

If You Copy, You Will Be Caught and a Mess Will Remain

The Role of Formal Precedent in Design Studio

Cameron Moore

Abstract

It has been eight years, or nearly two generations of students, since the last classical studio was run at Unitec. In the six-week vertical studio, the students got a valuable addendum to their regular design studio education. The point of departure from contemporary studio is the absolute reliance on formal architectural precedent in the students' design methodology and consequently, their final presentations. The primary learning objective was not necessarily how to design a classical building, but the experience of designing in a paradigm where explicit formal references were demanded, not as a starting point, but as an integral part of the design process. After the site analysis and understanding the functional and spatial requirements of the brief, every other decision the student makes could be – or at a beginner's level, should be – informed by an architectural canon established 4500 years ago that has since spread to all continents. This paper reflects on an alternative approach of design studio teaching at the Unitec School of Architecture. As the only architecture school in New Zealand that has run a classical studio, it can be

seen as a point of difference with the other architecture schools, and indeed a confirmation of Unitec's 'real-world learning' philosophy.

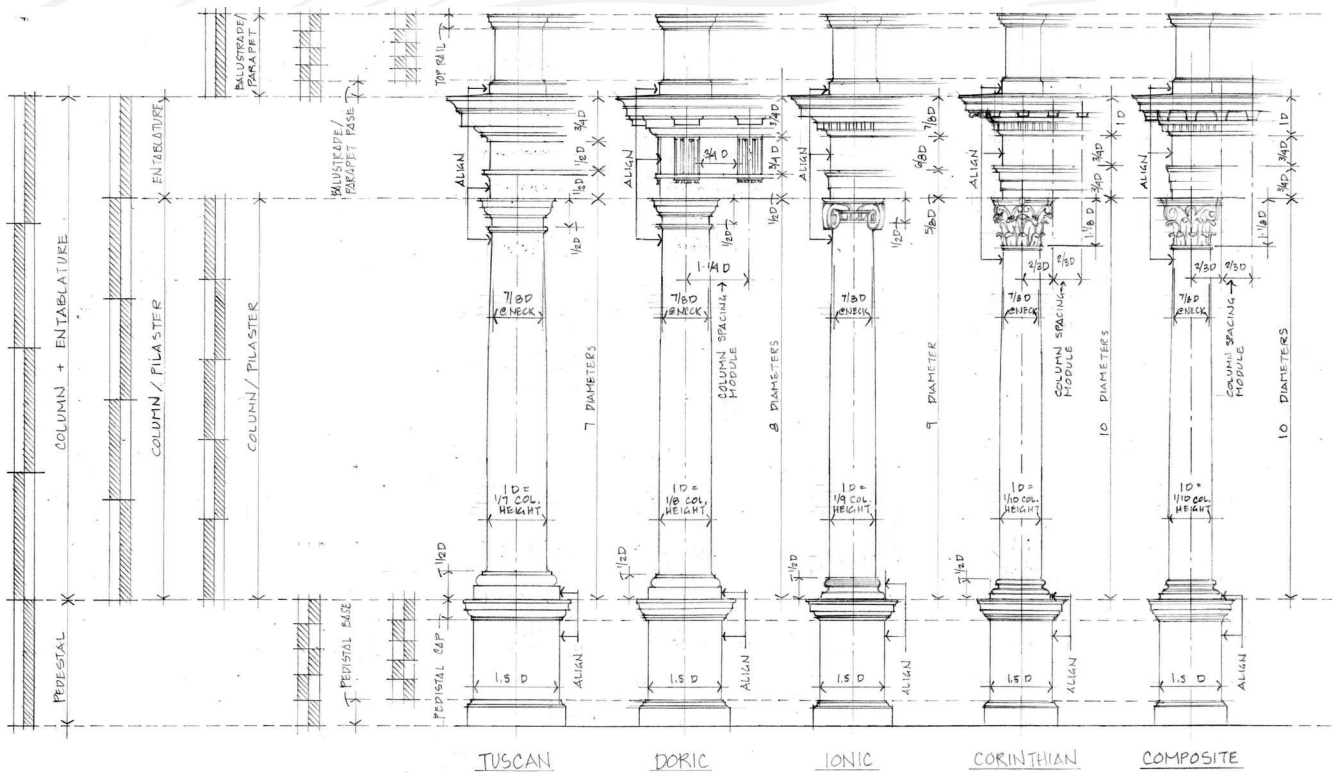
Introduction

It has been eight years, or nearly two generations of students, since the last classical studio was run at Unitec. In the six-week vertical studio the students got a valuable addendum to their regular design studio education. From this experience a number of students went on to realise their capstone design (five-year Bachelor of Architecture) or their research project (Master of Architecture) in the classical tradition. According to the International Network for Traditional Building, Architecture and Urbanism, Unitec was the only New Zealand school among only a few architecture schools in the world to offer this type of education,¹ and even published a book, *Traditional Architecture: Work from the School of Architecture*, in 2003.²

The point of departure from contemporary studio was

1. "Institutions | INTBAU," accessed October 5, 2020, <https://www.intbau.org/resources/institutions/>.

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



THE CLASSICAL ORDERS of ARCHITECTURE

BY MICHAEL ROUCHELL, ARCHITECT

the absolute reliance on formal architectural precedent in the students' design methodology and consequently their final presentations. The primary learning objective was not necessarily how to design a classical building, but the experience of designing in a paradigm where explicit formal references were demanded, not as a starting point, but as an integral part of the design process. After the site analysis and understanding the functional and spatial requirements of the brief, every other decision the student made could be – or at a beginner's level, should be – informed by an architectural canon established 4500 years ago that has since spread to every continent.

In *The Language of Classical Architecture*, John Summerson ventures that it is always a mistake to try to define classical architecture, but he puts forth a loose definition nonetheless. It rests on two broad meanings. The first meaning is "a building whose decorative elements derive directly or indirectly from the architectural vocabulary

Figure 1. *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/>.

of the ancient world...columns of five standard varieties, applied in standard ways [the five orders]." He acknowledges this is only a "skin-deep" description that allows one to "recognise a certain category of building, the category we call classical." The second meaning concerns the aims of classical architecture to demonstrate "harmony of parts" in its design. This is achieved through careful interrogation of the building's proportion by "the conspicuous use of one or more of the orders as dominant components."³ A system of carefully proportioned ornamentation also differentiates the five orders from each other, as it is well described by Robert Chitham: "Each order is constructed of a series of components [structure and ornament] standing in a clear though not immutable, proportional relationship with one

3. John Summerson, *The Classical Language of Architecture*, revised and enlarged edition (London: Thames and Hudson, 1980), 8.

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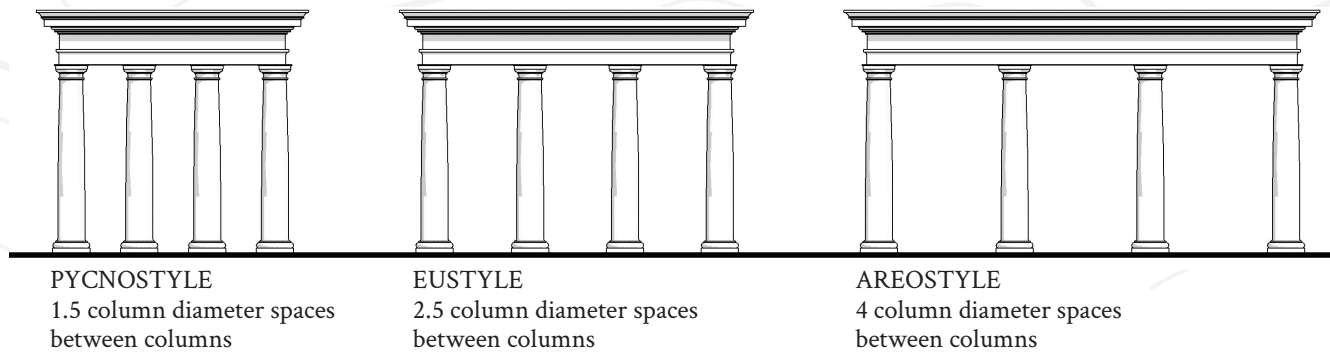


Figure 2. Intercolumniations from Vitruvius in the Tuscan order. Note one can always find satisfactory precedent for any intercolumniations between 1.5 and 4 in the canon. Diagram by the author

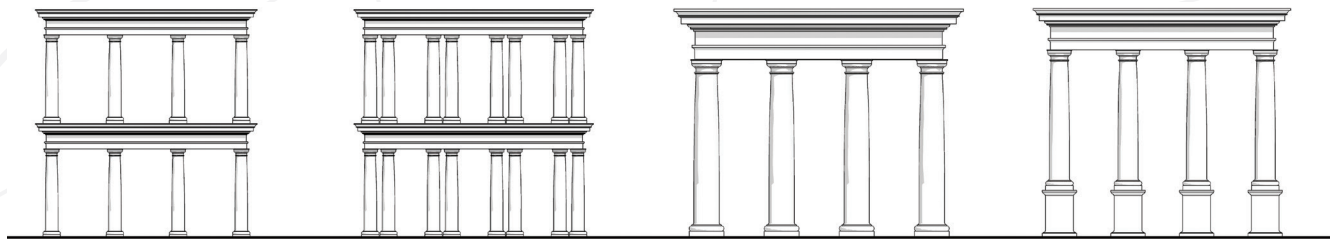


Figure 3. Basic manipulation of the order. Diagram by the author

another, and peculiar to that order...thus as a whole form a complete system analogous to a language, abiding to the rules of grammar and syntax, capable of being used in a literate manner, but vulnerable to illiterate abuse.⁴

The Five Orders

The illustration above from 2013 shows the orders with a consistent height (a useful resource for designers as floor and ceiling heights are usually known).⁵ The five orders are based on a post and lintel structural system, and although they date back to Ancient Greece, they have been constantly interrogated, modified, and tweaked up until the present day. They differ in their proportional relationships, with the diameter of the column shaft setting the scale of the rest of the order, thus the building. For example, in the Tuscan order the column height is seven times its base diameter, while the Corinthian column height is ten times its base diameter. In addition to this, suggested proportions for the remaining structural system and the ornamentation are

again proportioned to the diameter of the column, which is referred to as the module. From a design perspective, after the initial site survey and analysis, establishing the function and brief for the building, deciding on the module is the first architectural design decision. The second decision is how much space to allow between the columns, with Vitruvius noting the space between the columns can range from two and a half column diameters to four diameters.⁶ With these first two steps, the proportional and structural system can be derived for the entire building (or part thereof), and the design joins a family. Due to functional, structural, and site constraints (and perhaps simply having good taste), it is very rare that a module and an intercolumniation as shown above will be enough of a starting point to fulfil the brief, so some manipulation is needed as well – see below for some examples.

Precedent as a Design Method

Once the basic proportional system has been established, the building still needs to be designed. As Steven Semes writes, in *The Elements of Classical Architecture*:

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

5. 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/>.

6. Chitham, *The Classical Orders of Architecture*, 102.

[C]lassical design arises from understanding composition based on a hierarchical formal system governing the interrelations of parts and wholes: every part is also a whole, and every whole is also a part. The relations among the parts, and between the parts and the whole, are developed in accordance with the requirements of structure, the demands of symmetry, and the play of inflection. Fundamentally, the particular character and identity of each part determines the patterns that relate parts to one another, not an imposed, abstract organizational system extrinsic to them. The wall of a building is never just a planar surface: it is a composition of distinct elements, such as doors, windows, columns, cornices, stairs, balustrades, etc., each of which has a name, a history, and a formal as well as a pragmatic role to play in the whole. Every classical building is made up of such conventional, even commonplace, elements. Through the art of composition, they are given expressive character and synthetic unity.⁷

Of course, composition, the relationship of parts, the play of inflection, requirements of structure, and resolving planar surfaces are all at least obliquely taught in contemporary design studio. The difference is in the explicit application of formal design elements into the student's design. As Semes implies, a wide knowledge of previous solutions to specific design problems is invaluable to the way the student resolves their current design dilemma. For example, how to organise the composition of a façade in a satisfactory way on a sloping site with pedestrian access while also allowing enough light into the interior of the building, or functional requirements that are in turn putting pressure on the ceiling heights. These problems have been solved before, and what makes this formal study efficient and appealing to students is that the problems have been solved in the same architectural language that the student is learning. And that language is “the cumulative product of centuries of thought and experimentation. Their artistic refinement has no individual author but is the result of the directed attention of many minds from varied civilizations and times.”⁸ The classical language not only allows for experimentation, creativity, and personal expression, but actively encourages it by making it part of the canon, like a new word or a particularly good turn of phrase. See Roy Lippincott's design (right) for the Old Arts/Clock Tower Building on Princes Street (1926) for a local example.



*Figure 4. Old Arts Building, The University of Auckland, by Roy Lippincott, 1923–1926. Note the proportions, formality, and personal expression inherent in the design.
Image source: Wikimedia Commons*

7. Steven W. Semes, “The Art of Composition,” in *The Elements of Classical Architecture*, ed. Henry Hope Reed (New York: W. W. Norton & Company, 2001), 16.

8. Richard Sammons, “The Importance of the Parallel in Architectural Studies,” in *The Elements of Classical Architecture*, 14.



Figure 5. Remuera Public Library, architect William Gummer, 1926. Photograph by the author

Knowledge through Secondary Sources

Knowledge of precedents starts with contemporary classical design guides like Robert Adam's *Classical Architecture – A Complete Handbook*, Branko Mitrovic's *Learning From Palladio*, and Jean-François Gabriel's *Classical Architecture in the Twenty-First Century*, among many others. From an analysis of the canon, these books offer practical advice on common design problems from application of symmetry, massing and various functional aspects, and give the reader examples to follow, exercises to do, and often further readings. They follow in the style of common well-illustrated architectural handbooks from the 1900s to the 1930s such as William Ware's *American Vignola*, Nathaniel Curtis's *Architectural Composition*, and Howard Robertson's *The Principles of Architectural Composition*.

Knowledge through Applied Observation

The crucial next step is student-led enquiry, in which the student discovers buildings they personally respond to and understanding of why that is so. How the architect of that building solved or avoided design problems becomes the focus of the observation or investigation. New

Zealand architect William Gummer called this process 'architectural research,'⁹ in which the student "live[s] in the age, and interprets the mind of the designer.... We follow his thoughts, we benefit by his mistakes as well as by his successes. While we have been working almost unconsciously, the full import of the terms, proportion, breadth of design, scale, character, use and placing of enrichments, comes to us, and so our perception and intuition, and sense of fitness of things is developed."¹⁰ Or more pragmatically, Gummer's mentor the the Royal Academy of Arts, Reginald Blomfield, states, "The point of interest for the student is how the space is spanned by the vaults, how the thrusts are met, the actual dimensions of the masonry, the proportions of wall to window, in short, the actual details of the building."¹¹ Today the channels of observation are endless, from the guidebooks above, monographs, books, journals, Wikipedia, social media, and Google Image search, all one needs is an internet connection to access buildings from all times all over the world. However, to get the largest breadth of information on a building, visiting and sketching is still essential. "Notice how frequently in good buildings the details such as doors and windows reflect the line of the general building. Notice the conscious dignity of the Law Court, the joyous note of

9. William Gummer, "The Threefold Application of Architectural Education," *NZLA Proceedings* (March 20, 1920): 42–48.

10. William Gummer, "The Study of Architecture," *Building Progress* X, no. 9 (May 1, 1915): 293.

11. Reginald Theodore Blomfield, *The Mistress Art* (London: E. Arnold, 1908), 10.



Figure 6. Aotea Train Station, Auckland City, by Alexander Brieg, 2013.

the Theatre, the arresting form of the Church. All these and much more if we only have the eyes to see, have their lesson, and are ever helpful in making the mind sensible to the subtleties of Architectural Design.¹² Auckland has a large collection of good, prominent classical buildings, usually making up the majority of ‘most impressive’¹³ or ‘iconic’¹⁴ lists of buildings in the city.

The reliance on precedents acts as both a guiding hand and as reasons for design decisions, yet – due to varying functional requirements, responsiveness to the site, and limitations and opportunities of the material palette – it

simply doesn’t allow for a ‘copy-and-paste’ mentality. As Edwin Lutyens puts it, “I have the cheek to adopt [the Doric Order.] You can’t copy it. To be right you have to take it and design it... You cannot copy: you find if you do you are caught, a mess remains. It means hard labour, hard thinking over every line in all three dimensions and in every joint, and no stone can be allowed to slide.”¹⁵

Some Students’ Work and Their Experiences

Unitec’s classical studio was started in the late 1990s by Branko Mitrovic and ran through to the early 2010s. In the earlier days, three students were offered full scholarships to, and attended, the University of Notre Dame – the preeminent classical architecture school in the United States: Dan Phillips, Damon Bridger and Wouter Boer. All are currently in the United States working as classical architects.

12. Gummer, “The Study of Architecture,” 296.

13. Thalita Alves, “The Most Impressive Buildings in Auckland, New Zealand,” Culture Trip, accessed July 27, 2020, <https://theculturetrip.com/pacific/new-zealand/articles/the-most-impressive-buildings-in-auckland-new-zealand/>.

14. “Iconic Buildings in New Zealand by Votes,” Mini-KiwiLand, accessed July 27, 2020, https://minikiwiland.co.nz/most_iconic_buildings_in_new_zealand_by_votes.php.

15. Summerson, *The Classical Language of Architecture*, 27.

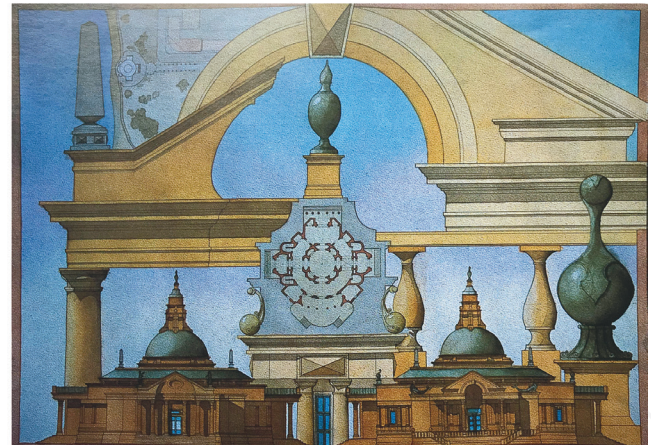
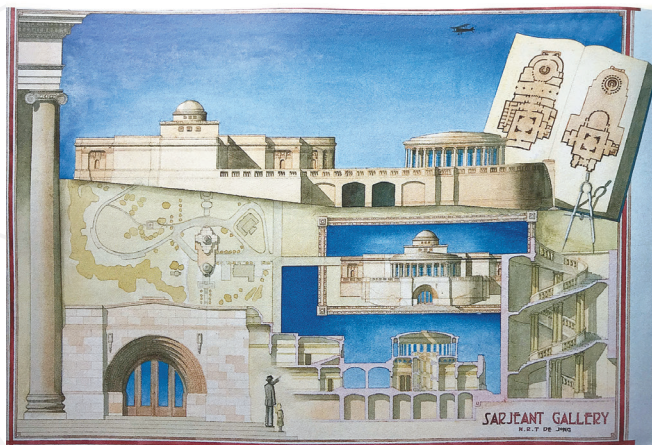
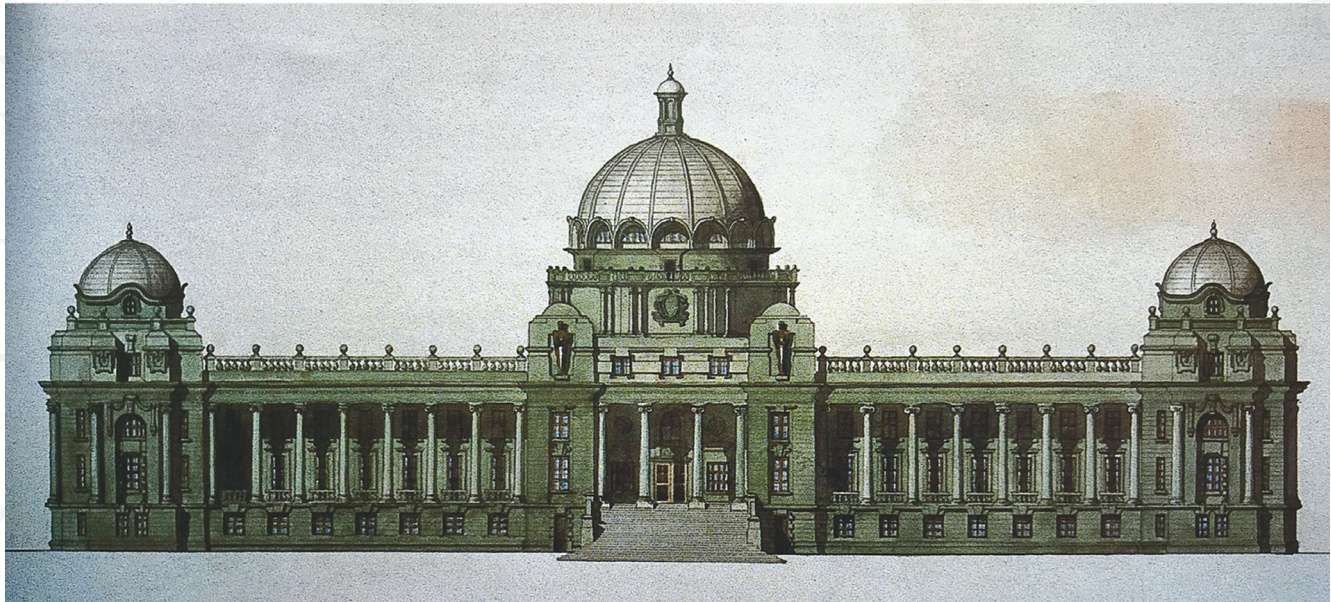


Figure 7. Top: Completion of the Parliament Buildings by Mark Boyack. Left: Expansion of the Sarjeant by Neil de Jong. Right: Proposed Gallery in Devonport by Damon Brider. From Branko Mitrovic, "Accounts Rendered," *Architecture New Zealand* (March–April 2000): 54–58.

Another student, Alexander Brieg, was offered a scholarship in 2016, which he turned down to open a classical architecture studio in Christchurch. It's safe to say that exposure to classical architectural design profoundly influenced the professional trajectories of these four students.

Obviously, for the majority of students, the influence is more subtle. Current residential architects Melanie Bourke (2003 graduate) and Karl Newby (2012 graduate) say that having an understanding of classical principles has helped

in practice, not only in additions and renovations of historical buildings, but for getting the 'right' proportions when designing new buildings. From a broader educational point of view, both also placed a value on having a taste of previous generations' values and methodologies. In addition, Bourke mentions learning how to compose and traditionally watercolour an analytique drawing, and Newby recalls that it was during his time in classical studio that he was first encouraged to use an iterative drawing process when designing, something he still does today.



Figure 8. Auckland City Council Chambers by Karl Newby, 2012.

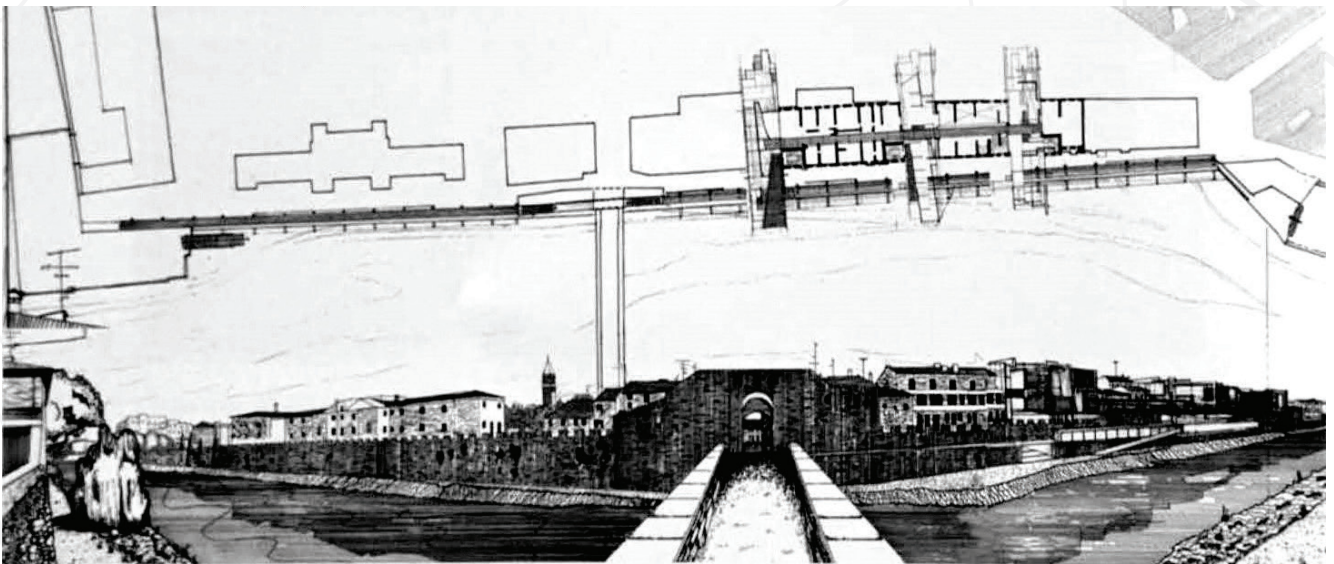


Figure 9: The Apothecary, Prato, Italy, by Melanie Bourke, in Mitrovic et al, Traditional Architecture, 24.

Conclusion

Classicism has an outsized role in the history of architecture in the Western world, and by extension, New Zealand. Beloved buildings in the main centres – in Auckland, the Town Hall and The Civic Theatre; in Wellington, the Houses of Parliament, and The National War Memorial, Museum and Art Gallery; in Christchurch, the Bridge of

Remembrance and the Catholic Cathedral – are all classical buildings. It has been eight years or so since Unitec ran a classical studio, the only architecture school in New Zealand that has run one. It was valuable to Unitec as a point of difference with the other architecture schools, and certainly fits into Unitec's 'real-world learning' philosophy.

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Moreover, while some Unitec faculty have this design knowledge, it is not being taught, so how would it be possible to know if there are students who might otherwise better engage with this type of design methodology? And, finally, there is value to the students who, in six weeks, realise that there is another way to design buildings. And those students, as William Gummer would say, “increase in resource.”

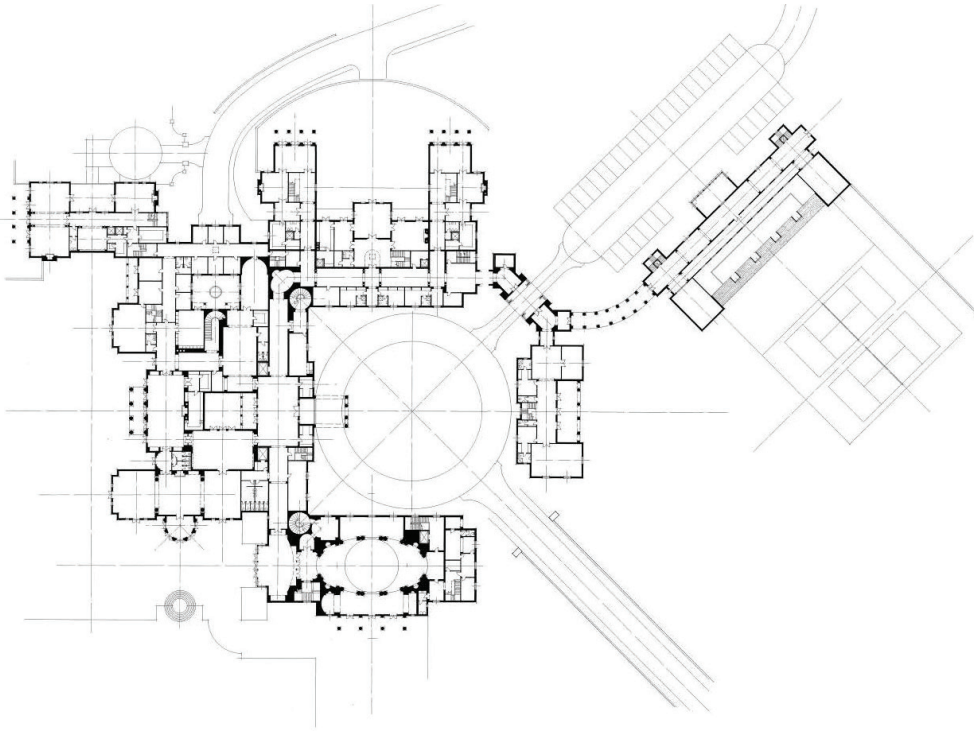


Figure 10. Governor General's Auckland Mansion by Chad McMan. This project was published in *The Classicist*, An American Arts and Architecture Journal.¹⁶

16. Richard John, ed., *The Classicist No. 8* (New York: Institute of Classical Architecture and Classical America, 2010).

Author

Cameron Moore

Cameron Moore is a Lecturer at Unitec School of Architecture in the architecture and interior design departments. He is also an architectural practitioner in Auckland with interests in classical and traditional architectural design, design processes, architectural precedents and architectural practices. His research investigates the architectural theories and principles that inform classical and traditional architectural design.

<https://orcid.org/0000-0002-7812-8341>

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