three-dimensional shapes. A ceiling plan was a crucial tool to properly consider and define each internal space¹² and its character (form, light and materiality), design the thresholds between the spaces, and give a pleasing sequencing of spaces along the axes for the visitor.

Façade Composition

According to architectural theorist John Van Pelt, "The word 'composition' is the art of forming a whole by uniting different parts." The nature of the brief (one level and three main rooms, two of which were not required to have windows) and a commitment to axial planning meant that the composition of the façade and its integration with the plan and section wasn't very complex. The character, placement and size of the façade's focal point seemed a reasonably obvious decision for many students and very much precedent driven (see following section). However, substantial effort was directed toward placing and

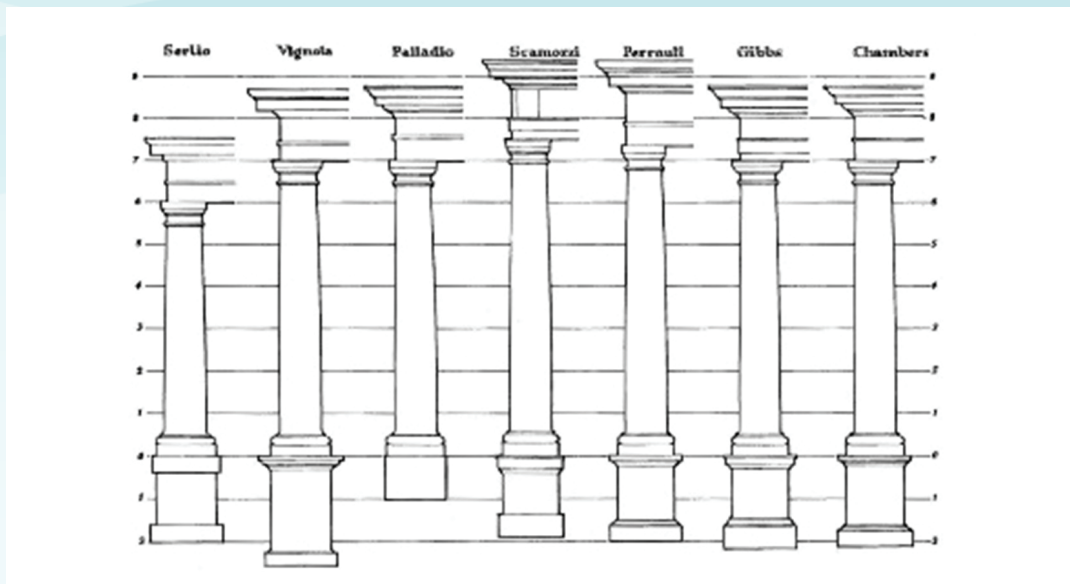


Figure 5. Comparative Tuscan Orders, Robert Chitham, *The Classical Orders of Architecture, Second Edition* (Amsterdam: Architectural Press, 2005), 29.

9 Jean-François Gabriel, *Classical Architecture for the Twenty-First Century: An Introduction to Design* (New York: W. W. Norton & Co, 2004).

10 Robert Chitham, *The Classical Orders of Architecture*, 2nd ed. (Amsterdam: Architectural Press, 2005).

11 Ibid.

12 Nathaniel Cortlandt Curtis, *Architectural Composition* (J. H. Jensen, 1935).

13 John Vredenburg Van Pelt, *The Essentials of Composition as Applied to Art* (New York: The Macmillan Company, 1913), <http://archive.org/details/essentialscompo00goog>

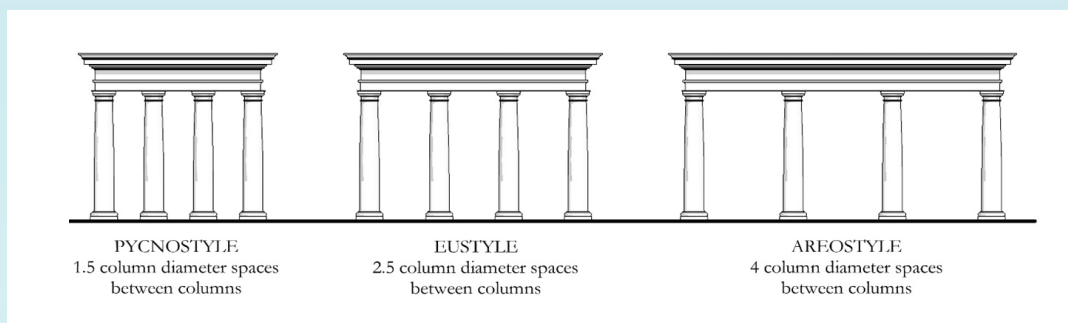


Figure 6. Intercolumniations from Vitruvius. Diagram by author. Note that one can always find satisfactory precedence for intercolumniations between 1.5 and 4 in the canon.

integrating secondary elements into the composition and deciding how to design the windows and doors, niches, plaques, entablatures, the prominence of the roof, string courses, etc. It was pleasing to see the students freely (but perhaps more accurately, naively) engaging in what Edwin Lutyens called the ‘high game’, re-interpreting traditional architectural elements in new ways to achieve compositional balance or contrast.

The iterative process was followed – changes in the floor and ceiling plans led to changes in the sections, elevations, and so on, all explored in pencil and pen on sheets of butter paper. The study of precedents was the primary way students answered the first design problem of spanning the spaces, for example, the structural strategy beam and lintel or arches. If arches, how are they formed? How does this structural system then affect the character of the building? Does this work with the broader site context? How does the arch affect the smaller architectural elements like doors, windows and niches? Do these now fit the desired general expression or character of the building?

Using Precedents as Design Guidance

To answer these design problems, precedents were studied in three ways:

1. Theoretical works such as Andrea Palladio’s *The Four Books of Architecture*,¹⁴ Giacomo da Vignola’s

*The Five Orders of Architecture*¹⁵ and Robert Chitham’s *The Classical Orders of Architecture*.¹⁶ These books gave the students design information and inspiration, helping the students become accustomed to the classical language and usage on a general level, such as how to design the column and entablature.

2. Architectural textbooks from the twentieth century, such as *Architectural Composition* by Nathaniel Curtis,¹⁷ *The Essentials of Composition* by John Vredenburg¹⁸ Van Pelt, *Classical Architecture for the Twenty-First Century* by Jean-François Gabriel,¹⁹ *Learning from Palladio* by Branko Mitrovic,²⁰ and *Classical Architecture: A Complete Handbook* by Robert Adam,²¹ were very helpful with specific architectural problems that the students faced, such as how to design a balustrade, or window, or how to define the relationship between a barrier and a column.

3. A study of buildings from architectural monographs such as *The Architecture of McKim, Mead & White in Photographs, Plans and Elevations*,²² *Palladio* by Manfred Wundram et al.,²³ and *Vitruvius Britannicus* by Colen Campbell,²⁴ among many others. Google searches and library visits were also an integral and continual part of the design process. New Zealand architects William Gummer, Cecil Wood, George Grey Young, and Grierson, Amir and Draffin, and their works, were also presented and discussed. In studying

14 Andrea Palladio and Adolf K. Placzek, *The Four Books of Architecture* (New York: Dover Publications, 1965).

15 Vignola, *The Five Orders of Architecture*, trans. Tommaso Juglaris and Warren S. Locke (Boston: Press of Berwick & Smith, 1889), <http://archive.org/details/fiveordersofarch00vign>

16 Chitham, *The Classical Orders of Architecture*.

17 Curtis, *Architectural Composition*.

18 Van Pelt, *The Essentials of Composition as Applied to Art*.

19 Gabriel, *Classical Architecture for the Twenty-First Century*.

20 Branko Mitrovic, *Learning from Palladio* (New York: W. W. Norton & Company, 2004).

21 Robert Adam, *Classical Architecture: A Complete Handbook* (London: Viking, 1990).

22 McKim, Mead, and White, *The Architecture of McKim, Mead & White in Photographs, Plans and Elevations* (New York: Dover Publications, 1990).

23 Manfred Wundram, *Palladio* (Cologne: Taschen, 2009).

24 Colen Campbell, *Vitruvius Britannicus, or, The British Architect: Containing the Plans, Elevations, and Sections of the Regular Buildings, Both Publick and Private, in Great Britain, with Variety of New Designs ...* (London: Printed and sold by the author ..., Andrew Bell ..., W. Taylor ..., Henry Clements ..., and Jos. Smith ..., 1715), http://archive.org/details/gri_33125008447589

the precedents, the students were encouraged to find and analyse floor and ceiling designs and thresholds to emphasise the quality and sequencing of spaces and how light will play in the internal composition. Designing the ceiling in reflected ceiling plans was new to the students, but a crucial tool to properly consider and define each interior space.²⁵ As the students were exposed to more examples, more ideas flowed, and understanding the inherent hierarchy of elements became an essential learning experience. Quick and constant production was encouraged until the student adequately responded to each compositional challenge. All iterative work at this stage was encouraged to be done on a 1:200 scale – the harmony, contrast and proportions of the building and main elements can be seen and managed easily without the student getting lost in the ornamental detail that at a larger scale will automatically become part of the design.

Lessons from William Gummer

At the three-week mark, the two winning entries from the *N.Z. Building Progress* competition were presented to the students and discussed at length. The judge for the original competition in 1921 was William Gummer. Born in Auckland in 1884, he is widely recognised as one of New Zealand's leading architects of the twentieth century. In 1923, along

with Reginald Ford (the writer of this competition), he formed Gummer and Ford. This firm is regarded as one of the twentieth century's most successful and influential New Zealand architecture firms.²⁶

Gummer wrote an extensive evaluation in the October 1921 edition of *N.Z. Building Progress*, offering practical advice on specific elements of the designs that were very helpful to our students. This presentation and critique of the 101-year-old work acted like a crit half-way through the quarter.

Gummer had devised a grading system for the competition, in which he ranked each entry on a scale of one to ten in four categories: Plans, Sections, Elevations and General Expression. The Plans and Sections “were marked for the manner in which the plans met the requirements of gallery design and accessories.” The Elevations were graded “in the abstract, that is, for such matters as proportion, massing, light and shade, and knowledge of architectural forms and their uses.” General Expression was judged “on the way the whole structure expressed its purpose as a gallery for pictures and sculpture and also met the important requirement of the programme that it should be designed in the Italian style.”

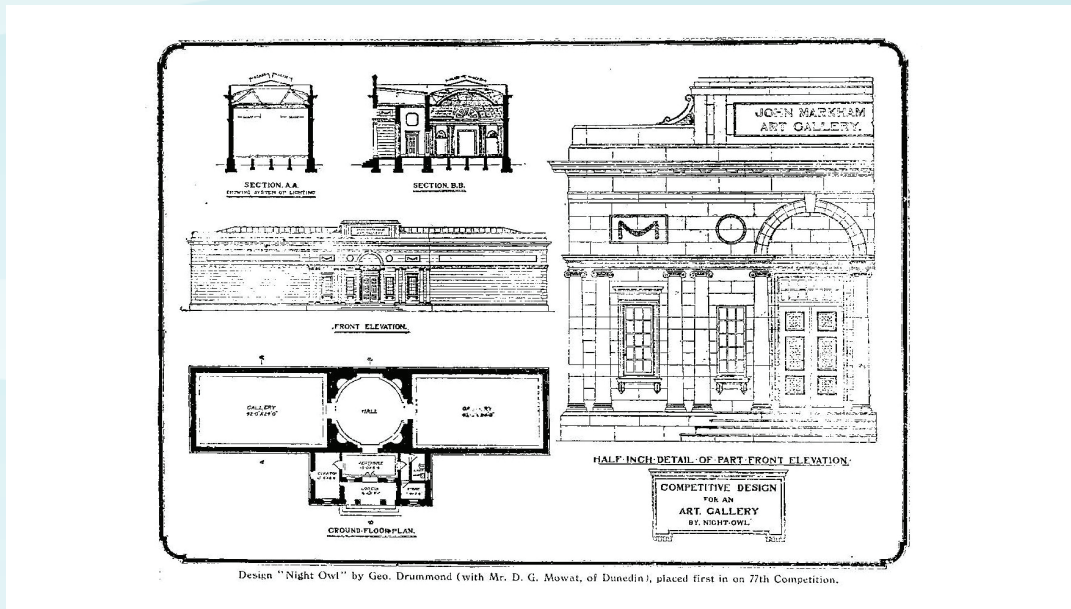


Figure 7. “Night Owl” by George Drummond, “Our 77th Competition,” *N.Z. Building Progress* XVII, no. 2 (October 1921): 36.

25 Curtis, *Architectural Composition*.

26 See, for example: Terence Hodgson, *Looking at the Architecture of New Zealand* (Wellington: Grantham House, 1990), 48; Bruce Petry, “The Public Architecture of Gummer and Ford” (MArch thesis, University of Auckland, 1992); Peter Shaw, *A History of New Zealand Architecture*, rev. ed. (Auckland: Hodder Moe Beckett, 2003), 19, 67, 88, 90, 111–15, 146, 197; Paul Waite, *In the Beaux-Arts Tradition. William Gummer Architect*. Exhibition catalogue (Napier, New Zealand: Hawke’s Bay Cultural Trust, 2005); Denis Welch, writing for the *New Zealand Listener* the following year, described the firm as “the best architectural practice of all time in New Zealand.” Denis Welch, “The Best of New Zealand,” *New Zealand Listener*, August 4, 2007.

“Night Owl” received the highest marks with 30/40. Gummer noted the efficient organisation, the pleasing shape of the galleries that are “nicely proportioned for the purposes of displaying pictures, the distinctly oblong shapes providing the long and short distances which are necessary for viewing various types of pictures”²⁷ In the section, Gummer noted the reasonable spaces but suggested that the wall treatment in the hall could continue into the galleries because “it is by such means the coherency and unity of design is expressed.”²⁸ The elevation let the entry down with its “lack of appreciation of horizontal subdivision.”²⁹ The entablature is out of proportion with the columns, which gives “an uneasy feeling of weight in the upper part of his façade.” Additionally, the way the skylight meets the entablature is “crude,” and the pilasters were drawn incorrectly, giving the impression that they were columns.

The “Italia” entry won second place with 28/40, mainly on the strength of its façade, which Gummer praised as the best in the competition. In the sections, Gummer praised the designers on the wall treatment running through the halls and galleries to conserve the alignment through the three main spaces. Gummer wrote nothing positive about the plan, noting the cramped vestibule, the lack of public access to the WC, and the door into the curator’s office on the central axis: “No doors should ever be planned that the public may mistake for entrance doors.”³⁰ He saved his biggest complaint for the design of the galleries, which, as squares, didn’t have the advantages of the short and long view and were too split-up to provide adequate wall space for hanging pictures. He was also unimpressed with the alcoves in the galleries “with detached columns [that] suggest architectural effect only.”³¹

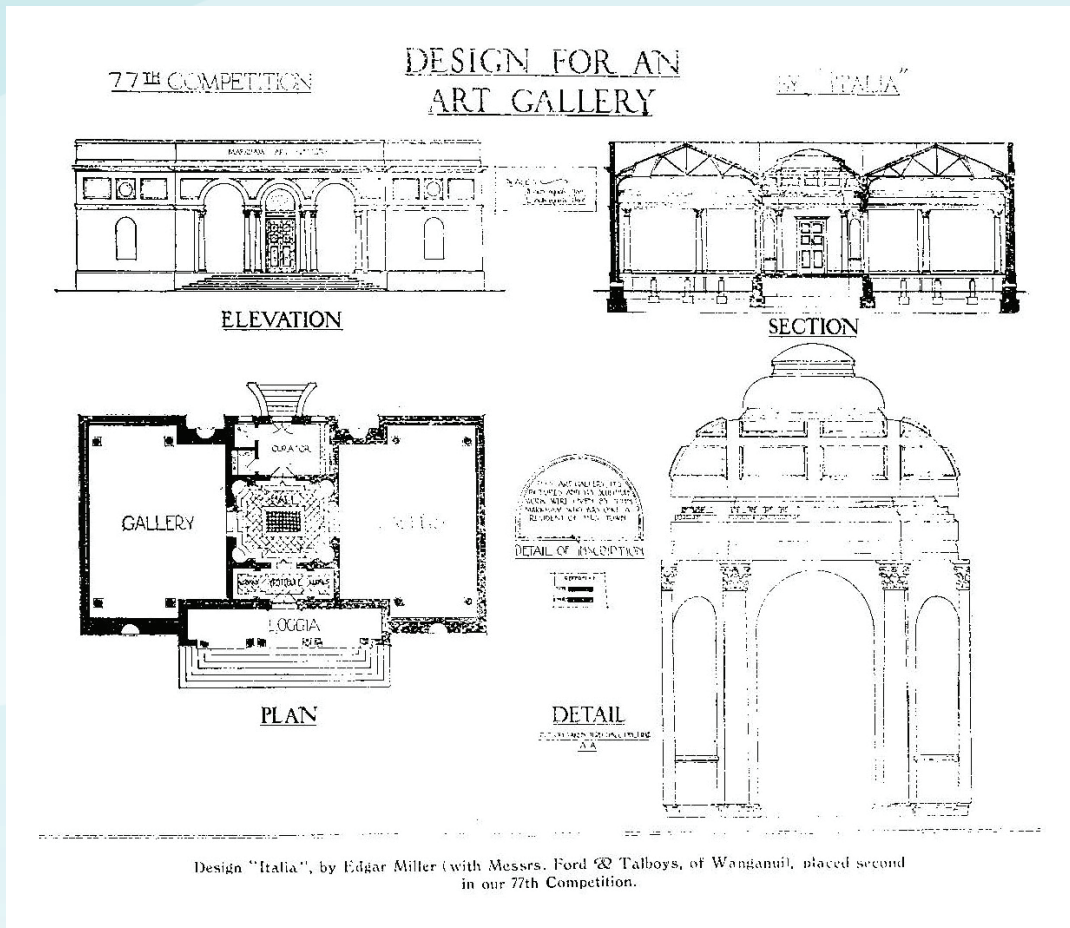


Figure 8. “Italia” by Edgar Millar, “Our 77th Competition,” *N.Z. Building Progress* XVII, no. 2 (October 1921): 36.

27 William Gummer, “Our 77th Competition,” *N.Z. Building Progress* XVII, no. 2 (October 1921): 34–36.

28 *Ibid.*

29 *Ibid.*

30 *Ibid.*

31 *Ibid.*

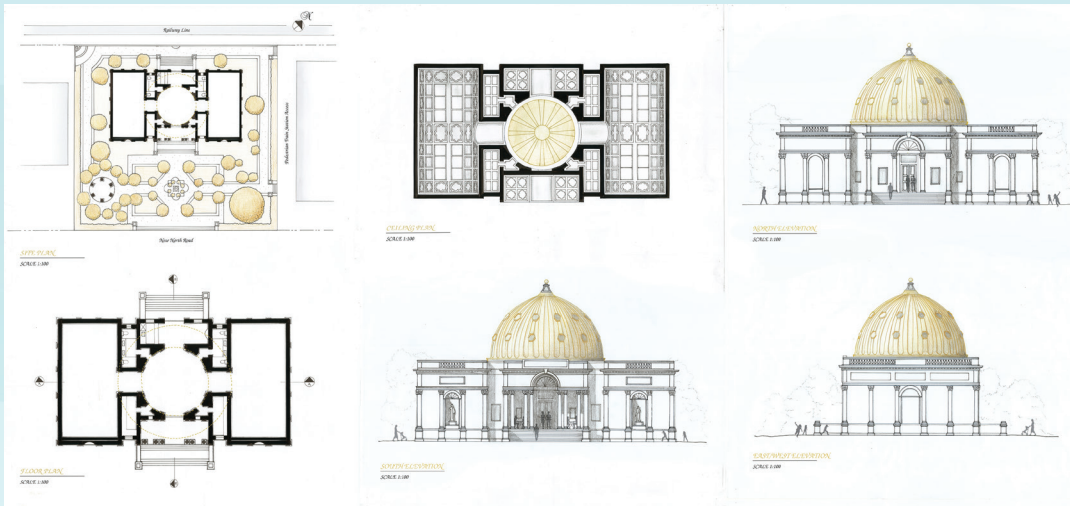


Figure 9. Quarter Three student work by Arlene Sisarich, modelled after McKim, Mead and White, and Christopher Wren.

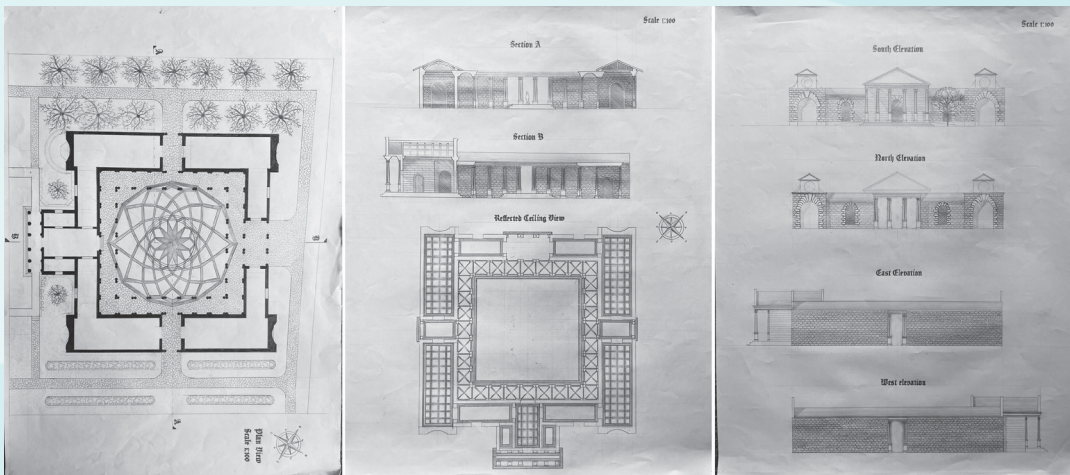


Figure 10. Quarter Three student work by Joshua Latham, modelled loosely after Michelangelo.

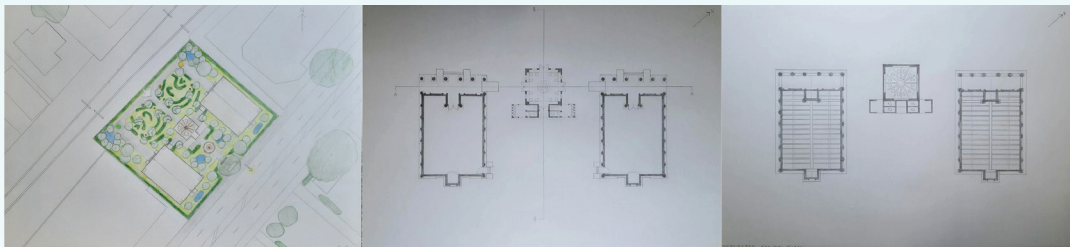


Figure 11: Quarter Three student work by Elise Alexander, modelled loosely after Maison Carrée in Nîmes, France.

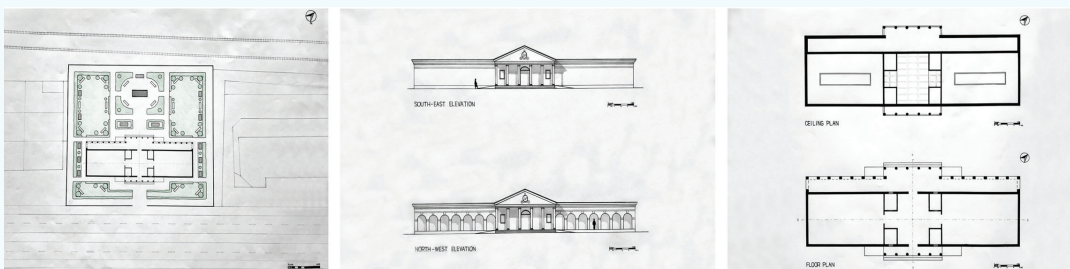


Figure 12: Quarter Three student work by Madison Carkeek, modelled after Palladio's villas.

These specific lessons came at a time when the students were engaging in these exact design decisions about composing façade elements, the shapes of the hall and galleries, and ways to naturally light the interiors of the galleries without compromising on wall space.

Gummer's overall conclusion in *N.Z. Building Progress* was as relevant to the Unitec students now as it was 101 years ago:

The facility for design should be comprehensive: no student should be satisfied with a good elevation and a poor plan or vice versa. The ability to design is not gained in a short time, students should be encouraged to work, and work hard, to master the historic forms of architectural construction and design and to learn architectural drawing, not by trying merely to make pretty patterns on the paper but by realizing the form that is to be expressed ... shadows are sometimes not required in finished drawings, but in process of studying a problem they should be some of the earliest lines on the paper. They may tell some unpleasant truths, but they never lie.³²

A short workshop was held in Week Five on how to draw shadows on the elevations, from *Architectural Shades and Shadows* by Henry McGoodwin.³³

After six weeks, as per the requirements of the competition brief, the students presented their work in site plan, floor and reflected ceiling plan, sections and elevations at 1:100 scale in pen and pencil on vellum paper. A crit was held for 50 percent of the grade, with Unitec architectural history lecturers Jadresin Milic

and Graeme McConchie, and classical architectural practitioner Greg Noble as the guest critic.

Quarter Four

In the fourth quarter, the students continued the iterative design process, allowing them to respond to the feedback from the Quarter Three crit and further develop their concepts with computer-aided design. A benefit of using 3D software is that a building's materiality and colour can be explored at length, ornamentation can be drawn and replicated far more accurately and quickly, light and shadows can be rapidly ascertained, and trees and their shadows are far better rendered by computer. Placing the building in its visual context can also be done more quickly and thus responded to more thoroughly. Creating the very complex shapes and their relationships to each other, which required adherence to their hand-drawn site plans, plans, sections and elevations, was challenging for the students. Designing a classical building in CAD drove home the lesson that CAD is merely a tool to help create humane, well-composed spaces and not to be relied on to fill in any non-considered parts of the building. No default settings or elements in any computer program are acceptable in a classical context. As the students were forced to consider their building in three dimensions, the problems of corners and junctions and some structure issues became apparent. Hence, the students realised they still needed their precedents' help to solve these issues. Consequently, the student's CAD skills, and perhaps more importantly, how the students think about CAD, developed markedly through this exercise.

The final work was presented alongside their Quarter Three work in a fifteen-minute crit with the same critics as for Quarter Three.



Figure 13. Quarter Four student work. Façade by Yona Al Zheyrey modelled after the Grand Trianon by Jules Hardouin-Mansart.

32 Ibid.

33 Henry McGoodwin, *Architectural Shades and Shadows* (Boston: Bates & Guild Co., 1904), <http://archive.org/details/cu31924015333770>



Figure 14. Quarter Four student work. The garden and façade by Madison Carkeek are modelled after Villa Barbaro by Palladio.



Figure 15. Quarter Four student work. Courtyard interior by Brittany Familton, loosely modelled after McKim, Mead and White.



Figure 16. Quarter Four student work. Façade by Arlene Sisarich, modelled after the J.P. Morgan Library by McKim, Mead and White, and Christopher Wren.



Figure 17. Quarter Four student work. Courtyard interior by Joshua Latham, loosely modelled after Michelangelo.

There was a friendly and supportive atmosphere in the studio. The students responded well to designing exclusively with pencil and ruler in the first semester, and they appreciated being challenged aesthetically instead of being challenged with functional issues. Elise Alexander wrote, “I loved Classical Studio, I feel like we just had so much fun while learning these new (old) techniques that we didn’t even realise how much we were learning at the time.” Brittany Familton expanded her understanding about the social function buildings can have outside a commercial paradigm. Maddison Carkeek “found Classical Studio to be an enlightening experience learning how structures were formed before modern structural systems. I really appreciated the freedom to explore the many styles of classical architecture ... the different rules in classical architecture for designing columns have helped me design structural systems in the third-year Design Studio, making my design process a lot easier.”

Conclusion

The studio aimed to engage second-year architectural students in the language and methods of classical architectural production to appreciate traditional design and take lessons from it into their future designs. They realised early on that they were not missing anything from the ‘regular’ studio – they were still required to understand and apply the building’s responsiveness to site, its functional logic, structural strategy, materiality, lighting strategies and passive design techniques. The approach to the thresholds of the building might be even more important in the classical idiom. They quickly learned that classical design could never be a ‘copy and paste’ exercise, but that the rigour required to adhere fully to classical design principles engaged them in compositional, spatial and proportional problems that they had never faced before; now (hopefully) that they are aware of these aesthetic issues, they will become part of their personal design approaches.

The students also appreciated the connection to New Zealand’s architectural history that this studio afforded them through the 101-year-old design competition from *N.Z. Building Progress*, having the ability to compare their designs to those original entries and receiving completely applicable, accurate and practical advice from William Gummer, one of New Zealand’s greatest architects, albeit that he died in 1966.

Finally, and perhaps most profoundly, I hope the students learned the limitations of designing in CAD. Once the students had drawn a viable building designed according to proportional and ornamentation guidelines, where all the architectural elements were a part of the composition, and one change to an architectural component triggered a chain reaction that compromised the whole, the computer was of no help to them. It would only do what the designer told it to; anything that was a default setting (an aluminium-framed window, or a glass balustrade, or a brick or stone pattern applied in a render) was not appropriate or credible, so the student needed to consider CAD critically and take responsibility for the design themselves.

As for the outcomes, overall, they were successful considering the limited capacity of a typical second-year student – as always, there is room for improvement. However, this studio was never about outcomes but the chance to expand the students’ minds and think critically about how to produce architecture, what architecture is and what it could be. The goal wasn’t to learn how to design a classical building, but to give the students a deeper understanding of proportional and compositional principles and a way to generate and evaluate their work, a critical eye unlocked by an iterative design methodology.

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EMBEDDING MĀTAURANGA MĀORI IN ARCHITECTURAL EDUCATION

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<https://doi.org/10.34074/aslm.2023205>

Abstract / Tuhinga Whakarāpopoto

The School of Architecture at Unitec | Te Pūkenga has developed a te reo Māori kuputaka (glossary). This resource is included in the first-year Bachelor of Architectural Studies content to help embed mātauranga Māori in pedagogy. The initiative reflects the determination on the part of Te Whare Wānanga o Wairaka Unitec | Te Pūkenga and the School of Architecture to honour te Tiriti o Waitangi (the Treaty of Waitangi) and meet programme aims.

This bicultural approach mirrors professional practice: in Ōtautahi Christchurch, after the 2011 earthquake, Indigenous sustainable practices were successfully integrated during the rebuild in collaboration with Ngāi Tahu and local hapū Ngāi Tūāhuriri; in Tāmaki Makaurau Auckland, Te Aranga Māori Design Principles recognise the authority of mana whenua and ensure Indigenous values are incorporated in the design of the built environment. Frameworks for the integration of te ao Māori sustainable values into Building Information Modelling (BIM) data are currently being developed to become a nationwide resource expanding and enriching the *New Zealand BIM Handbook*.

Including specific architectural vocabulary in te reo Māori sensitises all involved in the course to the interaction and layering of languages. The poetic and resonant qualities of te reo equivalents of English terms enrich the discussion of a more existential significance of architecture's concepts, components and acts. Cases in point are 'āputa whai take' – 'purposeful gap/space'; 'nōhanga hāneanea' – 'comfortable habitat/ergonomics'; and 'whare kiato' – 'compact house/tiny home'. This additional layer of meaning reflects our bicultural circumstances. In addition, the kuputaka introduces tikanga Māori in terms such as 'tapu' – 'sacred, set apart' – and 'noa' – 'common, ordinary' – as well as 'iwi', 'hapū' and other essential components of te ao Māori.

Introducing mātauranga Māori and a te reo Māori kuputaka creates foundations that successive years of architectural study can build on – this provides our graduates with essential skills and the instruments to engage effectively within professional practice and to shape our environment.

Keywords: Architecture, pedagogy, glossary, te reo Māori, mātauranga Māori, mana whenua

Embedding Mātauranga Māori in Architectural Education

The School of Architecture at Te Whare Wānanga o Wairaka Unitec | Te Pūkenga integrates te reo Māori to deliver first-year architectural design education. A kuputaka (glossary) of architectural terms in Māori and English supports students as they become conversant with the industry-specific vocabulary. These two official languages of Aotearoa also appear side by side on the course Moodle page and in studio briefs, which guide students in acquiring competencies.

Creating a bicultural platform in honour of te Tiriti o Waitangi (the Treaty of Waitangi) is a priority of Te Pūkenga.¹ This principle of partnership in education, along with the notions of participation and protection (of mātauranga Māori, values and other taonga), underlies the bilingual approach to pedagogy.

The commitment to te Tiriti o Waitangi is expressed at Te Whare Wānanga o Wairaka Unitec in te Noho Kotahitanga partnership document,² established in 2001. The partnership is underpinned by five core values: Ngākau Māhaki (Respect), Rangatiratanga (Authority and Responsibility), Wakaritenga (Legitimacy), Mahi Kotahitanga (Co-operation) and Kaitiakitanga (Guardianship). The document and values promote partnership between Māori and non-Māori and organically inform the approach to developing the glossary.

1 "Tētahi Tū Whakahaere Hou – A New Kind of Organisation," Te Pūkenga, accessed August 22, 2023, <https://www.xn--tepkenga-szb.ac.nz/our-work/>

2 "Our Partnership," Unitec | Te Pūkenga, accessed August 22, 2023, <https://www.unitec.ac.nz/maori/who-we-are/our-partnership>

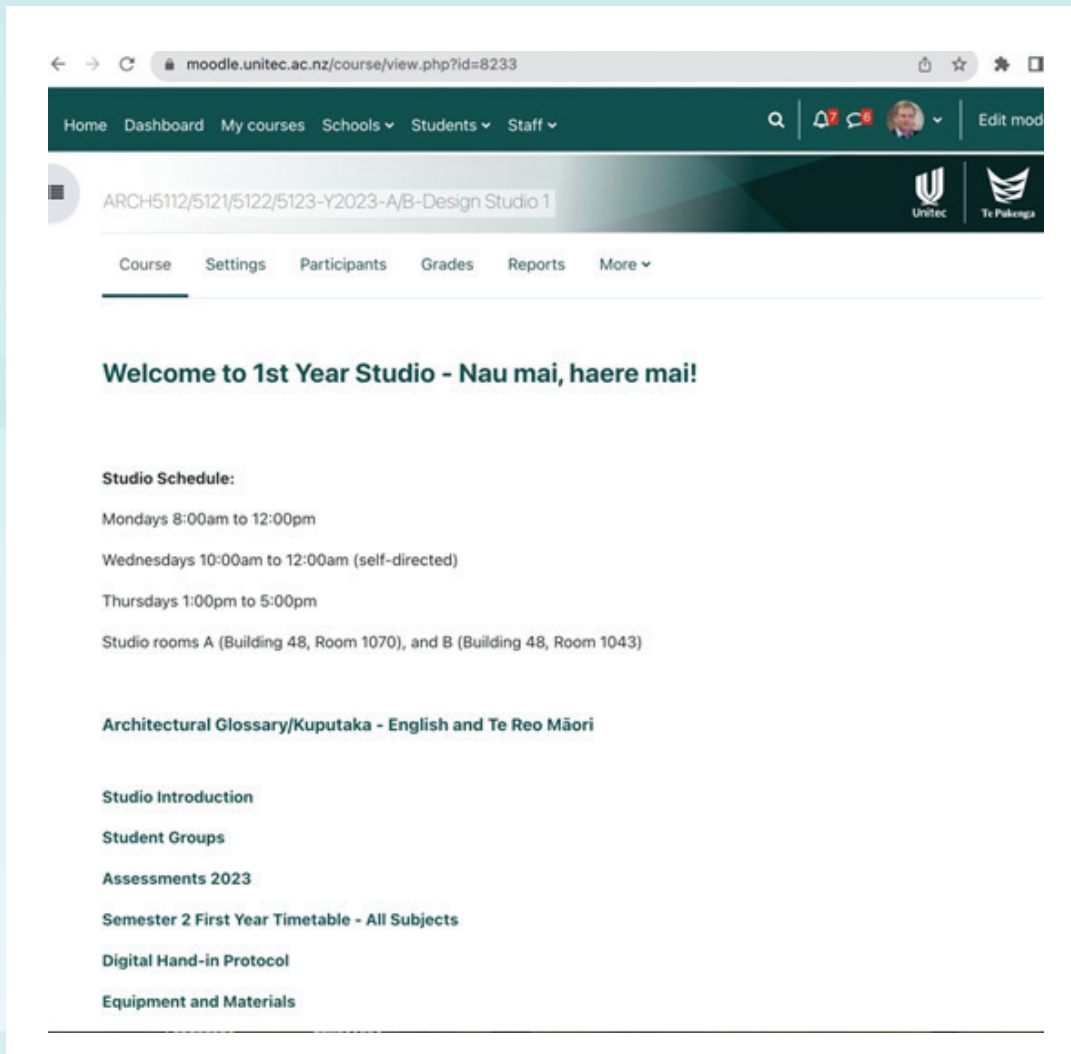


Figure 1. ARCH5112 Moodle page.

Within Unitec's School of Architecture, embedding mātauranga Māori assists in meeting programme aims.³ These are: grounding in the historical and theoretical foundations of our disciplines; knowledge of professional, social and environmental responsibilities; development of appropriate communication skills; and an overview of taha Māori, te Tiriti o Waitangi, and Māori perspectives as they relate to our disciplines.

Architectural education in Aotearoa, as indeed also architectural practice, has been dominated by a Eurocentric lens in both study and professional

practice. While architecture has its roots as a discipline in Vitruvius,⁴ Leon Battista Alberti⁵ and others, te Tiriti o Waitangi enables educators and architects to include, embed and align a South Pacific cultural dimension into everyday practice.

The recent history of Aotearoa New Zealand vernacular architectural models and projects, in the form of The Group⁶ and many other practising architects, particularly in the twentieth century, has evidenced the desire to engage with and produce a 'local' and relevant architecture that is specific to place.

3 Unitec | Te Pūkenga, *Programme Document: Bachelor of Architectural Studies (BAS)*, October 2007; Updated Programme Document Ver:3.2 (June 2021), 14–15.

4 Vitruvius Pollio and Morris Hicky Morgan, *Vitruvius: Ten Books of Architecture* (London: Humphrey Milford, Oxford University Press, 1914), v.

5 Leon Battista Alberti, *Leon Battista Alberti: Master Builder of the Italian Renaissance*, The 1755 Leoni Edition (New York: Dover Publications, Inc., 1986), publisher's note, 7.

6 Julia Gatley, *Group Architects: Towards a New Zealand Architecture* (Auckland University Press, 2010), 1.

Academics have also engaged with the relevance of ‘luogo’ – the Pacific location and the cultural relevance of place in cultural and architectural content. Architect and author Mike Austin, amongst others, has critically studied and presented Indigenous practice as central and potent in understanding place and practice.⁷

Architectural Terminology

Every field of endeavour, by definition of its specialised investigation, creates a specific operative vocabulary. In architecture, during the teaching of design, students are introduced to the vocabulary of the basic concepts and tools of the architectural world. An introduction to the specific language of architecture allows the student to understand elemental, conceptual, developmental, material and practical conventions. As a result of ongoing pedagogical engagement, essential terminology can be defined over time.

Introducing this vocabulary is a primary learning outcome of a foundation course such as ARCH5112 Design Studio One. Acquiring a familiarity and understanding of architectural definitions prepares the student for effective communication with fellow students, educators and, eventually, when engaged in practice, with the operative architectural world.

The evolving kuputaka at the School of Architecture at Unitec | Te Pūkenga emphasises conceptual notions that have a universal definition and significance in architectural practice, for example, ‘paepae’ – ‘threshold’, and programmatic typologies such as ‘nōhia’ – ‘inhabitation’. Terminology for architectural equipment such as the scale rule and the compass, and components with more erudite terms and significance, such as pilasters, keep their original names. The strength of the kuputaka lies in the more conceptual and universal human applications of architecture rather than its instruments. A refinement process ensures these concepts are carefully aligned with appropriate te reo Māori equivalents. These are then peer reviewed during conversation with the authors’ fellow kaihautū.

Establishing familiarity with terminology in te reo Māori and English in the initial stages of architectural study establishes a working comprehension and engagement as the foundation of developing student practice. This introduction is complemented in the first-year studio with an overview of Te Aranga Māori Design Principles⁸ and a requirement to generate a cultural map as a foundation for a design project

located at Tāwharanui Regional Park. As students transition to professional practice, this competency facilitates engagement with mana whenua to ensure Māori values and aspirations are integrated with the design process and outcomes.

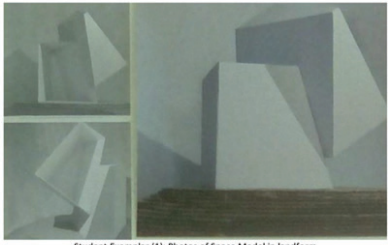
ARCH5112 Design Studio 1 2023

SEMESTER 1

Project 1 ARCHITECTURE & CONTEXT

Weeks 4 - 6 SPACE + STRUCTURE 26%
ĀPUTA WHAI TAKE + HANGATANGA

SPACE



Student Exemplar (1): Photos of Space Model in landform

"Architecture is the thoughtful making of space." - Louis Kahn

space *Āputa Whai Take – āputa – interval, gap, open space; whai take - to have a purpose, of use, useful*
- is the fundamental tool of architecture, being the air/place between 3D/2D/1D elements, both natural and fabricated. Space is perceived visually through the control and quality of light. Space is also perceived by the other senses through the qualities of sound, smell, touch and temperature.

Figure 2. ARCH5112 Studio brief.

Te Reo Māori in Architectural Practice

The kuputaka and applying kupu Māori (Māori words) to architectural terms illustrates how te reo Māori can provide broader interpretation and context. The kuputaka also facilitates a deeper understanding of important te ao Māori concepts such as pepeha (connections to tīpuna and whenua) and tohu whenua (landmarks), and their significance to Māori, which need to be considered within an architectural context that upholds Te Aranga Māori Design Principles⁹ and strengthens engagement with mana whenua.

Any architectural project, in practice, requires engagement with iwi and hapū through consultation and preliminary research to produce a cultural map of the site and context. The placement of te reo

7 Michael Austin, “Oceanic Architecture,” in *Last, Loneliest, Loveliest: The New Zealand Pavilion, 14th International Architecture Exhibition, La Biennale de Venezia*, ed. John Walsh (Wellington: New Zealand Institute of Architects, 2014), 18–25, <https://www.researchbank.ac.nz/handle/10652/2908>.

8 “Te Aranga Principles,” Auckland Design Manual, accessed August 22, 2023, https://www.aucklanddesignmanual.co.nz/design-subjects/maori-design/te_aranga_principles

9 Ibid.

Māori as a foundation for this practical application is instrumental in opening a dialogue of greater accuracy and significance.

Jasmax, one of the largest architectural practices operating in Aotearoa and Australia, demonstrates this determination to work collaboratively. The firm has a bicultural premise as an integrated component of its Manifesto:¹⁰

Our Culture

Our culture celebrates honesty and thoughtfulness. We respect the unique worldview of iwi Māori and acknowledge how te ao Māori influences our design practice.

We acknowledge tangata whenua's ancestral relationship with the natural environment as an essential source of wellbeing and identity.

We reflect and integrate Māori concepts of manaaki, tiaki and aroha (exchange, reciprocity and consideration) to celebrate the multi-culturalism of modern Aotearoa New Zealand.

Tō Tātou Ahurea

Whakamānawa ai tō tatou ahurea i te pono me te mākohakoha. Ki a mātou nei, he mea nui te tirohanga Māori me ōna pānga huhua ki ā mātou mahi whakahoahoa.

E mihi ana mātou i te hononga tūturu a te tangata whenua ki te taiao hei mātāpuna taketake o te ora me te tuakiritanga.

E mihi ana mātou i te tūāpapa o te tikanga-a-rua o Aotearoa e mau ana i te Tiriti o Waitangi.

Ka huritao mātou, ā ka kōkahu atu i ngā tikanga o te manaaki, te koha me te aroha hei whakamānawa i te kākano mahatanga o Aotearoa.

With this encompassing guide to practice in the company, the firm is structured into interdisciplinary teams: residential, commercial, education, health, civic, transport, sports and master planning. An overarching group that informs all the other teams is a cultural collaborative, Waka Maia, offering guidelines and research tools to uphold and maintain

engagement with mana whenua, which is appropriate and relevant to every design project undertaken.

This bicultural approach is occurring with increasing regularity throughout Aotearoa. In Ōtautahi Christchurch, after the 2011 earthquake, Indigenous sustainable practices were successfully integrated during the rebuild in collaboration with Ngāi Tahu and local hapū Ngāi Tūāhuriri;¹¹ in Tāmaki Makaurau Auckland, Te Aranga Māori Design Principles recognise the authority of mana whenua and ensure Indigenous values are incorporated in the design of the built environment. Frameworks¹² for integrating te ao Māori sustainable values into Building Information Modelling (BIM) data are being developed to become a nationwide resource expanding and enriching the *New Zealand BIM Handbook*.

Architecture students must be introduced in their formative years to bicultural understanding and practice to capitalise on these various initiatives.

Examples of Kuputaka Terms

Common vocabulary used in everyday life is redefined for students in their first engagement with the architectural discipline, taking on new significance in their application to the design endeavour.

'Space' is an essential conceptual component of this newly acquired design language. In Unitec's School of Architecture kuputaka, the English definition of space is "the fundamental tool of architecture, being the air/place between 3D/2D/1D elements, both natural and fabricated. Space is perceived visually through the control and quality of light. The other senses also perceive space through sound, smell, touch and temperature." Te reo Māori term given is 'āputa whai take': 'āputa' – 'interval, gap, open, space'; 'whai take' – 'to have a purpose, of use, useful'. The multi-worded English definition offers a multifaceted possibility of the significance of 'space' in the architectural context. Āputa whai take as the useful or purposeful gap resounds as a poetic and erudite terminology offering a different and potent sensorial dimension.

Conceptual notions and various tools and disciplines are introduced during students' first year. For example:

10 "The Jasmax Manifesto," Jasmax, accessed August 22, 2023, <https://jasmax.com/manifesto/>

11 Ngāi Tahu and Ngā Mātā Waka, *Te Kōwatawata: The Dawn of a New City* (Christchurch: Ngāi Tahu and Ngā Mātā Waka, 2015), <https://ngaitahu.iwi.nz/wp-content/uploads/2016/03/Te-Kowatawata.pdf>

12 Mazharuddin Syed Ahmed, *Framework to Integrate Māori Sustainable Values as Building Information (BIM) Modeling Data for New Zealand BIM Handbook* (Ara Institute of Canterbury [unpublished], 2023).

Ergonomics – a science aimed at creating safe, comfortable and productive workspaces by bringing human abilities and limitations into the design of a workspace, including the individual’s body size, strength, skill, speed, sensory abilities (vision, hearing), and even attitudes.¹³

Te reo Māori definition for ‘ergonomics’ is ‘nōhanga hāneanea’: ‘nōhanga’ – ‘habitat, seat, seating, dwelling place’; ‘hāneanea’ – ‘to be pleasant, comfortable’. Again, a comfortable dwelling place conjures up a realm of multifaceted components that provide a place of comfort for human occupation.

Together with conceptual notions and disciplinary tools, components of the built environment are also defined within the practice of the architectural design discipline. Te reo Māori vocabulary is always quite specific to a purpose and context, and it is necessary to be case sensitive when utilising words – ‘tiny home/house’ required particular attention. A direct translation would result in an entity that was not intended: ‘paku’ is defined in the Māori dictionary as “2. (modifier) small, little, minute, tiny, diminutive.”¹⁴ ‘Iti’ is defined as “1. (stative) be small, unimportant, little, minute, tiny, diminutive, petite, trivial, insignificant.”¹⁵ This could lead the uninformed to make the literal translation of small house into ‘wharepaku’ or ‘whareiti’. However, ‘wharepaku’ and ‘whareiti’ are defined as “1. (noun) toilet, lavatory, convenience, latrine, loo, bog.”¹⁶ For the first-year project in which the vocabulary was to be applied, this seemed reductive and belied the necessity to design cleverly with specific requirements for efficiency and compactness. The final decision was to use ‘whare kiato’: ‘whare’ – ‘house/hut’; ‘kiato’ – ‘to be tightly packed and compact’. The tightly packed, compact house renders perfectly the intended model of inhabitation.

Summary

The offering of a bilingual understanding of terminology in the form of a kuputaka to accompany a student’s initial engagement with architectural design practice, and its multifaceted and multi-layered content, enriches both the teacher and the learner experience. The sensitisation of the practitioner starts with an awareness of realms of knowledge. Enfolding te reo Māori into a first approach with design practice offers more sensitive and appropriate attention to relationships with mana whenua,

fellow practitioners and clients. The inclusiveness inherent in this approach will help to ensure that the unique identities, histories, narratives and aspirations of tāngata whenua and tāngata tiriti are embedded in the design and formation of Aotearoa’s environment.

13 “What is Ergonomics?” Dohrmann Consulting, accessed August 22, 2023, <https://www.ergonomics.com.au/what-is-ergonomics/>

14 “Paku,” *Te Aka Māori Dictionary*, accessed August 22, 2023, <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=paku>

15 “Iti,” *Te Aka Māori Dictionary*, accessed August 24, 2023, <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=iti>

16 “Wharepaku,” *Te Aka Māori Dictionary*, accessed August 22, 2023, <https://maoridictionary.co.nz/search?idiom=&phrase=&proverb=&loan=&histLoanWords=&keywords=wharepaku>

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IS OUR HERITAGE FALLING THROUGH THE GAPS?

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IMAN RAZA KHAN

<https://doi.org/10.34074/aslm.2023206>

This opinion piece serves as a preface to a forthcoming academic article soon to be published to raise awareness of the importance of Aotearoa New Zealand's heritage, the existing problems, and the role of digital recording of heritage buildings and sites.

Introduction

When 2021 Pritzker Prize laureates Anne Lacaton and Jean-Philippe Vassal were asked if they were optimistic about the future of architecture in urban environments, they said:

We must rely on the values of the existing situation to improve and transform. All the constraints can be turned into good. To act, we have no other option than to be optimistic, which does not mean to be unrealistic, otherwise, nothing is possible. It is an ambitious and exciting challenge.¹

When it comes to an urban environment, the first things that often come to mind are the buildings, structures and spaces that surround us and have meaning for us. In Aotearoa New Zealand, we also have explicitly significant buildings and structures that we consider part of our heritage, despite being relatively young compared to many other nations. The country's cultural heritage sites, buildings and objects are treasures of distinctive value. They can be roughly divided into four overlapping categories: archaeological sites, historic buildings and structures, places of significance to Māori, and cultural landscapes.² All ethnic groups residing in Aotearoa New Zealand have contributed to the country's cultural heritage, and "the result is an evolving mix of Polynesian, European, and also Asian, ways of seeing and doing, making each new

generation of New Zealanders slightly different from the previous one and yet intimately linked to it."³ These heritage sites and buildings are part of our urban and rural environment, and are assets with distinctive value and meaning to both Māori and Pākehā.

Falling Through the Gaps?

As we look around and read the news, it is hard to avoid the fact that cultural and natural heritage is threatened worldwide by rapid urbanisation, constantly changing and challenging economic circumstances, natural disasters, socio-political conditions, lack of public awareness, disparate national and local regulations, climate change and international conflicts. As one of the signatories to The Hague Convention, Aotearoa New Zealand pledged an obligation to ensure that all its communities' tangible and intangible heritage is protected for present and future generations. Keeping a commitment of this sort will be incredibly important for the country, considering the continual loss and degradation of Aotearoa New Zealand's cultural heritage due to housing intensification, climate change and natural disasters. The Christchurch, Seddon and Kaikōura earthquakes (2011–2016) saw the loss of 140 heritage buildings, with another sixty lost to redevelopment. Between 2014 and 2018, authorities granted permission to demolish 1,393 pre-1900 buildings. On average, one marae is lost to fire annually. Thousands of buildings important to communities across Aotearoa New Zealand have never been formally recognised for their heritage value.⁴ It is yet to be counted how many heritage buildings have been damaged by floods, landslides and other consequences of cyclones in the current year alone. Despite signing a document as mentioned previously, there is little support or protection for cultural heritage

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- 1 Isla Sutherland, "All Constraints Can Be Turned into Good": Lacaton and Vassal," *ArchitectureAU*, July 28, 2022, <https://architectureau.com/articles/lacaton-and-vassal/>
 - 2 Parliamentary Commissioner for the Environment, *Historic and Cultural Heritage Management in New Zealand* (Wellington: Office of the Parliamentary Commissioner for the Environment, 1996), 3.
 - 3 Rowan Taylor and Ian Smith, *The State of New Zealand's Environment* (Wellington: Ministry for the Environment, 1997), 21.
 - 4 Ministry for Culture and Heritage, *Strengthening Protections for Heritage Buildings. Report Identifying Issues Within New Zealand's Heritage Protection System* (Wellington: Ministry for Culture and Heritage, 2018), 8.



Figure 1. Christchurch Earthquake 2010, Photo: Alistair Paterson. Source: <https://www.flickr.com/photos/alpat/5326054606/in/photostream/>, CC BY-SA 2.0 DEED.



Figure 1. Christchurch Earthquake 2010, Photo: Alistair Paterson. Source: <https://www.flickr.com/photos/alpat/5326054606/in/photostream/>, CC BY-SA 2.0 DEED.

in Aotearoa New Zealand.⁵ It seems to ‘fall through the gaps’ of what is essential – relying on other professional groups to advocate for it due to a lack of care.

The main problem is that the issue of cultural heritage management does not come across as a priority for many. As members of the Digital Heritage Research Centre at Unitec | Te Pūkenga, we are in touch with industry partners, government representatives and the public. In the framework of our project Digitalisation of Heritage in New Zealand, we have conducted a survey and organised focus-group interviews with Aotearoa New Zealand professionals (e.g., architects, heritage architects, surveyors, construction-sector engineers and cultural heritage experts) and government representatives to understand the constraints, barriers and facilitative factors encountered by professionals related to the use of digital tools, equipment, and software for recording cultural heritage. This opinion piece is a (preliminary) alert based on our research.

As a result of our conversations with representatives throughout the sector, we found a shared misunderstanding of who is responsible for managing cultural heritage in Aotearoa New Zealand. Private companies and the public point to the government,

local councils or Heritage New Zealand Pouhere Taonga to take responsibility for managing cultural heritage assets as part of their portfolio of properties. At the same time, representatives of these organisations indicated enormous numbers of daily issues they must deal with regarding cultural heritage. The issue of heritage loss is further accentuated by a property owner’s or developer’s unwillingness to consider the value of a cultural heritage building or site. Often, contracted workers plainly carry out tasks ordered by their clients, and if there are any attempts to conserve any part of a heritage building, it is left to the contractor’s own discretion. A shared vision acceptable for all sector actors and the public has not yet been formulated, through either a national policy statement on cultural heritage or a similar statement in the upcoming National Planning Framework.⁶ Based on our research and focus-group discussions, this is due to inadequacies of the current cultural heritage protection systems led by the government, which has failed to take a lead role so far, thus creating a lack of consideration of the importance of cultural heritage nationally, as well as resource constraints.⁷ The situation creates an ambitious and exciting challenge for architects, urban planners, and councils at times like this, when our cultural heritage is disappearing due to the fast growth of our cities and towns.

5 While the term ‘historic heritage’ relates to the current Resource Management Act legislation, in this paper we decided to use ‘cultural heritage’ instead, which relates to international rhetoric and the incoming Natural and Built Environments Act.

6 For information about the current national policy changes in the resource management space, see: Ministry of Housing and Urban Development, “Resource Management Reforms,” accessed October 10, 2023, <https://www.hud.govt.nz/our-work/resource-management-reforms/>

7 Ministry for Culture and Heritage, “Policy for Government Management of Cultural Heritage Places (2022),” <https://mch.govt.nz/publications/policy-government-management-cultural-heritage-places>. The Ministry for Culture and Heritage produced a revision to the “Guidance for Government Management of Cultural Heritage Places” policy document.



Figure 2. Carlile House, Grey Lynn, Tāmaki Makaurau Auckland. Photo: Renata Jadresin Milic.

These are just a few headlines from recent years on landmarks that once played a significant role in the community:

- Million-Dollar Dumps: Auckland's \$5.8m Carlile House Deemed 'Dangerous Building'.⁸
- Historic Church up for Sale as Part of Khyber Pass Portfolio.⁹
- New Lynn's 'Landmark' St Andrew's Church Hall Being Demolished.¹⁰
- New Lynn's Heritage-Listed St Andrew's Sunday School Hall to Be Demolished.¹¹
- Heritage Trust Recommendations Ignored.¹²
- Urban Design Expert Calls on Timaru Council to Stop Demolition 'Before it's too Late'.¹³

Despite the widespread public anxiety about the loss of many historic and cultural sites across the country and the likelihood of their preventable loss, not everyone involved is interested in conserving them or recognising their heritage value. Therefore, a substantial number of heritage buildings across the country have been lost with little or no record of their condition pre-demolition,¹⁴ and only Heritage New Zealand Pouhere Taonga's Lost Heritage list¹⁵ is keeping them from becoming forgotten. Some lucky and persistent communities have won the battles for their historic landmarks¹⁶ by changing the ownership, but in other cases, the community's long fight to save a building ends with demolition,¹⁷ or a building will eventually be demolished by neglect,¹⁸ hence, the country loses another priceless treasure.

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- 8 Caroline Williams, "Million-Dollar Dumps: Auckland's \$5.8m Carlile House Deemed 'Dangerous Building,'" *Stuff*, April 30, 2021, <https://www.stuff.co.nz/business/property/300284552/million-dollar-dumps-aucklands-58m-carlile-house-deemed-dangerous-building>
- 9 Michele Vollemaere, "Historic Church up for Sale as Part of Khyber Pass Portfolio," *Stuff*, May 11, 2021, <https://www.stuff.co.nz/business/property/300302274/historic-church-up-for-sale-as-part-of-khyber-pass-portfolio>
- 10 Kendall Hutt, "New Lynn's 'Landmark' St Andrew's Church Hall Being Demolished," *Stuff*, November 27, 2019, <https://www.stuff.co.nz/auckland/117741543/new-lynn-landmark-st-andrews-church-hall-facing-demolition>
- 11 Michael Neilson, "New Lynn's Heritage-Listed St Andrew's Sunday School Hall to Be Demolished," *New Zealand Herald*, November 26, 2019, <https://www.nzherald.co.nz/nz/new-lynn-heritage-listed-st-andrews-sunday-school-hall-to-be-demolished/YUDIKBDL5LCPJQLBJYJGWJ2DR4Y/>
- 12 Ben Heather, "Heritage Trust Recommendations Ignored," *Stuff*, November 19, 2011, <https://www.stuff.co.nz/the-press/news/5996494/Heritage-trust-recommendations-ignored>
- 13 Brooke Black, "Urban Design Expert Calls on Timaru Council to Stop Demolition 'Before it's too Late,'" *Stuff*, September 23, 2023, <https://www.stuff.co.nz/timaru-herald/300975308/urban-design-expert-calls-on-timaru-council-to-stop-demolition-before-its-too-late>
- 14 "Shot Tower Saved for History," *Central Leader*, April 20, 2023, <https://www.pressreader.com/new-zealand/central-leader/20230420/page/18>
- 15 "Lost Heritage," Heritage New Zealand Pouhere Taonga, <https://www.heritage.org.nz/places/lost-heritage>
- 16 Josephine Franks, "Auckland Church Supporters Aim to Raise \$1 Million in 23 Days to Buy Building," *Stuff*, May 10, 2021, <https://www.stuff.co.nz/national/125068490/auckland-church-supporters-aim-to-raise-1-million-in-23-days-to-buy-building>; Mina Kerr-Lazenby, "Wealthy Philanthropist Ted Manson Saves Auckland Church," *Stuff*, July 07, 2021, <https://www.stuff.co.nz/national/300350444/wealthy-philanthropist-ted-manson-saves-auckland-church>
- 17 Hutt, "New Lynn's 'Landmark' St Andrew's Church Hall Being Demolished."
- 18 Williams, "Million-Dollar Dumps."



Figure 3. Community activism, Carrington Hospital, Point Chevalier, Tāmaki Makaurau Auckland, community protests. Collage: Iman Khan. Image source: Chris Casey.



Figure 4. Colonial Ammunition Company shot tower, Mt Eden, Tāmaki Makaurau Auckland, 1916. Model: Sam Smith and Maksym Khovalko, based on a drone recording by Renata Jardesin Milic and Regan Potangaroa, 2023.

Unless a building is at the end of its life cycle, either naturally or by non-human activity (e.g., natural disasters), we find the argument for demolition hard to accept. As Lacaton and Vassal state, “It is a lack of intelligence, observation, and ambition, but also a kind of arrogance towards previous generations, because what replaces the demolished buildings is not necessarily better.”¹⁹ We argue that present and future ambitions regarding urban and rural environments in Aotearoa New Zealand should focus on reusing, rethinking and enhancing the resilience of existing structures to avoid further damage and destruction. Not to mention the fact that there are technologies and methodologies that could support safeguarding and/or transforming cultural heritage, so why not use them?²⁰

Are Adaptive Reuse and System Thinking a Solution?

Abandoning and, later, demolishing a building is a loss in many ways. Structures, materials, carbon, money, historic moments and cultural values are lost. To many parties, it is certainly more convenient to erase a building as if it had never existed, without considering its possible new role within the community and the environment. But as a country, we should rethink the waste generated by constant demolition, especially if we care about our environment and sustainability. Adaptive reuse²¹ is a

19 Sutherland, “All Constraints Can Be Turned into Good.”

20 “Drone Footage Used to Make Digital Record of New Zealand’s Last Standing Shot Tower,” *Massey News*, March 14, 2023, <https://www.massey.ac.nz/about/news/drone-footage-used-to-make-digital-record-of-new-zealands-last-standing-shot-tower/>; Amanda Harkness, “3D-Tech Helps Preserve New Zealand’s Most Important Buildings,” *ArchitectureNow*, July 5, 2022, <https://architecturenow.co.nz/articles/digitally-driven-conservation/>; Renata Jardesin Milic, Peter McPherson, Graeme McConchie, Thomas Reutlinger, and Sian Singh, “Architectural History and Sustainable Architectural Heritage Education: Digitalisation of Heritage in New Zealand,” *Sustainability* 14, no. 24 (2022): 16432, <https://doi.org/10.3390/su142416432>; Richard Laing, “Built Heritage Modelling and Visualisation,” *Developments in the Built Environment* 4 (2020): 100017, <https://doi.org/10.1016/j.dibe.2020.100017>; Jon Marcoux and Amalia Leifeste, “Impact of Digital Technologies on Historic Preservation Research at Multiple Scales,” *Technology | Architecture + Design* 6, no. 1 (2022): 22–31, <https://doi.org/10.1080/24751448.2022.2040299>

21 Ayman Othman and Heba Elsaay, “Adaptive Reuse: An Innovative Approach for Generating Sustainable Values for Historic Buildings in Developing Countries,” *Organization, Technology and Management in Construction: An International Journal* 10, no.1 (2018): 1704, <https://doi.org/10.2478/otmcj-2018-0002>; Robert Shipley, Steve Utz, and Michael Parsons, “Does Adaptive Reuse Pay? A Study of the Business of Building Renovation in Ontario, Canada,” *International Journal of Heritage Studies*, 12 (2006): 505–520. <https://doi.org/10.1080/13527250600940181>

process that breathes new life into old buildings. It is a process that changes or modifies a disused building and repurposes it for a contemporary use, while retaining its cultural heritage value.²² The benefits are many. Firstly, from conserving the embodied energy and materials invested in the original construction and reducing the carbon footprint associated with demolition and new construction. This significantly contributes to a greener future in an era of climate-change concerns. Secondly, adaptive reuse can foster economic growth, by creating jobs and rejuvenating the urban fabric; and can therefore inject vitality into neglected neighbourhoods by converting old buildings into thriving spaces and creating hubs that attract residents, tourists and businesses alike. From a financial perspective, reuse should be considered alongside any other long-term project when its benefits outweigh the initial investment over time. As an innovative approach, adaptive reuse can generate sustainable values for historic buildings in developing countries and worldwide.²³ To conclude this section, these are the words of Nigel Gilkison, a 30-year industry veteran from Timaru who holds a Master of Urban Design: “Buildings do not come with a ‘use-by-date’, they are not bananas. They can be adaptively reused, and they could easily last another 100 years or more if they are periodically upgraded and well maintained.”²⁴

Aotearoa New Zealand-specific toolkits, research papers and guides have started exploring the benefits of redesigned heritage and adaptive reuse nationwide. When investigating the adaptive reuse of industrial buildings in the case of Tāmaki Makaurau Auckland’s CBD, Lydia Kiroff and Xiaotian Tan have listed the economic, environmental, and social benefits of adaptive reuse²⁵ and concluded on the drivers and results of the urban regeneration process and the role that real estate development plays in it.²⁶ Heritage New Zealand Pouhere Taonga

has developed nine case studies on how redesigned heritage can be adapted to the landscape of contemporary Aotearoa New Zealand and lists values that heritage places represent.²⁷ The same entity has also commissioned experts to develop a toolkit on adaptive reuse.²⁸ A positive sign is that the thinking process has already begun, not only within the heritage sector or academia but also among private developers. Successful examples of private concepts in Tāmaki Makaurau Auckland are the Britomart precinct²⁹ (including the Hayman Kronfeld Building,³⁰ which is a refurbishment and amalgamation of two heritage-listed warehouses formerly known as the Barrington Building and Old Sofrana House), and the Domain Collection³¹ developments. These initiatives have started to present the potential benefits of what retention, reuse and preservation of cultural heritage assets can unveil for our towns and cities.

We truly believe that by using a sector-wide approach and collective thinking, even the hardest constraints could be turned into good, regarding heritage buildings in Aotearoa New Zealand. We argue that we can still create examples of contemporary heritage initiatives and transformative projects, and actively see the value in existing structures to maintain a connection to our past towards a more sustainable future. As a nation, we need to balance preserving history and accommodating modern needs within the urban landscape. Heritage conservation is not just an exercise in nostalgia; it is a testament to the profound impact of architecture and design on a community’s identity and wellbeing. To preserve our tales from the past, we need to save and reuse buildings that are living witnesses to our shared history – contributing significantly to the character of our urban and rural landscapes.

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- 23 Othman and Elsaay, “Adaptive Reuse: An Innovative Approach,” 1704.
- 24 Black, “Urban Design Expert Calls on Timaru Council to Stop Demolition ‘Before it’s too Late.’”
- 25 Kiroff and Tan, “Adaptive Reuse of Industrial Buildings,” 45–46.
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ARE DESIGNERS DILUTING CULTURE?

CONNECTING THEORY TO PRACTICE

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<https://doi.org/10.34074/aslm.2023207>

Introduction

The cohabitation between Indigenous and non-Indigenous peoples in this post-colonial society is a hefty but necessary topic that must be discussed. This is particularly important for landscape architects, as we are responsible for designing our urban public spaces and cities. Māori, the Indigenous people of Aotearoa, have struggled with land theft, and the erasure of their history and identity since the first European settlers arrived. Aotearoa has come a long way regarding cultural acceptance, acknowledgment and collaboration when it comes to design. This is evident, as engaging with mana whenua is considered of national importance in the Resource Management Act; however, the effects of colonisation still impact Māori today. As designers responsible for our public realm, we can aim to address these issues and create a co-habitable society that embraces and empowers all. Although this is the intent of many landscape architecture groups, is it appropriate to label recent projects as transformative and progressive if the design process follows colonial thinking, lacks authenticity and spirituality, and is essentially “a copy of something that never existed”?¹ Spirituality is imbued in Māori culture, evident in Te Aranga Principles such as Mana and Ahi Kā² that Māori have gifted us. The absence of authenticity and spirituality in our designs, due to existing constraints and fixed ways of thinking, dilutes Māori culture to trivial symbols; therefore, the goal of a co-habitable society can never truly be achieved. This will be discussed by analysing the article “Whakarewarewa Thermal Reserve: The Landscape of Simulation” by Rod Barnett (Ngāti Raukawa), an internationally acclaimed professor and academic author currently a Professor of Landscape Architecture and Head of the School of Architecture at Te Herenga Waka Victoria University of Wellington. The article discusses simulation, which embodies the greater issue of exploitation of Māori

culture for tokenism and commodity. Similarly, the second chapter in the book *Imagining Decolonisation*, “What is Decolonisation?” by Ocean Ripeka Mercier (Ngāti Porou), an academic and professor who specialises in physics and Māori science at Te Herenga Waka Victoria University of Wellington, will be examined. Mercier’s chapter highlights the ideas and processes of decolonising our minds and spaces to truly achieve cohabitation. Lastly, the theories of Barnett and Mercier will be challenged by analysing two landscape architecture projects in Tāmaki Makaurau. By doing so, this paper emphasises the gravity of the issues within our design practices that claim to be authentic and inclusive, yet, at their core, precisely lack those attributes.

Simulation

Aotearoa is an international example of Indigenous inclusivity. However, improvements still need to be made, particularly in our design disciplines. These issues are highlighted in Barnett’s article “Whakarewarewa Thermal Reserve: The Landscape of Simulation,” as he discusses the simulation and commodification of Māori culture in Aotearoa. His article specifically focuses on tourism and Māori attractions; however, Barnett’s ideas also apply to our urban public spaces as they, too, create attractions for people to visit, using Māori culture. Barnett states that simulation is “a copy of something that never existed,”³ a prevalent design issue we tend to overlook. Aotearoa is a landscape of attractions that are commodified copies. This is amplified by the fact that many of these spaces are built on ancestral land that Māori once inhabited. So not only are we creating spaces disconnected from reality and absent of authenticity, but we are establishing them on ancestral Māori land and claiming them as nothing but authentic. As stated earlier, Māori culture is

1 Rod Barnett, “The Landscape of Simulation: Whakarewarewa Thermal Reserve,” *Kerb Journal of Landscape Architecture* 6 (1999): para. 5, <https://kerb-journal.com/articles/the-landscape-of-simulation>

2 Auckland Council, “Te Aranga Principles,” *Auckland Design Manual*, https://www.aucklanddesignmanual.co.nz/design-subjects/maori-design/te_aranga_principles

3 Barnett, “The Landscape of Simulation: Whakarewarewa Thermal Reserve,” para. 5.

heavily embedded in spirituality. For landscape architects to label a project as transformative and authentic, there must be an underlying spiritual connotation that is not stripped of its essence by being placed out of context or disconnected from reality; this also applies to the design processes. But how does one even create spirituality in a space? There is often an intent for authenticity and spirituality to be present; however, our design processes, which are constricted by existing design, and by legal, social or urban constraints, prevent these from being successfully incorporated. Furthermore, the greatest constraint is our inability to alter the way we think and perceive things. Evidence of this is the frequent practice of using Māori cultural items as fixtures; as Barnett stated, decorations on a house with colonial foundations. To interpret and reinterpret cultural items and then place them out of context is a simulation. This dilution of culture down to mere decoration cannot create an authentic space, nor can it mend the “rifts, or pressure points, fault lines and fissures in Māori–European relations”⁴ in order to a created co-habitable society. Although our design practices need to be reviewed, this is an issue of attitude. We are comfortable creating simulations of Māori culture because, as Barnett summarises, “They [Māori] are nature too,”⁵ meaning we also need to review the way we perceive Māori people.

Decolonisation

Addressing the issue of the dilution of Māori culture due to simulation and the absence of spirituality and authenticity is an effort that starts with self-reflection. This can be better understood by examining Mercier’s chapter, “What is Decolonisation?” in the book *Imagining Decolonisation*.

Colonisation has impacted “what and how [Māori] know and think, their health, lifeways and spirit,”⁶ and the term ‘decolonisation’ allows Māori to explore ways they can overcome these lasting effects. Decolonisation is not a new term. However, it is becoming a more sought-after result and concept in design disciplines. Mercier states that the first step in decolonisation is recovery and acknowledgment, an awakening effort engrained in our school environments across all levels. For a tertiary student studying landscape architecture, these efforts are evident, although there is still room for improvement: “some schools may look like rangatiratanga in action, but in fact follow a Pākehā ideologically driven goal of educating people for the market.”⁷ Decolonisation is a

collective effort; however, it begins with the individual doing the necessary internal work. As Mercier states: “If you don’t know what your own house looked like, how can you recognise what’s different about the colonial house?”⁸

Landscape architects can initiate this effort alongside mana whenua. Currently, urban spaces are a symbol of pain for many Māori, symbolising the loss of language, lands and customs. Modern-day practices such as bilingual signage, correct naming, punctuation and pronunciation of place names, mana whenua engagement, and using Te Aranga Principles aim to mitigate this pain. However, this is a surface-level effort that we should be beyond, which is where spirituality and authenticity come into play to ensure our designs do not dilute culture. Decolonisation is a complex effort not limited to design disciplines, and also involves our legal systems. It is a collective, nationwide effort. However, there is a misconception that decolonisation is about removal or exclusion, when in fact it is about unlearning what has been taught to create an inclusive and balanced co-habitable society.

In that respect, by connecting theory to practice in analysing the theories of Mercier and Barnett and applying them to two existing Tāmaki Makaurau urban spaces, we can gain a better understanding of how our modern-day design practises are diluting culture.

Te Wānanga

The first development is Te Wānanga, a civic urban space designed for human interactions, leisure, and for coastal native plant species to thrive, designed by Isthmus, a landscape architecture design studio, in collaboration with Tāmaki Makaurau mana whenua. Te Wānanga is part of the Downtown Infrastructure Development Programme, which aims to change the environment of Quay Street. The design allows people to stop and enjoy the waterfront on what was formerly a chaotic street of people and traffic, and reconnects the city to the waterfront and the wider Waitematā Harbour.

Heavily inspired by the once-existing coastal and cultural environment, the project has various elements that pay homage to the now-lost environment while being cognisant of the environmental issues in the area, such as sea-level rise, climate change, stormwater management and a need for terrestrial

4 Ibid, para. 22.

5 Ibid, para. 17.

6 Ocean Ripeka Mercier, “What is Decolonisation?” in Rebecca Kiddle, Bianca Elkington, Moana Jackson, Ocean Ripeka Mercier, Mike Ross, Jennie Smeaton, and Amanda Thomas, *Imagining Decolonisation* (Wellington: Bridget Williams Books, 2020), para. 40.

7 Ibid, 77.

8 Ibid, 43.



Figure 1. Isthmus Group, “Impression of Te Wananga,” Te Wānanga: Public Space Design. *Auckland Design Manual*, <https://content.aucklanddesignmanual.co.nz/resources/case-studies/Te-W%C4%81nanga/Documents/Te%20W%C4%81nanga%20Case%20Study.pdf>



Figure 2. Woven rope on handrails, Te Wānanga. Photo: Lyrck Johnson.



Figure 3. Shell-form apertures, Te Wānanga. Photo: Lyrck Johnson.



Figure 4. Engraved design on a railing, Te Wānanga. Photo: Lyrck Johnson.

and aquatic species to thrive. The design includes an artificial shelf that extends from the existing harbour edge, its form resembling the shape of the original intertidal zone that existed in pre-colonial times. Earthy materials such as wood, and shells from a nearby beach in the cement, provide a natural appeal also inspired by the once-existing environment. There is a series of apertures in the form of a shell on the shelf, allowing people to have a visual connection to the sea below, where they can see a series of suspended waka kutai, habitat for marine life such as mussels. Local Māori artists also contributed to the design, such as the engraving on the railing by Reuben Kirkwood (Ngāi Tai ki Tāmaki) or the woven elements by Tessa Harris (Ngāi Tai ki Tāmaki), to represent baskets or rope knots used on waka.

Analysis

Te Wānanga is admittedly a thriving space that allows people to rest and relax, and for ecologies to thrive; however, based on the theories of Barnett and Mercier, the area lacks authentic 'Māoriness'. Through the lens of Barnett's article, the very shape of the space is a simulation; the Isthmus Group's description of the elevated platform as "artificial"⁹ emphasises this. The shape is merely a copy of something once tangible, but the intertidal zone was never elevated; therefore, it is a copy of something that never existed.

Simulation is littered throughout the design, like 'decorations', as Barnett would describe them. These 'decorations' include the engravings on the railing and the woven elements, as they are simply applied to surfaces like stickers. Even though the sticker supports the narrative, it is just a sticker, a token. Items that had significance and purpose are now stripped of these in the design: a woven basket used to gather food is now represented as a flat surface and used as a trampoline. Although these cultural elements are not attractions people pay to see, like the Whakarewarewa thermal reserve, they are still showcased for people to 'ooo' and 'aaah' at, to get a glimpse into Māori culture and get a sense of spiritual enlightenment. This, in my opinion, is worse than a tourist attraction because the cultural elements are more subtle.

Most people will only look carefully at the site and analyse or understand the meaning behind these cultural elements if there is signage, or if they research it of their own accord. Not only are these elements copies, commodities, stripped of their essence, but they can easily be overlooked, supporting the notion that designers are diluting culture. Is it transformative if the transformative elements are so subtle that they go unnoticed and are only understood by those with

a designer's eye or who are of Māori heritage? Given that our public spaces influence the way we live, the design's inability to resonate with all could contribute to a lack of unity between peoples in our society, preventing us from achieving a co-habitable space. As designers of the public realm, it's important that we are cognisant of everyone that may interact with the space; is it not possible to acknowledge the past and follow a Māori narrative while also being realistic about Aotearoa's current multicultural society.

Despite elements being designed by Māori artists, the foundation of the design process can still be colonial, which Mercier termed 'internal colonisation'. The thoughtful design elements, such as the shell in the concrete that connects to the sandy sea floor or shore that once existed, can be felt by visitors to the site. However, there is still a lack of authenticity regarding Māori culture, which is emphasised due to the disconnect between the narrative and how people use the site. Being a place for people to rest, the narrative is not implemented in how and what people sit on.

Although the intentions of Isthmus Group are genuine, it is also true that, while design ideas can be worthy, the result can still be lacking. Moreover, the design process is fundamentally based on colonial thinking; building a stable home on a weak foundation is impossible. To truly decolonise the design, the design process would require the now-external collaborators (mana whenua) to have a more prominent position. Landscape architects would have to assume the role of mediators, who give mana whenua the necessary tools to ensure that spirituality and authenticity are implemented and maintained. However, suggesting new ideas without considering the existing constraints is easy. Even more so, it is hard to imagine beyond the frameworks, structures and spaces we have already established.

Despite being a landscape of simulation, the design does admittedly have many aspects that align with the efforts of decolonisation, such as the bilingual project name, the use of Māori narrative, collaboration, and creating a balance of Māori and non-Māori aesthetics. However, as stated earlier, this is a surface-level effort. It is simple to say how this space should feel. However, it is almost impossible to imagine how that would look, let alone how it would be accomplished. The project is a great precedent of collaboration, although it is an inadequate exemplar of authenticity and spirituality.

Walmsley Park Reserve

The second site is a nature and adventure play space inspired by traditional Māori play called Māra Hūpara, by landscape architecture firm Boffa

9 Isthmus, "Blending City and Harbour. Te Wānanga," <https://isthmus.co.nz/project/te-wananga/>



Figure 5. Composed trunks for climbing. Photo: Lyrck Johnson.



Figure 6. Hikeikei. Photo: Lyrck Johnson.



Figure 7. Composition of the logs. Photo: Lyrck Johnson.



Figure 8. Children playing. Photo: Lyrck Johnson.

Miskell, pays tribute to traditional play and battle co-designed by Tāmaki Makaurau mana whenua. Located in Walmsley Park reserve, Ōwairaka, Māra Hūpara is part of a greater network of restored waterways, stormwater, flooding control and management called Te Auaunga Healthy Waters project.

As Te Auaunga Healthy Waters project was underway, the need and opportunity for a play space became apparent, which was first suggested by mana whenua. Therefore, keeping in theme with restoration, a nature-focused play space with cultural connections to traditional Māori games and aro-tākaro (play items) was proposed. The design has an organic form and materials that were salvaged from the site. The park has various traditional play elements, such as hikeikei (to hop, jump or walk over) and wera-te-paatu (for balance and agility). Collectively, these elements, along with other installations like the tōrere tree and kauri log roots, resemble fallen tree-trunks and stumps among lush vegetation.

Analysis

However, like Te Wānanga, the Māra Hūpara play space has issues of simulation and authenticity, despite successfully providing a much-needed space for the wider community and allowing people to reconnect with nature. The design is regarded as natural, promoting natural play, and using natural resources; however, the play space is very much composed. Traditional Māori play equipment consisted of logs, rocks and stumps that were more than likely naturally formed and situated amongst untamed foliage, which is what the play space is missing. Although there is a need to ensure the safety of children with maintained planting and regulated heights, this removes the element of being natural. It is natural to fall. Let the children determine what is too high, within reason, of course. The site lacks authenticity because of this; even the term ‘natural’, which Boffa Miskell repeatedly highlight on their website, is a simulation. How can the play space be natural if every detail is curated? Admittedly, however, the design successfully pays tribute to traditional play and battle training (which games were also used for), as this equipment allows children to practice agility and balance in an open-air site connected to nature.

As in Te Wānanga, the design process is rooted in colonial thinking. As stated earlier, imagining a decolonised and authentic play space, or what procedures would be needed to create one, is challenging. However, being an African and Pacific Islander landscape architecture student, I can see there are other ways to create play spaces. Building on the term ‘natural’, letting nature be natural would have been more authentic. Also, let humans do what humans do. Growing up on an island, there

was a raw sense of connectivity, spirituality and authenticity, having a tropical forest as a backyard playground. It is an unmatched feeling of freedom for a child, wandering off into the bush, finding a spot, and creating your playground. To import materials, make things out of twigs, all entirely fuelled by your imagination. The adventure of finding and building the playground with no influence or direction is the true meaning of nature and adventure play.

Conclusion

It is almost unrealistic and unfeasible in this society to allow nature to grow and let children wander in it, but, as Mercier asserts, decolonisation starts with the mind. This also involves reflection and recognition, because claiming and accepting Māra Hūpara’s play space as natural means we are part of the simulation; we are so disconnected from reality that we believe composed nature is natural. Not only are our spaces simulated, but so is the way we view them and, thus, how we think. As Mercier states, it is an internal and external effort that needs to start with implementing actions in schools, but it also begins with our creative spaces, such as playgrounds.

Modern-day design practices dilute Māori culture, and designers unknowingly contribute to this. We pride ourselves on using basic decolonisation tactics and plastering terms like ‘natural’ and ‘transformative’ on a project. Yet we fail to acknowledge the colonial thinking embedded in the practice and our thought processes. Like decolonisation, addressing the issue of diluting culture is complex, because it encompasses simulation, authenticity, spirituality, mind shifts and decolonisation. However, unlike decolonisation, this concept has yet to become familiar, despite being just as important, and should be discussed more widely. We have unknowingly created a landscape of simulation, reduced culture to fixtures, decorations and stickers, and made the minimum effort of decolonisation, yet we claim authenticity like a badge. This is nothing other than delusion, and it prevents us from making much-needed permanent changes that are not superficial. It will require norms to be challenged and people made uncomfortable; however, this is the only way to achieve true co-habitability. People will always fear the unknown, struggle with issues more significant than themselves, and limit themselves to existing constraints; however, this rhetoric requires us to break boundaries completely. As stated earlier, it’s easy to suggest new ideas and nullify a project through the lens of a theory, but it’s hard to imagine what true co-habitability looks, feels, smells and sounds like. This is an argument against diluted cultural reinterpretations and is in favour of the necessary individual self-reflection and collective mind-shift that is needed to achieve co-habitability that embraces and empowers all. As landscape architects, our role in Aotearoa is to kickstart this movement.

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