# THE FRENCH DISCONNECTION

## MILES LEWIS

French influence in Australian architecture and building was very considerable up to the time of the Great War, but it was nearly always indirect. First it arrived by way of Britain, and then by way of Germany and the United States as well. The only major direct link was the importation, mainly from 1890-1914, of the Marseilles pattern roof tile. It was this direct assimilation of a component not widely known in France, and hardly known at all in Britain, that finally produced an enduring and totally naturalised French element of Australian building which remains with us today.

## PISE DE TERRE

The earlier arm's length influence is most strongly shown in the case of pise de terre construction, for this was used hardly at all in England, and yet its quite extensive use in Australia was based upon English versions of ultimately French material. As this strange course of events has been discussed by the present writer elsewhere,[1] it can be summarised here with only minor additions. Pise construction had apparently been introduced to France by Hannibal and had become totally acclimatised, especially in the Lyonnais, before it was quite suddenly rediscovered and promulgated in 1772-1797 by Georges-Claude Goiffon, the Abbé François Pilâtre de Rozier, Boulard (a building inspector at Lyons), François Cointeraux, and Jancour (a refugee priest).[2] These accounts attracted the attention of the English architect Henry Holland, who built some experimental structures in pise at Woburn Abbey in 1787-8, and of the Board of Agriculture.[3]

There are only sporadic references to other experiments in England approaching the character of pise, which is distinguished by the fact that it is formed of fairly dry gravelly soil rammed into place in thin layers between timber formwork, which is repositioned until a wall is complete. This is quite different from traditional English cob, which is laid as a stiff mud, and produces a much weaker wall, and from the sun-dried bricks known in England as clay lump, and elsewhere as adobe. The fact remains, however, that the enthusiasm for agricultural improvement in England, and for compendious works on agriculture and related subjects, resulted in accounts of pise appearing in one text after another, until they become part of the standard repertoire of the handbooks published towards the mid-nineteenth century for emigrants to Australia and elsewhere.[4]

Pise had already arrived in Australia before the publication of most of these works, and was probably less familiar to the English writers than it was to the Australian readers. By 1823 at least two pise houses are known to have been put

1. Cointeraux's system of pise de terre construction, as subsequently used in Australia. From Abraham Rees, *Cyclopaedia of Arts, Sciences and Literature,* Agriculture, plate 1.

up in Van Diemen's Land,[5] and this fact inspired the *Sydney Gazette* to publish a lengthy description of the method in the hope that it would prove useful "on the settlement of Bathurst, and other parts of the country which may be thinly wooded".[6] It did prove useful, but it is not necessary here to pursue the spread of the method in Australia. It is worth making the point that the *Gazette* account was none other than the original one of François Cointeraux as translated into English by Henry Holland. This mode of transmission is in marked contrast to the direct French connection which affected New Zealand, where the Kororareka mission printery was built for French priests, to the design of a French architect, Louis Perret, who came from the Lyonnais itself. Not only that, but reference had been made to the account of pise in Rondelet's *L'Art de Bâtir* of 1812, for one of the priests, Father Garin, complained:

> the principles of Rondelet ... are not based on the soil of the
> antipodes, a soil which one thinks to be quite good is found to
> be quite bad.[7]

Victoria, so far as we can tell, is even more remote from French sources than the other Australian colonies. The first known use of pise was for a dairy built by C.H. Macknight on his "Strathloddon" run in 1842,[8] and in the same district a pise house was built in the following year for E.S. Parker, Assistant Protector of Aborigines, at the Mount Franklin station.[9] Meanwhile Macknight himself moved to the "Dunmore" run in Western Victoria and built another pise dairy, using a box of form brought from Port Fairy. Macknight's son, born in 1868, became an architect in the Riverina and built many pise buildings, and his son in turn continued the tradition well into the 1950s.[10] Not only are we unable to trace any specifically French roots of this sequence of Victorian pise buildings, but we have one local instance, a building put up in Lonsdale Street in 1853, where the builder William Kelly had brought the idea from California.[11] In other words the source was not the French, but the rival Spanish tradition.

## FRENCH SETTLEMENT AND TRADE

The most promising node of French settlement is that at Hunters Hill, Sydney. Didier Joubert, who had come to Sydney in 1837 as an agent for wine and spirit merchants in Bordeaux, bought Figtree Farm in 1846, and lived there until his death. His brother, Jules François Joubert, after a checquered career in New South Wales, South Australia and Victoria, bought and settled on adjoining land in the 1850s. The brothers, with Count Gabriel de Milhau, became builders and developers, dealing not only with their own property, but that of Viel d'Aram, who bought land but remained in France. Others involved in the area included the French consul, L.F. Sentis, who built "Passy" in the 1850s; his successor, L.F. Bordier; Charles Edward Jeanneret, who was of Huguenot stock

and whose father   Dr Edward Jeanneret was physician at the aboriginal settle-
ment on Flinders Island; and a group of Marist Fathers who arrived in 1847.

Didier Joubert's buildings include Figtree House, Coorabel, Annabel Lea,
Warwillah, The Bungalow, and the now demolished St Malo.   Jules Joubert
built Passy, Villa Floridiana, Walshale, Windermere, Innisfree, The Haven and
Moorooboolah.   They were built for the Jouberts largely by stonemasons
brought in from Lombardy, and they have no distinctive French character,
though those of Jules tend to be very idiosyncratic.   E.L. Bordier imported four
prefabricated wooden houses not from France but from Hamburg, though it is
true that he was inspired to do this by seeing examples shown at the Paris Expo-
sition of 1855.   Only the Marists designed something which might be thought
explicitly French in the Holy Name of Mary Church, of 1857-1861, thought to
have been designed by the brother of Father Jolie.[12]

In central Sydney itself Henri Noufflard, a wool merchant, rented a house
in Bligh Street which he had recorded by S.T. Gill in seven watercolours of
1855-7.   Though these show the exterior and interior in considerable detail,
they reveal little, if anything, which is specifically French.   The building is a
simple Georgian one with Tuscan pediments at the end in the manner of Francis
Greenway, and the interiors have no distinctive furnishings but for two Chinese
or chinoiserie lacquered cabinets in the drawing room, and a statuette of Buddha
on the mantelpiece of the office.   As Noufflard was a temporary resident and
not the sole tenant of the house, it is not remarkable that his impact was so
slight.[13]   In Victoria a permanent French settler was Ludovic Marie, a native of
Burgundy who sailed from Bordeaux with a cargo of goods and reached Mel-
bourne early in 1854.   The appearance of his Balaclava Store and Hotel at Whroo
is unknown, though it has been wrongly identified with a later Balaclava Store,[14]
which was very primitive and not at all French.   Marie later established the
Chateau Tahbilk winery, which has some architectural pretensions and a distinc-
tive character, though again it is hard to argue that it is explicitly French.[15]

There were only two building components imported in any quantity from
France, as we shall see, but French influence may perhaps be discerned in a
house which stands at 51 Ormond Road, Moonee Ponds, though it was probably
moved in about 1916 from elsewhere, and may date from the 1850s. It is built
up out of timber panels, which is not in itself unique, but their width is exactly
one metre. The timber is teak, which suggests a South-East Asian origin, and it
could well have been made in one of the French possessions. The reasoning is
admittedly somewhat tenuous, but it is at least more cogent than that which has
labelled the remains of a stone structure on the Arltunga goldfield, Central
Australia, as "The Frenchman's House". There the evidence is solely the appa-
rently metric dimensions of the building in plan.

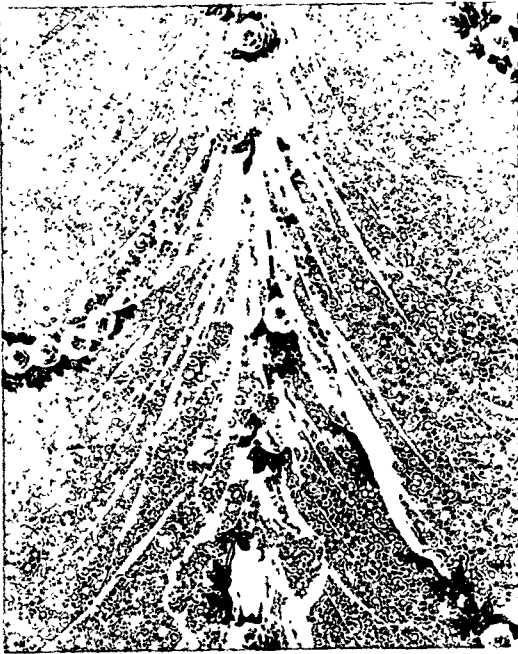The one item of French trade which had a considerable influence locally

was wallpaper. The French led the production of wallpaper during the first part of the century, though the British subsequently undercut them with improved mechanical production. The most distinctive of all were the scenic papers, exclusively French, in which a complete scene was formed from a series of rolls, and commonly ran right around a room. A wonderful example of this survives at the house "Clairville", at Western Junction, Tasmania, though it is heavily varnished. I suspect that it represents Napoleon's landing in Egypt, and, on stylistic grounds, that it was produced by Dufour. Another surviving scenic paper is reported to have been discovered in Victoria,[16] but has not yet been published. There must have been a number of others, for in 1862 Carter's warehouse in Queen Street, Melbourne, was advertising sets of scenery made up of from twelve to twenty-five lengths (according to the size of the room).[17]

More ordinary French papers were quite widespread, and Nathan Joseph, another Melbourne retailer, made a point of advertising in 1856 "paperhangings and borders, French and English".[18] Numerous surviving examples could be named which have been identified as French with varying degrees of certainty, but it will suffice to mention two of the most interesting. These were discovered by the present writer in the form of only small fragments, at Black Rock House, Sandringham, and it was fortunately possible to identify one of them as an 1850s pattern simulating draped grey lace with rosebuds attached, of which a large sample is held at the Musée des Arts Décoratifs, Paris.[19] The other was a red flock on a complicated brown background, and has subsequently been identified by Phyllis Murphy as the product of Victor Poterlet, also of the 1850s.

One finds other decorative elements from France on occasion, such as at Martindale Hall, South Australia. Here the accounts for the furniture and furnishings are preserved in wonderful completeness, and specify goods overwhelmingly of British origin, except for "fine curtain material". Rather surprisingly, this came from Hook Frères of Paris, "Manufacture de Papiers Peints".[20] The proportion of French wallpapers must have declined steadily as the century drew on. In 1908, for example, Australia imported wallpapers worth 56,201 pounds, of which 82% from the United Kingdom, 11% from Germany, 5% from the United States, and 2% from all other countries including France.[21] As Canadian papers are found in Australia about the turn of the century it seems likely that they accounted for much of the 2%, and although they may to some extent represent an indirect French influence, direct French imports must have been fairly minuscule. By this time another item of French production, the Marseilles tile, was enjoying a boom in Australia, but that will be discussed below.

## THE SECOND EMPIRE STYLE

The French Renaissance, and specifically the Second Empire style, had an

2. TOP: Fragment of wall-
paper surviving at Black
Rock House, 34 Ebden
Avenue, Sandringham,
1850s. Photo: author.
BOTTOM: Anonymous
French wallpaper, 1850-
60, imitating a lace
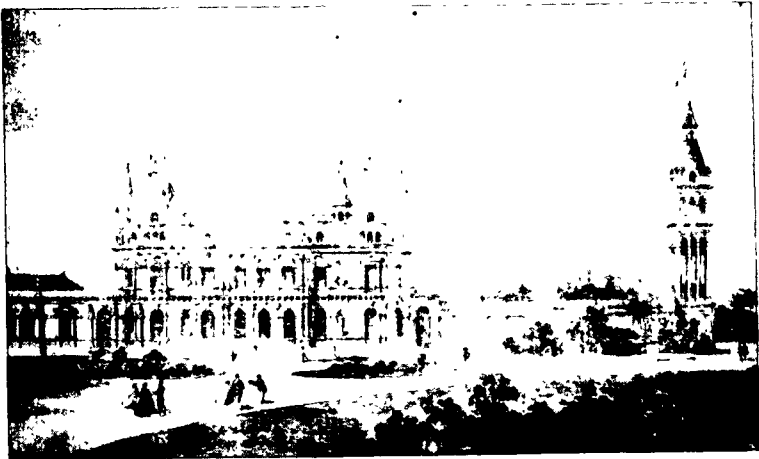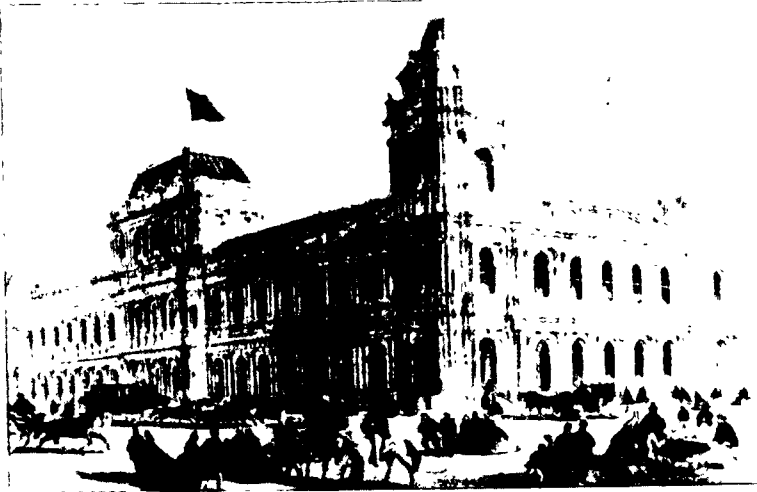curtain. Musée des Arts
Décoratifs, Paris.

effect in Victoria which has, by and large, been ignored. It has now been the subject of some investigation[22] and it is possible to see that it did not come directly from France, but rather from Britain, where it took root first, and to a lesser extent from Germany and the United States. The most obvious characteristic of the French Renaissance is the high mansard roof originating in Gothic practice, and obstinately retained by the French in the face of contrary Italian influence. This roof might be straight sided, convex, or concave, provided that it was visible from below; it might contain dormer windows or vents letting into an attic storey; it might be flat topped, creating a widow's walk or belvedere; and it might be embellished with decorative cresting, or with balustrading around the belvedere.

The French Renaissance building tended to be articulated into a main body, or corps-de-logis, and flanking pavilions — little blocks joined to the main one but visually distinct, and emphasised by their own distinct mansard roofs. These would be placed symmetrically at either end of a facade, and occasionally at the centre as well. The wall surfaces below would be modelled in the vocabulary not just of the Renaissance, but also of Mannerism and the Baroque. This was the style used by Lefuel in his extensions to the Louvre in the 1850s, and by the English for resort hotels, then for town halls and one or two country houses: in Australia it appeared first in public buildings. As early as 1856 a design prepared for the Kew Lunatic Asylum by Thomas Vivian and Frederick Kawerau of the Public Works Department made some approach to the style, and Leonard Terry used a straight-sided mansard on a sugar factory at Port Melbourne in 1857. The style was clearly evident in Crouch and Wilson's competition-winning design for the Melbourne Post Office in 1857, and in A.E. Johnson's design as built in 1859. In Queensland Charles Tiffin took Lescot's sixteenth-century work at the Louvre as the inspiration for his winning design for Parliament House, Brisbane, built in 1865-7. A more sophisticated version appeared in Reed & Barnes's Melbourne Town Hall, of 1867, and a particularly richly modelled one in J.H. Wilson's Sydney Town Hall from 1866. Many other Victorian examples were to follow, including a number of suburban town halls and William Pitt's charming Princess Theatre, and the last significant one was the Records Office in Queen Street, designed by S.E. Bindley of the Public Works Department in 1900.

The French impact upon domestic architecture was more confused, and was not initially of a Second Empire character. It appeared unexpectedly in 1864 when the architects Reed & Barnes won a competition for the design of Government House, with a scheme described as being

> in the French baronial style, but with a more rigid adherence to
> Italian detail than in the case of most old examples.[23]

The design is a fairly steeply proportioned two storey symmetrical block unsatis-

3.  TOP: General Post Office, Elizabeth Street, Melbourne, by A.E. Johnson, 1859: engraving by Samuel Calvert. La Trobe Collection, State Library of Victoria. BOTTOM: Government House, Melbourne, unbuilt competition-winning design by Reed & Barnes 1864. *Illustrated Melbourne Post*, 20 August 1864, p. 8.

factorily resolved at either end into polygonal pavilions which rise by a further attic storey to steep octagonal roofs, each flanked by turrets with conical spires. The character, so far as it is French, is of an earlier phase than that revived by the Second Empire. The design was not built, but Reed & Barnes experimented further with a simpler version of early French Renaissance with rectangular pavilions and bellcast roof profiles, such as had already made its appearance in Britain in Benjamin Ferrey's "Wynnstay", Denbighshire, of 1858-61. It was in something approaching this mode that Reed and Barnes designed the first stage of the Faraday Street School, Carlton, in 1868, and Menzies Hotel at the corner of William and Bourke Streets, in 1867. Some of the details, especially the bellcast roof profile, occur also in a little sub-group of Reed & Barnes houses ("Heronswood", "Barragunda", and "Kolor"), but these are picturesque and idiosyncratic, and no longer recognisably French. There is, however, a late efflorescence of this manner in C.A. D'Ebro's "Stonnington", Glenferrie Road, Malvern, of 1890.

It is at Smith & Johnson's "Golf Hill" homestead at Shelford of 1876,[24] that something approaching a Second Empire character appears. This is a pavilion projecting only at the centre of the facade, but this is reflected in the roof form, and is emphasized by a single dormer window. Otherwise the detailing does not bear too close an examination. Neither the canted bay window attached to the pavilion nor the Palladian windows on either side are appropriate to the style. This house should be understood in relation to the state of the art in England, as expressed in Robert Kerr's *The Gentleman's House,* of 1864. Kerr illustrates a "French-Italian Style" house, which has a sort of subdued mansard roof and dormers. Of more relevance is the steeper roof of his "English Renaissance Style". This may seem surprising as an English design, but Kerr's text discusses the French influence, which he feels he has recognised sufficiently by the use of the French word "Renaissance".[25] It is in this Anglo-French mode that "Golf Hill" is conceived.

Kerr's English Renaissance design contains one element of direct relevance to Australia, for the house has a tower with a mansard roof which, unlike the main roof, is convex in profile. The mansarded tower was not widespread in England, but it became particularly common in Australia. An early and fumbling approach towards it was made in John Grainger's house for Robert Barr-Smith at Mount Barker, South Australia (now known as "Auchendarroch") of 1878-9. Here there is little more than a prominent mansard roof on top of the extraordinary belvedere-cochère to suggest the French connection, for the overall picturesque composition is rather English, and the details more or less Greek. In Melbourne by the 1880s one finds many examples with a tower carrying a mansard roof, like Buckhurst's "Goodrest" in Toorak Road. These mansarded towers are more particularly popular in hotels, as at William Ellis's

4. TOP: "Golf Hill", Shelford, by Smith & Johnson, c.1876. Photo: author. BOTTOM: Vineyard Proprietor's Residence in Irrigation Colony. T.W.H. Leavitt & W.D. Lilburn, *The Jubilee History of Victoria and Melbourne* (2 vols, Melbourne, 1888), vol. I, pt III, p. 7.

Ozone Hotel, Queenscliff, of 1881-2 (though here the same architect designed the adjoining double house "Lathamstowe" of 1882-3 in a matching style). The mansarded tower appears very crudely even in Western Australia, as at the Osborne Hotel, Perth, of 1894.

Mansarded towers are barely known in France or England, but they are very characteristic of domestic architecture in the United States, where French influence had been much stronger from at least the 1850s. There may have been some American influence through pattern books, which from 1857 to about 1880[26] contain some examples, or the evolution may have been an analogous one. One interesting connection can be found where Leavitt and Lilburn's *Jubilee History* of 1888 illustrates a particularly American-looking house of this type as a "Vineyard Proprietor's Residence in Irrigation Colony",[27] suggesting that the Chaffey connection had brought the fully fledged American-French style to Victoria very directly. This proves not to be the case, for the same illustration had appeared in the previous year, with the same caption, in J.E. M. Vincent's *The Australian Irrigation Colonies.*[28] Here it is clearly illustrating a section describing the Chaffey brothers' irrigation colony at Ontario, California, and it is clear that it shows a house in California, not in Victoria.

The German-French influence is much less pervasive, but much easier to analyse than the American-French. The German-born architect W.C. Vahland tended towards the French Renaissance in his lushly decorated bank facades at Bendigo, and used the mansard roof in his public buildings, such as the Bendigo Town Hall.[29] In this, as in his Hellenistic Greek work, he must have been influenced in some degree by current fashions in Germany. The earliest Renaissance design illustrated in Hugo Licht's *Architectur Deutschlands*[30] is the Villa Mon Plaisir of 1865-6, and there is a scattering of later examples, of which J.G. Poppe's Villa Knoop at Bremen[31] has a particular relevance to Victoria. The porte-cochère of the Villa Knoop is supported by two caryatid figures arising out of consoles, and a very similar pair appears at the entrance arch of the loggia to "Ontario" (later "Labassa"), Caulfield. This house is the result of the remodelling of an earlier building by the Melbourne architect J.A.B. Koch, and as left by Koch has straight sided mansard roofs and cresting, and much lush ornamental detailing. This work by Koch in 1889 is the most complete example of Second Empire design in Melbourne, and there is no reason to doubt that Koch, who was a German by birth, would have been familiar with similar German examples. It is overwhelmingly likely that he knew Licht's publication and, through it, the Villa Knoop itself (which Licht described as French Renaissance in style). Koch more commonly relies on Hellenistic sources, and there is some Hellenistic detail at "Labassa", which shows Koch's palette to be similar in principle to that of Vahland, and consistent with the range of work illustrated by Licht.
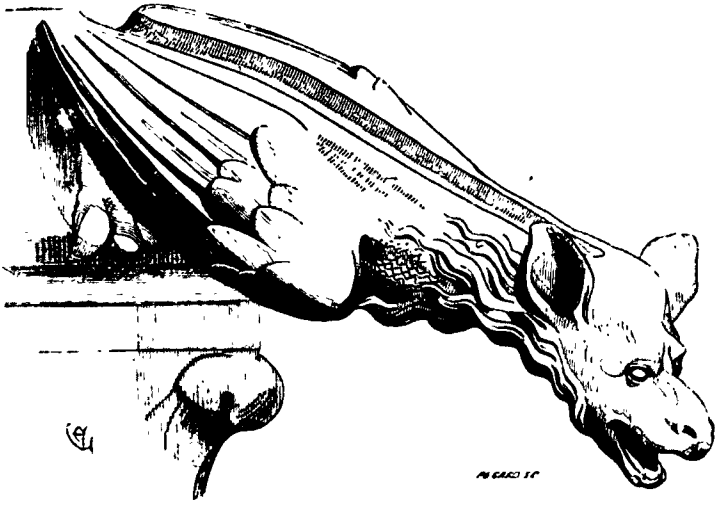
MILES LEWIS

There is not a Second Empire style as such in interior work, but at "Labassa" the drawing room and boudoir in particular are of a more or less Louis XVI rococo style. Unfortunately it is not entirely clear whether this work dates from the remodelling by Koch, or was executed later, during the ownership of A.W. Robertson. One other Koch house, "Oxford", in Isabella Grove, Hawthorn, has a French drawing room, but it seems definitely to be due to remodelling in the first decade of the twentieth century. There was a fashion for French interiors in London around the turn of the century,[32] and it certainly had some minimal effect in Melbourne. "Stonington" in Malvern, which became the state government house, had a Louis XIV chimneypiece not unlike those of "Labassa".[33]

## VIOLLET-LE-DUC

The French Gothic was assimilated to such an extent by English Gothic revivalists that there is little possibility of unravelling the two streams, nor much purpose in trying to do so. It is nevertheless worth pointing out that there were many architects who consciously opted for the French Gothic, especially that of the fifteenth century, and that this was the path chosen by W.W. Wardell in Melbourne. At his St Patrick's Cathedral, Eastern Hill, the western part was built conventionally enough in 1860-1868 in a thirteenth-century English style, but it became Frencher as it continued, the east end being fifteenth-century French, and with a complete radiating chevet in the manner so characteristic of French Gothic cathedrals.

A much more specific and more persuasive French mediaeval influence came through the works of Eugène-Emmanuel Viollet-le-Duc. Viollet-le-Duc was a noted scholar and restorer of French Gothic buildings, and his *Dictionnaire Raisonné de l'Architecture Française du XIᵉ au XVIᵉ Siècle,* published in 1854-1868, illustrates a wide range of mediaeval detail, including some categories that were previously not much known in the nineteenth century, such as thirteenth-century southern French Romanesque. These details were thus available to local eclectic designers, and appear in buildings which are in no sense scholarly revival designs. This influence has been particularly well documented in the case of the architects Davidson and Henderson, who have been the subject of a detailed study by Allan Willingham.[34] George Henderson sailed from London in 1867 to take employment with Alexander Davidson, who was already established as an architect at Rokewood, and the two later entered partnership. On Davidson's departure the architect William Burn made him a present of books, including the earlier volumes of Viollet's *Dictionnaire,* which he read on the voyage out, recording in his journal notes such as "after brushing up this forenoon, sat in cabin and looked over one of 'Viollet-le-Duc'."[35]

The results were to be seen in many of the partners' buildings, beginning

5. TOP: "Gargouille", E.E. Viollet-le-Duc, *Dictionnaire Raisonné de l'Architecture Française du XI<sup>e</sup> au XVI<sup>e</sup> Siècle*, Paris, 1854-68, s.v. BOTTOM: Detail of tower, St Andrew's Presbyterian Church, Skipton, Victoria, by Davidson & Henderson, 1871. Photo: author.
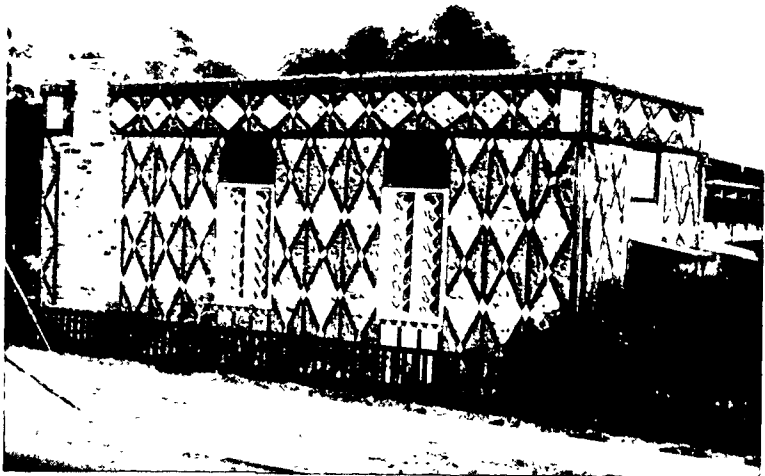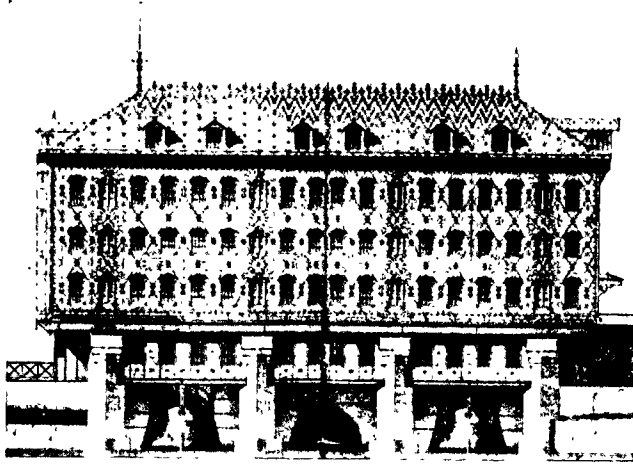
with "Barwon Park" at Winchelsea, of 1869-70, which was described as being "what may be strictly called Romanesque, as found in some of the late examples in the South of France".[36] The tomb of Thomas Austin at Geelong, of 1872, was described as "Continental in style" and was in fact thirteenth-century French Gothic.[37] "Narrapumelap" homestead near Skipton was in fourteenth-century French Gothic,[38] and after the partnership was dissolved the emphasis was continued, not by Henderson, who returned to Scotland, but by Davidson in works like his cable tram engine houses in the inner Melbourne suburbs.

An aspect of Viollet-le-Duc of which Davidson and Henderson were quite unaware was his interest in structural rationalism. Viollet developed the idea, especially in his *Entretiens sur l'Architecture* of 1863 and 1872, that Gothic architecture was structurally rational, that Gothic architects would certainly have made use of iron if it had been available in quantity, and that nineteenth-century architects, rather than slavishly imitating it, should take it as a starting point and develop it, using new materials like iron, just as Gothic architects would have if they could. He illustrated structures which combined stonemasonry with iron, and in them he used the iron daringly, and in accordance with its structural properties, so that stubby cast iron struts were placed in compression and slim wrought iron ties were in tension. He sought to express the structural system even further by devices such as placing cast iron columns clear of the wall surface, resting on cantilevers or corbels, to preserve their distinct function. In minor details he also developed sinuous ornamental forms suitable to wrought iron, which can be seen as a precursor of the art nouveau.

Viollet was widely influential on the Continent, but not much read in Britain. He was better known in the United States, especially after an English translation of the *Entretiens* appeared, as *Lectures on Architecture,* in 1881. Australia, as might be expected, took an intermediate position. My own grandfather received the *Lectures* as a prize in his Master of Civil Engineering Course at Melbourne University, in the 1880s. In New South Wales the American-born architect John Horbury Hunt is said to have been especially influenced by Viollet's ideas, and in particular by his concept of the relationship between structural function, the nature and qualities of structural materials, and the expression of them both.[39]

One contemporary French building praised by Viollet was the Chocolat Menier factory at Noisiel-sur-Marne, by Jules Saulnier, of 1871-2. The building was on masonry piers over the river (which powered the machinery). It was iron framed, and instead of having the solid masonry wall which was still almost universal in mill construction, it had a diagonal lattice of iron members fixed to each face of the frame, with the interstices filled with glazed tiles. This has been claimed to be a precursor of the twentieth-century concept of the curtain wall. Viollet published schemes of his own based on the same principle. In

6.  TOP: Chocolat Menier factory, Noisiel-sur-Marne, by Jules Saulnier, 1871-2. *Diction-naire Encyclopédique et Biographique de l'Industrie et des Arts Industriels de la France Contemporaine,* Paris, 1877, s.v. L'Architecture. BOTTOM: The "Diamond House", 24 Seaby Street, Stawell, Victoria, by G.C. Inskip, 1880s. Photo: author.

Victoria G.C. Inskip, then a minor rural architect at Stawell but later to be prominent, and to become president of the Royal Victorian Institute of Architects, built his own house under Viollet's inspiration. Inskip's "Diamond House" at Stawell is small and relatively primitive, and framed in timber rather than iron, but the diamond grid on the face is immediately recognisable, especially as it is picked out in the contrasting colours of quartz pebbles which pack the interstices.
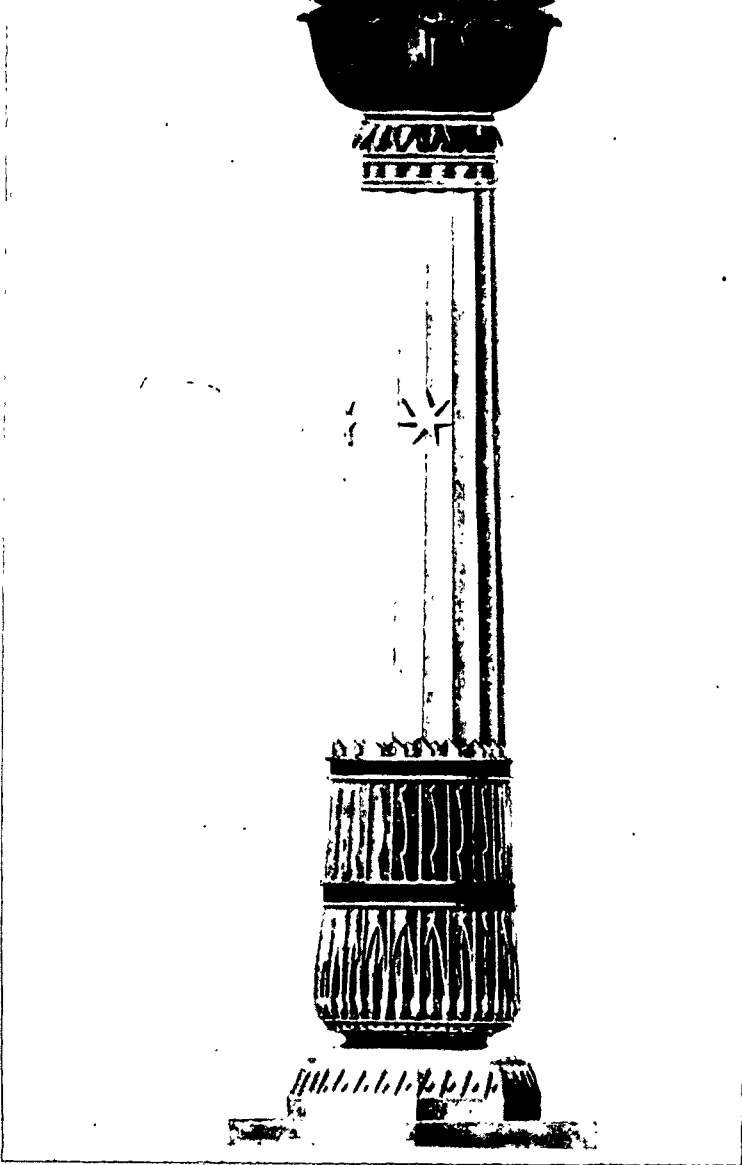
There is one other way in which Viollet may be seen as influential. In Europe he was to be a particular source for those who were trying to develop an architecture which was not only structurally rational, but also explicitly national in character. So it was with Antonio Gaudi of Barcelona, an avowed Catalan nationalist. The Frenchman Lucien Henry, who came to Sydney in 1880, was a professed follower of Viollet. Henry had been sentenced to death for his part in the Paris Commune in 1870, but the sentence was commuted to transportation to New Caledonia. When he was released he came to Australia and was an instructor in modelling at the Mechanics' School of Arts, Sydney, and then the first lecturer in art at the Sydney Technical College, which took over the role of the Mechanics' School.[40] Henry was particularly interested in the use of Australian floral motifs in decoration, at a time when this ran counter to all contemporary Australian fashion. Not only can the nationalistic basis of this be related to Viollet and his circle, but the actual means of promoting the idea is French, for, in the long French tradition of invented orders of architecture, going back to Philibert de l'Orme, Henry invented an Australian order based on the waratah. This and a number of other schemes for using the waratah in decoration were published in 1915 by R.J. Baker, who said

> In Mr L. Henry, Australia certainly had an artist possessing real
> genius, and his originality in design and other fields of fine
> and Applied Art will live long in the annals of New South
> Wales technical education.[41]

It is, unfortunately, impossible to point to any specific examples of the use of Henry's waratah designs in Victoria, but there was a great interest in the use of native flora in the 1890s and the early years of this century, and this is probably due in part to his influence.

## TRANSITIONAL TENDENCIES

The period from 1890 to 1914 is in some ways an elusive one. The depression in Victoria in the 1890s meant that very little was built. While one might logically follow a discussion of Viollet-le-Duc with one on the influence of the Art Nouveau in Victoria, the local manifestations of this style were so trivial by international standards, and so late, that they need not be examined here.

7. Waratah column, by Lucien Henry. R.T. Baker, *Australian Flora in Applied Art*, part I, Sydney, 1915, facing p. 24.

Yet this was also the period when that most pervasive French contribution, the Marseilles tile, became accepted, naturalised, and almost universally adopted in Australian domestic architecture. This will be the subject of the last part of this paper. There are some less obvious aspects of French influence which should be dealt with first.

It was in the 1890s that American influence became strong in Australia. Partly this was because of the demand for a national architecture, and it was seen that the Americans were achieving this themselves. Theirs was an architecture which already made substantial use of verandahs, and the Americans also built timber houses such as were common in parts of Australia, especially Queensland. Most of all, and less logically, there was a widespread feeling that the American adoption of the Romanesque as a basis for their development was relevant to Australia — that this was a style particularly suited to the climate and requirements of Australia as well. The Romanesque of the Americans was itself derived substantially from France.

It is difficult to isolate those American connections which have sufficient French content to make them interesting in the present context, but the Romanesque of H.H. Richardson has a recognisable French content due to his French training, and the Romanesque works carried out in Melbourne by E.G. Kilburn from 1890, following a trip to America, perhaps still show something of this. Examples are the Priory Ladies School in Alma Road, St Kilda, of 1890, and the house "Cestria" in Glenferrie Road, Hawthorn, of 1891. H.H. Richardson had studied in Paris, and so before him had Richard Morris Hunt, who actually worked under Lefuel on the extensions to the Louvre. Hunt produced work not only in the Second Empire but in other frenchified styles, including the chateauesque and the villa Normande. One finds something of Hunt's mediaevalising French character in the house "Carclew" on Montefiore Hill, North Adelaide, of 1897. There is a specific Hunt house, that for Henry G. Marquand at Newport, Rhode Island, in 1873, which is a prototype for "Goathland", later "Tara Hall" in Kew, of 1888, which was another work of Kilburn, and is perhaps ultimately a villa Normande.

Many Americans studied in the later part of the century at the Ecole des Beaux Arts in Paris, and learnt principles of axial articulated composition which, as time went on, came more and more to be expressed in a sort of effetely classical/baroque vocabulary. The British were in the end influenced by this, at about the turn of the century, and it was British influence that brought a form of Beaux Arts classicism to Australia. Moore's Store in Prahran, built in 1911 to the design of Sydney Smith & Ogg, is an instance of this.

The French must also take much of the ultimate credit for the introduction of a new building type, the residential flat, and of the urban lifestyle that went with it. There is little to suggest that the Glasgow apartment block, which might

have provided a model, was of any relevance in Victoria. The direct source was again England, but England had in turn adopted the idea from France. There was a clear distinction between the English philanthropic housing blocks and model lodging houses of the mid century, on the one hand, and on the other the fashionable flats which began to gain substantial acceptance in London from the 1870s. Indeed R.N. Shaw, who designed the most influential block, Albert Hall Mansions, made a preliminary trip to Paris specifically to study the type.

The first block in Melbourne to be built under Shaw's influence was Queen Bess Row at 72-6 Hotham Street, East Melbourne, in 1886-8, designed by Tappin Gilbert & Dennehy. It is only fair to say that this was at best a transitional example, designed in the form of three unusually tall terrace houses with openings between which could be and later were blocked up to separate them. There seems to have been an early and unsuccessful attempt to launch the building as a coffee palace, and it spent much of its life as a group of boarding houses. Nonetheless, there is evidence that it was seen as a possible apartment block with one apartment at each level of each house, making twelve in all.

This tentative experiment in the direction of apartment living ought to have received a boost with the publication in Melbourne of Emil Asmus's *How Europe Builds and Resides* in 1888. This is remarkable, as Asmus was a German then living in Melbourne, and almost nothing is known about him. He published scale drawings of apartments in the main European cities, including Paris, but no contemporary reference to the work has yet been located, and it was entirely forgotten until its recent rediscovery. Had the depression of the 1890s not intervened its effect might have been apparent, but, as it was, the development of what are unequivocally residential flats in Melbourne was delayed until about 1904-6, and no specific Continental , much less French, influence can be perceived in them.

What can be perceived in at least one of the early flat blocks is the use of reinforced concrete according to a method based on French origins. I have discussed this elsewhere,[42] and need only summarise it here. The French gardener, Joseph Monier, had patented in 1867 a method of making pipes of concrete reinforced with wire mesh. The development of the Monier system into one which could be designed by engineering calculations to create major structures is more attributable to Germans, particularly Professor J. Bauschinger of the Munich Polytechnic, who published papers on the Monier system in 1885, and G.A. Wayss, who had purchased the Monier patent rights in Germany, and published experimental findings in 1887.[43] Although there were by now various rival systems and literally hundreds of European patents for minor variations on these systems, it was the Monier system for which the Australian rights were acquired in 1895 by the New South Wales construction contractors Carter Gummow & Co., and in 1897 the Melbourne engineers Monash and Anderson

were appointed as agents. In 1905 John Monash established the Reinforced Concrete and Monier Pipe Construction Co. Pty Ltd. The Monier system was almost to monopolise reinforced concrete construction in Victoria until the Great War.

While the Monier system could not, in the form in which it reached Victoria, be regarded as essentially French in character, there were other French contributions to reinforced concrete design which had an effect. The Frenchman François Hennebique became the largest contracting engineer for reinforced concrete work in the world, and his work had its own design characteristics. Hennebique's Tourcoing Spinning Mills of 1895, with its externally expressed concrete frame, large rectangular windows and panelled spandrels, seems to be reflected in the Monier Company's own headquarters at 2 and 3 Oliver Lane, Melbourne, of 1905 – the first reinforced concrete building in the city.

The most striking example of French influence in reinforced concrete occurs at Geelong. Armand Considère was chief engineer of the Ponts et Chaussées, and in about 1903 he designed a bridge to span an estuary at Plougastel in the department of Finistère, Brittany, in which the two major spans were reinforced concrete girders supported on cantilevers. The girders were of hogback profile, curved on top, and spanned 64.6 metres. To test the design a smaller bridge made of two girders of similar form was constructed at Ivry and tested to destruction. Other bridges using the same girder form were built in the following years.

Considère also developed and tested his own system of placing reinforcement, the essential aspect being that compression members contained longitudinal iron bars wound around with a heavy spiral, which he was able to show improved the compressive strength of the concrete within it. In about 1910 the Sydney engineer E.G. Stone designed the Dennys Lascelles Austin wool store at Geelong on what seems clearly to be this system, though there is no contemporary documentation to confirm it. Even more remarkably, the topmost floor, the show floor, is spanned by three pairs of hogback girders very like Considère's bridge girders. In effect the roof is carried on three Considère bridges, and spans about 53 metres, by then far the largest reinforced concrete roof span in the world. Stone carried out one other structure at Geelong using Considère's system of reinforcement, though not his truss form. This was the Barwon Sewage aqueduct of 1914-15. So far as we know this is the last use of the Considère system in Australia.

## THE MARSEILLES TILE

The last and greatest French influence in Victoria is the Marseilles roof tile. Neither my own previous investigations[44] nor a published paper by Robert

TOP: Test bridge at Ivry, by Armand Considère, 1903. C.F. Marsh & William Dunn, *Reinforced Concrete*, London, 1905, p. 563. BOTTOM: Dennys Lascelles Austin & Co. Wool Stores, Brougham Street, Geelong, by E.G. Stone, 1910-11: detail of so-called "bowstring" trusses. Photo: author.

Varman[45] have previously given a full account either of its origins or of its arrival in Australia. This is not the place to treat the subject in detail, but it will be relevant to summarise the conclusions which I will shortly publish elsewhere.[46] The Marseilles tile is a special case of the Gilardoni tile, characterised by overlapping flanges at head and foot and a side overlap with one or more sets of beads and grooves. These made the tiling weatherproof with far less overlap than was required for other roof tiles or slates, which in turn reduced the weight and the cost. To mould such tiles became possible once pressing machinery had been developed, and they were produced in 1851 by the Gilardoni brothers of Altkirch, in Alsace.

Tiles of the Gilardoni type were manufactured in Victoria under a local patent of 1859, but were not successful, and others were imported from France. Although at least one reference of the time mentions them as Marseilles tiles, and it appears that they were indeed now made at Marseilles, they were not of what is today called the Marseilles pattern. The pattern was developed by the Martin frères at an unknown date prior to 1888, when it appeared in Australia. It is possible that a small quantity of the tiles was used in Melbourne in 1886, but certainly they were shown at the Centennial International Exhibition of 1888 by the Société Anonyme de Tuileries et Produits Céramiques of Marseilles. By the following year they were being used on a large house in Essendon.

The use of these tiles gradually increased and it seems that by the mid-1890s they were being imitated by local makers. When the Great War cut off imports from France the Wunderlich company rapidly went into production, having previously acquired suitable claypits and machinery, and they remained the leaders even after the war, when a number of others entered the field. Nothing more is heard of French imports, but this French pattern — today almost unknown in France or elsewhere — became almost universal on Australian roofs other than corrugated iron ones. It was so prestigious in the marketplace that it was imitated in cement, glass and metal, and pressed metal sheeting of this pattern is highly popular today.

CONCLUSION

The adoption of the Marseilles tile in Australia was almost, if not quite, the only instance of French influence reaching us directly rather than by way of Britain, the United States or Germany. It is a form now far better known in this country than in France itself. But earlier French influences are not unimportant, even if they are indirect, and it is only the general lack of understanding of late nineteenth-century eclectic architecture in Australia that has prevented recognition of the fact that its departure from the British mainstream is the result largely of French input. The role of the Second Empire style in this input

far exceeded its impact in Britain, and still more so did the influence of Viollet-le-Duc. This influence and those others in fields like apartment dwellings and reinforced concrete design are the more remarkable as they took effect in the absence of significant French immigration or trading contracts.

*University of Melbourne*

### Notes

1.  Miles Lewis, *Victorian Primitive*, Melbourne, 1977, pp. 44-50, 52.

2.  G.C. Goiffon, "L'Art du Maçon Piseur", *Journal de Physique, de Chimie, d'Histoire Naturelle et des Arts*, I, March 1772, pp. 682-697; also as a separate monograph, *L'Art du Maçon Piseur*, Paris, 1772; François Cointeraux, *Ecole d'Architecture Rurale, &c.*, 4 vols, Paris, 1790-1; Cointeraux, *Architecture Périodique*, Paris, 1792; Boulard (with lengthy editorial note by Rozier), "Pisai ou Pise de Terre battue entre deux planches", in F.P. de Rozier (ed.), *Cours Complet d'Agriculture*, 7 vols, Paris, 1793-1800, VII (1793), pp. 644-60; Jancour to the Under-Secretary of the Board of Agriculture, London, 14 June 1797, in the Board of Agriculture, *Communications*, II, 1797, pp. 403-4; Cointeraux, *Description Curieuse et Instructive des Modèles en Pise, &c.*, Paris, 1806; Cointeraux, *Modèles en Pise* (no place or date); Cointeraux, "Projet et Dessin des Contrefacteurs de l'Ecole d'Architecture Rurale, &c." (broadside, no place or date).

3.  Henry Holland, "On Cottages", *Communications* of the Board of Agriculture, II, 1797, pp. 79ff., and his translation of Cointeraux, as "Pise, or the Art of Building Strong and Durable Walls, to the Height of Several Stories, with nothing but Earth, or the most common Materials", *Communications*, I, 1797, pp. 387-401.

4.  William Barber, *Farm Buildings ... Also a Description of the Mode of Building in Pise, as adopted in several Parts of France for many Ages, &c.*, London, 1805; R. Lugar, *The Country Gentleman's Architect, &c.*, London, 1807; J.B. Papworth, *Rural Residences, &c.*, London, 1832 (1818); William Wilds, *Practical Instructions on the Art of Cottage Building, &c.*, London, 1835; C.B. Allen, *A Rudimentary Treatise on Cottage Building*, London, 1854 (c. 1845?); *Ecclesiologist*, IX (new series vol. VI), 1848, pp. 216-9; *Mann's Emigrant's Guide to Australia, &c.*, London, 1849; Charles Tomlinson (ed.), *Cyclopaedia of Useful Arts and Manufactures*, 6 vols, London, n.d. (c. 1852); R.S. Burn, *The Colonist's and Emigrant's Handbook of the Mechanical Arts*, Edinburgh & London, 1854.

5.  J. Evans's house at Coal River, according to the *Hobart Town Gazette*, 3 May 1823, quoted *Sydney Gazette*, infra; and John Powell's house, Macquarie Plains, described as a "Pisa House" by Benjamin Gregory, *The Thorough Businessman*, London, 1871, p. 6.

6.  *Sydney Gazette*, XI, 1021 (12 June 1823), supplement; 1022 (19 June 1823), supplement.

7.  John Stacpoole, *Colonial Architecture in New Zealand*, Wellington &c., 1976, p. 22.

8.  Harpley, infra.

9.  Edgar Morrison, *Early Days in the Loddon Valley*, Yandoit, Victoria, p. 69.

10. Graeme Harpley, "Pise Building in the Riverina", B. Arch. research report, University of Melbourne, 2 vols, 1980, passim.

## MILES LEWIS

11. William Kelly, *Life in Victoria in 1853 and Victoria in 1858*, 2 vols, London, 1860, vol. 1, pp. 296-9, 318-9.

12. Alice Oppen (ed.), *Old Buildings of Hunter's Hill*, Sydney, 1977 (1969), passim, but especially pp. 4-5, 19 and 66.

13. Shar Jones, *Monsieur Noufflard's House*, Sydney, 1983.

14. Harley Forster, *Waranga 1865-1965*, Melbourne, 1965, facing p. 17.

15. Miles Lewis, *Don John of Balaclava*, Melbourne, 1977, pp. 4, 7, 16, 17, ref. T.H.W. Leavitt & W.D. Lilburn, *The Jubilee History of Victoria and Melbourne*, 2 vols, Melbourne, 1888 vol. II, part iv, p. 46; E.M. Heddle, *The Story of A Vineyard: Chateau Tahbilk*, Melbourne, 1968 (1960), p. 14; Victoria, *List of Electors Entitled to Vote in the Election of Members to Serve in the Legislative Council and Legislative Assembly*, Melbourne, 1856, Assembly lists, Rodney Division, p. 563, n⁰ 461. For the misidentification of Marie's store see Lewis, pp. 88-9 (note 22).

16. By Phillis Murphy, of Kyneton.

17. Charles Mayes, *The Australian Builders' Price-Book*, Melbourne, 1862, pp. 90-1.

18. *Australian Builder*, n⁰ 15 (12 June 1856), p. 124.

19. Brenda Greysmith, *Wallpaper*, New York, 1976, p. 100.

20. Elizabeth Warburton, *Martindale Hall*, Adelaide, 1979, p. 142.

21. *Australian Decorator and Painter*, 1 October 1909, p. 6.

22. Ros Magee, "French Second Empire Influence in Victorian Architecture 1856-1900", 2 vols, B. Arch. research report, University of Melbourne, 1980.

23. *Illustrated Melbourne Post*, 20 August 1864, pp. 7-8.

24. *Argus*, 28 February 1876, p. 3.

25. Robert Kerr, *The Gentleman's House*, 2nd ed., London, 1865 (1864), pp. 362-5.

26. A.J. Downing, *The Architecture of Country Houses*, New York, 1850, illustrates nothing French, though design XXXII, apparently intended to be Rhenish in style, has a tower with a steep convex roof, in an overall design more Gothic than Renaissance in character. Samuel Sloan, *The Model Architect*, 2 vols, Philadelphia, 1852, illustrates nothing even remotely relevant. Calvert Vaux seems to have been responsible for the new fashion. In his *Villas and Cottages*, New York, 1857, p. 66, he argues on visual grounds for curved lines in the design of the roof. Amongst his designs, with steadily increasing sophistication, appear a concave profile roof (design 22); an ogee profile in the form of an inverted cyma reeta (25); a straight-sided mansard (29); an ogee in the form of an inverted cyma reversa (34); and a concave roof combined with a concave-roofed tower (38). A.J. Bicknell, *Detail, Cottage and Constructive Architecture*, New York, 1873, pl.47 illustrates a really lush French design with a convex attic mansard and a concave tower roof, by the architects G. Graham & Son of Elizabeth, New Jersey. Bicknell again in his *Bicknell's Village Builder and Supplement*, 5th ed., New York, 1878, shows a number of designs variously described as "French", "with French roof", and "style French mansard", all of which were in the original edition of the work, while the designs of the supplementary plates, added in about 1878, are overwhelmingly French. While such designs undoubtedly persisted longer, it is symptomatic of the newer taste that William R. Comstock, *Modern Architectural Designs and Details*, New York, 1881, illustrates nothing French, but is totally immersed in the English Queen Anne and Arts and Crafts.

27. Leavitt & Lilburn, vol. I, part III, p. 7.

28. J.E.M. Vincent, *The Australian Irrigation Colonies,* London, 1887, p. 108.

29. Miles Lewis, "Bendigo", *Historic Public Buildings of Australia,* Melbourne.

30. Hugo Licht, *Architectur Deutschlands,* 2 vols, loose plates, Berlin, 1882, pl. 29.

31. Ibid., pl. 17.

32. For a lateish example see the advertisement of N. Burt & Co. for the "Salon Louis Quatorze", in J.E. Sears (ed.), *The Architects' Compendium and Catalogue,* 21st issue, London, 1907, p. 332B.

33. Michael Cannon (ed.), *Victoria's Representative Men at Home,* Melbourne, n.d, p. 9.

34. Allan Willingham, "Two Scots in Victoria: the Architecture of Davidson and Henderson", M. Arch., University of Melbourne, 1983.

35. Ibid., pp. 70-1.

36. Ibid., p. 95.

37. Ibid., p. 121.

38. Ibid., 179.

39. J.M. Freeland, "John Horbury Hunt 1838-1904", in Howard Tanner (ed.), *Architects of Australia,* Melbourne, 1981, p. 81.

40. Bernard Smith (ed.), *Documents on Art and Taste in Australia,* Sydney, p. 237.

41. R.T. Baker, *The Australian Flora in Applied Art. Part I. The Waratah,* Sydney, 1915, p. 16.

42. Miles Lewis, "Early Reinforced Concrete and Structural Expression in Australia", in D.A.L. Saunders (ed.), *Architectural History Papers Australia and New Zealand,* Adelaide, 1984, pp. 142-66.

43. Bernard Jones, *Cassell's Reinforced Concrete,* London, 1913, pp. 6-9; Peter Collins, *Concrete: the Vision of a New Architecture,* London, 1959, pp. 60-1.

44. Miles Lewis, "Tradition and Innovation in Victorian Building", 3 vols, Ph.D., University of Melbourne, 1972. Vol. I, pp. 227-8, and notes, vol. III, pp. 630-1.

45. R.J. Varman, *The Marseilles or French Pattern Tile in Australia,* Australian Society for Historical Archaeology, Sydney, no date.

46. In a forthcoming issue of *Construction Papers.*