

### 11.03 *Paints*

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#### *a. whitewash*

Most of the paints used in Australia were imported, either in raw materials or made up, and so was most of the technology. But there were of course many vernacular paints of the whitewash or limewash genre,<sup>1</sup> and a report of 1792 describes the wooden buildings of Sydney as being whitewashed with pipeclay, which was plentiful in the locality.<sup>2</sup> One of the earliest whitewash recipes, published in Sydney in 1804, used milk curds and lime, to which ochre and other colours were added: it was said to be quick drying, and could be rubbed with a cloth to a nice polish.<sup>3</sup> This is not dissimilar to the 'milk paint' described by J C Loudon, based in turn upon Smith's *Art of House Painting* of 1821. Milk was poured onto freshly slaked lime until it had a creamy texture, then linseed oil added gradually and stirred in, then more milk, and finally whiting. This paint might be coloured with levigated [finely powdered] charcoal, yellow ochre, or other pigment.<sup>4</sup>

Loudon insisted that the milk used in the mixture should not be sour. However Peter Cunningham, in the 1820s, spoke of a whitewash of 'lime, plaster of Paris, or apple-tree ashes and sour milk - the latter forming a tolerable substitute for lime as whitewash'.<sup>5</sup> William Thornley, in Van Diemen's Land in 1817, plastered his cottage and whitewashed the inside, using a whitish earth which he found on the property, with additives similar to Cunningham's, plus some red ochre: 'This produced something of a salmon colour, and as the plaster was very smooth, the ochre gave it

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<sup>1</sup> There is a distinction between limewash, consisting of slaked lime in water, and distemper or whitewash, which consists essentially of whiting and jellied glue size. But this distinction is not made in Australian accounts, and nor are the recipes themselves so easily categorised as this would imply.

<sup>2</sup> *Historical Records of New South Wales*, II, p 794, quoted in Peter Bridges, *Foundations of Identity* (Sydney 1995), p 17.

<sup>3</sup> *Sydney Gazette*, 27 May 1804, p 3, quoted in Ian Evans, *The Australian Home* (Sydney 1983), p 84.

<sup>4</sup> J C Loudon, *An Encyclopædia of Cottage, Farm, and Villa Architecture and Furniture* (London 1846 [1833]), § 575, p 277, ref Smith [revised Butcher], *Art of House-Painting* (London 1825).

<sup>5</sup> Peter Cunningham, *Two Years in New South Wales* (2 vols, London 1827), II, p 162. See also T W Leys, *Brett's Colonist's Guide* (Auckland 1883), pp 566-7, for various whitewash recipes.

the appearance of stucco, and it looked very well and seemly.<sup>6</sup> In New Zealand *Brett's Colonist's Guide*, quoting the *Horticulturalist*, recommended for use on barns a substitute for paint consisting of a peck [9 litres] of hydraulic cement, a peck of finely slaked lime, four pounds [1.9 kg] of yellow ochre in powder, and four pounds of burnt umber, the whole dissolved in hot water and applied with a brush.<sup>7</sup>

The general picture is that whitewash was the cheapest form of paint, and it was used very freely. For example the Rev Joseph Docker of Windsor, New South Wales, regarded annual internal whitewashing as the minimum.<sup>8</sup> Whitewash is not distinct from distemper, which is a water colour bound with size, other than in the variety of vernacular recipes used. Distemper continued in use as a finish for internal plaster well into the twentieth century. Hasluck gave two recipes, the first of which involved adding some whiting to water until the water just covered it, leaving it overnight, and then pouring off any remaining unabsorbed water. A little ultramarine or blue black was added, and well stirred in, to counter any yellowness. Patent size was boiled in a pot with sufficient water to liquefy it, then stirred into the whiting mixture, which was finally strained before use. Hasluck's superior whitewash used Paris white (best quality whiting) with a small proportion of zinc oxide, mixed into a paste with water. Into this was stirred a solution of pale Russian glue, then a small amount of blue.<sup>9</sup>

By the early twentieth century whitewash was being recommended only for locations such as hen houses, sheds and cellars, and the David Mitchell Estate, producers of 'Limil' brand lime, advised dissolving two pounds [900 g] of salt in fifteen pints [8.5 l] of water, stirring in ten pounds [4.5 kg] of lime, letting it stand overnight, then adding water to the required consistency prior to use. Adding alum would help to prevent it from rubbing off the wall, sodium silicate would make it fire-resistant, and soap would give it a glossy finish.<sup>10</sup>

### *b. white pigments*

The standard white pigment used by painters, both as a colour in its own right and as the basis of other light colours, was white lead [ $2\text{PbCO}_3 \cdot \text{Pb}(\text{OH})_2$ ]. This material had the disadvantages that it tended to deaden pigment colours and turn yellow in sulphurous atmosphere,<sup>11</sup> and that it was of course poisonous, and a hazard to manufacturers, suppliers, painters and the public. Various attempts were made to find substitutes. In 1853 the Washington Chemical Company of Newcastle-upon-Tyne advertised that they had in the last year established a manufactory of Pattinson's Patent Oxichloride of lead, and could now supply it regularly. Whereas common white lead was lead carbonate, their product was a combination of 'chloral of lead' with 'oxide of lead',<sup>12</sup> in fact  $\text{Pb}_2\text{OCl}_2$ .<sup>13</sup> It was developed by Hugh Lee Pattinson, a

<sup>6</sup> William Thornley [ed J S Mills], *The Adventures of an Emigrant in Van Diemen's Land* (Adelaide 1973 [1840s]), pp 53-4.

<sup>7</sup> Leys, *Brett's Colonist's Guide*, p 379.

<sup>8</sup> J M McMillan, *The Two Lives of Joseph Docker* (Melbourne 1994), p 49.

<sup>9</sup> P N Hasluck, *Cassell's House Decoration* (London 1910), pp 157-8.

<sup>10</sup> David Mitchell Estate, *Limil: its uses in the Building Trade* (Melbourne no date [c 1935]), no page.

<sup>11</sup> Hasluck, *Cassell's House Decoration*, p 47.

<sup>12</sup> *Builder* [UK], XI, 528 (19 March 1853), p 192.

lead smelter of Newcastle, and involved mixing lead chloride and calcium carbonate in the ratio of their chemical equivalents, 278:100, and grinding it with water for some time.<sup>14</sup> There were many other processes, but none could help with the poisoning problem, and in due course other metallic bases were sought.

In 1853 the Vieille Montagne Zinc Company appointed T S Knight of London as their painters, to execute work in their 'pure Patent White Zinc Paint'. At the same time Langston, Scott & White advertised as the sole manufacturers of Scott's patent white zinc for paint, asserting that it was much cheaper than white lead and had sanitary advantages over it.<sup>15</sup> Another brand was Harbuck's Patent White Zinc Paint, also said to be cheaper than white lead, but to cover 50% more.<sup>16</sup> It seems likely that these were all zinc oxides, but the British manufacturer J B Orr patented sulphide zinc white in 1874,<sup>17</sup> and another zinc sulphide white was Griffith's, patented in 1875 and manufactured from about 1876.<sup>18</sup> In 1879 Griffiths, Fletcher & Berdoe of London showed at Sydney their 'Griffiths' Patent White (a substitute for White Lead).<sup>19</sup> But for practical purposes there were still only two types of zinc paint, the traditional oxide, ZnO, and the newer sulphide, ZnS, though the latter might be combined with other materials such as barytes, BaSO<sub>4</sub>. A number of other white materials were used in paint, including barium carbonate, calcium sulphate (gypsum), calcium carbonate (whiting), calcium oxide (quicklime), strontium sulphate, strontium carbonate, magnesium carbonate (magnesite), China clay or kaolin (hydrated silicate of alumina), and French chalk (silicate of magnesia).<sup>20</sup>

By the turn of the century there was considerable controversy over the respective merits of lead and zinc-based paints, but the French authority, G Petit, still regarded white lead as unrivalled for painting purposes. His work was translated into English by Donald Grant in 1907 and appeared as *The Manufacture and Comparative Merits of White Lead and Zinc White Paints*.<sup>21</sup> Nevertheless, according to Hasluck, 'Most countries, with the exception of Britain) [had] taken very kindly to the use of oxide of zinc in place of the more poisonous lead pigments.'<sup>22</sup> By 1908, however, the

<sup>13</sup> G H Hurst, *Painters' Colours, Oils, and Varnishes: a Practical Manual* (2nd ed, London 1896 [1992]), p 192.

<sup>14</sup> Hurst, *Painters' Colours*, pp 36-7, 94.

<sup>15</sup> *Builder* [UK], XI, 528 (19 March 1853), p 191. This may well be the same Knight who patented a zinc sulphide white in 1876: Hurst, *Painters' Colours*, p 70.

<sup>16</sup> *Builder* [UK], XI, 533 (23 April 1853), p 271.

<sup>17</sup> Hurst, *Painters' Colours*, p 66. Orr's initials are from Hasluck, *Cassell's House Decoration*, who gives a very different account, p 54 - that it was patented by Orr in about 1870 and manufactured from 1872 until the expiry of the patent in 1874, after which the market was flooded with imitations. This is unconvincing because a patent normally expired in fourteen years, not four.

<sup>18</sup> Hurst, *Painters' Colours*, p 68.

<sup>19</sup> Sydney International Exhibition 1879, *Official Catalogue of the British Section* (London 1879), pp 75-6.

<sup>20</sup> Hurst, *Painters' Colours*, p 9.

<sup>21</sup> G Petit [translated Donald Grant], *The Manufacture and Comparative Merits of White Lead and Zinc White Paints* (London 1907).

<sup>22</sup> Hasluck, *Cassell's House Decoration*, p 51.

Australian paint manufacturers Charles Atkins & Co made 'Aeon' metallic white, a substitute for white lead, to which it was claimed to be superior.<sup>23</sup>

While Australia itself produced lead, this was freighted in pig form to Britain before returning in processed form for paint and other purposes. In 1916, however, British Australian Lead Manufacturers (BALM) were established to produce white lead and to eliminate this wasteful procedure.<sup>24</sup> The company rose to considerable prominence over the next four decades,<sup>25</sup> but as the public came to better understand the toxicity of lead, the name became less appealing, and it was replaced by 'Dulux'.

### *c. oil paints*

A typical oil paint would contain pigments to impart the required colour, and white lead to provide body and conceal the substrate, though there were some pigments which contained sufficient body in themselves. These materials were ground and mixed with linseed oil to serve as a binder and vehicle, and the setting of the paint was essentially that of this oil. Some pigments, such as the carbonates and all lead compounds, would react with the oil, while others were inert, and vermilion and crimson lake could not be mixed with linseed oil at all, as they would fade and settle out, so they were bound in varnish instead.<sup>26</sup> Turpentine was added to make the ingredients mix better, stop the colour from running, and harden the coat. Dryers, which might also be added to hasten the set, included white vitriol, lead acetate, borate of lime, zinc or manganese, manganese oxide, terebene (the volatile oil of turpentine), proprietary lines and resinous substances.<sup>27</sup> These materials were at first sold direct from the ships that brought them, and supplied must have fluctuated enormously. In May 1817 Thomas Birch of Hobart advertised a speculative cargo which he had received from Europe, including everything from beaver hats to Jamaica rum, and amongst it 'paint oil', turpentine, and 'paints' (probably meaning pigments).<sup>28</sup> Three weeks later his next door neighbour, Captain James Jones, was selling cargo from the *Cochin*, mainly originating in India, but including blocks of size, paints of various colours, and paint oil.<sup>29</sup>

The first local innovation came in June 1803, when a Parramatta painter, prompted by the scarcity and expense of linseed oil, experimented with 'the several oils with which we are furnished from Bass's Straits.' These seem likely to have included whale, seal and possibly mutton bird oil, but the only one which worked was 'sea elephant' [walrus] oil. The painter claimed that a single coat of paint using this was equivalent to two with linseed oil. The process of preparation was:

<sup>23</sup> *Cazaly's Contract Reporter*, XXIV, 25 (23 June 1908), p 99. For 'Aeon' paints see also *The Architectural Student Annual* (Melbourne 1917), p xxv; Robin Boyd, *Victorian Modern* (Melbourne 1947), advertisements, no page.

<sup>24</sup> Information from Jeananne Wells, 2002, citing British Australian Lead Manufacturers, *The White Lead Industry in Australia* (1919).

<sup>25</sup> See, for example F W Ware & W L Richardson [eds], *Ramsay's Architectural and Engineering Catalogue* (Melbourne 1949), §31/3.

<sup>26</sup> Hasluck, *Cassell's House Decoration*, p 57.

<sup>27</sup> Hasluck, *Cassell's House Decoration*, p 63.

<sup>28</sup> *Hobart Town Gazette*, II, 49 (3 May 1817), p 1.

<sup>29</sup> *Hobart Town Gazette*, II, 52, (24 May 1817) p 2.

Add to the oil when boiling

A quarter pound of white copperas  
Two pounds of litharge, or red lead,  
Half a pint of spirit of turpentine

When boiled half an hour, let it be taken off the fire, and when cold it may be used in the manner of linseed oil; but when poured off care must be taken not to disturb the sediment.<sup>30</sup>

By September the oil was being advertised by J W Lancashire, who was presumably the Parramatta painter in question, though his address was now given as Chapel Row, Sydney, and he was preparing to leave the colony.<sup>31</sup> This he did not do, for at Christmas he was advertising his new address in Back Row.<sup>32</sup> But this is the last we hear of the matter, for though 'elephant oil' continued to be harvested, and advertised for sale in Sydney,<sup>33</sup> there is no indication that it was being used for painting. Sea elephant oil had been a regular item of trade since the *Nautilus* had collected a batch for the China market in 1798, and by 1803 it was being sent to Madras.<sup>34</sup>

The specification for painting the exterior of Lake Tyers House, Gippsland, in 1894, barely concerned itself with the colour. The paint was to be 'made with Champion's white lead + best boiled raw linseed oil with any necessary dryers + to finish in colors approved by the Inspector.'<sup>35</sup> In practice all these materials were liable to adulteration, and the testing of them was a substantial branch of science in itself.<sup>36</sup>

Nineteenth century paints were not homogeneous as they are (more or less) today. Some pigments, like crimson, might be twenty times the price of others, so cost was a real factor in choosing a colour scheme. Some pigments, like Prussian blue and indigo (but not Cobalt blue),<sup>37</sup> were fugitive - that is, they faded in sunlight, and could not be effectively used on the outside of a building. Others, like Brunswick green and verdigris, turned black in polluted atmospheres.<sup>38</sup> In the later nineteenth century aniline dyes derived from coal tar were introduced, replacing those made from indigo,<sup>39</sup> giving a much wider range of colours, with more consistent properties.<sup>40</sup> But the change wasn't immediate, and until late in the century much paint, especially that used externally, was based upon natural earths and minerals such as are still

<sup>30</sup> *Sydney Gazette*, 19 June 1803, p 2.

<sup>31</sup> *Sydney Gazette*, 11 September 1803, p 4.

<sup>32</sup> *Sydney Gazette*, 25 December 1803, p 4.

<sup>33</sup> *Sydney Gazette*, 15 April 1804, p 3.

<sup>34</sup> Margaret Steven, 'Eastern Trade' in James Broadbent [ed], *India, China, Australia: Trade and Society 1788-1850* (Sydney 2003), p 46.

<sup>35</sup> A M Henderson, 'Specification for Painting the outside wall of Lake Tyers House Nowa Nowa East Gippsland' (Melbourne 1894), p [2].

<sup>36</sup> See A C Wright, *Simple Methods for Testing Painters' Materials* (London 1903).

<sup>37</sup> E A Davidson, *A Practical Manual of House Painting* (8th ed, London 1900), pp 82, 85.

<sup>38</sup> Davidson, *House Painting*, pp 93, 94.

<sup>39</sup> 'Anil' actually means indigo.

<sup>40</sup> 'Tyrian purple' or mauve by W H Perkins (1856, and commercially in 1858); magenta and violet imperial (1860); Bleu de Lyon (1862); aniline yellow and aniline black (1863); dahlia pink, Perkins green, and Manchester or Bismarck brown (1864); alizarin red (1871); and London orange (1875): Norman Davies, *Europe* (London 1997 [1996]), p 772.

familiar in artists' watercolours - umber, ochre, cobalt blue and so on. This gives a limited range of colour, and very few which are really clear and bright.

Until well into the twentieth century only specialised and patent paints would come pre-mixed, and it was normal for a painter to mix the colours on site. There may have been exceptions, such as some 'prepared paints' advertised in Sydney in 1804,<sup>41</sup> but here the preparation probably means milling &c of the pigment. The separate ingredients were usually bought from an oil and colour man such as H Kettle of Collins Street, Melbourne, who in 1839 offered white lead, oils, colours of every description, turpentine, and glass of all sizes. Kettle was not merely a retailer, but a painter and glazier in his own right,<sup>42</sup> and in a similar way W C Burn of Little Bourke St, described as a builder, was advertising black and green paints, dry white lead, venetian red, yellow ochre, umber, and boiled oil.<sup>43</sup> The puzzle is again whether Burn's 'paints' were no more than pre-mixed ground ingredients, as well as whether they were made up by Burn himself, or were fully manufactured paints.

In general premixed paints, and with them commercial colour cards, were pioneered in America and reached Australia only gradually, and then by way of Britain. One of the earliest American colour cards illustrated the 'homestead colors' of F W Devoe & Co, in the 1860s,<sup>44</sup> and soon after came Harrison Bros & Co's Town and Country Ready Prepared Paints paint card of 1871.<sup>45</sup> The first indications of pre-mixed paint in Australia are two advertisements in *Wright's Australian and American Commercial Directory* of 1881. The directory was published in New York, and one of the advertisements, by John Lucas & Co of New York, shows four rather dull colours, and has no explicit Australian connection.<sup>46</sup> The other, for Johnston's paints, includes colour chips for a small range of gloss and a small range of 'fresco' colours or Johnston's Patent Dry Sized Kalsomine. Though Johnstons were probably an American company, they had Australian and New Zealand agents, Ilsley Doubleday & Co (of Sydney and New York), suggesting that these paints were sold locally.<sup>47</sup> By 1912 ready-mixed paints had become very common in the United States and A S Jennings anticipated their increasing use in Britain.

In Britain premixed paints were pioneered by David Storer & Sons of London and Glasgow, as 'Prepared Liquid Paints', and they had become a recognised article of trade by 1879, when the company showed its wares at the Sydney Exhibition. They were represented in that city by Harold Walker,<sup>48</sup> and there were already rivals. Blundell, Spence & Co of London and Hull produced 'Patented Convertible Paint-Pot tins, containing mixed paints,'<sup>49</sup> some of which may have reached Australia.

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<sup>41</sup> *Sydney Gazette*, 15 July 1804, p 4.

<sup>42</sup> *Port Phillip Patriot*, 13 February 1839, p 8.

<sup>43</sup> *Port Phillip Patriot*, 17 April 1839, p 8.

<sup>44</sup> Roger Moss, *A Century of Colour: Exterior Decoration for American Buildings, 1820-1920* (New York 1981), p 27.

<sup>45</sup> Reproduced in F W Devoe & Co, *Exterior Decoration: a Treatise on the Artistic use of Colors in the Ornamentation of Buildings, &c* (New York 1885 [facsimile edited by Samuel Dornsife, Philadelphia 1976]).

<sup>46</sup> George Wright, *Wright's Australian and American Commercial Directory* (New York 1881), facing p 216.

<sup>47</sup> *Wright's Australian and American Commercial Directory*, pp 8-9.

<sup>48</sup> Sydney Exhibition 1879, *Catalogue of British Section*, pp 87-9.

<sup>49</sup> Sydney Exhibition 1879, *Catalogue of British Section*, p 71.

Moreover John Foulger & Sons of London claimed that their products were well-known and highly appreciated in Australia, and amongst these were 'paints mixed ready for immediate use, and put up in Tins of various sizes to suit the convenience of up-country Colonists.'<sup>50</sup> In 1908 H C Lascelles of Melbourne advertised as the agent for 'Velure' paint, one coat of which was claimed to equal of two of ordinary paint plus one of varnish,<sup>51</sup> but the origins of this are unknown.

#### *d. local manufacture*

A deposit of the pigment Spanish brown (typically ferric oxide with silica and calcium carbonate<sup>52</sup>) was found at Sydney in the first months of settlement, and Governor Phillip also noted the clay used by the Aborigines, apparently as potential raw material for paint manufacture.<sup>53</sup> Later in the century there were numerous discoveries of naturally occurring 'paint'. The expression sounds odd today, and even in nineteenth century terms is not entirely clear. It seems to refer to mineral deposits yielding a range of pigments, which were in many cases ochres or other materials already used by the Aborigines. In 1866 samples of red ochre from Tasmania were shown at the Intercolonial Exhibition, one from Port Arthur and three from an unspecified source.<sup>54</sup> For some reason the bulk of reports of such discoveries date from the 1880s, as will appear below.

The discovery of these deposits did not mean that they were put to commercial use. In 1853 there was said to be not a single paint mill in Melbourne.<sup>55</sup> There was soon, however, to be one local development in the production of paint. On the Deep Creek at Bulla, some distance out of Melbourne, the water had exposed a deposit of fine white kaolin, which the villagers put to use for painting their walls and whitening their hearths.<sup>56</sup> Similarly at York, in Western Australia, kaolin was being used as a wash. In the 1860s the Milletts' servant referred to it as 'pipeclay' and used it to whiten the kitchen hearth, occasionally embellishing it with a trellis pattern in blue.<sup>57</sup> Kaolin was a natural product formed by the decomposition of granitic rocks, and used pottery manufacture (hence the alternative name 'China clay'). For use as a pigment it required only levigating (reducing to a smooth paste or powder) and drying.<sup>58</sup>

The Bulla deposit was generally ignored until Clement Hodgkinson, the then District Surveyor for Melbourne, discovered it and forwarded a sample to the surveyor and geologist Robert Brough Smyth. Smyth reported on it on 3 November 1855,<sup>59</sup> and it was subsequently marked on the geological quarter sheet for the area as 'decomposed

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<sup>50</sup> Sydney Exhibition 1879, *Catalogue of British Section*, p 75.

<sup>51</sup> *Cazaly's Contract Reporter*, XXIV, 25 (23 June 1908), p 97.

<sup>52</sup> [Arthur Phillip], *The Voyage of Governor Phillip to Botany Bay* (Dublin 1790), p 150.

<sup>53</sup> Hurst, *Painters' Colours*, p 116.

<sup>54</sup> Intercolonial Exhibition, Melbourne, 1866-7, *Official Record* (Melbourne 1867), p 74.

<sup>55</sup> G F Train to the *Boston Post*, 20 October 1853, in E D & A Potts [eds], *A Yankee Merchant in Goldrush Australia* (London 1970), p 24.

<sup>56</sup> [J A Patterson], *The Gold Fields of Victoria in 1862* (Melbourne 1862), p 223.

<sup>57</sup> [Janet] Millett, *An Australian Parsonage* (London 1872), p 90.

<sup>58</sup> Hurst, *Painters' Colours*, pp 86-7.

<sup>59</sup> R B Smyth, *The Gold Fields and Mineral Districts of Victoria* (Melbourne 1869) p 438.

granite, affording a fine white kaolin'. The Victorian Kaolin Company was established to work the deposits, and obtained a lease of about seven hectares in 1861.<sup>60</sup> At the 1861 Exhibition in Melbourne the company showed 'Kaolin in natural state, Washed Sample, Cements, Paints, and Thumb Blue',<sup>61</sup>

but as a considerable amount of time was lost in their endeavours to secure a lease, and as the works for the working of the clay had to be constructed without practical knowledge of this particular description of industry, and merely as the requirements of the case suggested means and appliances to the ingenious minds of the authors of the system now in operation, it is not to be wondered at that the enterprise is still only in the first stages of development.

By 1862 the company was in full operation, and the system which had been evolved, more or less by trial and error, was to pump water from the creek with a 7.5 kW engine to a small wooden tank on the hill. A hose from this tank was played against the cliff and, with the help of an occasional stroke with a pick or shovel, the clay was brought down. It was then carried by a stream of water past baffles, within which the larger crystals were deposited, and into tanks where the water was drained off and the kaolin partly dried. It was cut out and further dried on the grass, then trimmed to shape for the market. It was finally transported to corrugated iron buildings rented by the company in Little Collins Street, and there it was ground into powder using hand mills, then pressed into bags with special stampers.

By this time four or five other companies had applied for leases on the banks of Deep Creek,<sup>62</sup> and it may have been in connection either with one of these, or with the original company, that the Melbourne merchant William Sloggatt began using kaolin. He obtained a local patent for the use of kaolin in pigments as a substitute for white lead and Paris white,<sup>63</sup> and established a factory to the east of the village of Malvern (now a Melbourne suburb) in partnership with one W Harrison,<sup>64</sup> but this does not seem to have lasted long. Kaolin has a particularly brilliant tone, and it was as a base for pigments generally, and as a wash for embellished ceilings. By 1888-9 the local kaolin deposits were seen less as a source of paint than as the potential basis of a local porcelain industry.<sup>65</sup> Research by David Moloney and Vicki Johnson also indicates extensive use of the clay by brick manufacturers, including Alfred Cornwell & Co and the Hoffman Brick Co.<sup>66</sup>

The only other local paint manufacturer of any significance at this stage was Alexander Borthwick,<sup>67</sup> who also patented his paint recipes. One was a metallic paint

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<sup>60</sup> The operation on site is described by Patterson, *Gold Fields of Victoria*, pp 224-5.

<sup>61</sup> Victorian Exhibition 1861, *Catalogue with Prefatory Essays* (Melbourne 1861), p 108.

<sup>62</sup> Patterson, *Gold Fields of Victoria*, pp 224-5; 228-231.

<sup>63</sup> Victorian patent no 488 to William Sloggatt, 30 August 1861: see also Mayes, *Australian Builders' Price-Book* (1862), p 144.

<sup>64</sup> J B Cooper, *The History of Malvern from its First Settlement to a City* (Melbourne 1935), p 133.

<sup>65</sup> Centennial Exhibition 1888-9, *Official Record*, p 748.

<sup>66</sup> David Moloney & Vicki Johnson, research in progress for the heritage study of the former Shire of Bulla, 1996.

<sup>67</sup> For Borthwick see James Smith [ed], *The Cyclopaedia of Victoria* (3 vols, Melbourne 1903-5), I, pp 340-1; Alexander Sutherland [ed], *Victoria and its Metropolis* (2 vols, Melbourne 1888), II,

for the hulls of ships, which need not concern us here, and the other a paint made of tallow, soap or palm oil, mixed with verdigris or copper sulphate.<sup>68</sup> He founded and managed the Victoria Varnish Company from 1865,<sup>69</sup> and for at least ten years was the only manufacturer of varnishes, enamels and paints. All his materials were imported except zinc, which could be prepared economically from scraps.<sup>70</sup> In 1876 he displayed his varnishes, enamel, anti-corrosive paint and anti-fouling composition at the Philadelphia Exhibition.<sup>71</sup> The Victoria Varnish Co was still in business in South Melbourne in 1908, managed by one A J Borthwick,<sup>72</sup> presumably either the original proprietor or a descendant. By 1919, however, the Victoria Varnish Co was merely the Victorian agent for the 'AB' brand paint of Borthwick's Pty Ltd of Sydney.<sup>73</sup>

The Patent Enamel Damp Resisting and Anti-Fouling Composition and Paint Co (Ltd) appears to have set up in 1882 in rivalry with the Victoria company, with the architects J H Grainger and Thomas Watts among the provisional directors.<sup>74</sup> There was also a distinctive local product in this area. In 1844 Louisa Meredith had reported that the gum of the *Xanthorrhoea arborea*, or grass tree, had been boiled in oil to make a material for the bottoms of ships, instead of pitch.<sup>75</sup> In 1910, similarly, J E Harrison of the Carlisle River, Colac, exhibited a varnish which he extracted by a patent process from the *Xanthorrhoea arborea*,<sup>76</sup> but it does not seem to have caught on. By contrast a hard copal resin extracted from the New Zealand kauri pine was recognised and in fairly extensive overseas use by the end of the century.<sup>77</sup> Turpentine was, however obtainable from Australian eucalypts, notably the bluegum, *E globulus*.<sup>78</sup>

A paint deposit containing a variety of hues was reported at Manly, near Sydney, in 1887.<sup>79</sup> Then in 1889 the Colour and Silicate Paint Company extracted from a lode at Blackwood, South Australia, 'twenty tons of various coloured paints, which require only washing to be ready for the market'. Tanks were being erected for washing the material, and the first sales had already been made.<sup>80</sup> Soon another paint deposit was reported at Hotham, Western Australia, in a small hill of volcanic origin. This had yet to be exploited commercially, but the owner had successfully mixed the paint with oil, and had identified eleven different hues.<sup>81</sup> Yet a further deposit, said to be

p 593; *Intercolonial Exhibition of Australasia, 1866-7: Official Record, &c* (Melbourne 1867), p 29.

<sup>68</sup> Victorian patent no 760 to Alexander Borthwick, 14 November 1864.

<sup>69</sup> Biographical references as above, and see also the *Jubilee History of the City of South Melbourne and Illustrated Handbook* (South Melbourne 1905), p 166.

<sup>70</sup> *Victorian Intercolonial Exhibition, 1875, Official Catalogue of Exhibits* (Melbourne 1875), p 59; also advertiser pp 66, 71.

<sup>71</sup> Victoria, *Official Catalogue of Exhibits, &c* [Philadelphia Centennial Exhibition] (Melbourne 1876), p 95.

<sup>72</sup> *Cazaly's Contract Reporter*, XXIV, 25 (23 June 1908), p 99.

<sup>73</sup> *Building*, XXIV, 145 (12 September 1909), p 106.

<sup>74</sup> *Argus*, 13 May 1882, p 6.

<sup>75</sup> [LA] Meredith, *Notes and Sketches of New South Wales* (London 1844), p 81.

<sup>76</sup> *Sixth Australian Exhibition Souvenir Catalogue* (Melbourne 1911), p 29.

<sup>77</sup> A H Church, *The Chemistry of Paints and Painting* (London 1890), p 53.

<sup>78</sup> Church, *Chemistry of Paints*, p 87.

<sup>79</sup> *Australasian Builder & Contractor's News*, 14 May 1887, p 5.

<sup>80</sup> *Australasian Builder & Contractor's News*, 4 March 1889, p 225.

<sup>81</sup> *Australasian Builder & Contractor's News*, 6 April 1889, p 320.

'immense' was discovered near Launceston in about 1889, and included a variety of mixed oxides of different tints. A company had been formed to exploit it.<sup>82</sup>

Ferric paints were a simpler proposition from most others.  $\text{Fe}_2\text{O}_3$  was the basis of paints sold as rouge, light red, Indian red, red oxide, Venetian red, purple oxide and scarlet red, as well as being the essential element of the ochres, siennas and umbers. The colours were fine and durable, but as most natural deposits were too dark, it became normal to manufacture even those which sometimes occurred naturally, such as Indian red,<sup>83</sup> - originally a red haematite imported from India.<sup>84</sup> In New Zealand iron oxide paints were manufactured by Washbourn & Sons of Para Para,<sup>85</sup> and it seems likely that they were made by Australian companies likewise, though we lack specific reports.

### *e. colouration*

External building surfaces were commonly unpainted. Stone was virtually never painted, and in fact the aim in painting other materials was often to simulate stone. This was especially in the case of stucco, which was commonly ruled (either with a groove or with a line in crayon or pencil) to simulate ashlar masonry. To further improve the effect a wash, such as Johns's Patent Stucco Wash,<sup>86</sup> could be applied to the surface to enhance the colour and to create an effect more like that of freestone, especially the Portland or the Bath stone favoured in Britain. In 1889 'Altyre', a stuccoed house in Melbourne, was specified to be refinished with 'best weatherproof color set with tallow + copperas or other approved ingredients'.<sup>87</sup> But while some buildings were left with their original cement coatings, tinted or otherwise, there were those who felt that paint was essential. When the 'exterior cement plaster' of the Royal Mint at Melbourne began to crack within ten years of its application, this was attributed to the lack of painting. The Public Works Department asserted that 'plaster facings' should receive at least five coats of paint after three years, and after that a coat every two years.<sup>88</sup>

Whilst brick had less prestige than stone, it was nevertheless a desirable material, and was rarely painted (unless first stuccoed). Occasionally it might be given a wash of Indian red to homogenise the appearance, especially when it was to be tuckpointed.

Ordinary wooden buildings were also commonly left unpainted.<sup>89</sup> which is consistent with practice elsewhere. In New England, USA, it is claimed that paint was not used

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<sup>82</sup> *Australasian Builder & Contractor's News*, 28 December 1889, p 628.

<sup>83</sup> Hurst, *Painters' Colours*, p 106.

<sup>84</sup> Church, *Chemistry of Paints*, p 161.

<sup>85</sup> Centennial International Exhibition, 1888-1889, *Official Record* (Melbourne), p 529.

<sup>86</sup> *Builder* [UK], XI, 539 (4 June 1853), p 367: it came in a stone colour, but could be tinted to different colours, and was recommended as an improvement over common lime wash or water colour.

<sup>87</sup> Beswicke & Hutchins, 'Specification of Works to be done in painting "Altyre" Barkers Road Kew for James E Cumming Esq.' (Melbourne 1889), [single page].

<sup>88</sup> *Argus*, 10 February 1882, p 1.

<sup>89</sup> Hugh Morrison, *Early American Architecture from the First Colonial Settlements to the National Period* (New York 1952), p 51.

at all until after 1700.<sup>90</sup> The British Resident's house in New Zealand, a building sent from Sydney in 1832 and subsequently known as the Waitangi Treaty House, was clad in unpainted weatherboards. Conversely a Melbourne house of 1853 was clad in kauri boards from New Zealand, which appear to have been unpainted, though the door and window frames and joinery were all heavily varnished.<sup>91</sup> In Auckland, New Zealand, where the buildings would have been mainly of timber, it was said as late as 1886 that 'Mostly walls are unpainted and stand bare and grey', though there were exceptions painted in 'haematite' - iron oxide paint.<sup>92</sup> When 'Altyre' in Melbourne was repainted in 1889 the specification particularly excluded 'any part of the wooden buildings at the back'.<sup>93</sup>

Weatherboards, if they were painted at all, tended to be of a light stone colour, until the fashion for staining took off at a later date. Even joinery was sometimes left unpainted,<sup>94</sup> but it might otherwise emulate stone. In a schoolhouse of 1839 the 'Tuscan door piece' and the fascia were 'to be painted stone colour three coats', whereas the outer faces of the doors were 'in three coats in oil' of unspecified colour, and the saddle boards on the shingle roof had 'three coats dark lead colours'.<sup>95</sup> At other times joinery and trim might be painted in stronger colours and richer combinations - and literally richer in the sense that the stronger pigments were substantially more expensive. Today, of course, most paints are priced quite independent of their colour. Another factor which has receded in importance in the twentieth century is that some colours, especially blues, were fugitive in sunlight, and not really suitable for external use.

Sanding paints in imitation of stone was a Kentish technique which had been used on the blocked board cladding of George Washington's 'Mount Vernon' in 1757-8, as discussed above, then taken up in New England, as at the Wentworth-Gardner house in Portsmouth, New Hampshire, of 1760,<sup>96</sup> and then elsewhere in the United States

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<sup>90</sup> A cottage at 9 Reef Street, Maldon, Victoria, was sandwiched between later additions, and the old unpainted walls can be seen at the junctions: Tony Dingle, 'Our House' (typescript 1997), p 1.

<sup>91</sup> 67 Argyle Street, St Kilda, inspected 2002.

<sup>92</sup> R W Armstrong, 'Auckland by Gaslight: an Urban Geography of 1896', *New Zealand Geographer*, XV, 2 (October 1959), p 183, quoted in C F Cameron, 'State Housing and State Sponsored Housing in New Zealand' (MArch, University of Auckland, 1970), pp 59-60.

<sup>93</sup> Beswicke & Hutchins, 'Painting "Altyre"'.  
<sup>94</sup> A M Henderson, 'Specification for Painting the outside wall of Lake Tyers House Nowa Nowa East Gippsland' (Melbourne 1894), p [2].

<sup>95</sup> For example, Sauvegarde de l'Enfance, 43 rue d'Auteuil, Quebec, by Frederick Hacher, 1834, where the entrance has wooden doric columns sanded to imitate sandstone: A J Richardson, 'Guide to the Buildings in the Old City of Quebec', *APT Bulletin*, II, 3 & 4 (1970), pp 38-9. At 'Blythe', on Sturgeon Lake, of 1837, the quoins were of bevelled timber plank sanded to suggest stone: Marion Macrae, *The Ancestral Roof* (Toronto 1963), p 106.

<sup>96</sup> After the 1757-8 enlargement of Mount Vernon, Virginia, which became George Washington's house, the exterior was finished in 'wood beveled in imitation of stone' and a sand finished paint: G E K Smith, *The Architecture of the United States. 2. The South and Midwest* (New York 1981), p 619. John Havilland's Farmer's and Merchant's Bank, Pottsville, Pennsylvania, of 1830, was faced with cast iron plates, sanded to provide 'the very beautiful and uniform texture of stone'. P W Hawkes, 'Economic Painting' in H W Jandl [ed], *The Technology of Historic American Buildings* (Washington 1983), p 208, quoting Turpin Bannister, 'Some Early Iron Buildings in New York', *New York History* (October 1943), unpaginated.

and Canada.<sup>97</sup> In the West Indies sanded paint finishes were used not for aesthetic reasons, but as a way of protecting timber from white ant attack.<sup>98</sup> According to W J Pearce:<sup>99</sup>

The work is finished in oil a few shades lighter than the colour of the stone to be matched, and when partially dry, freely dusted over with powdered stone dust of the same stone. The paint must be oily and tacky, and the stone sand must be thrown against it with some little force. The result is an extremely good imitation, and also a durable surface.

In Sydney sanded paint was used (not necessarily as the original finish) on the columns of the Mint building (part of the old Rum Hospital), and at Elizabeth Bay House, whilst sand and glue were used at 'Wombo', New South Wales.<sup>100</sup> At Port Arthur, Tasmania, the church built in 1836-7, though of stone, had a wooden spire which was painted stone colour, with crushed stone sifted onto it while wet.<sup>101</sup> At Black Rock House, Sandringham, Victoria, the whole of the exterior seems to have been covered in glue and then sanded, and something very similar was done to a hotel at Lorne in the 1880s.

The purpose of sanding was not solely to imitate stone, but also to provide a more durable coating, as at a house in Blue Mountains of 1881, where the painted surface was 'thickly sanded for the protection of the paint'.<sup>102</sup> A sanded finish was also applied late in the century to 'Longridge House', Norfolk Island, where an imaginative publicist has recently suggested that it was either a local innovation or the result of 'Polynesian / Melanesian influence'.<sup>103</sup> By this time it was in fact a well-known technique, though now distinctly *de trop*. As Percy Oakden said, 'When timber is used in architecture it should be without disguise; it is absurd to simulate rusticated stone in wood, and to paint the wood a stone colour and sprinkle sand over the wet paint heightens the absurdity'.<sup>104</sup>

There are many advertisements for oil and colourmen,<sup>105</sup> and a few generalised descriptions of the colours of houses, but until the mid-nineteenth century there is little precise information. A notable exception is Louisa Meredith's description in 1839 of the Rivulet Inn in the Blue Mountains of New South Wales, a new

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<sup>97</sup> For example, Sauvegarde de l'Enfance, 43 rue d'Auteuil, Quebec, by Frederick Hacher, 1834, where the entrance has wooden doric columns sanded to imitate sandstone: A J Richardson, 'Guide to the Buildings in the Old City of Quebec', *APT Bulletin*, II, 3 & 4 (1970), pp 38-9. At 'Blythe', on Sturgeon Lake, of 1837, the quoins were of bevelled timber plank sanded to suggest stone: Marion Macrae, *The Ancestral Roof* (Toronto 1963), p 106.

<sup>98</sup> Information from Dr Robert Irving of Yale University, 1996.

<sup>99</sup> W J Pearce, *Painting and Decorating* (London 1898), p 141.

<sup>100</sup> Information from Trevor Howells, 1991.

<sup>101</sup> 'Sirus' in the *St. John the Baptist Magazine* of 1890, quoted by Linda Monks, 'The Port Arthur Church' (NS 179/1, Archives Office of Tasmania), and in turn in E G Robertson, *Early Buildings of Southern Tasmania* (2 vols, Middle Park [Victoria] 1970), II, p 376.

<sup>102</sup> *Australian Engineering and Building News*, 1 April 1881, p 177.

<sup>103</sup> Information from Mrs Beth Bastin of Beaumaris, Victoria, 1997, quoting a brochure on the house.

<sup>104</sup> Terry & Oakden, *What to Build and How to Build It* (Melbourne 1885), p 7.

<sup>105</sup> For example H Kettle of Collins Street, Melbourne: *Port Phillip Patriot*, 13 February 1839, p 8.

establishment where 'Panellings and "pickings-out" of rainbow hues were set off by pillars of imitative and varnished marble, the like of which no quarry ever knew; and these again, touched up with bronze-paint and gilding, gleamed in the sun with almost dazzling lustre.'<sup>106</sup> Mrs Clacy, en route to the Victorian goldfields in 1852, found it worth recording - without comment - that the weatherboard and paling Malmsbury Hotel was painted blue.<sup>107</sup>

According to Lancelott, writing in about 1851, green, black and stone colour were typical shades for doors and windows, and the interior walls of the average cottage were 'smoothly plastered, but neither papered, stencilled, nor colored'.<sup>108</sup>

House painters, decorators, writers and glaziers, are few in number, and barely make a living; in fact the existing penurious utilitarian wealthocracy must be superseded by a class possessed of European liberality and at least a respectable taste for elegance and comfort, before these crafts can possibly meet with much encouragement. Now most people buy brushes, prepared paint, putty, glass, &c., at the shops in Melbourne, where they are kept on hand, and do their own painting and glazing.

The common colours in the post-gold period were lead, stone, white, black, brown and chocolate, while the more ambitious decorator could use French grey, fawn, drab, salmon, lilac, peach blossom, olive green, deep blue, Indian red, patent green, yellow or blue verditer, and even imitation granite.<sup>109</sup> However, odd as it may seem from today's perspective, there were huge differences in price according to the nature of the raw material. In 1877, for example, the paint to cover a square yard [0.84 m<sup>2</sup>] in French gray, fawn, drab or salmon, cost 1<sup>1</sup>/<sub>2</sub> pence, whereas lake or Chinese vermilion cost 1s. 6d, or twelve times as much.<sup>110</sup>

A specification of 1854 went into the usual details of preparation of the surface, number of coats [three], &c, but named the colours for the woodwork rather casually as 'two drabs'. The only exception was that the front doors and windows were to be grained in oak and varnished twice with hard copal, and the Venetian shutters were to be green.<sup>111</sup> Another house specification, of 1857, called for:<sup>112</sup>

The frames externally to be finished white, the sashes and saddle boards black, the back door chocolate, the internal work and front door to be picked out in two such fancy colours as shall be directed.

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<sup>106</sup> L A Meredith, *Notes and Sketches of New South Wales* (London 1844), p 75.

<sup>107</sup> [Ellen] Clacy [ed Patricia Thompson], *A Lady's visit to the Gold Diggings of Australia* (London 1963 [1853]), p 41.

<sup>108</sup> F Lancelott, *Australia as it is* (2 vols, London 1852), II, pp 77, 107.

<sup>109</sup> Mayes, *Australian Builders' Price-Book* (1862), p 73.

<sup>110</sup> Charles Mayes, *The Australian Builders' Price-Book* (3rd ed, Melbourne 1877), p 91.

<sup>111</sup> Russell, Watts and Pritchard, 'Specification for .. Dwelling houses... at Elwood ... for Joseph Docker', 13 December 1854 (Docker papers, Manuscripts Collection, SLV), pp 20-21.

<sup>112</sup> Thomas James Crouch, architect, 'Specifications of work to be done in the erection of a cottage and outoffice at Kyneton for the Revd. J. Catteral, Wesleyan Minister', 17 June 1857 (WD REL 15, Melbourne University Architectural Collection, SLV).

*f. distemper and kalsomine*

For interiors a distemper might be used, consisting of a white base pigment (usually crushed chalk) and an organic binder in solution (usually animal glue size in water). This produces a cheap but water soluble paint.<sup>113</sup> The English writer Edmund Bartell gave a recipe in 1804 for paint of this character, though it is worth noting Bartell's opinion that interior painting was unnecessary 'in the adorned as in the labourer's cottage'. It was an adventitious ornament, but could be replaced by a coat or two of drying oil in those parts subject to moisture. That having been said, however, 'milk paint' was a cheap and elegant white paint especially suitable for wall surfaces. Six ounces [170 g] of quicklime was well washed and rubbed down on a painter's stone to make it smooth, then it was mixed with three pounds [1.35 kg] of Spanish white (a finely powdered chalk). Into this was blended two ounces [55 g] of molten Burgundy pitch (apparently Neufchatel asphalt) dissolved in six ounces [170 g] of linseed oil. This amount, to which colouring pigments could be added, would cover twenty-seven square yards [22.5 m<sup>2</sup>].<sup>114</sup>

Kalsomine, invented by Fanny Corbaux in 1840, was similar in character, but used materials which, though soluble, became washable after application.<sup>115</sup> It is unclear exactly when kalsomine reached Australia. *Brett's Colonist's Guide*, in New Zealand, described a kalsomine mixture made by soaking four ounces [120 g] of glue, adding to it a quart [1.1 litre] of warm water, and letting it soak for fifteen to twenty-four hours. Then the mixture was placed within a metal container, which in turn was placed within a kettle of hot water over a fire, stirring it until the glue was entirely dissolved. A solution of about 2 kg of powdered Paris white [a fine powdered chalk or whiting, commonly used for polishing] was prepared separately, then added to the glue mixture.<sup>116</sup>

Similarly, an American description published in Australia in 1885 called for ten pounds [4.5 kg] of Paris white soaked in just enough cold water to dissolve it well. Then 55 grams of best white glue was soaked in enough cold water to cover it, for three or four hours, or overnight, until it was swollen. The glue was taken out, the remaining liquid heated in a pan, and the whiting stirred in, followed by the glue. Into this mixture was stirred 140 ml of linseed oil, followed by a small amount of hydrochloric acid to cut it. Then the mixture was diluted in water to make about two bucketsful, and a little ultramarine dissolved in cold water was added to remove the yellowish tinge. It was applied in one or two coats, using a whitewash brush.<sup>117</sup>

We have seen that Johnstons, an American company, were advertising in Australia their 'fresco' paints or kalsomines, in a range of pastel colours, as early as 1881.<sup>118</sup> In 1908 Wilkinson & Co, presumably as merchants rather than manufacturers,

<sup>113</sup> I C Bristow, *Interior House-Painting Colours and Technology 1615-1880* (New Haven [Connecticut] 1996), p 3.

<sup>114</sup> Edmund Bartell, *Hints for Picturesque Improvements in Ornamented Cottages, &c* (London 1804), pp 47-8.

<sup>115</sup> Wyatt Papworth [ed], *The Dictionary of Architecture* (London 1853-92), sv Kalsomine.

<sup>116</sup> Leys, *Brett's Colonist's Guide*, p 563.

<sup>117</sup> Jonathan Periam [adapted by R W E McIvor], *The Pictorial Home and Farm Manual* (Sydney 1885), p 793.

<sup>118</sup> *Wright's Australian and American Commercial Directory*, pp 8-9.

advertised Johnstone's 'Kalsomine' and 'Phasantite' (washable distemper) in all shades.<sup>119</sup> By 1928 there were no less than eleven suppliers of kalsomine in Melbourne alone, most of whom were probably agents for overseas brands.<sup>120</sup> However the West Coast Kalsomine Co of Parramatta appears to have manufactured kalsomine locally under the brand 'Wesco'. However the company, to judge by the name, was possibly of United States parentage, though it was at some pains to present a local image. It engaged the local artists Adrian Feint, Mary Grey and Hera Roberts to create a substantial booklet with colour illustrations of interior decoration using Wesco paints.<sup>121</sup> Kalsomine remained in use as a cheap substitute for oil-based paints, essentially until the arrival of plastic paints after World War II, and Australian Plaster Industries actively marketed 'Waratah Limeproof Kalsomine' as a superior product especially suitable for flush-jointed fibrous plaster ceilings.<sup>122</sup>

### *g. decorating practice*

It was widely held that plaster surfaces should be left to dry a year or more before they could be decorated. In the dining room of the Grand [Windsor] Hotel, Melbourne, there was skeletal scheme of ornamental panelling defined only by lines on the plaster, which must have remained in place for some time before the final decorative scheme was applied. Sir George Verdon recommended the use of distemper for an interim scheme until the walls were entirely dry, but considered that if Keene's cement were used for the plastering it could be decorated at once.<sup>123</sup>

The architects Terry & Oakden were less sanguine, and did not 'think ... that any colouring or painting [would] be permanent until the cement [had] stood through a summer'.<sup>124</sup> Even so, Keene's cement could itself be polished to a marble-like finish, so that it did not look incomplete even in the absence of decoration. Sometimes it was designedly left in this state, as in the off-white finish of the Queen's Hall of Parliament House, Melbourne, and the stairhall of the house 'Noorilim' in rural Victoria. It was even possible to use the pink and the cream cement in their own right to create a decorative scheme as at 'Barwon Park', Winchelsea.

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<sup>119</sup> *Cazaly's Contract Reporter*, XXIV, 25 (23 June 1908), p 99.

<sup>120</sup> John Gawler, *The Architects' and Builders' Index (Victorian Edition)* (Melbourne 1928), p 32.

<sup>121</sup> Adrian Feint, Mary Grey, & Hera Roberts, *The Charm of Colour in the Home, with Hints on Interior Decoration* (Parramatta [New South Wales] no date [c1935]).

<sup>122</sup> F Wentworth & W L Richardson [eds], *Ramsay's Architectural and Engineering Catalogue* (Melbourne 1949), § 31.4.

<sup>123</sup> George Verdon, 'Notes on some details in the proposed addition to the house of the Melbourne Club', 23 September 1882 (Melbourne Club Archives), quoted in Allom Lovell & Associates Pty Ltd, *Melbourne Club 26 Collins Street Melbourne Conservation Management Plan* (Melbourne 1998), p 41.

<sup>124</sup> Terry & Oakden to the Building Committee, Melbourne Club, 27 September 1882 (Melbourne Club Archives), quoted in Allom Lovell & Associates Pty Ltd, *Melbourne Club 26 Collins Street Melbourne Conservation Management Plan* (Melbourne 1998), p 42.

At the E S & A Bank in Melbourne of 1883-7, the ceilings were elaborately decorated, and it was specified that each be covered with strong canvas, fixed with white lead, as a base for this work.<sup>125</sup>

Woodwork might be varnished in its natural state, but except in the case of cedar this was rare until the late nineteenth century. Otherwise it might be coloured and varnished, or artificially grained and varnished. The leading British varnish manufacturers, Mander Brothers, were represented by Henry Brooks & Co of Sydney, and showed their products at the Sydney exhibition of 1879.<sup>126</sup> Another exhibitor was Thomas S Hall of Edinburgh, whose 'Six Pine Doors, showing Twelve different Styles of Decoration for Internal Woodwork' were also intended to demonstrate the quality of the colours and varnishes produced by David Storer & Sons of Glasgow.<sup>127</sup>

In a local house of 1890 the main rooms and staircase had all the woodwork in 'approved colours in 2 coats + twice varnished with Harland's copal varnish.'<sup>128</sup> Wood graining was done, just as in Britain and elsewhere, with gradations in quality according to circumstances. For a South Australian bank in 1878 a draft specification proposed that the main doors be 'grained in Oak and twice varnished', whereas the remainder of the woodwork would 'have four coats good oil paint any common colour that may be directed.'<sup>129</sup> The final specification gave more detailed directions, including:

All the counter fronts, framing, screens, and other work exposed to the public view, are to be grained a good rich wainscot and varnished with the best copal varnish.

The inside of screens, framing &c. *not* exposed to public view, are to be comb grained and varnished.<sup>130</sup>

Comb graining was a cheap expedient which involved simply running a comb through the surface medium to give an approximation of a grained finish, and required little labour or skill.

The imitation of superior marbles and stones was a regular part of the decorator's trade. The Holtermann photographs of Gulgong in 1872 show that even in that fairly primitive locality two shops had elegantly marbled pilasters, reminiscent of the Rivulet Inn in Meredith's description.<sup>131</sup> 'Verble', an imitation of natural marble which was executed on glass, may have been a local development and was used for such purposes as shop decoration.<sup>132</sup> Photographs of the Melbourne mansion 'Ontario', later 'Labassa', show that the iron verandah columns were painted to match

<sup>125</sup> Allom Lovell & Associates Pty Ltd, *380 Collins St, &c* (Melbourne 1989), p 18.

<sup>126</sup> Sydney Exhibition 1879, *Catalogue of British Section*, p 79.

<sup>127</sup> Sydney Exhibition 1879, *Catalogue of British Section*, p 98.

<sup>128</sup> Hyndman & Bates, 'Specification, &c, Villa Residence Tank +c / Camberwell / Arthur J Fuller Esq / Normanby Chambers Chancery Lane' (Melbourne 1890), p 24.

<sup>129</sup> G & W Sarat Dunstan, 'Specification for the Several Works required in the Erection of Banking Premises for the Bank of Australasia, Kooringa' (Aberdeen [South Australia] 1878), p 6.

<sup>130</sup> Reed & Barnes, 'Specification of Work to be done and Materials to be used in the Erection of Banking Premises at "Kooringa S.A." for the Bank of Australasia' (Melbourne 1878), p 35.

<sup>131</sup> Keast Burke [ed], *Gold and Silver* (Melbourne 1973), pls 138, 144.

<sup>132</sup> *Sixth Australian Exhibition Catalogue* (Melbourne 1930), pp 85-7.

the real and imitation pink marble panels in the body of the house, and indeed it is not always easy to distinguish a marbled surface from true scagliola (nor, indeed, the work of restorers).

The technique of marbling a surface was very similar to graining it. Internally, marble was especially favoured in halls, one example being the hall of 'Gringegalgona', western Victoria, of 1873. The internal iron columns upstairs in 'Rupertswood', Victoria, of 1874-6, were painted to resemble marble.<sup>133</sup> Chimneypieces were also marbled, not only in the case of enamelled slate, which has been discussed above, but 'enamelled wood', which seems unlikely to have been baked in the same way. In Sydney James Lewis & Co were 'Enamelled Mantel-Piece Makers' and produced 'Immitations [*sic*] of all sorts of marble'.<sup>134</sup>

Good quality gilding was done with real gold leaf, glued in place and varnished over. A cheaper form used 'Dutch metal', a copper-based imitation, in a similar fashion, but this was regarded as suitable only for temporary work and stage decoration.<sup>135</sup> The cheapest of all was a gold paint, which rapidly tarnished, if exposed, or lost its lustre, if varnished over.<sup>136</sup> The real thing might be used even for exterior work, and a specification of 1889 called for 'real gold leaf' on the front door mouldings and the caps of the fence posts.<sup>137</sup>

#### *h. insulating and other special paints*

There were a variety of special insulating, damp-proofing and other paints. It seems that one Count Dembinski had first conceived the idea that salts occurring naturally in stone, like calcium and magnesium chloride, would lend themselves to treatment with water glass, which would harden them and arrest the process of exfoliation.<sup>138</sup> Silicate treatments were introduced in Britain by Frederick Ransome as a preservative of both stone and timber,<sup>139</sup> and Nicolaus Charles Szerelmey took out a patent in 1857 for 'rendering structures waterproof', which was also based upon silicate, and he published his *Encaustic and Zopissa Processes, &c*, in 1861.<sup>140</sup>

The Rev J I Bleasdale, a pioneering Catholic priest and educator in Victoria, had apparently known Dembinski, and, in association with one Souter, had continued his work. The Government Pharmacist of Victoria, William Johnson, was another former friend of Dembinski, who endorsed Bleasdale's work and predicted that silicate would also be of use in treating timber piles, plaster casts and ceramic products of various

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<sup>133</sup> Michael Clarke, *Clarke of Rupertswood, 1831-1897* (Melbourne 1995), p 114.

<sup>134</sup> *Building and Engineering Journal*, 8 February 1890, p 12.

<sup>135</sup> Hasluck, *Cassell's House Decoration*, p 265.

<sup>136</sup> Hasluck, *Cassell's House Decoration*, pp 272-3.

<sup>137</sup> Beswicke & Hutchins, 'Specification of Works to be done in painting "Altyre" Barkers Road Kew for James E Cumming Esq.' (Melbourne 1890), single page

<sup>138</sup> William Johnson, 'Stone for Building Purposes', in *Quarterly Journal and Transactions of the Pharmaceutical Society of Victoria*, I (January-December 1858), p 149.

<sup>139</sup> Papworth, *Dictionary of Architecture*, sv Szerelmey.

<sup>140</sup> Papworth, *Dictionary of Architecture*, sv Szerelmey.

sorts.<sup>141</sup> Bleasdale took out a local patent for his 'silicating' process in 1858,<sup>142</sup> and Ransome's English patent of 1856 was extended to Victoria in 1862.<sup>143</sup> It does not appear that Bleasdale's patent was put to any commercial effect, but Ransome's products were regularly advertised and doubtless used.

In England an anonymous text of 1878 spoke highly of the Silicate Paint Company's product: 'It is cheap, as easily applied as paint, is impervious to damp, and has no objectionable feature in the sense of colour but looks well, and is capable of being cleaned by washing without at all injuring or damaging the surface.'<sup>144</sup> The company's products were shown at the Sydney exhibition of 1879.<sup>145</sup> Later in Australia the use of a 'silicate preparation' was advised by Oakden in 1885 as a means of waterproofing face brick walls.<sup>146</sup> A silicate paint was indeed used in 1887 on the east wall of the Alliance Insurance Building in Collins Street, Melbourne, presumably for waterproofing purposes,<sup>147</sup> but it might have been manufactured by anyone, as Bleasdale's and Ransome's patents must by now have expired.

A purportedly insulating paint called 'Indian Dyphoor' was used on the roof of the Fish Markets building in Sydney in 1871.<sup>148</sup> In 1878 another 'refrigerating patent paint' was used on the roof of the [Kearey?] Brothers coach factory in Pitt Street,<sup>149</sup> and in 1879 a 'refrigerating paint' for roofing as used in 1879 at Czar Lodge, Hay, New South Wales.<sup>150</sup> Similarly, one 'Professor' Jack O'Neill at Charters Towers in 1880 sought

to call attention to the great heat of the coming summer in consequence of Mercury's contact with the Sun, and Leo running into Aquarius, so that the iron roofs will certainly roast you. He is prepared to prevent these fatal consequences by using his PATENT COMPOSITION which is economical and adhesive.

The idea of 'refrigerating' roofs was endorsed even by an editorial in the *Northern Miner*.<sup>151</sup> The Brisbane contractors Wyatt & Gates were agents for 'the Patent Vesuvius Refrigerated Paint, Reducing the Internal Temperature of Buildings 15 to 20 Degrees', and the Cairns ironmonger Louis Severin advertised refrigeration paint of

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<sup>141</sup> Johnson, 'Stone for Building Purposes', p 149.

<sup>142</sup> Victorian patent no 108, to John Ignatius Bleasdale, 1 October 1858.

<sup>143</sup> Victorian patent no 593, to Frederick Ransome, 20 November 1862.

<sup>144</sup> *Cottages: How to Arrange and Build Them ... by a Sanitary Reformer* (2nd ed, London 1878), p 72.

<sup>145</sup> Sydney Exhibition 1879, *Catalogue of British Section*, p 85.

<sup>146</sup> Terry & Oakden, *What to Build and How to Build It*, p 6.

<sup>147</sup> *Argus*, 6 May 1887, p 3.

<sup>148</sup> *Sydney Morning Herald*, 4 September 1871, p 4, quoted in L J Dockrill, 'Developments in Architecture in New South Wales during the Victorian Period' (6 vols, PhD, University of NSW, 1983), I, p 121.

<sup>149</sup> *Town and Country Journal*, 13 July 1878, p 4, quoted in L J Dockrill, 'Developments in Architecture in New South Wales during the Victorian Period' (6 vols, PhD, University of NSW, 1983), I, p 121.

<sup>150</sup> *Riverine Grazier*, 2 April 1879, p 2, quoted in M L Gardam, *The Bishop's Lodge* (Hay [NSW] 1993), p 10.

<sup>151</sup> *Northern Miner*, 6 November 1880, 7 September 1880, quoted in Peter Bell, *Timber and Iron* (St Lucia (Queensland) 1984), p 177.

his own manufacture.<sup>152</sup> In 1892 L S Blair & Co of Melbourne were sole manufacturers of Riley's Patent Refrigerating Composition.<sup>153</sup> King & Co of Perth produced a refrigerating paint 'for cooling iron and canvas buildings' under the name of 'King's Compo'. The brand adopted for it in 1911 was enigmatically headed 'A White Australia', and illustrated the continent in the process of being painted white.<sup>154</sup> This ethnic propaganda was a perhaps a reaction against the leading brand of cooling composition, 'Arabic'.

Charles Carter, the importer of wallpapers, seems to have manufactured 'Arabin' from about 1887, as a purported 'roof-cooling composition'.<sup>155</sup> 'Arabic cooling composition' seems to be the same thing, and the claim that it was first used in 1889 on two cottages at Lawson, in the Blue Mountains, cannot be correct. It was painted onto the underside of the galvanised iron roofing, and was expected by the poor deluded architect, E W Senior, to 'reduce the fiercest heat of summer by more than 15 degrees'.<sup>156</sup> The material was described in 1908 as a dry mineral powder, designed to be mixed with water and applied to galvanised iron roofs and walls,<sup>157</sup> while later it was being advocated for conventional roofing materials, such as slates. By 1910 it was sold by Charles Carter of Law Courts Place, Melbourne, and allegedly had been used for 9,000 square yards [7,500 m<sup>2</sup>] of roofing at the Melbourne Exhibition Building in 'the largest cooling contract ... in the Southern Hemisphere'. It came in white or terra cotta (which was claimed to look like tiles),<sup>158</sup> and it was very optimistically claimed to keep the building 30° F cooler.<sup>159</sup> That it should have such an effect is clearly impossible, and any effect which it did have would be due to the light colour of the pigment, rather than to any abstruse scientific development in the composition of the paint. Later James Campbell & Sons of Brisbane, who prefabricated 'Redicut Homes' for hot outback conditions, claimed of their model 'The Dalby' that 'If the roof be coated with Arabic it will be as cool as any house could be'.<sup>160</sup>

Other paints were supposed to have a fire retardant effect, as in the case of the 'asbestos fire-proof paint', which was tested locally in June 1887, and found to be very effective, although it was described simply as ordinary watercolour to which finely ground asbestos rock had been added.<sup>161</sup> This as doubtless the same 'asbestos fire proof paint and cyanite' as was used on timber and inflammable materials in the stage of Her Majesty's Theatre, Sydney, in 1887.<sup>162</sup> These must be the descendants of the paints made in the United States by the H W Johns Manufacturing Co, which have been mentioned above in the context of asbestos products. At the Sniders and

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<sup>152</sup> Bell, *Timber and Iron*, p 131.

<sup>153</sup> Andrew C Ward & Associates, *"Rio Vista" Conservation Analysis* (no place 1988), p 11.

<sup>154</sup> Mimmo Cozzolino & G F Rutherford, *Symbols of Australia* (Ringwood [Victoria] 1987 [1980]), p 49.

<sup>155</sup> Two of his leaflets are listed in New Century Antiquarian Books, catalogue no 5. *Aspects of Australia 1888-1988* (Melbourne 2003), p 49.

<sup>156</sup> *Australasian Builder & Contactor's News*, 17 August 1889, p 152.

<sup>157</sup> Mayes, *Australian Builders Price-Book* (1908), p 225.

<sup>158</sup> *Sixth Australian Exhibition, Souvenir Programme* (Melbourne 1910), pp 23, 28.

<sup>159</sup> *Building*, 12 December 1911, p 30.

<sup>160</sup> James Campbell & Son Ltd, *Redicut Homes*, catalogue pages reproduced in Balwant Saini, *The Australian House* (Sydney 1982), p 11.

<sup>161</sup> *Australasian Builder and Contractor's News*, 25 June 1887, p 120.

<sup>162</sup> *Australasian Builder and Contractor's News*, 22 October 1887, p 382.

Abrahams cigarette factory in Drewery Lane, Melbourne, in 1910, the whole interior, other than the ceilings, was rendered in a thin cement coat followed by two coats of 'Olsina', and the staircase dadoes, lavatory partitions and basement were painted in silex asbestos paint.<sup>163</sup> Olsina was the brand of Mander Brothers of Wolverhampton, and came in the form a washable water paint (probably referred to here) and a white enamel.<sup>164</sup>

In 1955 a sealing compound from the United Kingdom, called 'Seco-Mastic', was brought onto the local market by Maxwell Porter & Son Ltd. It was based upon vegetable oil, and was said to have a surface skin and a non-setting interior.<sup>165</sup> Another British product arrived next year, a supposedly germ-killing paint called Dentolite, which began to be manufactured in Melbourne by Tip Top Paints Ltd. A reaction taking place at the time of setting was supposed to create a 'life-long self-sterilising surface'. It had been checked by the Royal Institute of Health, the Institute of Good Housekeeping, and the Bacteriology Department of Melbourne University.<sup>166</sup>

### *i. the twentieth century*

Lewis Berger & Sons, a London company founded in 1760, had operated a 'small trading depot' in Sydney from 1894 to service the South Pacific market. It was doubtless the constraints imposed on shipping by the Great War which encouraged Bergers to establish a local factory at Rhodes, near Sydney, in 1916. This business was able to survive 'the terrific onslaught of overseas manufacturers' following the Armistice,<sup>167</sup> and in 1927 it was advertising 'All colours' in New Zealand (interestingly, finding it necessary to explain that it was 'mixed paint').<sup>168</sup> However, in the 1920s the number of identifiable local paints had reduced and the field was dominated by imports. Gough's of Brisbane advertised a 'Gee Gee' paint in both an ordinary and a 'non-poisonous' version, which may have been a local product. Others on the market were Roger's and Keystone (flat oil paint), the origins of which are unclear, and the local producers Bergers, Sherwin Williams and Taubmans, the latter including a notable range of timber stains and other specialised products.<sup>169</sup>

By 1931, when *Ramsay's Architectural Catalogue* first appeared, the situation had been transformed, and production by five local manufacturers entirely dominated the market. The Hardie Trading Company had a factory at West Footscray, Victoria, and produced a wide range of 'Spartan' lacquers and enamels.<sup>170</sup> The Sherwin-Williams Company was an international one,<sup>171</sup> apparently established in the 1870s, but it had works at Rhodes, New South Wales, and produced a range of paints, enamels,

<sup>163</sup> *Building*, 11 June 1910, pp 23, 57-60, 62.

<sup>164</sup> Hasluck, *Cassell's House Decoration*, p 125.

<sup>165</sup> *Cross-Section*, no 30 (1 April 1955), p 2.

<sup>166</sup> *Cross-Section*, no 66 (1 June 1956), p 2.

<sup>167</sup> *Ramsay's Architectural Catalogue* (Melbourne 1931), p 203.

<sup>168</sup> Jeremy Ashford, *The Bungalow in New Zealand* (Auckland 1994), p 50.

<sup>169</sup> *Architectural and Building Journal of Queensland*, 10 July 1926, pp 86-7.

<sup>170</sup> *Ramsay's Catalogue* (1931), pp 195-8.

<sup>171</sup> It boasted of the 'combined research of a world-wide organisation'. Royal Australian Institute of Architects WA Chapter, *Exhibition 1949 Catalogue* (Perth 1949), p 82.

varnishes and stains.<sup>172</sup> Bergers made their 'B.P.' prepared paint, varnishes, lacquers and stains, manufactured their own white lead out of pig lead from Broken Hill, and obtained the contract to supply 600 tonnes of paint to government specifications for the initial coating of Sydney Harbour Bridge.<sup>173</sup> Taubmans Ltd produced paints and varnishes at St Peter's, Sydney,<sup>174</sup> and the Sterling Varnish Co produced varnishes and lacquers at Alexandria.<sup>175</sup> These companies were only the more prominent amongst a much larger number, and by 1945 there were over a hundred paint manufacturers in Australia.<sup>176</sup> Another international brand was Goodlass, which was of English origin, and Goodlass, Wall & Co had an Australian factory and an office in Melbourne by 1948.<sup>177</sup>

Immediately before the Great War there was a great development in the processes of painting by dipping, and by spraying, first in the United States and on the Continent, and then in Britain.<sup>178</sup> Dipping was used for a number of building components, such as Crittall steel windows and Hayward's pavement lights, but only spraying was to have any impact in on site painting practice.<sup>179</sup> By 1910 sprays were quite widely used overseas. The leading one appears to have been the 'Aerograph' which was powered by a hand pump, and was seen not merely as a convenient means of application, but as a tool for achieving gradations in colour and texture. The 'Star' machine was used for applying whitewash, and it appears that there were other spray guns of a cruder nature.<sup>180</sup> In the 1930s machines like the Aerograph 'Whippet' (presumably a development of the original) and the B.E.N. 'Pneu-Spray' were in use in Britain,<sup>181</sup> but not necessarily in Australia. By 1938 acetylene gas automatic spraying machines had been used successfully in Australia for painting large surfaces, and compressed air spray guns for applying fine lacquer.<sup>182</sup> World War II led to an acceleration of technical development in paints, as well as to shortages of traditional materials like linseed oil. After World War II the 'Spraytex' process of spraying on a suede-like rayon finish became available, in a range of sixteen colours.<sup>183</sup>

The arrival of plastic paints marked the effective demise of kalsomine. From 1948 to 1955 a series of water-based synthetic emulsion or 'plastic' paints were introduced from the United States.<sup>184</sup> In Britain, at least, plastic paint first came on the market as a powder, which was to be mixed with water and applied either by hand or by spray. It was seen especially as a finish for rough and textured interior surfaces, cracked ceilings &c, and after hardening it was 'sealed, painted, and then glazed with

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<sup>172</sup> Ramsay's Catalogue (1931), pp 199-202.

<sup>173</sup> Ramsay's Catalogue (1931), pp 203-210.

<sup>174</sup> Ramsay's Catalogue (1931), pp 218-229.

<sup>175</sup> Ramsay's Catalogue (1931), pp 211-217.

<sup>176</sup> *Painting and Decorating* [Commonwealth of Australia, Department of Labour and National Service, technical publication no 18] (Melbourne 1945), p 54.

<sup>177</sup> *Australian Home Beautiful*, XXVII, 7 (July 1948), p 50.

<sup>178</sup> A S Jennings, *Painting by Immersion and by Compressed Air* (London 1915), pp vii-viii, 1.

<sup>179</sup> Jennings, *Painting by Immersion and by Compressed Air*, pp 60-61.

<sup>180</sup> Hasluck, *Cassell's House Decoration*, pp 29-32.

<sup>181</sup> A S Jennings, *The Modern Painter and Decorator* (3 vols, London, no date [c 1935]), II, plate facing p 160.

<sup>182</sup> Mayes, *Australian Builders Price Book* (1938), p 304.

<sup>183</sup> Royal Australian Institute of Architects, West Australian Chapter, *Exhibition 1949 Catalogue* (Perth 1949), p 36.

<sup>184</sup> Peter Cuffley, *Australian Houses of the Forties and Fifties* (Knoxfield [Victoria] 1993), p 86.

transparent colours'.<sup>185</sup> It was much used in theatre and cinema decoration. The plastic paints as introduced more generally in Australia covered all surfaces, gave a flat finish, and were washable. 'Mural-tone' was available from the late 1940s, joined by 'Kem-tone' in 1952, and Dulux 'Super Satin' and 'Super Matt' in 1953. In 1952 Berger released a full gloss exterior paint with a styrene base, and in 1955 Glazebrooks introduced 'Spred Satin' with a synthetic rubber base, claimed to have been the best selling paint in America (presumably meaning the United States) since 1949.<sup>186</sup>

By the 1950s a textured surface material called 'Artex' was sold by G P Embleton & Co of Melbourne and Brisbane. A sort of size was applied first, then a layer of Artex, which was stippled or textured by hand working. When it was beginning to stiffen it was flattened out somewhat.<sup>187</sup> Other industrial products of the twentieth century are far too numerous to be treated comprehensively here, and by and large too far removed from general culture for this to be necessary.

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<sup>185</sup> B H & R G Knight, *Builders' Materials* (London 1948 [1934]), p 271.

<sup>186</sup> Cuffley, *Australian Houses of the Forties and Fifties*, pp 86, 88.

<sup>187</sup> F W Ware & W L Richardson [eds], *Ramsay's Architectural and Engineering Catalogue* (3rd ed, Melbourne 1954), §19/3.