

# William Wardell (1823-1899): Architect and Engineer 'Convent and School, Kew', 1889

Ursula M. de Jong  
Deakin University

## Abstract

*William Wardell was born and died in the nineteenth-century, a most extraordinary century in which to be both an architect and engineer, when rivalries rather than collaborations between these two professions were generally the focus. Wardell's training and experience as architect and engineer comes to the fore in Genazzano FCJ College Kew project, a work of architecture thrust into the social, political and economic turmoil of late nineteenth-century Melbourne. Building commenced just before the crash of marvelous Melbourne in 1890: attempts to curtail the project reveal pragmatics driving out any design considerations and financial considerations dictating the building program. The Mother Superior suggested removing one floor, the Archbishop considered that the spire added nothing to the design anyway! The architect convinced his client that this was not the way forward in dire times and contemporary accounts tell us that as the building neared 'completion' the full beauty of Wardell's design became apparent.*

*Genazzano demonstrates how conceiving and making are inextricably linked in a project where architecture as art, building, craft, utility, and function come together, where the realisation for use depends upon technologies of communicating, of building, of materials, ventilation, heating and cooling systems, water supply, and sufficient closets. Alongside this use of new technologies, Wardell stuck to the Gothic tradition within an established oeuvre, adhering to Pugin's two great rules of design.*

*This paper draws largely on primary evidence. Two drawings: Wardell's bird's eye view and his son Herbert's finished presentation drawing (Herbert Wardell was in practice with his father during the 1890s). Wardell's working drawings and specifications have disappeared through time, however, his Letterbooks are preserved in the Mitchell Library, SLNSW. They detail the project from the architect's perspective as it was built during 1890-91. While the architectural vision was for a splendid late Gothic Revival collegiate edifice, circumstances dictated that only a sound, good, honest building could be realised. Wardell's experience as architect and engineer, his knowledge and skills of building technologies meant that the practical builder cajoled and shepherded stage one to completion against all odds. Wardell's Genazzano may be simple and austere, but it is nonetheless incredibly impressive in scale, in attention to craftsmanship and detail.*

## Introduction

December 1889 was a critical make or break point in the building of the Convent and School, Kew. Mother Daly had signed a contract with the builder for over £34,000 in June 1889. Work had begun on excavations for the foundations in the same month, and by December part of the roof of the three-storey structure was already up. The FCJ Annals, Richmond of 1889 report that not only did building commence but it advanced with “astonishing rapidity”.<sup>1</sup> Early in December Wardell learnt that the FCJ Sisters were in financial difficulties. Mother Daly, who had been assured that monies would be forthcoming in a very buoyant almost hedonistic financial period, found herself unable to meet the regular payments she had agreed to. Indeed the FCJ Sisters became casualties of the great financial crash following the boom of marvelous Melbourne, when banks collapsed and foreclosed on their customers. In buying the land at Kew, and commissioning the new building, the FCJ Sisters had committed to more than £50,000 of debt. As the boom bubble burst, land values also plummeted. Re-financing became impossible.<sup>2</sup> Wardell writes immediately to Mother Daly, his client, explaining her contractual obligations with regard to the building under construction. He advises that taking off the second-storey could be ruinous to the building’s “effect and appearance”. Breaking a contract would be costly. Rather he suggests borrowing money; or extending the contract over a longer period.<sup>3</sup> Mother Daly wrote to the FCJ Mother Convent in Europe in despair, begging for help.<sup>4</sup> Carr, the Catholic Archbishop of Melbourne, made it clear he could offer Mother Daly no help, and that she should abandon the project.<sup>5</sup>

The book *William Wardell and Genazzano FCJ College*, written for the 120-year anniversary of the College, tells the full story of the Convent and School, Kew.<sup>6</sup> This paper focuses on the circumstances that faced the architect and how he overcame them. It explores how his training as architect and engineer stood him in good stead, in this single project where 'real' engineering and pragmatism were forcefully pitched against architectural concerns.

In England, in the 1960s and 1970s, the late Stephen Welsh, Emeritus Professor of Architecture at Sheffield University, set about compiling a *catalogue raisonne* of Wardell's English work, as an inadvertent corollary to his research on Mathew Hadfield and George Goldie, who took over Wardell's practice in 1858. Welsh was an avid compiler of lists and by self-admission preferred the detective work of the compiler, to the critical analysis of architectural historians. His work led him to conclude that

Wardell was never a copyist working within antiquarian precedent, but a designer who realised the need to find a consistent agreement of the forms chosen with the

appearance of the building both inside and out, with the forces which brought it into being: materials and construction, the requirements and resources of the client.<sup>7</sup> Welsh could have been describing the Convent and School, Kew.

### **Architect and Engineer**

Wardell's professional training was as engineer and architect. Wardell's exact movements between the years 1838 and 1843 remain unclear. Sometime during 1838 Wardell entered the office of a Mr. Morris, one of the Surveyors to the Commissioners of London Sewers and a Civil Engineer in private practice. This was followed by a period in the office of W.F. East, an architect then practicing in London. No extant records exist for either Morris or East in their respective professional bodies. Nonetheless, Wardell's five-year apprenticeship seems to have trained him well and was to stand him in good stead in a long career, bridging engineering and architecture, at a time when these professions were generally perceived as separate.<sup>8</sup>

The spark which touched off the explosive expansion of self-conscious archeologically correct Gothic was the powerful polemical literature of the Catholic convert architect A W N Pugin (1812-1852). In 1841, Pugin published his *True Principles of Pointed or Christian Architecture* and on the first page enunciated his two great rules of design:

- 1st, that there should be no features about a building which are not necessary for convenience, construction or propriety;
- 2nd, that all ornament should consist of enrichment of the essential construction of the building.<sup>9</sup>

While Pugin considered these rules to apply solely to Pointed or Christian architecture, these principles are not explicitly Gothic. That the Vitruvian triad could be understood to transcend a specific language of architecture, and underlie all architecture, is of singular importance when considering Wardell's work. He applied Pugin's rules of design equally adeptly to edifices in the Gothic or Italian mode, as well as to his engineering projects. The 1842 (revised) edition of Chambers' *Information for the People* provides an idea of the general use made of the Vitruvian triad in the nineteenth century: "The rules of building require, that in a whole fabric judiciously and elegantly erected, there should be solidity, convenience, and beauty, along with simplicity and harmony of design".<sup>10</sup>

Wardell approached architecture from an architect-engineer's viewpoint, combining practicality with an aesthetic intuitiveness. While he subscribed to Pugin's architectural

principles, his buildings are distinct from Pugin's, stemming from what was to become an intrinsically different philosophy. Pugin's treatment parallels a development in fifteenth century Italian architecture whereby churches were designed from the inside out, and where many buildings were left with unfinished rubble walls on the exterior. Pugin admitted "that to have sacrificed the internal splendour of the house of God for the sake of exterior display, would have been utterly departing from true Catholic principles".<sup>11</sup> Such an approach would never have worked in Kew in 1889.

Apart from his engineering training and command of practical and structural aspects of building, the acquisition of skills and disciplines, and the mastery of techniques, Wardell had an intuitive feeling for architectural effect. He knew how to create expressive architecture. He understood massing, the juxtaposition of volume and space, the penetration of light, the depths of shadow. At a time when specialist training and growing professional class-consciousness resulted in a rigid division between nineteenth-century architects, engineers and builders, and little attempt was being made to share common ground in design, Wardell seems to have had a distinct advantage over many of his contemporaries. The writings of Wardell's contemporary, the architect William White highlight the problem. He advised: "it would be well if each knew a little more of the other's branch". But when it came to defining engineering and architecture, he envisaged them as distinctive professions: "the one consisting in the science and art of construction - the other in the science and art of composition and design".<sup>12</sup> White could not reconcile his intuitive feeling that architects and engineers should work together, with the commonly held belief that engineers were inferior. In the practice of architecture, Wardell's approach was to be lauded.

Explicit evidence of Wardell applying engineering thinking has come to light in twentieth-century restorations of two of his significant Melbourne buildings: St Patrick's Cathedral and the ANZ Gothic Bank. At St Patrick's the blank triforium integrated into the clerestory windows above the nave, actually provide ventilation into the roof space of the aisles. Photographic evidence of the front façade of the building in 1862, showing the scaffolding and the gantries needed to raise the bluestone blocks, reveal a veritable working railway line on top of the building. The work needed to raise the nave ready for use by 1868 is evidenced in the monumental side buttressing and in the flying buttresses. It is again "railway engineering stuff" according to the conservation architect Arthur Andronas, who oversaw the centenary project.<sup>13</sup> Yet the proportions of the cathedral are simple, robust, noble, pure, in a word stunning. They would work in any material – basalt, colloquially known as bluestone, sourced from Victoria's western district, was robust, cheap, cost effective and available. The quality of the work carried out during Wardell's supervision is formidable, and in remarkably good condition 100 plus

years later. During this period in the 1860s Wardell was also Inspector General of the Public Works Department in Victoria and engineer in charge of designing and building the Alfred Graving Dock, Melbourne. At £300,000 it was the largest construction of its time. Constructed of bluestone it is an awesome *tour de force*, servicing the British Navy's requirements for its ships to be repaired in Colonial ports.

During the late 1980s and early 1990s Allom Lovell and Associates undertook the restoration of the ANZ Gothic Bank – Wardell's ES&A Chartered Bank built 1883-1886. In that process they uncovered much about its architect and engineer. While Miles Lewis has described the secular Gothic design as *retardaire*, Wardell's conservative and restrained building is nonetheless considered beautiful. For a small bank, it is incredibly decorated. However it is the engineering of the cast iron and wrought iron beams that allowed the construction of its glorious banking chamber: a jewel-like space filled with extraordinary light. Wardell's training and knowledge as engineer enabled him to oversee the trialing and testing of the columns which each needed to support 250 tons. The actual structure of each column reveals "a real gutsy raw engineering solution": it is massive and does not shy away from truthful expression of the structure. According to Peter Lovell, "The decorative layer barely relieves it".<sup>14</sup>

Wardell's General Note Book was an early indicator of Wardell's far ranging interests and concerns. The notebook was begun in the 1850s when Wardell's practice was already well established. Most of the gathered data relates to Melbourne and Sydney, though it follows habits begun in England. His career in Australia encompassed the roles of ecclesiastical architect, public servant and secular architect, civil engineer and memberships of numerous Boards, Committees and affiliations as various as the Royal Geographical Society and the Commission into Fine Arts in Victoria. Many entries in the General Note Book refer to these activities.

The format of the more than three hundred and sixty pages was informal and convenient. Newspaper articles and journal clippings were slipped in beside interesting facts and figures. Jottings relating to science, hypotheses and theories, new scientific and technological inventions and discoveries, mathematics, practical geology and the properties of metals lie side by side with definitions of architectural terms, Vitruvian advice, comments on Alberti's, Palladio's and Serlio's treatises and extracts from Scott's - Gothic Secular and Domestic. The latter provide important evidence of his wide reading, ancient and modern, in historical, theoretical and practical matters. Above all, this notebook shows Wardell to have been an informed architect and engineer, alert to contemporary issues in many fields. He was not a rabid medievalist nor did he plead for a return to a medieval way of life. He was a Gothic

Revivalist in the modern nineteenth-century world. Wardell knew he lived in a time of “brilliant technological advances” and “unprecedented industrialization”,<sup>15</sup> but he also believed in the primacy of Pointed Architecture as a correct expression of his Catholic faith.

### “Convent and School, Kew”

We do not have any drawings other than Wardell’s bird’s eye perspective drawing for ‘Convent and School, Kew’ (Figure 1) and his son Herbert’s presentation drawing dated July 1889.



**Figure 1.** William Wilkinson Wardell, Sketch drawing for Convent and School, Kew, 1889. Genazzano FCJ College Archives.

These drawings tell us that Genazzano FCJ College, Kew, was to be a robust late Victorian Gothic asymmetrical three-storied brick building designed to integrate a convent, school, chapel, and dormitories. While we have many references to Wardell’s full set of architectural drawings and documentation for this project in his letters and in Mother Daly’s letters, none of the original working drawings, nor specifications or contracts have come to light. In June 1889 Wardell sent Mother Daly a copy of the specifications for the Clerk of Work’s use, and asked her to give the specifications and the plans to the Clerk of Works so that he could “master their contents as soon as possible”.<sup>16</sup> From the Annals of Kew, 1889, we learn that “Father Kennedy also came to see the children and showed and explained to them the plan of their future

school”.<sup>17</sup> In 1892 Mother Daly wanted copies of the drawings and specifications, but when she asked Wardell for them, he said she could of course have access to them to check various details or matters of concern, and take notes from them, but that the drawings and specifications remained the property of the architect. He considered them his intellectual property, his tools of trade so to speak. Wardell did not want them passed on “for the benefit of other architects”.<sup>18</sup> In February 1896 Reverend Mother was again allowed to borrow the ground and first floor plans, “On the understanding that you will not allow them to go out of your possession until you return them to me”.<sup>19</sup> So while Mother Daly had the specifications and the plans in her hands on a number of occasions, they seem to have been passed on to contractors or returned to the architect. No planning permission was required until after World War II. The FCJs would have required a building permit from the City of Kew, but even where drawings had to be submitted they were often stamped and returned. Only a minority of Councils in Victoria still have drawings in their possession.

Copies of Wardell’s letters to his Quantity Surveyor, Arthur Anderson; his Clerk of Works, Leonard Carr; the contractor, Robert Gamlin; and various tradesmen working on the project or consulted for advice are contained in his five volumes of Letterbooks (or more correctly pressed letterbooks), held in the manuscripts collection of the Mitchell Library, State Library of New South Wales. Here we also have copies of Wardell’s letters to Fr Kennedy SJ and Mother Daly FCJ. A number of Wardell’s original letters to Mother Daly are held in the FCJ Archives, Richmond, Victoria. Wardell ordered the letters mostly chronologically, keeping an index to each of the five volumes, which contain about 5000 letters. The letters are curt and business-like, always polite, short and to the point. Time was of the essence. Paper was expensive.

These letters now give us insights into the process of building in the nineteenth century, the letting of tenders, procurement, the trades, work practices and into the supervising role of the architect. The correspondence also reveals glimpses of the architect’s relationship with his clients. Further, we can surmise something of the attitudes of the clients, patrons and builders through this correspondence. However the record is incomplete: the Letterbooks preserve only outgoing correspondence from the architect’s office. What we do see is the process of building through the eyes of the architect: these were his personal day-to-day records used for the running of his professional practice. We get to know his values and his concerns.

### **Constructing the Convent and School, Kew**

Wardell supervised the building of the Convent and School, Kew, from Sydney, which had its own challenges given the considerable distance from the site. Wardell did commute to

Melbourne regularly but it was a long journey by sea down the east coast or by train through Albury, and he preferred to come when there was good reason. On the 15 July 1889 Wardell wrote to his Clerk of Works, Leonard Carr plainly and directly: "I do not wish to come to Melbourne before it is necessary and should be glad if you would give me at least 10 days notice of when I shall be wanted".<sup>20</sup>

Given the distances involved, it was even more critical that Wardell had good people, whom he could trust implicitly on the ground, for a work of such magnitude. While Inspector General of the Public Works Department in Victoria (1861 - 1878), Wardell had relied on some excellent traveling inspectors. On 12 June Wardell writes to Reverend Mother Daly with regard to the new Buildings at Kew.

With your permission to select the Clerk of Works, I have been fortunate in securing the services of a man who I am sure is well fitted for the position, a Mr Leonard Carr of Glen Street Hawthorn. I have known him for many years, and he has acted under me in a similar position in the Government Works in Victoria, and I know him to be thoroughly competent for large works, and trustworthy. His duties are to commence on 24 June, and his salary will be £6.0.0 per week. I have desired him to see Fr Kennedy and I will ask Fr Kennedy to bring him to you, and I think you will see he is the proper "stamp" of man for the work.<sup>21</sup>

From the start Wardell is concerned that only the best quality materials are used for construction and that the workmanship is up to the best standards. Excerpts from letters refer to timbers for flooring, brickwork in foundations, cement and asphalt. They clearly demonstrate Wardell's concern with the art and craft of building, with the aesthetics and the function. On the 3 May Wardell asks Anderson

Will you be good enough to specify the flooring to be the best picked NSW Black Butt from Northern forests, in battens 4"X1 1/4" [note Wardell corrects this 1 1/2" on 11 May] tongued and grooved etc etc instead of Jarrah and ask for an alternative price for Kauri. The stairs to remain in Jarrah. I enclose you a tender from a timber dealer and ships owner here showing the prices at which he will deliver it at the ships site in Melbourne exclusive of duty and loading charges.<sup>22</sup>

On 15 June he writes to Fr Kennedy regarding the bricks to be used for the foundations of the Church of St Ignatius, Richmond. Samples of bricks from the Upper Hawthorn Brick Co are considered excellent by Wardell, however he does not know if they will be dearer than bluestone for foundations. He notes that the contractor (Mt Robert Gamlin of Flinders Lane E Melbourne) is in charge of works and materials at the Convent and School, Kew, and that he himself has nothing to do with supply.<sup>23</sup> In August Wardell writes directly to the Managing



Director of the Hawthorn Brick Co reiterating that all samples of brick must go through the contractor and “so long as he fulfils his contract conditions he is free to purchase materials from anyone he pleases”.<sup>24</sup> In February 1890 Wardell is asking Carr in a PS to “Be good enough to take great care that the brickwork is not hurried during the hot weather and that the bricks are always wetted and used wet”.<sup>25</sup>

Keen to see work started immediately Wardell writes to Leonard Carr on the day he begins as Clerk of Works on 24 June:

As I presume the contractor is by this time prepared to commence work I write to say (referring to Clause No 7 of the general Conditions) that I wish the excavations, over the whole surface intended to be reduced, to be first completed, and following this, the excavations for the walls. You will observe on p.8 of the specifications that the trenches are to be excavated to their full length and width and to be examined and approved before any contracts in other works are commenced. The cement to be used is to be approved “Star” brand, the sand, coarse grit *Sandridge*, and the blue stone metal to be hand broken. I draw your attention to these because I should be glad that you would make the contractors understand from the first that the specification is to be strictly adhered to and that no deviation will be permitted without written authority.<sup>26</sup>

Ever on the alert Wardell writes to Carr on 6 July

From an enquiry made today I have reason to think the contractor is trying to purchase asphalt in Sydney from a company that manufactures it here. I do not desire that you should mention this to him, but I let you know it to put you on your guard as to the quality he brings on the ground. It must be “Claridge’s Patent Seyssel Asphalt” as described in the specification. I am told he says there is none to be had in Melbourne, if this be so, he had better telegraph to Europe at once for it. The blocks as you know are all stamped “Claridges Asphalt”. When the excavations are commenced it would be desirable to have two or three trial pits sunk to test the ground for foundations.<sup>27</sup>

In this way Wardell kept a close eye on all that took place on site, even though he was 800 kilometres away!

Once the foundations were in hand Wardell turned his attention to the ventilation of the building, to clarifying the levels on Mount Victor Road and the service end of the building. Wardell’s Letterbooks document for us the contrast between imagining the dream and the

process of achieving it. In striving to achieve the vision laid out for Mother Daly in Wardell's bird's eye perspective drawing for 'Convent and School, Kew' there is much hidden work. Getting the detail right is not 'romantic' at all (Figure 2). If the building doesn't function properly what is the point of the constructing it?



**Figure 2.** William Wilkinson Wardell, Detail of the completed section taken from Sketch drawing for Convent and School, Kew, 1889. Genazzano FCJ College Archives.

As already seen at St Patrick's Cathedral, good ventilation is crucial to the longevity of the building fabric and to the occupants comfort. At the end of September Wardell writes to Carr

I shall be glad if you will arrange an outlet 14 X 6 from each corner of every room at the floor level not only through the outer walls but also through those next to the corridors etc. I intend to fix Tobin tubes to these hereafter but at present you need only form the outlets. Of course you will take care that all outlets are cemented over the bottoms so as to prevent any water that may be driven in from soaking into the walls. The bottoms should be shaped up inwards and it would be desirable to give the surface of the cement a coat or two of paint.

With respect to the wall ventilators in the upper part of the rooms (14 X 6) I wish them placed as near the ceilings as possible on both sides of the rooms and those in the outer walls to be arranged over the haunches of the window thus [Wardell

includes a sketch] and none are to be placed over the points of the arches.

Wardell repeats the instructions and insists that there are to be “no other openings” except those specified above.<sup>28</sup>

While the siting of the building on high ground is lauded in many contemporary articles, no account is given of the implications of a steep site for construction. Thus we find that the writer in *The Advocate* gives no information on the building but lots on what he refers to as “the picturesque suburb of Woodlands”. The article contains this enthusiastic description of the beauty and health benefits of the site: “Great wisdom has been shown in procuring the site for the convent as it commands a splendid view of the country for miles around, and owing to its elevation above the sea level, it is a most healthy one”.<sup>29</sup> Clarification as to the levels on the Mount Victor Road side of the convent and schools are the subject of Wardell’s letter to Carr on 29 September.<sup>30</sup>

In order for this large building complex to accommodate convent, school, chapel and dormitories it had to be well serviced. The site was unsewered, so Wardell had to give careful consideration to supplying enough closets (toilets) for the Sisters and the boarders. By mid-October, Wardell suggests to Carr that “It would be well to do as little as possible with all these back buildings until I am next in Melbourne. I hope the questions of heating, laundry arrangements and Earth Closet fittings will be determined”.<sup>31</sup> By the end of that month Wardell again puts his mind to fitting out the closets, writing to Messrs Draper & Sons, 83 Bourke St West, Melbourne:

I enclose you a plan showing the closets connected with a building now being erected under my direction at Kew W. Melbourne and I should be glad to receive an estimate from you for preparing & fixing them complete. There are 7 on the ground floor, two on the first floor and two on the second floor eleven in all. The estimate must include the nightman’s hoist fitted in the Brick shaft prepared for it with all the necessary appliances and gear and left perfect and in good working order. These are for a Convent and Ladies School only. They are to be in Deal painted and must be emptied and filled from the back, and I should be glad of any suggestions from you with a view of making them as perfect as you can although without unnecessary expense.

You will observe in the plan that there is direct access from the road to the passage at the back of the closets from which they must be attended to without any necessity to enter the house or premises. There is space reserved for dry earth if you think it desirable.<sup>32</sup>

Wardell also asks for an estimate and cost for “maintenance and cleaning say twice a week”.

Some practical problems were also associated with the altitude of the site, such as getting running water on site and then supplying it to all three levels of the building. In November Wardell has “received a definite reply from the Water Supply department to the effect that the pressure of the Yan Yean supply cannot reach above the level of the ground or thereabouts”. In his letter to Mother Daly, Wardell continues: “This will of course make it necessary to use mechanical means for pumping it into a high level tank in the tower. There is however no difficulty about this, nor do I think it will be a matter of any serious expense or inconvenience and I will endeavour to have some schedule ready for your consideration on my next visit ...”<sup>33</sup> How delighted the Sisters and their pupils were to have running water in their new building, having lugged buckets daily from the stream at the bottom of the property while resident at Range View. How interested the girls’ papas were in the whole engineering feat of achieving it!<sup>34</sup> On 2 November Wardell writes to Mother Daly: “The weekly reports from the building continue to be of a very satisfactory character except that the recent rains have checked their progress somewhat”.<sup>35</sup> Work continues through November into December.

### **The end of marvellous Melbourne**

On the evening of 5 December Wardell receives a telegram alerting him to the fact that all is not well in regards to his project for the Convent and Schools Kew. In fact, its continuance is in jeopardy. On 6 December the concerned architect writes to Mother Daly: “I received last night a telegram dated yesterday from Fr Kennedy as follows: ‘Nuns in money difficulties about Convent. Can you come here’. Sorry cannot leave at present. ... Am writing. Please send statement of case as full as possible.” Wardell reminds her that

You have contracted for certain works to be completed by next September. The Contractor is to be paid as the works proceed – the whole amount £36885 - being payable by next October.

If any failure in payment occurs he will be entitled to secure an interest at the rate of 10 per cent per annum of the sum due to him without prejudice to his rights ... I am of course not a lawyer, and can only point out some of the questions and consequences. If the works were stopped temporarily he would be entitled I think, to be paid up at once the full value of work done including the reserved percentage, and the value of materials he has purchased as they were delivered. If they were stopped permanently he would be entitled to claim to be paid the full amount of profit he would have made if he completed the contract in addition. This would mean a very serious demand on you, and if the works were ever resumed or completed under another contract the loss would be a very heavy one.

These are matters for our grave consideration in determining the action you will take, and while I know the deep anxiety they will cause you and most heartily sympathize with you in it, it would be the greatest breach of duty if I did not bring them before you ...<sup>36</sup>

Wardell writes to Fr Kennedy on the same day: "My dear Fr Kennedy, I need not say your telegram which I received last night took me very much by surprise, for when I left Melbourne only 10 days ago, I had heard nothing to suggest it."<sup>37</sup> As the architect of the project Wardell is keenly interested to ensure that the Convent and Schools, Kew, will be completed. In January 1890, while continuing to attend to details requested by the contractor, Wardell comes to Melbourne and together with Fr Kennedy works towards negotiating a position for Mother Daly with the contractor.

On 21 January, back in Sydney again, Wardell writes once more to Mother Daly assuring her and requesting information as to arrangements of the laying of the foundation stone:

I enclose you, as I promised ... a copy of the general Conditions of the Contract for the Convent & Schools at Kew to keep by you for reference. I have marked that portion of the 18<sup>th</sup> Clause which bears on the questions of payments deferred. I instructed the Clerk of Works to do nothing more with the Porch until arrangements for laying a memorial stone were determined as that will be the best place for it. ... It will however be well to bear in mind that all those preparations will involve expense. I trust Dear Reverend Mother that you have dismissed all anxiety from your mind and am yours sincerely ...<sup>38</sup>

### **Working towards occupation**

What is clear from Wardell's letters from now on is his increasing mindfulness of cost and his focus only on that which is absolutely necessary. On 25 January a note confirms that Wardell sends Carr the "tracing of details in chapel windows and for eaves to roof of apse of chapel".<sup>39</sup>

On 24 January Wardell responded to a telegram from Gamlin:

I have received your telegram, but you will perceive reference to your memorandum of the 29<sup>th</sup> Nov last that the next certificate is to issue when the 2<sup>nd</sup> Floor joists are on throughout the building. Please do nothing with the plastering of the second floor wall or the staining and varnishing of the Roofs, until further instructions'.<sup>40</sup>

On the same day Wardell writes to the Rev Mother

With reference to the suggestion that a ceiling should be formed, under the Rafters and framing of the roofs by a Deal lining with the object of reducing the cost I find on reference to the contractors tender that it would increase the cost considerably as his tender for the work with the ceiling is £35236 ... and without it (as it is being carried out) £34586. So that unless you instruct me to the contrary I will not order any alteration in this respect, but I will request them to postpone the plastering and the varnishing in the second floor until further notice. From the Clerk of Works report of last week I think works will have progressed by about the 14 February to entitle the Contractor to his next certificate £5190 and you will have 7 days grace after he presents it ...<sup>41</sup>

On 3 February Wardell writes to Carr re details of the jambs of the Chapel windows, concluding that "All girders & joists of the second floor must be fixed and finished before the next certificate is given".<sup>42</sup>

The 9 March 1890 was set by Archbishop Thomas Carr for the laying of the memorial stone. A week later headlines in *The Advocate* read "The Faithful Companions. The memorial stone of their new convent laid. A Brilliant Assemblage". It reported that "... the time fixed for the ceremony was half past three o'clock, but long before that hour a large concourse of people from all districts surrounding Melbourne had assembled, and the avenues to Cotham-road, which was gaily decorated with flags, was filled with long lines of fully laden vehicles and streams of pedestrians who could be seen coming from all directions ...".<sup>43</sup> In the architect's description of the edifice, it is noted, that "At present only the north wing and the main front up to the central block inclusive are commenced, and these have been carried up with great care as well as rapidity by Mr Gamlin the contractor".<sup>44</sup>

Wardell's attention to the detail of construction continues through 1890 (Figure 3). By the end of March he is concerned that monetary difficulties will continue as the strains on banks have not abated. While he has postponed many works, he tells Mother Daly that

The Clerk of Works cannot – without danger – be dispensed with until the very last: there is no part of the work that does not require his attention and he is if possible even more necessary at the settling of accounts, as he has the record and history of all the details of extras and omissions. You suggest a change of material for the roof, but as I explained before any change of material would only mean a disastrous [outcome] to you. I can and will of course postpone all fitting up of baths, laying on tap and water (except the tank in the tower, which must be done with the tower) and everything else that can be postponed with safety and precedence.<sup>45</sup>



**Figure 3.** William Wilkinson Wardell, Convent and School as completed. Genazzano, 1890 with original tower on left (removed in 1893). Photograph, Genazzano FCJ College Archives.

In June, Wardell has great concerns re the procurement and fixing of the bell for the small bell tower over the Sodality Chapel (Figure 3). He writes to Mother Daly and on 2 June, 1890 to Fr. Kennedy:

I am doing my best to persuade Rev Mother to have a bell for the bell cote over the Sodality Chapel procured and fixed now. She desires to postpone it, but it will be such a very costly business to fix it hereafter, and moreover incur such risk to the slates and roofing it would be the very worst possible economy to postpone it. Will you do me the kindness to explain this to her and urge her to revise her decision and have it bought and fixed at once. I do not know what the cost of the bell would be in Melbourne, but it could not be much, as the extreme dimension of the largest diameter should not exceed 2'3". I am sure I may rely on your good offices in this matter as it would be a grievous blunder to postpone it. W.<sup>46</sup>

By July Wardell strongly recommends to Reverend Mother that works temporarily postponed be carried out "to avoid a heavy loss of money."<sup>47</sup> While savings of £950 may be made if

temporarily postponed works are omitted, Wardell writes

I am sure it will be evident to you that as this is not a permanent saving, but a postponement of an outlay which must be incurred very soon at a great increase, to give the accommodation you require, it would be a clear waste of money not to do the work now. And this also applies to other matters which must be done before it is possible to occupy the building, as for instance kitchen and laundry fittings, water supply, underground tanks, drainage, etc,etc,etc It is now certain that the Yan Yean pressure will not be sufficient to reach the necessary lands and we must therefore have recourse to pumping. The gas engine necessary for this can of course be utilized for laundry and other purposes for which it will also be necessary. I do not think therefore you can hope to have the building fit for occupation without an expenditure of £2,000 or perhaps £3,000 for additional works not included in those of the contract, and it seems useless to delay what is absolutely necessary to make the building fit for its purposes. I hope you will not think I am exceeding my duty in pressing this on your consideration, for I cannot see any other conclusion that it is an absolute necessity to incur the cost of completing the building fit for its work, before you can expect it to produce such results as will enable you to pay for it..."<sup>48</sup>

### **Accommodating the FCJs and the boarders**

In mid-August Wardell is able to give Gamlin the go ahead to proceed with these works.<sup>49</sup> Wardell continues to coax the building to completion so that it can be safely (if not yet comfortably) occupied. The interiors are not all sealed, draughts abound. The building needs to settle. In October he authorises the construction of the infirmary staircase without consultation, because he considered it a necessity for the sound functioning of the building, and asks for forgiveness and understanding.<sup>50</sup>





**Figure 4.** William Wilkinson Wardell, Convent and School, Kew as completed. Genazzano, 1892 with students. Note the bare grounds which caused problems in summer (dust) and winter (mud). The shelter shed on the right was a proud addition. Photograph, Genazzano FCJ College Archives.

In the following summer dry conditions and dust are playing havoc with the ventilation and machinery on site (Figure 4). Wardell explains to his client

I explained to your carpenter how the [ventilators] should be made but looking at the present condition of the surface of the ground about the building, and the quantity of dust generated and blown into the building by strong winds, I would advise you to block up these ventilators by a board nailed across them on the inside, until the grass grows again and the dust nuisance is abated, and postpone the Tobin tubes until then, with kind regards ...<sup>51</sup>

The summer dry continues, and in February, Wardell records that “On my last visit to Kew the dust was so considerable that I was obliged to direct Mr Simpson to enclose the gas engine at once by a wooden enclosure, and not have it used when it was enclosed, for the dust getting into the parts would destroy the engine in a very short time”.<sup>52</sup>

In the winter that followed, severe storms assailed the building on its exposed site (Figure 4).

Some leaks were reported to the architect. Wardell seeks an independent investigation to satisfy himself and the Reverend Mother that the building is sound.

I have received Mr. Todd's report who examined the building after the recent storm and flood and I am glad to say that it is in the highest degree favourable to the work. The following extract from it will probably be sufficient. He says "I have superintended the erection of many buildings of a similar character and have inspected many more, and I can truthfully say that I have never seen a sounder one. All the trades have been excellently carried out and reflect great credit to all parties concerned'.<sup>53</sup>

The following winter, in similar circumstances Wardell, is again confronted by concerns about the soundness of the building. He writes: "Let me repeat dear Mother you have so good and honest a building as it is possible to erect, but like every other building in the world it will require maintenance, and from time to time repairs, in proportion to its extent and position."<sup>54</sup>

### **A final reflection**

Wardell's Convent and School, Kew may be simple and austere but it is incredibly impressive in scale, in attention craftsmanship and detail. The architect used materials to articulate the structure and construction, where loads are transferred, where arches are indicated, where levels changed, so proportions are more easily read and understood. In his published public statement about the Convent and School, Kew, Wardell touched on the differences between aspiration and reality in his discussion of partial completion and assigning a space for a temporary chapel until the real one is completed.<sup>55</sup> He acknowledged that the building is of Gothic character, evoking an architectural tradition, a Christian architecture, a medieval prototype, as well as memories of England and the continent in the FCJ Sisters and the colonists. Wardell looked above all to the fitness for purpose and sound construction in all his buildings, but this comes to the fore in the dire circumstances facing his commission for the Convent and School, Kew. We recall Wardell's concern with materials: the 'visible' in the timbers and brickwork, and the 'invisible' in the cement and asphalt. We recall his care with the construction of the foundations which support the masonry building, and the ventilation which allowed the building to breathe. All necessary for convenience, construction and propriety. The building's ornament came from the care with which the building was crafted: the laying of the brickwork, the joinery in the timber window frames, doors and architraves, the beautiful serviceable floors, the 'cathedral' glass, with its many hues of yellow and lemon and gold. The relationship of architecture and engineering are inextricably linked within Wardell's design persona. Wardell dies in 1899. It is unfortunate that monies were never forthcoming to complete his original design (Figure 1).

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- <sup>1</sup> FCJ Annals, Richmond 1889, copy held in Genazzano FCJ College Archives College
- <sup>2</sup> Refer to Ursula M de Jong, *William Wardell and Genazzano FCJ College*, (Kew, Victoria: Genazzano FCJ College, 2009), Chapter 5 Financing the new Convent and School, Kew. Refer also histories of the period: Michael Cannon, *The Land Boomers* (Melbourne: MUP, 1966) and John M Freeland, *Architecture in Australia – A History*, (Ringwood, Victoria: Pelican Books, 1972).
- <sup>3</sup> William Wilkinson Wardell Letterbooks, identified as WWW Letterbooks, 1883-1890, ML MSS 10, 9 December 1889.
- <sup>4</sup> Mount St Joseph, Vaucluse, Richmond, 13 December 1889, Mary John Daly fcJ to Reverend Mother Marie de Bussy. FCJ Provincial Archives, Richmond, Victoria, ACC85.3/95
- <sup>5</sup> 16 December 1889 Carr to Reverend Mother John Daly, FCJ Provincial Archives, Richmond, Victoria, 85.4/2
- <sup>6</sup> Ursula M de Jong, *William Wardell and Genazzano FCJ College*, 2009.
- <sup>7</sup> Stephen Welsh (Manuscript), "William Wilkinson Wardell, 1823-1899, A Biographical Note and a list of the principal works of William Wilkinson Wardell F.R.I.B.A., A.M.I.C.E., during the first phase of his professional career 1846-1858", August 1975, RIBA Library, WeS/28/1/1. RIBA, Portland Place, London, Correspondence, Welsh to D I McDonald.
- <sup>8</sup> Andrew Saint, *Architect and Engineer: A Study in Sibling Rivalry* (New Haven, CT: Yale University Press, 2008).
- <sup>9</sup> A W N Pugin, *The True Principles of Pointed or Christian Architecture: set forth in 2 lectures delivered at St. Marie's Oscott, "by A. W. Pugin, Architect and Professor of Ecclesiastical Antiquities in that College"*, London: John Weale, 1841, (Reprint facsimile, London: Education Academy Press, 1973, p.1).
- <sup>10</sup> William and Robert Chambers (eds.), *Chambers' Information for the People: New and Improved Edition* (Volume II, Edinburgh, 1842, pp.673-688 (no.93): "Architecture", p.685).
- <sup>11</sup> Pugin quoted by Phoebe Stanton, *Pugin*, (London: Thames and Hudson, 1971, p.60).
- <sup>12</sup> William White, R.I.B.A. *Transactions*, 1865-6, pp.15-30, quoted by Paul Thompson, "The Writings of William White" in Summerson, John (ed.), *Concerning Architecture: Essays on Architectural Writers and Writing presented to Nikolaus Pevsner*, (London: Allen Lane Penguin, 1968, p.237).
- <sup>13</sup> Verbal communication with author, Arthur Andronas Conservation Architects, February 2018.
- <sup>14</sup> Verbal communication with author, Peter Lovell, Lovell Chen Conservation Architects, February 2018.
- <sup>15</sup> Marina Henderson, foreword to A W N Pugin, *The True Principles of Pointed or Christian Architecture*, London: John Weale, 1841 (Reprint facsimile, London: Education Academy Press, 1973).
- <sup>16</sup> WWW Letterbooks, 1883-1890, ML MSS 10, pp. 819-820, original letter held at FCJ Archives, Richmond, Victoria.
- <sup>17</sup> The Annals of Kew – 1889, p. 2, FCJ Archives, Richmond, Victoria.
- <sup>18</sup> WWW Letterbooks, 1892, ML MSS 10, p. 535, original held at FCJ Archives, Richmond, Victoria.
- <sup>19</sup> WWW Letterbooks, 1896 ML MSS 10, 10 February, p. 165.
- <sup>20</sup> WWW Letterbooks 1883-1890, ML MSS 10, p. 844.
- <sup>21</sup> WWW Letterbooks 1883-1890, ML MSS 10 pp. 819-820, original held at FCJ Archives, Richmond, Victoria.
- <sup>22</sup> WWW Letterbooks 1883-1890, ML MSS 10, p. 796.
- <sup>23</sup> WWW Letterbooks 1883-1890, ML MSS 10, pp. 828-829.
- <sup>24</sup> WWW Letterbooks 1883-1890, ML MSS 10, p. 870.
- <sup>25</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10, p. 9.
- <sup>26</sup> WWW Letterbooks 1883-1890, ML MSS 10 pp. 832-833.
- <sup>27</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 838.
- <sup>28</sup> WWW Letterbooks 1883-1890, ML MSS 10, letter 27 September, between pp. 897-898.
- <sup>29</sup> *The Advocate*, 15 June 1889, p. 16.

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- <sup>30</sup> WWW Letterbooks 1883-1890, ML MSS 10 p.898.
- <sup>31</sup> WWW Letterbooks 1883-1890, ML MSS 10 pp.916-917.
- <sup>32</sup> WWW Letterbooks 1883-1890, ML MSS 10 pp.926-927.
- <sup>33</sup> WWW Letterbooks 1883-1890, ML MSS 10 pp. 951 and 952.
- <sup>34</sup> The Annals of Kew – 1889. FCJ Archives, Richmond, Victoria.
- <sup>35</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 934.
- <sup>36</sup> WWW Letterbooks 1883-1890, ML MSS 10 pp.961 and 962.
- <sup>37</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 964.
- <sup>38</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 994.
- <sup>39</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 998.
- <sup>40</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 999.
- <sup>41</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 999.
- <sup>42</sup> WWW Letterbooks 1883-1890, ML MSS 10 p. 1000.
- <sup>43</sup> *The Advocate*, 15 March 1890, p. 8.
- <sup>44</sup> *The Advocate* 15 March 1890, p. 8; an almost identical article is published in the *Building, Engineering and Mining Journal*, 3.8.1889, p. 96.
- <sup>45</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.57.
- <sup>46</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, pp.142-143
- <sup>47</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.185.
- <sup>48</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.212.
- <sup>49</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.225.
- <sup>50</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.288.
- <sup>51</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.364, 31 January, 1891.
- <sup>52</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.370, 19 February, 1891 to Rev Mother.
- <sup>53</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p.435, 27 July 1891 to Rev. Mother.
- <sup>54</sup> WWW Letterbooks 5 Feb 1890-16 Nov 1893, ML MSS 10/3, p. 535 22 July 22 1892 to Rev. Mother.
- <sup>55</sup> *The Advocate* 15 March 1890, p. 8