CONSERVATION AND RESTORATION OF BUILDINGS

conservation of roofs

Australian Council of National Trusts

AUSTRALIAN COUNCIL OF NATIONAL TRUSTS
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COVER

This early twentieth century photograph shows many of the traditional roofing details found in Australian buildings:
Chimney pots are slate, roof is corrugated iron, gutter is ogee pattern, gable is finished with mouldings and turnery, bay window and sun hood is shingled incorporating shaped shingles, verandah roof is bull nosed and striped, downpipes are circular.
(Hillcrest, Junction Street, Nowra, N.S.W. Photograph in possession of D.C. Woodhill)

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Compiled by Clive Lucas O.B.E., B.Arch., FRAIA.
on behalf of the Conservation and Restoration Committee
of the Australian Council of National Trusts.

Published by the Australian Council of National Trusts

Foreword

This publication is the second in a series which is being produced by the Australian Council of National Trusts to help those who wish to preserve some part of Australia's architectural heritage.

Subjects to be covered by existing and proposed publications in the series are listed on page 30.

The Council wishes to record its thanks to the General Editor of the series, Clive Lucas, and other members of the Conservation and Restoration Committee who assisted in the compilation of this bulletin.

Appreciation is also extended to Cedric Flower and Meredith Walker for their comments on the text and to Paul Coupe and Robert Wakeford who assisted with the photography.

Rodney Davidson
Chairman
Australian Council
of National Trusts

March 1984

Contents

NOTE
All photographs are by Clive Lucas unless otherwise acknowledged.

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By Clive Lucas O.B.E., B.Arch., FRAIA

An English iron tile roof before restoration. Although in an advanced state of decay all the detail was there for exact restoration.
(Cooma Cottage, Yass, N.S.W. Photo: John Morris)

The iron tiles have been reproduced and the half round gutters reinstated.
(Restoration Architect: Clive Lucas)

INTRODUCTION

This is the second volume in a series dealing with the conservation and restoration of buildings, prepared for the Australian Council of National Trusts. The subject of this volume is Roofing.

First it must be said that however thoroughly the subject is treated, it will not cover all situations and there will be many cases that will be exceptions. It is, for example, as wrong to say that all roofs were once shingled as it is to say that all shingles were casuarina. So the reader is asked not to regard the text as the whole truth, but to be prepared always to examine thoroughly and investigate the history and detail of the building in question.

This volume will not discuss roof structures or the techniques of fixing the various roofing materials and associated details. Techniques for fixing are covered in various books on both Australian and English building construction and in trade literature.

There have been many and varied roofing materials used in Australia since the end of the eighteenth century. Many, such as the terra cotta tiles used at Sydney Cove, and roofs of thatch, sod and bark either no longer exist or are unlikely to be restored except in museum village situations. We will concern ourselves with the maintenance and preservation of those roof types which still exist in various parts of the country, and cover the period up until the first World War.

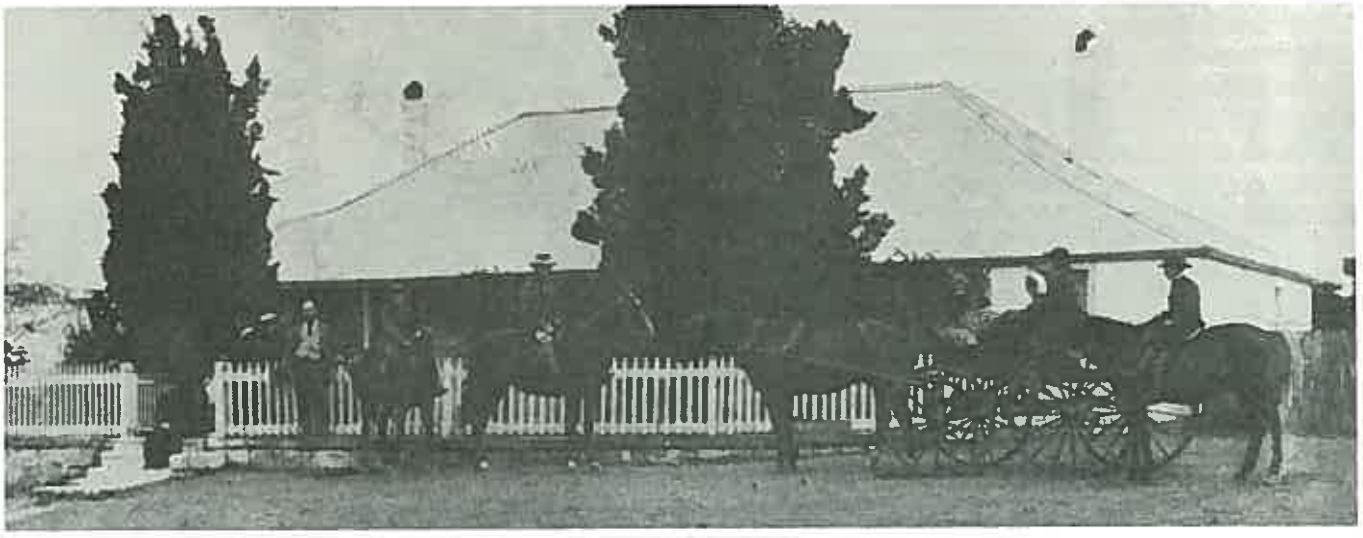
One of the earliest outstation establishments north of Adelaide. The bush pole structure is covered in straw held in place by wire netting which could be later.
(Barn, Stone Hut, S.A. Photo: Stephen Gilbert)

GENERALLY

Where a material in a building has been changed to something that does not belong to its original period, for example, where cement tiles have been used on a building whose prime architectural character is of the 1870's, then the material of that time should be restored. If it was corrugated iron then that should be put back. Don't fall into the trap of putting on a more sophisticated material such as slate or iron tiles. If it was a shingle roof originally and you can't afford to restore it to that material, then it would be better to use corrugated iron rather than keep the cement tiles. Underplay what you do rather than the reverse. There is nothing wrong with corrugated iron, but there is a tendency today to "improve" the building by putting on what we might consider a more interesting roof that has nothing to do with historical fact.

In any restoration or maintenance programme the roof is of prime importance. It must be watertight, you must stop falling damp, and all roof water must be discharged clear of the foundations. The roof must be seen to first even if the covering is only seen as temporary. In most cases if corrugated iron is not the authentic period roof it will be the most sympathetic to the period and certainly the cheapest. So if you can't afford to restore shingles, tiles, slates or whatever, put on corrugated iron. Similarly if you can't afford to restore traditional ogee or half round patterned gutters use quadrant or D-guttering, not the multidudinous other forms that are currently on the market.

Also try and find a plumber or roofing contractor who understands the terms used in this paper.



Late 19th century photograph of an 1820's house with the traditional Australian roof form, sheeted in corrugated iron.
(Willow Vale formerly Humewood, Appin, N S W. Photograph in possession of Stuart Hume)

The importance of roof form when making additions and alternation to a building.

(Nepean House, Camden, N S W. Architect: Clive Lucas. Photo: Richard Stringer)

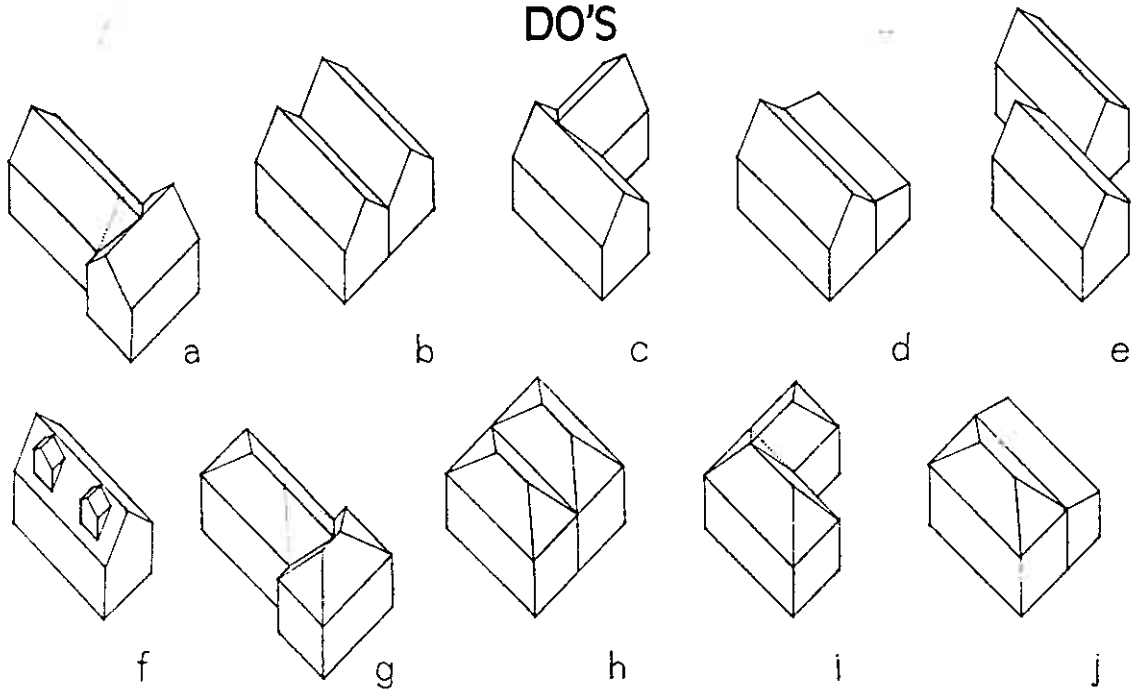
ROOF FORM

It is equally essential to preserve the form of the roof as well as its covering.

Often however, when adapting an old building to a new use, it will be necessary to add to it or change the roof in some way. This should be done with care so that the original roof form is preserved and the character of the building is maintained. The same roofing material should be used for these alterations or, if unavailable, say with slates or tiles, robbed from a less significant slope which could be sheeted in corrugated iron. This is particularly important in suburbs and towns because of the relationship to buildings of similar materials, age and character.

The enclosed diagrams show best how to sympathetically add to traditional Australian roof forms.

DO'S



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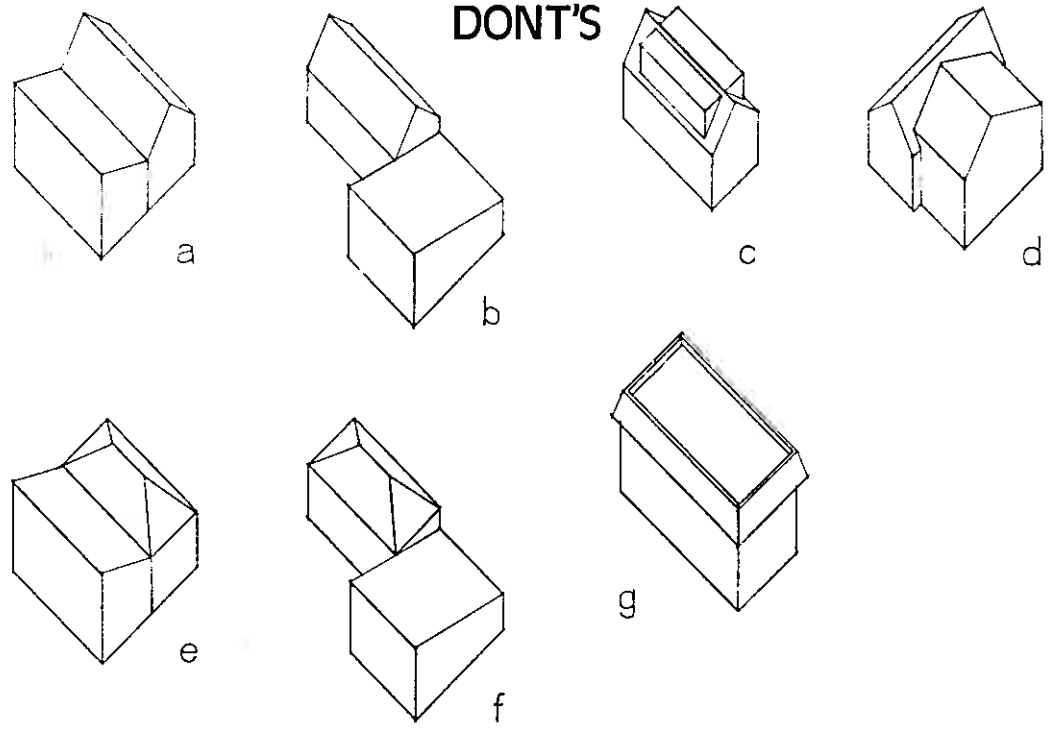


ROOFING MATERIALS

Shingles:

Of the historic roof coverings which survive in this country it is probably fair to say that shingled roofs are historically the most important in the sense that they were amongst the first used and, among these early materials, the only ones to survive. Some use has recently been made of the term "shake". This seems to have had no local historic use. The Australian shingle roof is of split timber usually about 100mm wide and 450mm long in New South Wales, but varying in size from State to State. Many in South Australia measure 750mm by 250mm and some used in New South Wales during the first half of the 19th century are known to have been 200mm wide. Shingles should not be confused with sawn and split paling roofs, which are of the same width but are much longer and seem confined to roofing of sheds and out-buildings, particularly in Tasmania. It has been said that casuarina was mainly used for shingles but the commonest timber used seems to have been various species of the eucalypt.

It is the size and texture that is critical to a satisfactory job. Don't make the shingle wider than the traditional width found in your area or on your roof. The hip and ridge details are also important.

Split shingles newly restored to this picturesque building with elaborate fretted barge boards.
(Chapel at Brickendon, Longford, Tasmania. Photo: Wesley Stacey)

Split shingles are found in various widths and lengths. Long shingles on a Tasmanian outbuilding.
(Shed, Grigg Street, Deloraine, Tasmania)

Hips were sometimes of lead, dressed over a wooden roll, or sometimes the shingles were woven at these junctions. Timber saddle boards were used from the beginning and iron ridging was used during the second half of the 19th century but, whatever happens, preserve or restore the traditional detail found in your building. There may also be cases where shaped shingles were used to form a pattern in the roof covering. If this is the case, and it is very rare, great care should be taken to preserve the pattern.

A shingle roof with iron ridging.
(Kangaroo Valley Hotel, near Nowra, N.S.W. Photo in possession of D.C. Woodhill)

The more normal sized shingle.
(Outbuilding, St. Mary's, Tasmania)

One of the earliest ridging forms used in Australia, made in England by A. Moorewood & Co. (Elizabeth Farm, Parramatta, N.S.W.)

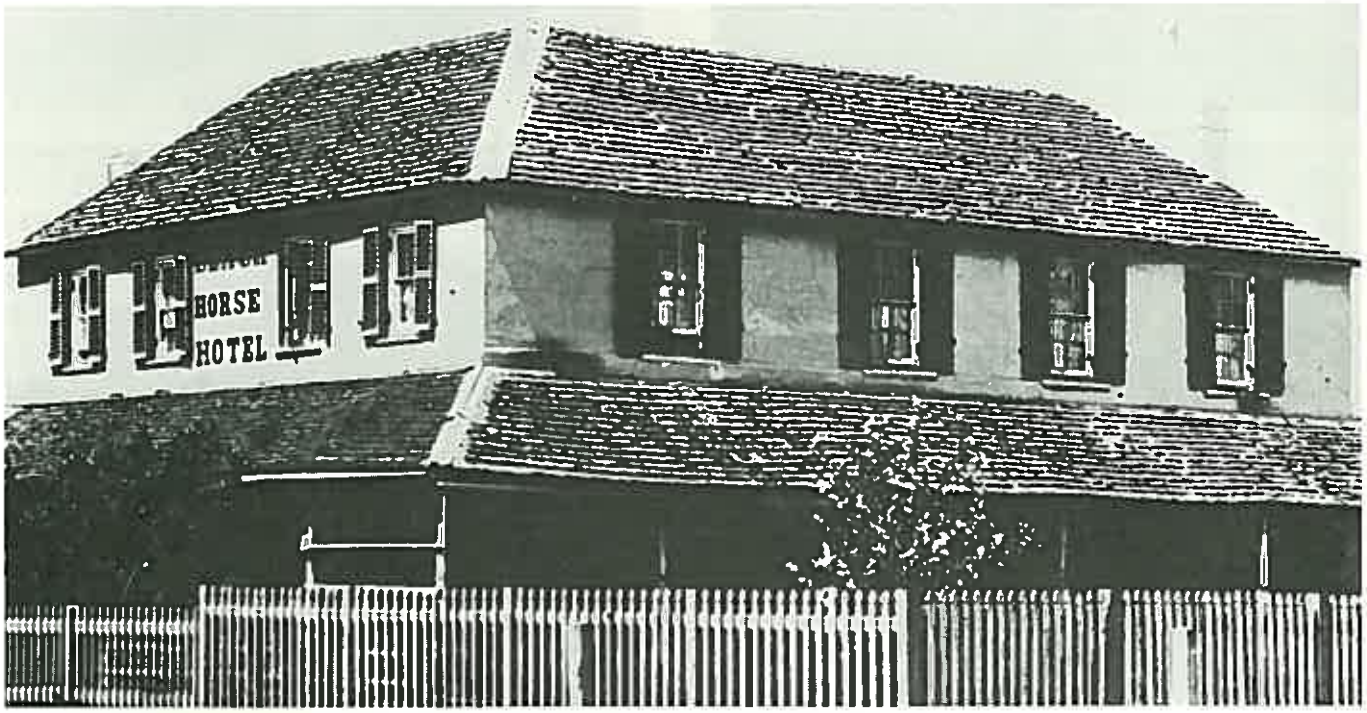
Timber roofing was also composed from sawn palings particularly for outbuildings.
(Shed, Marlborough Street, Portville, Tasmania)

An 1850's shingle roof with woven hips.
(Buxton Cottage at Glenmore, near Camden N.S.W. Photo in possession of Miss Grace Moore)

Sawn shingles were used in the first quarter of this century not so much for roofing but for sheeting window hoods, facing gables, dormer cheeks and covering panels below bay-windows. Often patterns were enlivened with rows of shaped shingles and they are often of varying widths.

The enclosed photographs of the Black Horse Inn at Richmond, N.S.W. show how its character changed with the substitution of iron roofing. However, while investigation of the building no doubt will reveal some evidence for the shingle roof, not all its details will be known and it would most probably be best to preserve and restore the iron roof.

Shingles have a life span of 25 to 30 years and this also must be considered if you are taking off iron and putting back shingles. Only where a shingle roof survives is it important to redo it preserving all the surviving details.



Nineteenth century photograph of Black Horse Inn, Richmond, N.S.W. with shingled roof and iron ridging.
(Photo in possession of Hawkesbury Agricultural College)

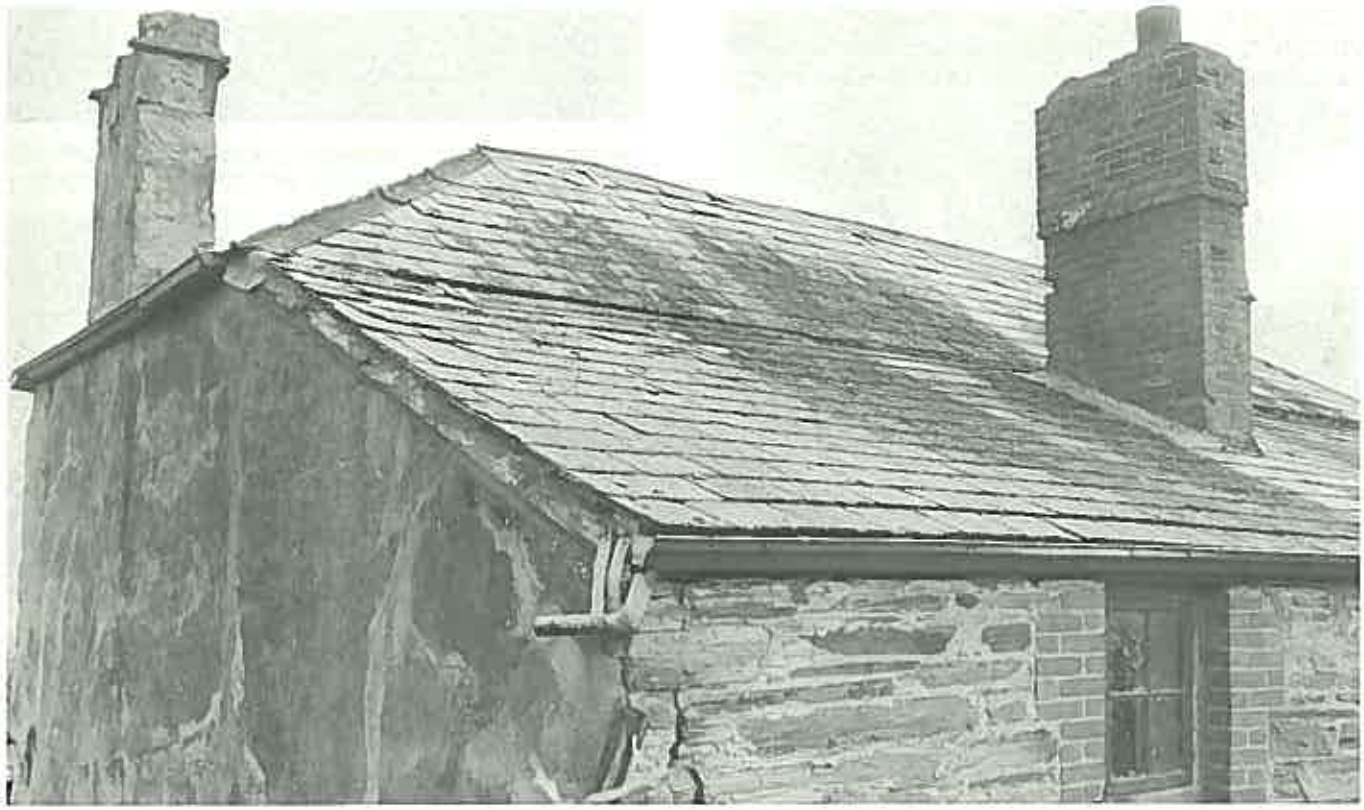
1920's photograph of the Black Horse Inn shows how it had changed with an iron roof and bullnosed roofing to the encircling verandah.
(Photo in possession of D. C. Woodhill)

An unusual slating pattern on this 1860's church which should be maintained. (Holy Trinity, Lyndoch, S.A.)

Shingles often survive under iron as ceilings to verandahs and outhouses. Such detail should be kept.
(Habbles Howe, Seymour, Victoria)

Slate:

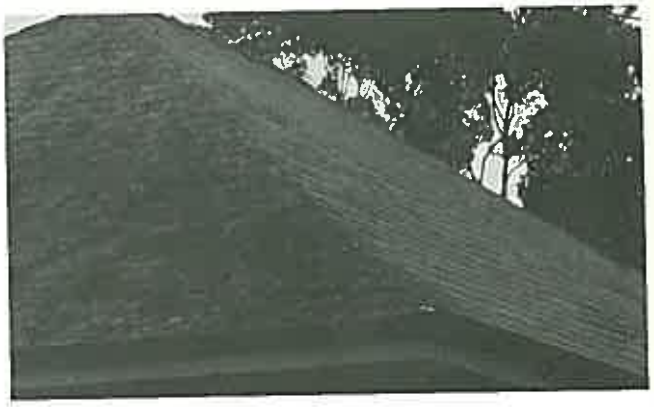
European and British slates have been used in Australia since the 1830's. Slate was discovered in South Australia in 1840, and was soon afterwards exported to Victoria and New South Wales, where it was also later discovered. These slates have various colours depending on their sources, i.e. Bangor slate from North Wales is a dark purple, Westmoreland slate from England is a grey green, and Willunga slate from South Australia is grey. The three main sizes used in Australia are 610 mm x 305 mm; 508 mm x 254 mm; and 406 mm x 203 mm. For some reason they are traditionally known as Duchesses, Countesses and Ladies. A popular size from South Australia is 550 mm by 300 mm. In roofs of the last quarter of the 19th century, slates of different shapes and different colours were used to give added richness to the roof covering. This is an important detail which should be carefully preserved.



In this dilapidated example can be seen the end of the roof, the overlap of the slates and the ends of the battens. The slates were quarried within a mile of this house at Delabo Quarries, opened in 1840. (House, George Street, Willunga, S.A. Photo: Stephen Gilbert)

Roofs with patterned slates of different hues and shapes were popular at the end of the 19th century. (Cottage, Lithgow Street, Goulburn, N.S.W.)

So far as ridging is concerned it is fair to say that lead with wings dressed over a timber roll was the main detail, but galvanised iron was also used, particularly in hot dry areas from an early date. There are also examples with cast iron cresting. Since about 1900 hips were sometimes secretly flashed with lead soakers, and the slates mitred at the hip. Also about this time terra cotta ridging was used with slate. The ridge was often elaborate and there were terra cotta finials like those associated with Marseilles tile roofs.



During the Edwardian period slate roofs with secretly flashed mitred hips were made. (Cottage, Fox Valley Road, Wahroonga, Sydney)

At the beginning of this century Marseilles patterned tiles were as popular as slate. In these contemporary houses one owner chose the slate with terra cotta ridging while the other, a roof completely of new clay tiles. (Houses, 471-743 Liverpool Road, Croydon, Sydney)

Slate roofs were sometimes enriched with cast iron cresting along the ridge.
(St. George's Church, Gawler, South Australia)

Galvanised steel ridging has been used in recent years to replace lead. This is not an authentic detail.

With slate it is size and colour that are important. There is the added subtlety that old slates have been hand cut and their edges have a whittled finish, unlike the more usual sawn edge of many of today's slates. In most restoration programmes which involve slate, the roof will need renailing and a lot of slates will need replacing. The use of proper copper or phosphor-bronze slating nails is essential in important work.

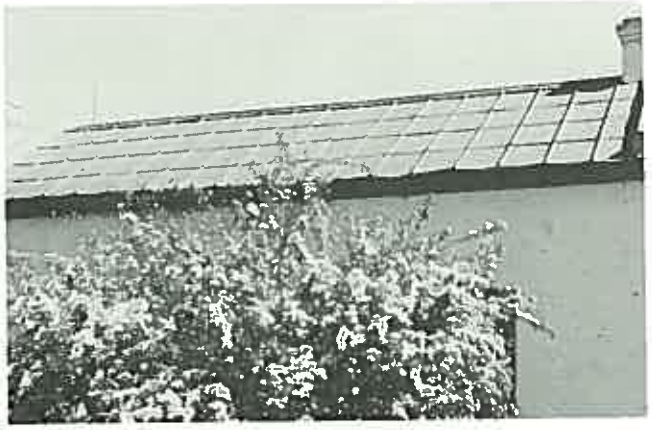
It is often difficult to match the colour and sometimes the size, particularly if you are depending on second-hand slates. But at least try to restore the most important slopes of the roof with original slates and use the other slates on slopes that are not seen. In some old roofs which have internal slopes, it may be that an inner slope could be robbed and corrugated iron used on the slope which is not seen. As with intact shingle roofs the ridging and other details should be carefully noted and preserved.

For most of the nineteenth century the traditional ridging was lead over a timber roll. In this derelict example enough detail survives for accurate restoration.
(Willandra House, Ryde, Sydney. Photo: Ian Stapleton)

Slates and the traditional lead ridging being restored.
(Restoration Architects, Fisher Lucas)

Iron Tiles:

The 1830's saw the general introduction of metal roofing to Australia. Zinc was first used for sheeting verandahs and porches but it is unlikely that many examples of this material survive. Thus for a great deal of the 19th century one often found shingles used on the steeply sloping main roof and zinc used for the gently sloping or sometimes curving verandah roof. The material had a roll joint at about 600 mm centres.



An intact tinned iron tile roof, probably of English origin, although such tiles are known to have been made on the site in South Australia.
(House at 88 Finniss Street, North Adelaide. Photo: Stephen Gilbert)

The trade label of A. Morewood & Co, patentees, London, found on the underside of the earliest iron tiles.
(Kleusendorffes Inn, Tahmoor, N.S.W.)

By 1840 iron made its appearance, first in the form of an iron tile approximately 900 mm x 600 mm. These patented tiles were English made, by a firm known by various names but usually "Morewood and Rogers." Extant roofs exist where the tiles are not stamped though the profile is similar. This suggests their manufacture elsewhere, perhaps in Australia. The English firm also supplied ridging for use with the tiles as well as for other roofing materials, like corrugated iron and shingles.

Often these metal tile roofs were fitted over shingle roofs, or sometimes the shingles were stripped and the battens left to support the metal roof.

Early metal roofs were often zinc. In Sydney this material was being advertised for verandah roofs during the 1830's.
(Hawthornden, 142 Davey Street, Hobart)

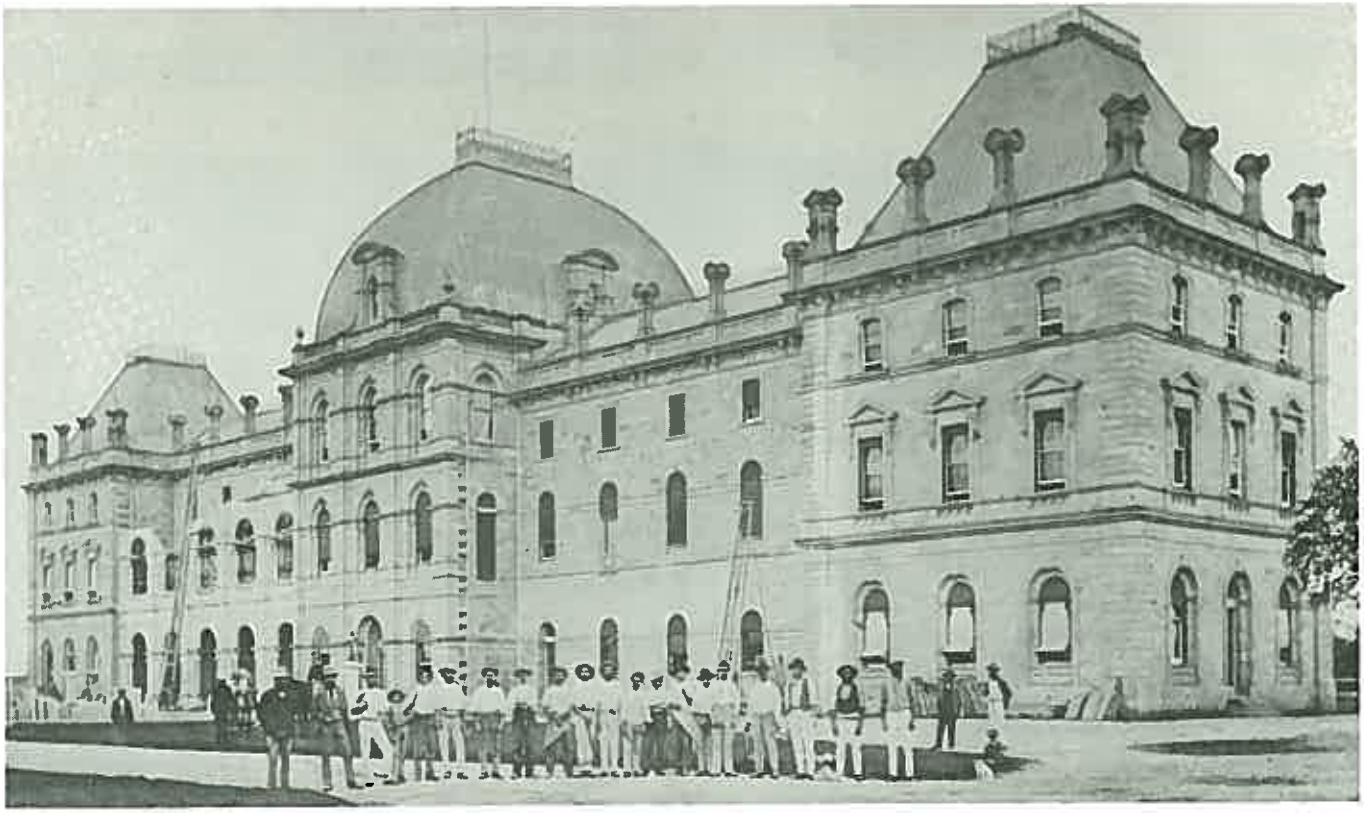
Where they exist they are rare and should be preserved. It may be possible to patch an old roof with tiles from a demolition. However when most of the roof is beyond repair, the whole will have to be replaced. In the restoration of the large roof of Cooma Cottage at Yass, N.S.W., the tiles were especially reproduced in 26 gauge sheet steel by a firm of light metal manufacturers. In Australia, Stramit Industries Ltd. have reproduced them and offer them for sale. They should however only be used to repair and restore existing roofs and not put on to buildings that never had them.

Iron tile roofing being restored. The battens of the original shingle roof survive and have been used to support the metal.
(Cooma Cottage, Yass, N.S.W. Restoration Architect: Clive Lucas)

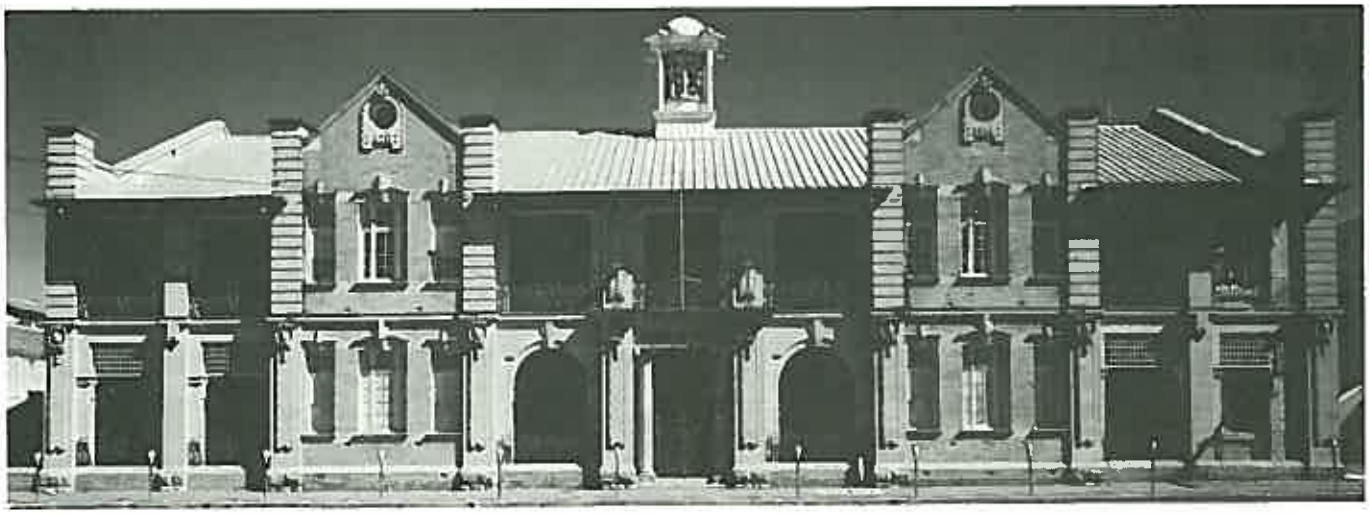
Rolled Zinc Roof:

This metal roof appears to be almost exclusive to Queensland where it was much used, particularly for public buildings, including Parliament House which seems to have had it from the start. It is a pleasing roof formed with rolls at about 300mm centres. It is actually built up of trays each 600mm wide by lengths which can be quite long. The roof is close boarded or battened and under each roll is a timber batten through which the fixing takes place. Except for the centre roll in each tray it goes together much like the iron tile mentioned previously.

In later examples the same pattern has been achieved in galvanised iron. It is an important feature of many Queensland buildings which should be carefully maintained. The Brisbane firm of James Campbell and Sons is able to reproduce this sort of roof.



Rolled zinc roofs were popular particularly for public buildings in the warmer parts of the country.
(Photo c. 1880, Parliament House, Brisbane in possession of John Oxley Library)



The traditional rolled zinc form continued to be popular in Queensland until well into this century; here it is carried out in galvanised iron. (Technical College, Rockhampton, 1914. Photo: Richard Stringer)

Corrugated Iron:

The most commonly seen Australian 19th Century roofing material, corrugated iron, was first introduced during the 1850's. Its ease of transport and fixing made it a natural material to use in a large country, hence its survival and continued use. No material is more obviously Australian. It is, in a way, what a thatch roof is to England or a slate roof to Wales. It is therefore sad that its retention is not more highly valued. Not only was it used on new constructions but it was a natural material to fix over shingle roofs which had failed. These shingle roofs were battened and the

When shingled roofs failed they were often battened and sheeted with corrugated iron. (Cottage now demolished, Cleveland, Tasmania)

The curved verandah roof is here enlivened by the popular 19th century use of painting in stripes. (Railway Station, Richmond, N.S.W. Photo in possession of D.C. Woodhill)

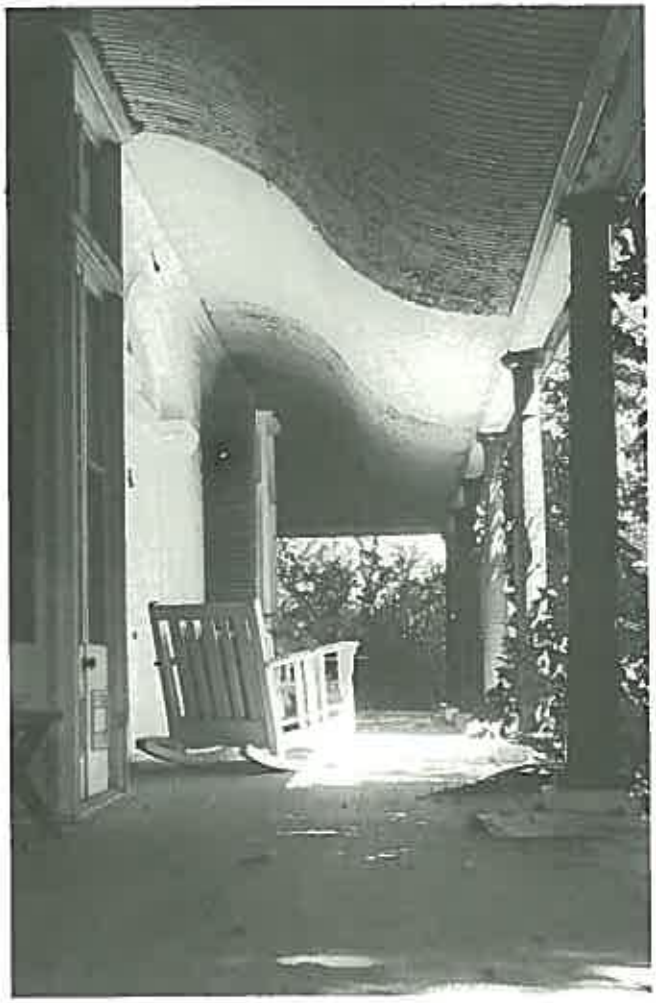
A semicircular roof has been made of rivetted curved sheets obviating the necessity for timber framing in a region where timber was scarce and transport difficult.
(Station Store, Murnpeowie, South Australia. Photo: Stephen Gilbert)

iron fixed over them. This has meant that many shingle roofs have survived underneath, where they serve as thermal insulation. Iron also had the advantage that it would be curved, and it was much used for verandahs and covered ways, which needed as a result only a light timber supporting structure.

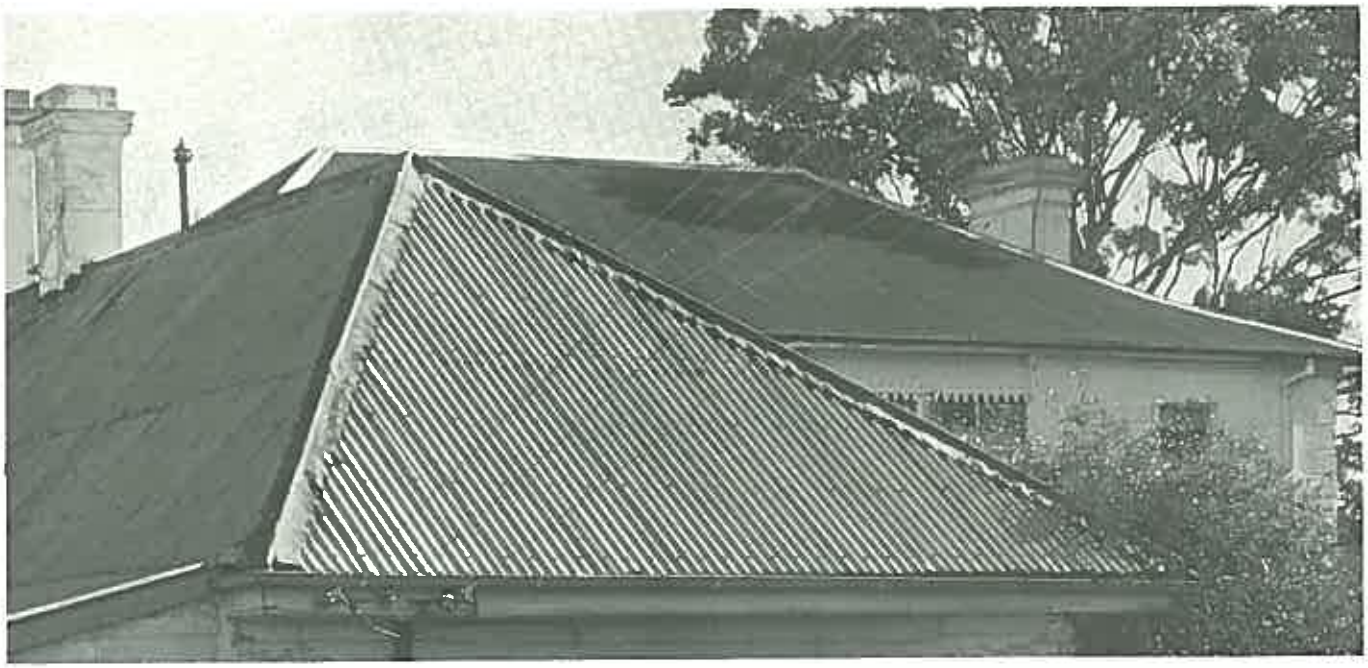
Like other metal roofs it was sometimes used for verandahs and skillions, while the main roof was covered with split shingles.

Hips were usually done in galvanised iron ridging but the traditional detail of lead over a timber ridge roll was also used. This detail had to be used when dealing with the hip of a concave or convex verandah roof, and it is still so used.

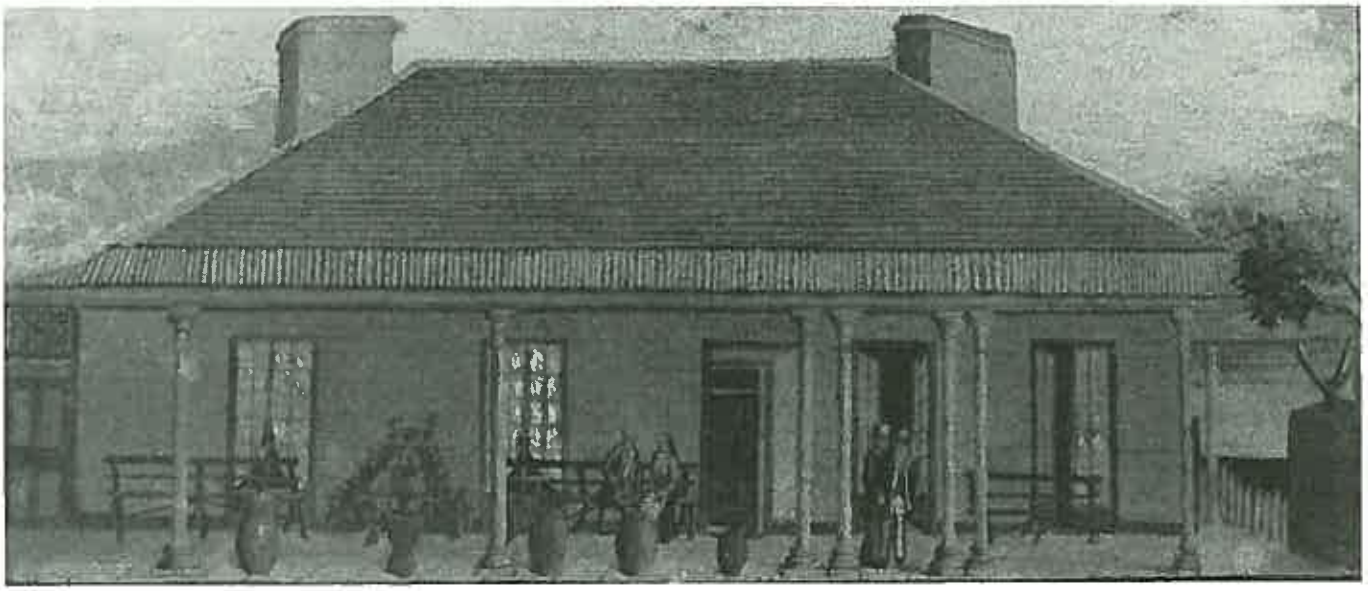
Where the traditional lead detail is found it is extremely important to preserve it.



When iron was curved it needed little suport as shown in this verandah. (Hartwell House, Kiama, N.S.W.)



The traditional lead covered ridge roll used with corrugated iron.
(Glenlee, Menangle Park, N.S.W. Restoration Architects: Fisher Lucas)



Corrugated iron was often first used to sheet verandahs while the steeper roof remained shingled.
(Judge's House, 531 Kent Street, Sydney Watercolour, Mitchell Library)

Iron today is, in fact, sheet steel which has different properties but much the same appearance. It can also be obtained in other than galvanised finishes as well as in prefinished sheets. The prefinished 'gull grey' is the colour which most resembles natural weathered iron. If the roof is away from the coast and/or pollution there is no reason why the zinc finished steel should not be used, as this will give the most authentic look. However, if the roof has always been painted, then of course it should continue to be.

Iron of larger and smaller pitch than currently available standard pitch (i.e. distance between corrugations), was used in the 19th century and this will present problems. It would have to be specially rolled. As far as fixing is concerned in a detailed restoration the existing methods of fixing such as lead headed nails, galvanised screws with lead washers, etc., should be continued with, particularly on roof slopes seen at close range. Another subtlety which is important is the length of sheets. Old roofs are broken into lengths with lap, whereas today it is possible to get sheets long enough to run from ridge to eaves in one length. Where there is no lap there is less likelihood of leaks, but this does change the scale of the roof and the appearance is something that should be considered.

The usual iron ridging found, here with a shaped acroterion at the corners of the half round gutter. The roof is fixed by screws through lead washers.
(Cottage, Ayers Street, Burra, S.A.)

Cast iron cresting on this Edwardian iron roof.
(The Presbytery, Forbes, N.S.W.)

Sometimes shingles were stripped before the iron was fixed. Here shingle battens survive from the earlier roofing.
(Glenalvon, Campbelltown, N.S.W. Restoration Architects: Fisher Lucas)

An early corrugated iron roof supported on bush pole rafters and battens. This detail would need to be carefully considered.
(Chateau Tahbilk, Tabilk, Victoria)

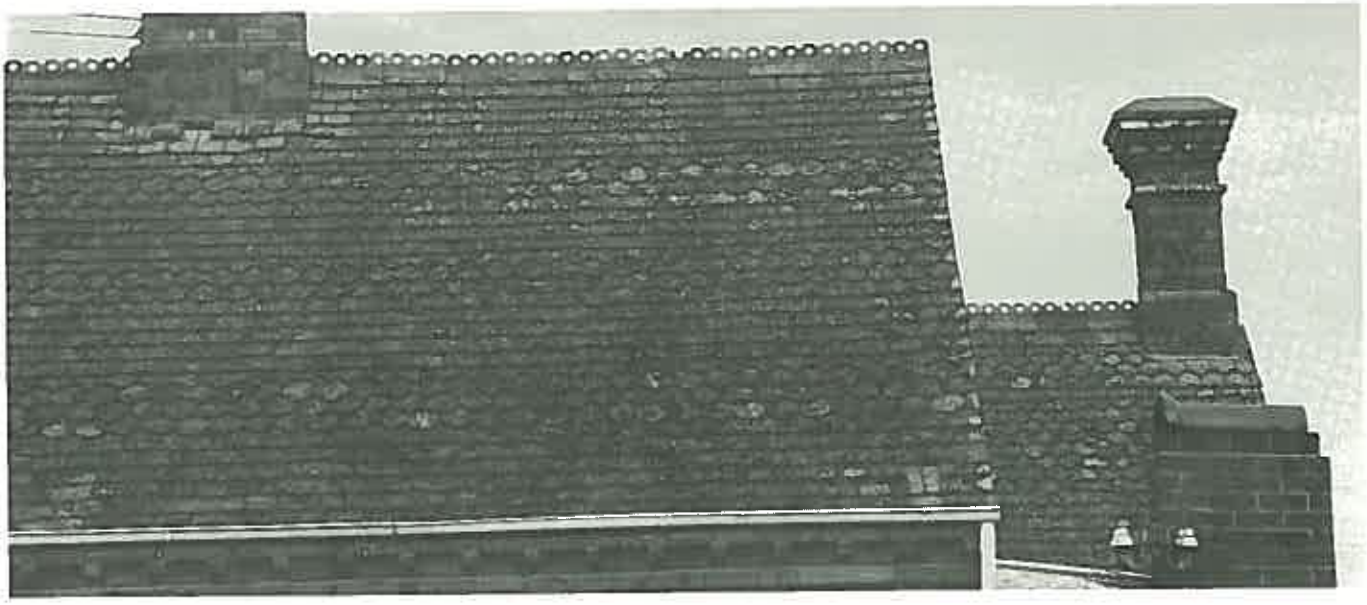
Shorter sheets used in the 19th century gave roofs a special scale and character which should be considered.
(Eltham, 317 Windsor Street, Richmond, N.S.W. Photo in possession of D.C. Woodhill)

Unglazed Terra Cotta tiles:

Flat terra cotta tiles were used in the first settlement at Sydney Cove. Such tiles are still common in parts of England. None from this period survives but they reappeared here in the last quarter of the 19th century associated with a style of architecture commonly known as Queen Anne, (i.e. picturesque red brick gabled houses with steeply pitched roofs). They were also used to cover wall panels, under bay windows and cheeks of dormer windows. Patterns were often enriched with rows of shaped tiles. These tiles continued to be popular during the first quarter of this century and are associated with the simple hipped roofs of colonial revival buildings. The first tiles used for Queen Anne building were imported but later they were made in Australia by both pressed and extruded methods. They are usually about 254mm x 152mm and in general character they resemble wood shingles, and particularly so when they are covered with lichen. Hips and ridges are usually terra cotta, sometimes secretly flashed or with specially made tiles. Lead is also sometimes found. Such materials are very important to the character and quality of the architecture and all details should be preserved. Obtaining replacement tiles may be difficult although specialist roofing firms probably have salvaged tiles in stock. Tiles are also found with specially chipped edges when a more rustic appearance was required. But this was generally in the period after the first World War.

Flat terra cotta tiles were popular for roofs and also walls of Queen Anne style houses. Here there are matching hip and corner tiles, cresting and shaped tiles, all of which were made in England by Burton & Sons of Staffordshire in 1887.
(Caerleon, 15 Ginahgulla Road, Bellevue Hill, Sydney)

Flat tiles continued in use into this century here with half round terra cotta tile ridging.
(Purulia built in 1916 and 16 Fox Valley Road, Wahroonga, Sydney)



An elaborate use of flat terra cotta tiles in the 1890's.
(House at Gulsons Brickworks, Goulburn, N.S.W.)

This house built in the 1870's originally had a roof of shingles but after a fire in the early 1890's it was resheeted with the newly available French Marseilles patterned tiles.
(Currendooley, Bungendore, N.S.W.)

Marseilles tiles with ridging and finials are essential to the character of many Edwardian houses throughout Australia. Some of these tiles carry the mark of Guichard Carvin & Cie of Marseilles. (Lucellen, 72 Kurraba Road, Neutral Bay, Sydney)

Marseilles pattern terra cotta tiles:

This pattern of tile which has become ubiquitous in most parts of suburban Australia was introduced in the last decade of the 19th century and was originally made in France. They are commonly associated with houses of the Californian bungalow variety which have spreading roofs, many gables and deep verandahs. They are combined with terra cotta hips and ridging which is often elaborate, and may have elaborate finials some of which are animal-like or nationalistic. The unglazed French tiles are very brittle and finer than those later made in Australia and where they exist they should, if possible, be preserved and patched with similar tiles from a demolition.

If the roof has to be resheeted it will have to be done in locally made tiles matching in colour as closely as possible.

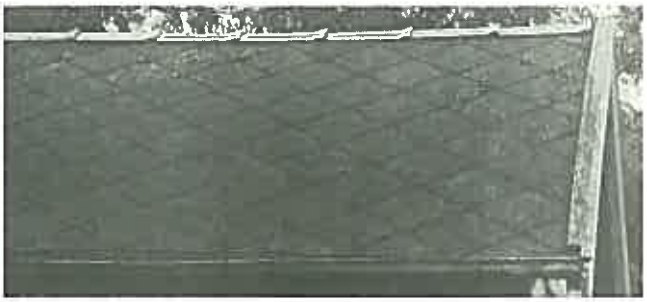
Finials are no longer made and if these are broken or missing it may be possible to find such elements in junk yards and antique shops or markets. Potteries or potters may be convinced to reproduce such elements.

Marseilles tiles are important to the character of the spreading roofs of what is generally termed the Californian bungalow style.
(House, 17 Murray Street, Tanunda, S.A.)

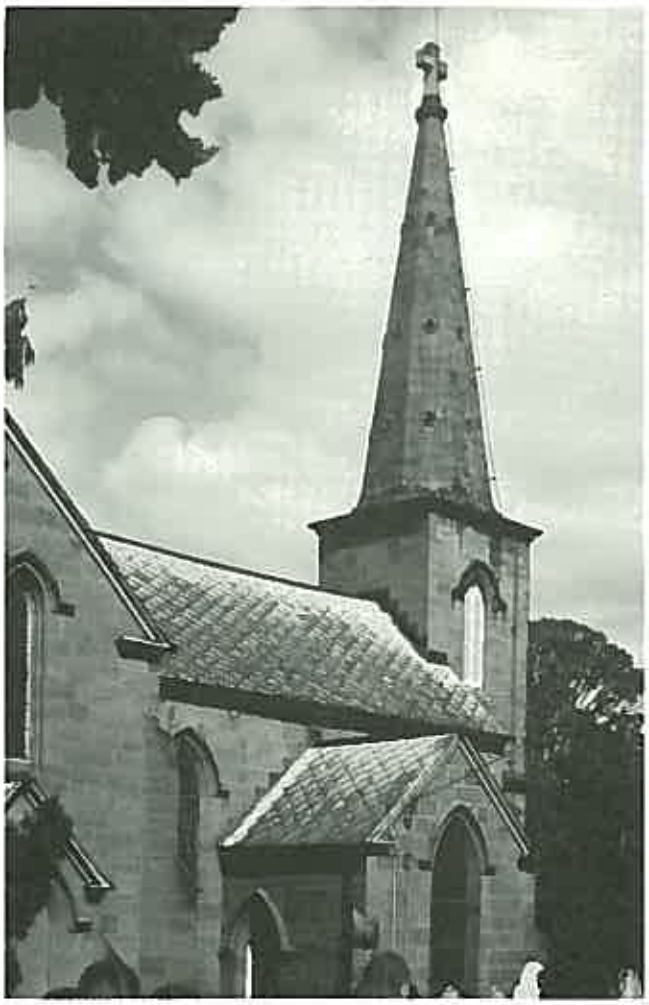
Asbestos Cement:

Asbestos cement tiles or shingles were introduced at the end of the 19th century. They were first imported from France until in 1917, a factory was established in Australia. Generally, when first used they were square, laid on the diagonal and combined with terra cotta ridging. Later, architects saw their potential as a substitute for slate and they are found in slate sizes with lead ridging. They are usually mitred at the hips and flashed with secret lead soakers. When the roof weathers it can be particularly attractive. There is no problem with restoration so long as flat asbestos can be cut to the size required.

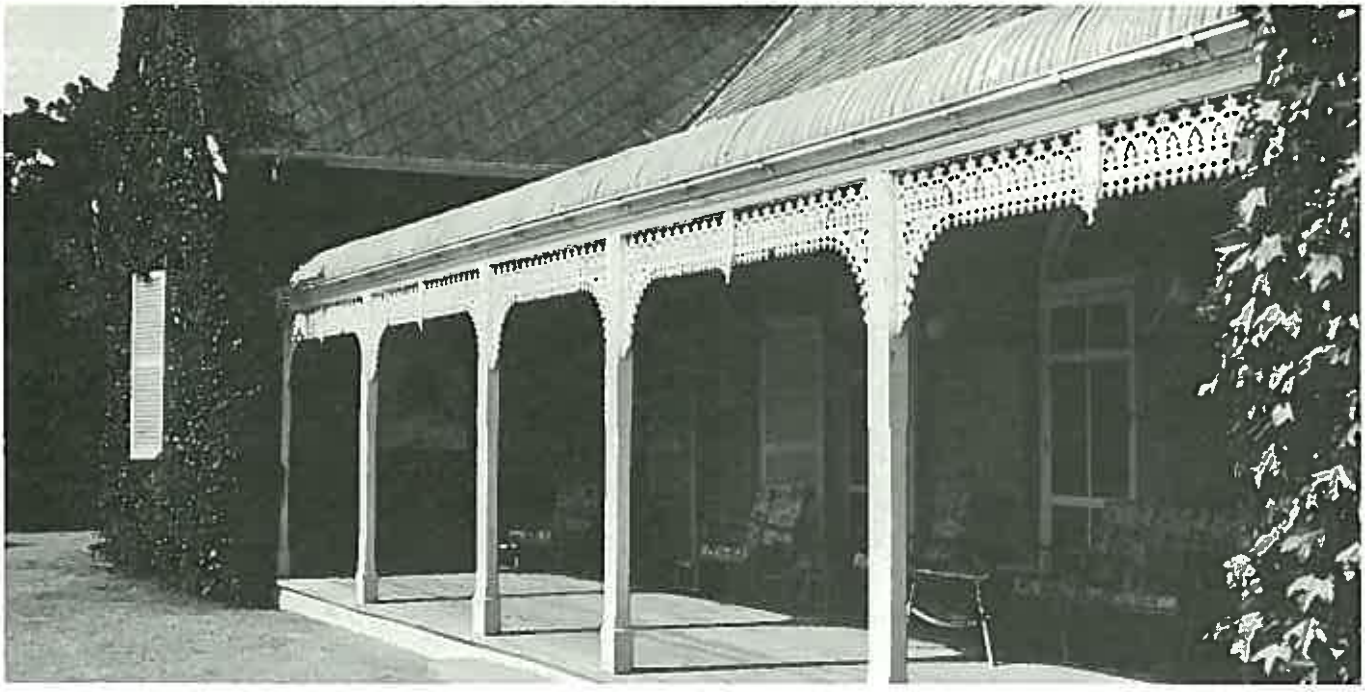
In recent years colour impregnated asbestos tiles have been made in an effort to simulate slate even further. Natural asbestos tiles have been used in restorations as a substitute for wooden shingles. However their use in restoration – except of course where they are authentic – should only be seen as a second best solution.



Used on a 1920's outbuilding in Sydney
(Garage, Gurrigal Street, Mosman)



Early this century, this 1840's church was reroofed in asbestos cement tiles with terra cotta ridging. (St. Paul's, Cobbitty, N.S.W.)



Here the asbestos tiles are used in conjunction with bull nosed iron and ogee patterned gutters.
(Strathbogie Homestead, Strathbogie, N.S.W.)

EAVES & VERGES

Gutters:

It would seem that a large number of buildings constructed in this country before the middle years of the last century had no eaves gutters at all.

Half round gutters were almost certainly the first used and these seem to have been imported and in cast iron. It is also possible that cast iron ogee pattern was also imported at an early date. A heavy half round lead gutter has survived in at least one instance and there is also a timber gutter surviving in South Australia. Whether shaped timber gutters such as are found in England were used, is unclear as no eaves gutters of this type appear to have survived. Lead lined timber box and secret gutters are fairly common.

Contemporaneously with the introduction of metal roofing half round galvanised gutters appeared c. 1840 and many of this type survive intact.

1842 gutter made by hollowing out the trunk of a tree. Mouldings have been added to give a classical profile.
(Marybank, Monacute, S.A. Photo: Stephen Gilbert.)

Half round cast iron gutters on the main roof, ogee galvanised gutter on the balcony.
(1-3 Thompson Square, Windsor, N.S.W.)

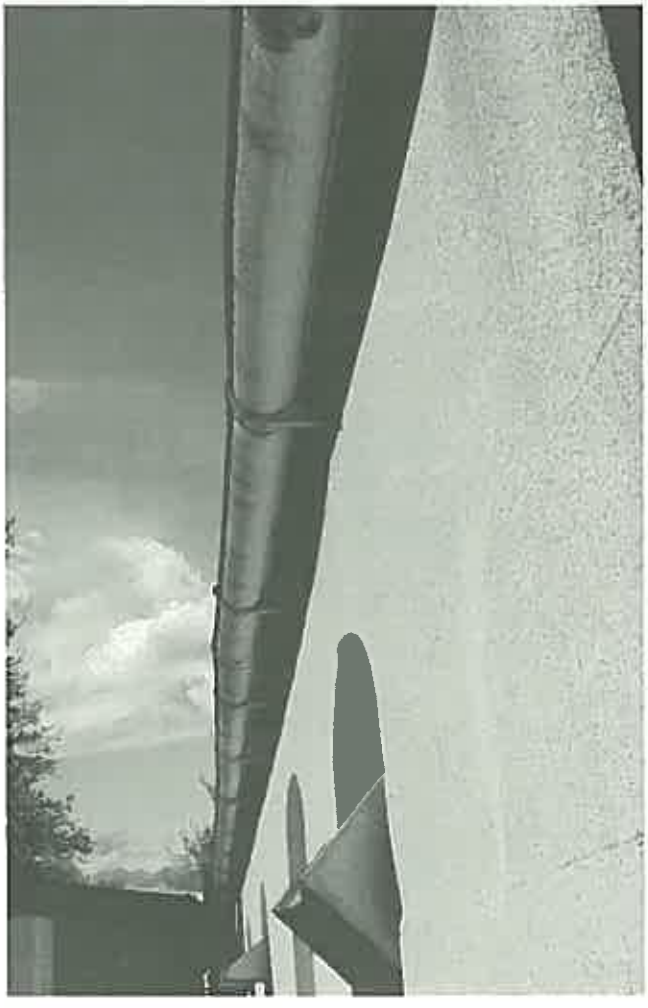
Gutters run in solid timber were used in England.
(Cottage Heptonstall, Yorkshire, England)

An unusual survival, a half round lead gutter on iron brackets.
(Aberglasslyn House, Maitland, N.S.W.)

Cast iron patterned gutter probably of English manufacture and dating from first half of nineteenth century.
(Elizabeth Farm, Parramatta, N S W)

Cast iron ogee gutter with downpipe dating from last quarter of 19th century.
(Cell block, Beechworth, Victoria)

During the third quarter of the last century a galvanised ogee pattern gutter became popular and this was the main profile in popular use in all States until the time of the first World War. Since then it has been gradually replaced by either quadrant of D-guttering in the last half of the century. Ogee is also found in cast iron, although of different section. Early 19th Century gutters are often of smaller scale than we would consider adequate today. This is another subtlety which must be considered.



Half round galvanised gutter fixed without fascia by driving brackets directly into masonry. (Vine Lodge, Exeter, N S W)

Before gutters were fitted roofs often had a generous overhang. Here ogee guttering has been fitted on extended brackets to solve this detail. (Strathmore, Nile, Tasmania)

Fascias and soffits:

The use of the fascia is often misunderstood. Early shingle roofs were generally without fascias, especially when they are pre-1840 structures.

Buildings of this early period, whether they had overhanging eaves or not, usually had no fascia board.

The roofing materials formed a sharp edge with the eaves soffit which was itself sometimes plastered. Often gutters were not used, but where they were, they were usually half round supported by brackets fixed to the ends of the rafters.

Where there is no overhanging eaves the gutter is supported in the same way on brackets but usually driven into the masonry wall.

Many early Australian houses had no eaves gutters. In this example, although slates replace the original shingles, the eaves detail survives. (Rouse Hill House, near Windsor, N.S.W.)

With the introduction of the classically inspired ogee gutter, fascias were introduced. They became necessary when shingle roofs were covered in galvanised iron, resulting in a different eaves section. Thus one often finds half round gutters fixed to fascias on buildings with and without overhanging eaves. But generally the ogee supplanted the half round as the more fashionable gutter in the last half of the century, although the half round continued in used for outbuildings. Both forms are still available but not in cast iron although a foundry could probably be convinced to make them.

Fascia boards are almost invariably finished with a circular mould on their bottom edge and soffits are lined with wide boards, although sometimes finished in lath and plaster. With the introduction of more picturesque architectural styles in the last quarter of the century, fascias were often removed and overhangs were lined above the rafters in tongued and grooved boarding beaded at the edge. In Edwardian buildings they were mainly V jointed.

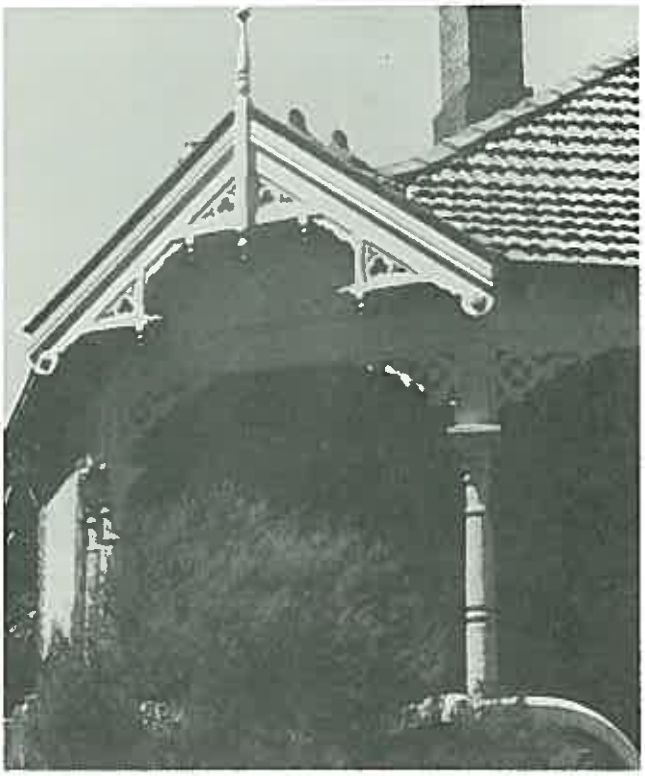
A half round gutter fixed without fascia and adjusted to suit the falls of the roofs is a surviving 19th century detail. (Horsley, Dapto, N.S.W.)

Half round galvanised guttering bracketed off a valanced verandah plate. (Throsby Park, Moss Vale, N.S.W.)

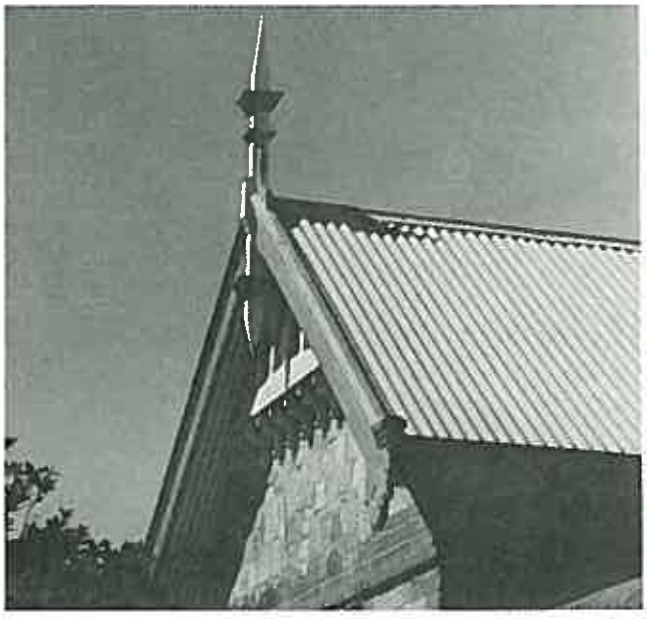
Acroterion fixed at the end of a half round gutter. Intact detail like this is very important. (Cottage, Ayers Street, Burra, S.A.)

Barges and Finials:

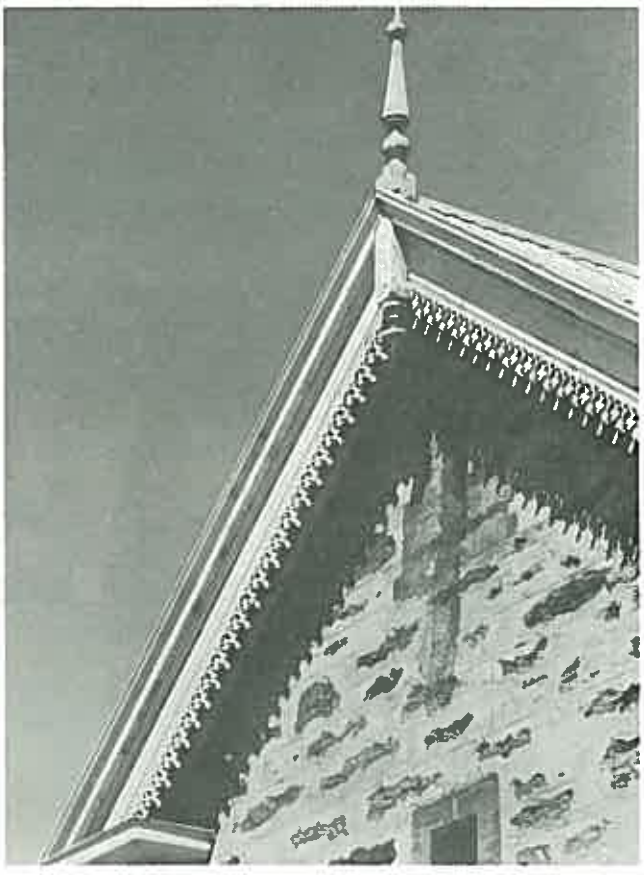
Timber barges are normally not beaded, but may be stop chamfered, cut into elaborate fretwork or finished with other elaboration, particularly if they are of the Edwardian period. On the upper edge, fixed to the outer face, there is normally found a classical timber double curved mould. Later, this often became a chamfered board – but all sorts of elaborations may be found. When corrugated iron was used there was often a cover board (sometimes known as saddle board), but an iron barge roll was also used to give a finish to the roof. With roofs at the turn of the century, cover boards were generally used with slates and Marseilles tiles, but sometimes the barge was scribed to the roofing in the traditional way.
Many of these details are often missing, but a close examination of the fabric might disclose the width of the barge moulding and also indicate if there was a finial at the apex of the gable. Finials are usually associated with the last quarter of the 19th century and with buildings of the picturesque type. If no finials exist for copying, reference to a similar feature on a neighbouring building will be one way of restoring it. Finials are sometimes chamfered, turned, or a combination of both and sometimes have applied mouldings. It must be remembered that it is rare to find timber sections left square; they are almost invariably either beaded or chamfered. The only way to find out how your building was finished is to make a close examination and somewhere you may be lucky enough to find, even if covered over, the original barge or eaves detail.



Elaborate and important gable detail typical of the Edwardian period. (Otoro, 471 Liverpool Road, Croydon, Sydney)



A square finial built up with applied mouldings. Such mouldings have often fallen away. Surviving fragments should be carefully noted and restored. (House, 10 Adelaide Road, Gawler, S.A.)



An elaborate barge board incorporating turnery, cast iron and ogee guttering carried up the slope.
(Semi-detached cottage, 4 Thirteenth Street, Gawler, S.A.)

DETAILS

Ventilators:

A feature of roofs in the hotter parts of the country are the ridge roof ventilators whch are a high point in the art of the plumber. Where these exist they should be carefully repaired or if necessary exactly reproduced.

Made by plumbers ventilators are special features with individual details. (Cottage, Charters Towers, Queensland)

Even on farm buildings, Edwardian detail was elaborate. Here an iron barge roll and timber ovolo cap the top of the stop chamfered barge board. (Woolshed, Beggan Beggan, Harden, N.S.W.)

The roofs of northern houses are invariably capped with ventilators.
(House, Townsville, Queensland)

Rainwater Heads and Downpipes:

In the same way, plumbers made up rainwater heads, acroteria, sun hoods and other details, all of which should be carefully preserved or reproduced.

Many earlier heads, like gutters, were in cast iron and these will be a problem if they are beyond reuse. Fibreglass replicas could be used, if they are important to the architectural character of the building. Downpipes too, were often cast iron in many buildings, both rectangular or round, fixed to the walls by iron flanges. These also will be a problem if they are beyond reuse.

With the introduction of terra cotta tiles iron roofs were often painted tile red and plumbers made up finials to simulate terra cotta details. (Excelsior, Bathurst, N.S.W.)

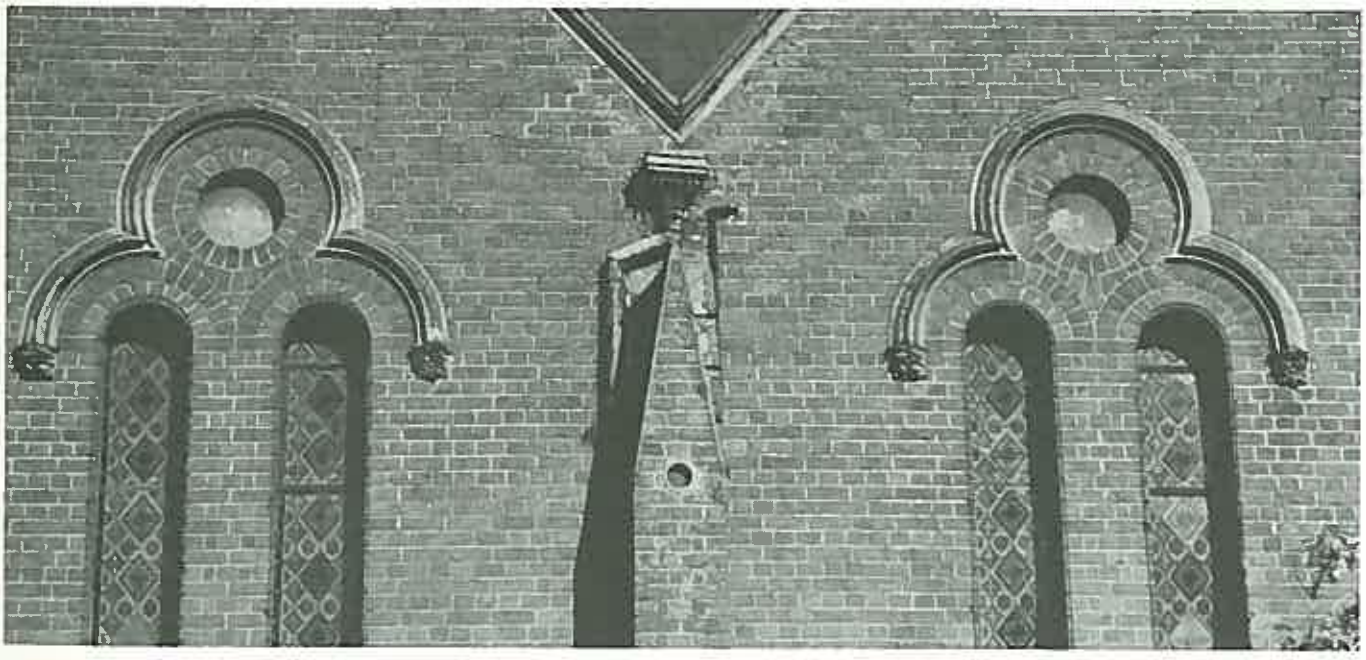
The decorative art of the roof plumber and joiner are important elements in preserving proper character.
(House, Morhead Street, Burra, S.A.)

Plumbers also made up sun hoods.
(House, Tambo, Queensland. Photo: National Trust of Queensland)

In older buildings cast iron rainwater head and downpipes often survive and if possible should be retained.
(Elizabeth Farm, Parramatta, N.S.W.)

Where galvanised iron downpipes were used they were circular, often fixed to the wall by means of spiked hooks. In the first quarter of this century rectangular galvanised iron downpipes were introduced and these were normally fixed to walls by means of astragal straps which can be quite elaborate.

There are many forms of rainwater heads made from galvanised iron.



Like ventilators rainwater heads are often individual and elaborate.
(Methodist Church, Goulburn, N.S.W.)

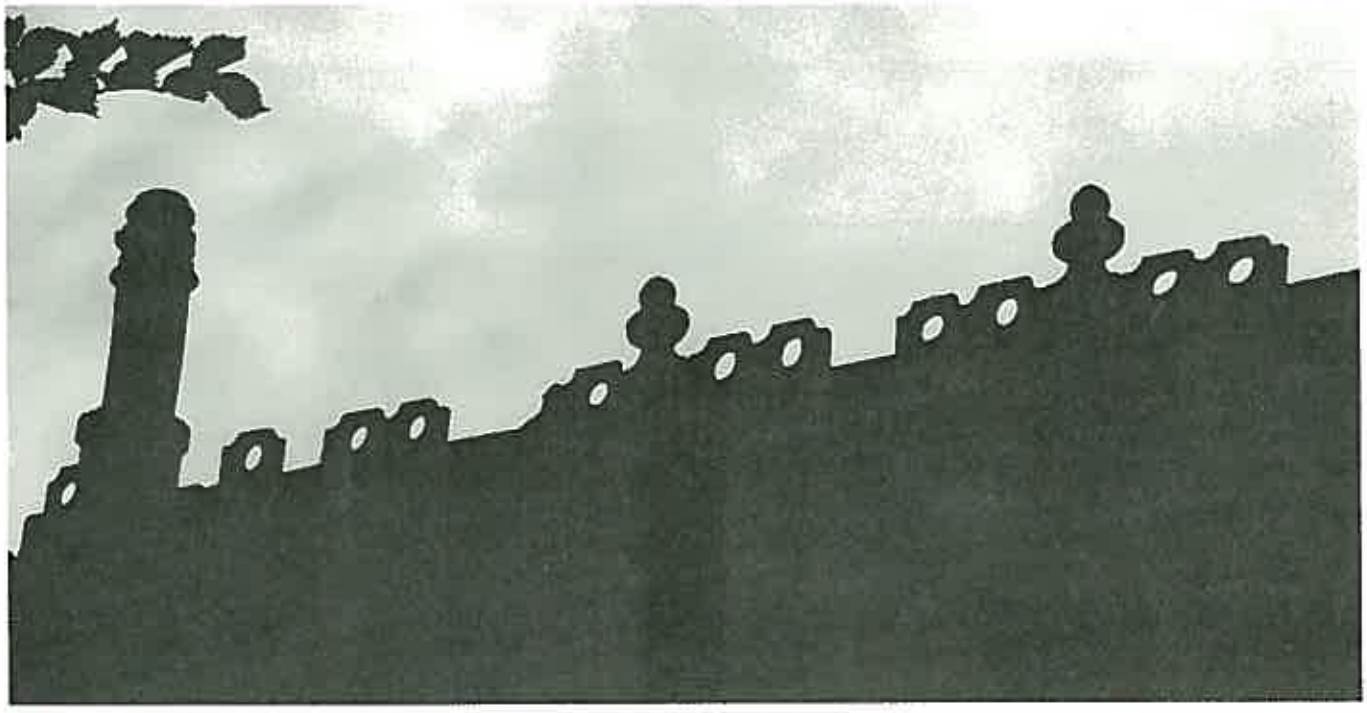
Chimneys and terra cotta pots are important features of many 19th century roofs.
(43 Arundel Street, Glebe, Sydney)

Slate chimney pots in the foreground terra cotta pots in the distance. All important to overall character.
(Houses, 110-130 Forbes Street, Woolloomooloo, Sydney
Restoration Architects: Fisher Lucas)

Chimney pots:

Not only are chimneys a feature of roofs but so also are their terra cotta pots which are often broken or missing.

The pots are normally of terra cotta, but sometimes they are made up of four slates gabled at the top and wired together. These present no problem for restoration but if elaborate terra cotta pots need replacing it may be possible to find some second hand ones. Some modern terra cotta pots are made but they are often not really suitable. Some potters or potteries may be interested in reproducing an old example. The St. George pottery of Fred A. Mashman Pty Ltd in Sydney, produces chimney pots which might be suitable for later buildings.



The richness and importance of terra cotta cresting and finials
(House, Gulsons Brickworks, Goulburn, N.S.W.)

CONCLUSION

The restoration of a roof is more than concern with just the roofing material. It should be seen as a whole with all the associated elements properly put back and/or preserved. However, this can only be done if the building reveals the appropriate details. It may be an historical fact that a roof was once shingled or slated, but usually it will be better to preserve a later roofing material if there is insufficient of the original remaining to make its authentic restoration possible.

By the end of the nineteenth century corrugated iron was used on the most sophisticated buildings. It is shown here on a basically Queen Anne mansion with elaborate woodwork and crestings. (Carclew, North Adelaide)

Existing and Proposed Publications in the Series

Existing Publications:

Conservation Bulletins: Philosophy and Approach; Roofing; Masonry Walls.
Technical Bulletins Series: Exterior Paint Colours; Lettering & Signs; Principles of Cleaning Masonry Buildings; Planting.

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Timber Frame Construction; Joinery; External Finishes; Internal Finishes; Infill Development; 19th Century Fences and Gates; Shopfronts and Verandahs; Structural Damage to Buildings.

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