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sources of log construction

Log construction is a traditional form dating from the Iron Age, when it was widespread in central, northern and north-eastern Europe, as well as in the vicinity of the Black Sea.¹ Vitruvius wrote of the log houses of the Colchians in Pontus, and contrasted them with the Phrygians (in central Asia, south of the Black Sea), who lacked forests but still used logs for roofing.² This is worthy of note, because the use of logs in a largely woodless country is a strong indication either that the inhabitants are immigrants, or that the country was once forested. Here the latter would have been the case, and Phrygian structures of seven or eight centuries before Vitruvius's time were built entirely of logs.³

Logs continued to be used in the forested areas of Europe, and some form of log construction survived in northern England into the sixteenth century,⁴ but the tradition had died out in Britain before the time of Australian settlement. When it was used by early settlers, therefore, it was not a reflection of current British practice, and one must ask whether it was simply a natural response to local conditions - timber which was plentiful but difficult to work - or whether there were any specific cultural influences at work. Northern Europe may have been the traditional home of log construction, but North America was the area where colonial military and naval men might have come into more direct contact with it.

In North America, despite its image as the traditional rural form, log building had in fact been introduced only after more conventional frame construction, first by the Finnish settlers of New Sweden, Delaware Bay, in 1638,⁵ then by French settlers in Quebec before 1685,⁶

1 D A Hutslar, *Log Construction in the Ohio Country, 1750-1850* (Athens [Ohio] 1992 [1986]), pp 20-21.

2 Vitruvius [Marcus Vitruvius Pollio] [translated M H Morgan], *The Ten Books of Architecture* (New York 1960 [1914]), I, I, 4 & 5 (pp 39-40).

3 The tomb at Gordion (which I have inspected) is a complete underground log cabin of about 700 BC. Its construction is believed to reflect building practice above ground, in the city of Gordion itself and elsewhere. See Seton Lloyd, *Early Highland Peoples of Anatolia* (London 1967), pp 126-132.

4 R W Brunskill, *Timber Building in Britain* (London 1994 [1985]), p 25.

5 Eric Arthur & Dudley Witney, *The Barn* (New York 1988 [1972]), pp 63-7, citing H R Shurtleff, *The Log Cabin Myth* (Cambridge [Massachusetts] 1939), p 37, and S F Kimball, *Domestic Architecture of the American Colonies and Early Republic* (New York 1922). See also J M Fitch,

and then independently by German settlers in 1710.⁷ From the late eighteenth until after the mid-nineteenth century, the first house of a settler in Upper Canada [Ontario] was almost always of logs.⁸ The Russians, quite separately, brought log construction to Alaska, which was then in their possession. Archibald Campbell describes the thatch-roofed log huts which he saw in 1806, distinct from the dwellings of 'the natives' [Inuit], which were mostly underground.⁹ The details of log construction in North America were as various as in Europe. The logs might be either in the round or squared off, and the joints might be lapped, halved, half dovetailed, fully dovetailed or saddle notched.¹⁰

palisades

Australian written sources are confusing because of a tendency to refer loosely to slab buildings as being of log construction.¹¹ Even where logs were indeed used, it cannot be assumed that this was conventional log cabin construction, for they may have been set vertically in the ground as a palisade, or placed within the panels of a frame, either vertically or horizontally. The palisade, which is the basic timber form, was the predominant construction in Newfoundland in the seventeenth century,¹² and it came to be used widely in Canada and known as a 'tilt'.¹³

In the very first year of settlement at Sydney stores were built by 'putting trees about 2 feet [0.6 m] in the ground so as to touch each other & thatched over with rushes'.¹⁴ Such few references as there are in Australia suggest that much smaller timbers were used. In the early 1840s, when a temporary hut had to be put up quickly on a farm near Melbourne:

- American Building: 1. The Historical Forces that Shaped It* (2nd ed, Cambridge [Massachusetts] 1966), p 10.
- 6 Kalman cites a report of dovetailed log construction in Texas in 1685 as being 'in the manner of Canada': Harold Kalman, *A History of Canadian Architecture* (2 vols, Toronto 1994), I, p 51.
- 7 Arthur & Witney, *The Barn*, pp 63-7, citing Shurtleff, *The Log Cabin Myth*, p 37, and Kimball, *Domestic Architecture*. See also Fitch, *American Building: 1*, p 10.
- 8 Kalman, *History of Canadian Architecture*, I, p 160.
- 9 Archibald Campbell, *A Voyage around the World from 1806 to 1812* (3rd US edition, Charleston [South Carolina] 1822), pp 25, 75.
- 10 Hutslar, *Log Construction*, pp 80-82, 98-100; see also Kalman, *History of Canadian Architecture*, I, p 50. Almost as great a range of techniques was introduced by a later generation of Finns in Minnesota from the late 1890s, along with a barns form which is said to be substantially unchanged from at least the fifteenth century: Suzanne Winckler, *Testaments in Wood: Finnish Buildings at Embarrass* (St Paul [Minnesota] 1991), passim, & p 16.
- 11 For example David Burn, *A Picture of Van Diemen's Land* (Hobart 1973 [facsimile of articles in the *Colonial Magazine*, 1840-1]), p 103, refers to a log homestead at 'Lawrenny', which we would take at face value, but for the fact that on p 112 he gives an account of the construction of a 'log building', which proves in fact to be of slabs. Again, in Victoria, William Russell says 'these two are what they call log huts - that is, trees split into strong thick planks cut to the length that the walls are wanted in height, and placed on end in a kind of frame': William Russell to relatives in Scotland, 28 August 1839, in P L Brown [ed], *Clyde Company Papers. II* (London 1952), p 244.
- 12 Kalman, *History of Canadian Architecture*, I, p 93.
- 13 Kalman, *History of Canadian Architecture*, I, p 89, reproduces an illustration from Baqueville de la Potherie, *Histoire de l'Amérique Septentrionale* (Paris 1772), I, following v 16.
- 14 Peter Bridges, *Foundations of Identity* (Sydney 1995), p 30, possibly quoting Newton Fowell, 12 February 1788, in N Irvine & G Souter, 'Letters of Lieutenant Newton Fowell', *Sydney Morning Herald*, 21 October 1988.

It was made of young trees or saplings, sunk about a foot in the ground, and nailed at the top to a frame of wood. The saplings were placed quite close, and the walls were then plastered outside and in with the mud, and washed over with lime.¹⁵

In fact generally such buildings have the joints 'chinked', or stopped with mud, which brings them close to what becomes a common construction in South Australia known as 'pine and pug' - better described a 'palisade and pug' - to which we will return below.

vertical log panel construction

A more sophisticated form of construction has logs set vertically within a frame, as was done at Alexander Berry's property, 'Coolangatta', Shoalhaven. The stable, begun in 1822, was described by his overseer, David Souter, as¹⁶

a very excellent one, the Foundation logs and Wallplates are mortised, into which the other logs will slide, Foundation logs, posts and wall-plates are Iron Bark, it is 20 feet by 13, to have four stalls and roofed for shingles.

The fact that the logs were to slide into place indicates that there were grooves, not separate mortices, and the fact that the grooves were in the horizontal members indicates that the logs were to be vertical, just as in the vertical slab construction discussed below. One might query whether Souter's reference to logs did not really mean split slabs, but his meaning seems to be confirmed by another reference in December to three hundred logs having been prepared for building a barn.¹⁷

horizontal log panel construction

In seventeenth century Acadia [Nova Scotia],¹⁸ and elsewhere in what became Canada, logs were often set horizontally in a frame between grooved posts, in what was known as *pièce-sur-pièce* or [*poteaux*] *en coulisse* construction, though the faces were usually squared off, and there is no clear break between the use logs and of slabs in this manner.¹⁹ The earlier uses of logs in Australia also tend to have them set into a frame, so that the principle is that of frame rather than mass construction, and this seems very much the approach one would expect of an British settler nurtured in the tradition of framing and half timbering. This sort of construction has for no good reason been called 'drop log' by some

15 Katharine Kirkland, *Life in the Bush* (London 1845), quoted in Hugh Anderson, *The Flowers of the Field: a History of Ripon Shire* (Melbourne 1969), pp 211-12.

16 Rachel Roxburgh & Douglass Baglin, *Colonial Farm Buildings of New South Wales* (Adelaide 1978), p 32, citing the papers of Alexander Berry, mss in the Mitchell Library, vol 23, 25 September 1822. Also quoted with minor differences in Mark Hitchcock, 'Illawarra Homesteads' (BArch, University of New South Wales, 1980), p 70.

17 Roxburgh & Baglin, *Colonial Farm Buildings*, p 32, citing Berry mss, vol 23, 27 December 1822.

18 Kalman, *History of Canadian Architecture*, I, p 83.

19 Thomas Ritchie, *Canada Builds 1867-1967* (Toronto 1967), p 156; Arthur & Whitney, *The Barn*, pp 122-3.

Australian writers,²⁰ on the analogy of the even more serious misnomer 'drop slab', which is discussed below.

David Collins speaks of the collection of cabbage tree at Sydney in the first weeks of settlement,²¹

from the lower part of the harbour, where it grew in very great abundance, and was found, when cut into proper lengths, very for the purpose of erecting temporary huts; the posts and plates of which, being made of the pine of the country, and the sides and ends filled with lengths of cabbage-tree, plastered with clay, formed a very good hovel.

Though the description does not make this clear, it is generally believed that the cabbage tree trunks were placed in the panels horizontally. Other structures in Sydney were framed in round timbers, which for clarity should perhaps be referred to, according to size, as posts or poles. The only genuine log building was perhaps the gaol, which Irving speaks of as 'double-log construction',²² the predecessor of many log lock-ups of later dates.

The blockhouse built by Lieutenant Grant in Westernport Bay, Victoria, in 1801 was made of tree trunks and held up by 'supporters' fixed in the earth,²³ which suggests that it was not a conventional log cabin, built as a stack of logs halved into each other at the corners, but that the 'supporters' were vertical posts either grooved or placed in pairs so that the logs could be dropped into a horizontal position between them. If this was in fact the method used, it enhances the probability that the same thing was done in Sydney, where it would be the antecedent of common horizontal slab construction. A much later log cabin of this sort at Stuart Town, Queensland, is illustrated by Dennis Jeans.²⁴

Log panel construction was to become common in areas where softwoods such as Murray Pine were available. Hence there is a strong local school of such construction in north-western Victoria, one early example of which is 'Tyntyndyer' homestead at Swan Hill.²⁵ Another was 'Kulkyne' homestead, destroyed by fire some years ago, and a surviving one is 'Kow Plains'. The same timber is used extensively north of the Murray, as at 'Til Til' in the Lower Darling district, where the cypress pine logs of the homestead, built in 1873, were not even debarked, but were adzed along the top and bottom edges to secure a close fit. The unusual feature in this case is that instead of the ends of the log fitting into grooved posts, the log ends themselves are grooved, and they fit onto single battens which are attached to the sides of the adzed posts.²⁶ At Balranald, on the Murrumbidgee, Murray

20 Fiona Bush et al, *Drop-Log Walling in Eastern Australia: a Pilot Study* (Sydney 1983).

21 David Collins [ed Maria Collins, James Collier], *An Account of the English Colony in New South Wales* (Christchurch 1910 [1798 & 1802; 1804]), p 23.

22 Robert Irving, 'The First Australian Architecture' (MArch, University of New South Wales, 1975) p 154.

23 **** Grant, *Narrative of a Voyage of Discovery*, p 135.

24 Dennis Jeans, 'The Building Industry: Materials and Styles', in Judy Birmingham, Dennis Jeans & Ian Jack, *Industrial Archaeology in Australia: Rural Industry* (Richmond, Victoria, 1983), p 96.

25 **** R G Holloway, *Tyntyndyer Homestead - a short history* (no place or date), p ?.

26 Peter Freeman, *The Homestead: a Riverina Anthology* (Melbourne 1982), p 170.

pine was also found and was used for log panel buildings,²⁷ as also at Lake Mungo woolshed in the same region.²⁸ At 'Warrengunyah', Lake Wellington, New South Wales, a portion of the house dating from 1897 is of log panel construction in cypress pine, as are the stables, probably of a similar date.²⁹ The homestead of Curr's station on the Burdekin River, Queensland, of about 1860, may also have been of this construction, though a surviving photograph is not clear enough to make this a certainty.³⁰

early Australian log buildings

Certainly, the conventional log buildings of North Europe and America are of more relevance to later log construction, so far as we know of it. At least one of the depot buildings put up by William Cox, whilst building the road over the Blue Mountains in 1814, was of logs.³¹ In 1822 tenders were called for building a substantial logged barn,³² and there is also a reference to a log barn in the Hunter Valley in Henry Dangar's field book of 1822-3.³³ The commissariat store at Moreton Bay [Brisbane] was built of logs in 1824,³⁴ and subsequently a corn crib at Brisbane, shown in a drawing of 1839, was of logs, with a thatched roof.³⁵ In 1826 George Suttor of Brucedale, New South Wales, refers to his 'substantial logged dwelling house'.³⁶ In the same year James Atkinson speaks of log huts as the best and cheapest form of men's quarters to be built by settlers in New South Wales, and also of logs as being suitable for stables, though he does not indicate the precise form of construction.³⁷ On Abraham Lincoln's farm in the Illawarra district, in the early 1840s, the granary was built 'Yankee fashion at the base ... with logs of "Palm Tree" cut in lengths and dovetailed at the ends'.³⁸ A log hut claimed to date from 1861 survives at 'Caroomba' near Deniliquin.³⁹

27 Arthur Feldtmann, *The Balranald Story* (Balranald [NSW] 1976), photo p 13, p 46 to 'Prill Park' station; p 65 to the Carrier's arms Hotel; and p 26 showing what is more probably horizontal fitch construction.

28 Feldtmann, *The Balranald Story*, p 103.

29 Information from Helen Wilson, 2001.

30 John Oxley Library, no 171627.

31 H C Antill, 'Journal of an Excursion over the Blue or Western Mountains of New South Wales, &c', in George Mackaness [ed], *Fourteen Journeys over the Blue Mountains of New South Wales 1813-1841* (Sydney 1965), p 76.

32 *Sydney Gazette*, 6 December 1822, quoted by Roxburgh & Baglin, *Colonial Farm Buildings*, p 114. Roxburgh tentatively identifies this with the surviving barn at 'Osborne' (formerly 'Agnes Bank') near Penrith, notwithstanding that the advertisement described it as being within six miles of Windsor, which Osborne is not: she ignores the more substantial difficulty that the existing barn is of slabs, not logs.

33 Henry Dangar, 'Field Book and Notes', Mitchell Library, quoted by R M Deamer, 'Houses erected on original Land Grants in the Lower Hunter, Paterson and Williams River Valleys, between 1800-1850' (MArch, University of Newcastle, 1971), p 35.

34 Allan Cunningham journal, Archives Office of New South Wales ref 529, 29 September 1824, quoted in J G Steel, *Brisbane Town in Convict Days 1824-1842* (St Lucia [Queensland] 1975), p 14.

35 Plan 19 (1839), Moreton Bay Plans, Queensland State Archives, reproduced in Steel, *Brisbane Town*, fig 108.

36 Roxburgh & Baglin, *Colonial Farm Buildings*, p 11, citing Colonial Secretary In-Letters re land, Suttor, Archives Office of New South Wales.

37 Atkinson, *Agriculture and Grazing in New South Wales*, p 100.

38 Mark Hitchcock, 'Illawarra Homesteads' (BArch, University of New South Wales, 1980), p 28.

39 Extract of unidentified typescript tour notes, 1991, kindly supplied by Graeme Prisk of Sydney.

Henry Melville's *Hints on Migration* of 1851 named log and brick as the type of construction normally used by settlers,⁴⁰ but there is not a lot of evidence for log building outside New South Wales. William Thornley built a log house on his property at Clyde, Van Diemen's Land, in 1817,⁴¹ and there was reported to be a log house at 'Sherwood' in Van Diemen's Land in 1828.⁴² Log construction also had some impact in Melbourne and in the Port Phillip District generally. Apart from John Batman's putative rough-hewn log house in Melbourne,⁴³ there was a two-roomed log hut used in the early days as a police office, post office and hospital,⁴⁴ and a very neat cottage in Collins Street by 1841, seemingly of squared logs.⁴⁵ In 1840 Alexander Hunter, having already built a bark hut on his run on the Delatite River, began a log one.⁴⁶

At Fonthill, Tasmania, there still survives, or did until recent years, an example built between 1831 and 1843, and almost certainly connected with the unusual circumstance of a Canadian-born convict being employed on the property.⁴⁷ This American connection is quite exceptional, and there is no justification whatever for Jeans's claim that 'the few known log cabins in Australia seem connected with the small number of American miners who came during the gold rushes of the 1850s and later'.⁴⁸ It is true, however, that an American description of log house building appeared in Australian guise in 1885 as part of the text of the *Pictorial Home and Farm Manual*, adapted to Australian requirements by R W E McIvor, from the American original of Jonathan Periam.⁴⁹

At Port Essington, in what is now the Northern Territory, a blockhouse to accommodate the guns was built on Minto Head in 1830 of baulk timber bolted together (though soon to be destroyed by white ants).⁵⁰ This is consistent with the Canadian use of the term 'blockhouse', which generally implies construction using squared logs.⁵¹

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- 40 Henry Melville, *Hints on Migration* (1851), quoted in Bushby, *Saltbush Country - a History of the Deniliquin District* (1980), 561, and from this, A L Green, 'Unfired Earth Walls', p 96.
- 41 William Thornley [ed J S Mills], *The Adventures of an Emigrant in Van Diemen's Land* (Adelaide 1973 [1840s]), pp 43-4.
- 42 E G Robertson, *Early Buildings of Southern Tasmania* (2 vols, Middle Park [Victoria] 1970), II, p 304.
- 43 'Garryowen' [Edmund Finn], *The Chronicles of Early Melbourne* (2 vols, Melbourne 1888) I, p 8; there are, as we have seen, conflicting descriptions of this building.
- 44 William Fairfax [ed], *Handbook to Australasia* (Melbourne 1859), p xcvi.
- 45 C J W Russell, 'Collins Street East', Dixson Galleries, reproduced in Joan Kerr [ed], *The Dictionary of Australian Artists* (Melbourne 1992), p 690.
- 46 Information from Kerry Jordan, 1999, citing the Hunter papers, SLV.
- 47 Robertson, *Early Buildings of Southern Tasmania*, II, pp 394-403.
- 48 Dennis Jeans, 'The Building Industry: Materials and Styles', in Judy Birmingham, Dennis Jeans & Ian Jack, *Industrial Archaeology in Australia: Rural Industry* (Richmond, Victoria, 1983), p 96.
- 49 Jonathan Periam [adapted by R W E McIvor], *The Pictorial Home and Farm Manual*, (Sydney 1885) pp 282-3.
- 50 Peter Spillett, *Forsaken Settlement* (Melbourne 1972), pp 30, 150.
- 51 Thomas Ritchie, *Canada Builds 1867-1967* (Toronto 1967), p 149.

lock-ups

Log construction was particularly adapted to lock-ups and primitive gaols, more especially because they could be built using the labour of the prisoners themselves. The logs for the first such structures were supplied by a levy on the settlers at large. In 1796 Governor Hunter determined to build gaols at Sydney and Parramatta, with double log walls and thatched roofs. Every settler or householder was required to deliver ten logs a week, nine feet [2.7 m] long and seven inches [175 mm] in diameter, whilst officers who had been supplied with convict labour had to provide double the quantity. Both gaols were destroyed by arsonists in 1799.⁵² Logs continued to be the favoured material for gaols in distant areas, being the only form of timber construction with any prospect of constraining unfettered prisoners. One such was designed for Goulburn in 1832 by the Colonial Architect, Ambrose Hallen. It consisted of three chambers in a row, a central room or hallway occupied by the gaoler, and a cell on either side. Both the external walls and the partitions were of stacked logs, halved together at the corners. The cells, but not the central compartment, had timber flooring on log bearers, probably intended less for the comfort of the prisoners than to prevent them from burrowing out. The structure was placed within a yard or stockade walled with a palisade of vertical slabs.⁵³

Log building again enjoyed some currency on the goldfields, not so much because it was used by American miners, but because, just as at Goulburn, it was adopted by the police as the best method of building secure lock-ups in circumstances where brick or stone was not a possibility, whereas timber was at hand, and labour was available in the form of the prisoners themselves. Fanny Perry, wife of Bishop Perry, mentioned the lock-up at Mount Alexander in March 1852 as 'a regular American log hut',⁵⁴ and an early example at Buninyong is illustrated in a sketch by Emma von Steiglitz, also of 1852.⁵⁵ At Bendigo a digger without a licence was fined £6.10s, or in default two days cutting logs to build the lock-up,⁵⁶ and the resultant structure was described by an inmate as⁵⁷

... built of rough bush logs, notched into each other at the ends, so as to have them flush and close together, floor, wall and ceiling being of the same construction, with a roof of string bark over all.

A drawing of 1854 by H B Lane of the Colonial Engineer's Department for a lock-up at Creswick's Creek [Creswick], shows a building of this type complete with a floor and ceiling of horizontal logs. The main lock-up space measures 18 by 15 feet [5.4 x 4.5 m] internally, and there is also a solitary cell of 10 by 8 feet [3.0 x 2.4 m], both being entered

52 J S Kerr, *Parramatta Correctional Centre* (Sydney 1995), p 1.

53 Ambrose Hallen, 'Design for a Gaol and Court House for Goulburn Plains', 23 January 1832. Dixson Library, Sydney, ADD 203, reproduced in J S Kerr, *Out of Sight, Out of Mind* (Sydney 1988), p 28.

54 Frances Perry [ed A de Q Robin], *Australian Sketches. The Journals and Letters of Frances Perry* (Carlton [Victoria] 1984), p 162.

55 Emma von Steiglitz, 'Police Station, + Court House, Boninyong', pencil sketch reproduced in Margaret Kiddle, *Men of Yesterday* (Melbourne 1961), facing p 78, courtesy of Mrs Thomas Vandeleur.

56 Henry Leversha in J F Hughes et al, *Records of the Castlemaine Pioneers* (Adelaide 1972), pp 12, 133.

57 George Mackay, *Annals of Bendigo 1851-1867* (Bendigo n d), p 16.

through a small keeper's room.⁵⁸ Lock-ups of this general type, though not the exact plan, still survive in Victoria at Eaglehawk, near Bendigo, and at Bright, Carisbrook, Harrow, Omeo and Seymour.

the goldfields

There are said to have been a few log-built diggers' huts at Bendigo in 1852,⁵⁹ for although most diggers would be satisfied with canvas during summer, they preferred something more substantial to winter in. In 1853 one party of Scots at Eaglehawk Gully built themselves a log cabin with a chimney for the winter, remaining there until they left for a new rush in August.⁶⁰ William Howitt described the log huts at Bendigo at this time as⁶¹

.. built of solid trunks of trees, laid horizontally - in fact, the log-huts of America reconstructed here. The logs are notched into one another at the corners, and interstices daubed up with clay. The roofs of these are almost flat, covered with sheets of bark, with logs on the bark to keep it down.

There were similar reports of huts built at Ballarat 'of logs placed upon logs and the crevices plastered with mud',⁶² and at Porcupine Flat near Maldon another party of Scots built, for the winter of 1854, a log hut plastered with clay, lined with Indian matting, and with a turf chimney.⁶³ At the diggings in Gippsland in 1854, G C Fead built two log huts in succession.⁶⁴

At North Muckleford, and no doubt considerably later in date, is a most sophisticated relative of these structures, a substantial house built by stacking on edge and halving at the corners great baulks of timber measuring 250 x 500 millimetres: the front facade is even dressed in imitation of stonework. This method of construction (seemingly known as *pièce sur pièce* like the framed construction discussed above) was used in Acadia [Nova Scotia] in the later eighteenth century,⁶⁵ and in Acadia [Nova Scotia] the early nineteenth century buildings of the Hudson's Bay Company at the post of Lac des Allemettes (later known as Old Fort William) in the province of Quebec, where examples still survive.⁶⁶ The term 'planked log' construction is used for buildings of this sort put up in Upper Canada by the United Empire Loyalists in the late eighteenth century, and by later settlers.⁶⁷ A Canadian

58 Colonial Secretary 54/5105, per favour Bill Collins.

59 Mackay, *Annals of Bendigo*, p 8.

60 Robert Mitchell in *Records of the Castlemaine Pioneers*, p 35, and Thomas Graham, *ibid*, p 133.

61 Howitt, *Land, Labour and Gold*, I, p 377.

62 H L Carnegie [ed], *G C Robinson* (Melbourne 1968), p 37.

63 J F Hughes in *Records of the Castlemaine Pioneers*, p 6.

64 The second is identified as being at Gibbo Creek: G C Fead, 'Notes of an Unsettled Life', *Gippsland Heritage Journal*, no 16 (June 1994), pp 34-5.

65 As at the Martin house in St Anne, New Brunswick, of about 1783, now at the Acadian Historical Village, Caraquet: Harold Kalman, *A History of Canadian Architecture* (2 vols, Toronto 1994), I, pp 86, 87.

66 Pierre-Louis Lapointe, 'Old Fort William (Quebec)', *APT Bulletin*, VIII, 1 (1976), pp 43 ff.

67 Two such buildings are the Simcoe and Ross houses, both now exhibits in Upper Canada Village. A contract in 1794 calls for timbers seven inches [180 mm] thick. Marion Macrae, *The Ancestral Roof* (Toronto 1963), pp 186-8, 189. Elizabeth Simcoe noted that the logs were 'so grooved together that in case of decay any log may be taken out': quoted in Kalman, *History of Canadian architecture*, I, p 162.

example of 1837, 'Blythe' on Sturgeon Lake, has the outer surface roughcast and grooved in imitation of ashlar,⁶⁸ somewhat reminiscent of the Muckleford house. The Muckleford house adjoins the railway line, and we may suspect that railway sleepers were used in its construction, in the same way as in the 'railroad-tie architecture' of Nevada and other parts of the United States.⁶⁹

other log buildings

Log buildings were not entirely confined to the Victorian goldfields, but generally speaking they seem to have been as little used by the selectors as they had been by the squatters before the gold rushes: wherever a good fissile timber like stringybark was available, then slabs were a more logical solution. An exception must be made for the Kyabram area, where log cabins were built of box, the logs being deeply notched to fit together at the corners, and sometimes further reinforced by jointing them with a long wooden peg in a bored hole.⁷⁰ A log kitchen at 'Mundarlo' homestead, on the Murrumbidgee, built before 1873, is also exceptional. Not only are the walls of logs said to be 600 mm thick, and jointed roughly at the corners, but the ceiling is of equally large logs.⁷¹ This is so reminiscent of a lock-up that one must ask whether it was built for that purpose (which is not impossible, as the homestead was originally a hotel), or whether the builder had special experience of lock-ups, through having built them or occupied them.

It seems paradoxical that log buildings should be more common after 1870 than before. The main reason is that earlier settlers chose open country, and therefore cut down trees only as required for building and other purposes, whereas later settlers under the land selection Acts were often forced into heavily timbered country which they had to clear. Whereas in the earlier period there was little incentive to cut more than a minimum number of trees, or to engage in the heavy work of log building, later there might be cut timber in excess, and everything to be gained by removing it and putting it into use. Moreover as the species were not necessarily the ones that would be chosen for splitting or sawing, and the individual trees not selected for quality, they might be of little use in any other form of construction. This was the situation of John Slater, who selected land near Murchison, Victoria, in 1892. He cleared a proportion of the land, and simply ringbarked another sixty hectares. He made use of his logs for chock and log and log and bough fencing, as well as for buildings - a log dwelling with an iron roof, and a log stable, barn, dairy and kitchen, all roofed in brush.⁷²

One undated log building still stands next to Captain Bacchus's house at Bacchus Marsh, and a colony of at least seven at Blackwood, built as miners' cottages in about 1890-

68 Macrae, *The Ancestral Roof*, p 106.

69 Andrea Graham, 'Railroad-Tie Architecture in Elcho County, Nevada', [abstract] in Thomas Carter & B L Herman [eds], *Perspectives in Vernacular Architecture, III* (Columbia [Missouri] 1989), p 242.

70 W H Bossence, *Kyabram*, (Melbourne 1963), p 44.

71 Peter Freeman, *The Homestead: a Riverina Anthology* (Melbourne 1982), p 187.

72 Charles Fahey, 'Two Model Farmers: Ann and Joseph Day of Murchison', *Victorian Historical Journal*, LXXI, 2 (September 2000), pp 107-8.

1920.⁷³ Two survive at 'Bartington', northern Victoria, built by the Bartington brothers in 1876 and 1880. These have chocks adjoining the openings, in the manner described below.⁷⁴ Another is at Muddy Creek, near East Murchison, and seems likely to have been built towards 1879.⁷⁵

In the Goulburn Valley, Victoria, log buildings were used quite widely in the later nineteenth century. At Merrigum the Wesleyan Methodists built a chapel in 1875 of logs and pug with a shingle roof,⁷⁶ and Anne Tyson has been able to identify a number of other properties in the district which have or have had log buildings. It seems that this form of construction was common over quite a wide area, generally for buildings other than dwellings.⁷⁷ Two log buildings of the 1880s survive on the property 'Valley Field', which was originally the selection of John McLeod, and they seem to have been constructed by his son Donald as a fowlhouse and a workshop or smithy, together with a log dairy which has since collapsed.⁷⁸ J K Andrews, an inhabitant of the district from 1874, discussed such buildings:⁷⁹

The walls are of log, usually, the best and straightest timber, cleaned of all bark, placed one upon another. Near the end of each log a deep notch was cut, the end of the next cross log was laid into it. This gave a measure of firmness. In places an inch augur hole was made into these joints and a wooden peg was driven in. The deep cuts cause the logs to be brought closer together and gave added strength, as less pug was needed. Near the doors and windows small chocks were placed between the logs after a deep flat resting place had been made on the previously placed log.

McLeod's buildings have the chocks referred to, but no sign of the augur holes. The workshop is of Murray pine, and is chinked or pugged with clay, but the fowlhouse is of grey box, and apparently never chinked.

There are log buildings also in Gippsland and on the High Plains. 'Horsehair Hut', on the Great Alpine Road near Mount Hotham, is believed to date from 1873, and is of manna gum logs plugged with pipeclay and sphagnum moss.⁸⁰ A log house which still stands at Poowong was built in about 1885 and is relatively crude, with the logs crossing at the corners, each one cut away above and below to create a tongue only half as thick as the overall diameter.⁸¹ Other Gippsland buildings include Harry Smith's Hut, Crooked River,⁸²

73 In Whalebone Road and Simmons Road, and one in excellent condition at 3 Richards Road: information from Paul Roser, 2001.

74 At Boweya, about 25 km north-west of Glenrowan. Inspected 1996 under the guidance of Deborah Kemp, who says that a workman's diary describing the building process survives in private ownership at Warrnambool.

75 The land was selected in 1871 and purchased outright in 1879, when there are records of two structures, one of which (despite inaccuracies in the description) is probably the surviving building. The use of wire nails tends to support a date in the later 1870s. The building measures about four by five metres, with walls eight logs high and gables filled with weatherboarding. Information from Paul Roser, January 2001.

76 J K Andrews, 'History of Merrigum' (manuscript, Merrigum [Victoria], 1954, copy supplied by Anne Tyson, 1997), pp 13-14.

77 Information from Anne Tyson, 1997.

78 Information from Anne Tyson, 1997.

79 Andrews, 'History of Merrigum', p 60.

80 It is thought to have been built by Tom Goldie, an employee of the alpine grazier Fred Box: *Age*, 12 May 2001, p 11.

81 Joseph White, *Poowong: the First 30 Years* (Korumburra [Victoria] 1975), pp 18-19.

the now reconstructed dairy at Nyerimilang, and the old Calajero homestead now moved and reconstructed at the Bairnsdale Historical Centre. The Nyerimilang dairy is unusual in that the logs are neither halved nor dovetailed at the corners. The end of each log has a quarter of its depth removed above and below, reducing it to an almost rectangular tongue of half the depth. These tongues alternate across each other at right angles to form the corner. A structure at the Moe Folk Museum, Gippsland, has a distinctive way of supporting the logs at ends where they don't cross. It is of U-shape in plan and approximately square in proportion. The ends of the U would be unsupported if it were not for the provision of short lengths of wall like serifs. These are built not of logs but of thick adzed planks, piled up edgewise. Each plank is rebated at the top and bottom edges so that, in association with the adjoining planks, square openings are left. The ends of the wall logs are squared off to fit into these openings.⁸³

In Queensland logs were used in 1858, or very soon afterwards, for J A Macartney's first dwelling at 'Glenmore', Rockhampton,⁸⁴ and log buildings also appeared on the Queensland goldfields.⁸⁵ In Central Australia Nellie Hoche reported two log buildings at the Andrewilla Police Station, in 1893,⁸⁶ and another two such buildings from the early twentieth century are the dwelling and the fowl house at 'Circular Marsh' homestead in the Great Pine Tier, Tasmania, dated by Frank Bolt to 1904.⁸⁷

In the twentieth century the traditional log cabin continued to be a low cost alternative in timbered areas, and it was quite popular during the period of building material shortages after World War II, when it was used in areas such as the Dandenong Ranges, outside Melbourne.⁸⁸ A strong tradition of log building also persisted in the tobacco kilns of the Myrtleford-Bright area of Victoria where, for example, the Pizzini brothers' log kiln was built at Eurobin in the 1950s.⁸⁹

82 *Gippsland Heritage Journal*, no 10 (June 1991), p 61.

83 Photograph by John Collins, SLV H98.250/483.

84 *Sketches of Old Rockhampton* (from an extract, publication details unavailable to me, but c 1980), pp 16-17.

85 Illustration from the Battye Library, Perth, reproduced in Ian Evans, *The Australian Home* (Sydney 1981), p 28.

86 Helen Ferber, *Stagecoach to Birdsville* (Kenthurst [NSW] 1995), p 38.

87 Frank Bolt, *Vanishing Tasmania* (Kingston [Tasmania] 1992), pp 50-51.

88 Peter Cuffley, *Australian Houses of the Forties and Fifties* (Knoxfield [Victoria] 1993), p 26.

89 Jacqueline Verrochio, 'Historic Tobacco Kilns in North-East Victoria', *Historic Environment*, XIV, 1 (1998), p 37.