ECOLOGICAL VARIETY: TREES OF THE HIGHER ALTITUDES

Above: SNOW GUM WOODLAND, E.niphophila, at about 5000 ft., Thredbo.

Right: FOREST OF ALPINE ASH, E.delegatensis at about 4,500 ft., near Kiandra. A good bending timber, it is likely that the Kiandra miners made their "snow-shoes" or skis of Alpine Ash as early as 1861. In 1887, the poet Barcroft Boake described the Kiandra "snow-shoes" as "about seven feet long - just a mountain-ash paling four inches wide, steamed and turned up at the point, with a leather strap in the middle for the feet."

Photos.: L. G., 31 Aug. 1969.

James Atkinson in 1826, drew attention to the scarcity of working animals so that once "stump-falling"[332] and burning had been effected, the settlers "cropped the land without regarding the stumps."[333] During the twenties, although the earlier methods of clearing were still followed, other procedures were advocated, such as "grubbing",[334] while

> others have taken off a belt of bark all round the tree, and killed it while standing, afterwards clearing the land by grubbing or 'stump-falling'

and the usual burning.[335] This was ring-barking, or simply "ringing", about which there was considerable controversy later.[336] Sometimes, dead ring-barked trees were burnt standing.[337] The cost of thus clearing land varied greatly, with the "brush" or rainforest country being "the most expensive and troublesome,"[338] but it is clear that many settlers received the benefit of Bigge's recommendation concerning clearing gangs.[339] Where trees grew fairly close together, they could be chopped "fully half through" in rows and felled en masse like a row of upended dominoes.[340]

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332 i.e. "cutting down the trees at about a yard from the ground." Sometimes the stumps were ringbarked low down to prevent suckering. Atkinson: State of Agriculture, pp.83, 85.

333 Atkinson: op.cit., p.83.

334 i.e. baring the roots round a standing tree, so that once inadequately supported, it would fall, levering its own roots out of the ground.

335 Cf. Cunningham: Two Years, II, pp.164-5: "If the settler clears the land with his own men, and is in no great hurry, the cheapest way is to girdle all the trees right through the sap-wood, and let them stand for three years, when they will burn like tinder."

336 Ringbarking was not, as stated by Leonard Webb in Marshall: Great Extermination, Lond., 1968, p.183, "distinctively Australian." The practice was known as "girdling" in U.S.A., but it certainly reached distinctive proportions in Australia.

337 Atkinson: op.cit., p.86.

338 Dawson: Present State, p.393 (1830); Dangar: Index and Directory, p.97, (1828) claimed that on the Hastings this clearance cost "from four to five pounds an acre."

339 Atkinson: State of Agriculture, p.87.

340 Cunningham: Two Years, II, p.164.

REMNANTS OF THE BIG SCRUB

VICTORIA PARK, a rainforest reserve within sight of Tucki Swamp, once the southern boundary of the Big Scrub.
Photo.: L. G., June 1965.

DAVIS'S SCRUB near Rous Cemetery.
Photo.: L. G., June 1965.

The rainforests with their enormous tree growth supporting a profusion of vines, presented a most formidable challenge to the settler, but Henry Dangar believed this could be met by convict clearing gangs along such rivers as the Manning and Hastings where such "burthensome jungles" abounded.[341] Yet the destruction of the rainforests did not prove to be so difficult after all. The Big Scrub, for example, which extended from the Tucki Swamp near Ballina north to the McPherson Ranges was as effectively destroyed as the Illawarra rainforest had been, and for similar reasons. Once the timber-cutters had made some penetration, settlers followed their tracks with beef cattle, sugar-cane cuttings, seed maize, and finally dairy herds. Many of the latter were from Illawarra and the South Coast in the charge of men who knew well how to deal with rainforest:

> The method of clearing 'vine scrub' is almost invariable. First the smaller shrubbery and creepers are prostrated with axe and bill hooks...When the stuff thus levelled is pretty thoroughly sun-dried, the trees of magnitude are now attacked with axe, and for the bulkiest, cross-cut saw...When in their turn the large trees are ascertained to be well dried, a windy day is chosen and fire applied. If the season has been favourable for drying, the result is splendid. The denser the scrub has been, the more thorough is the consumption... the whole is converted into a stratum of ashes...[342]

The settlers then moved over these ashes and charred logs and stumps, sowing cucurbits, maize and pasture grasses, carrying out the necessary cultivation with a hoe.[343] The softwood logs and stumps obligingly rotted fairly quickly, and there was no suckering as in

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341 Dangar: op.cit., pp.96, 97, 99.
342 W. H. Traill: A Queenly Colony, Bris., 1901, quoted in Marshall: Great Extermination, pp.184-5.
343 Arthur Cousins: "The Big Scrub", The Northern Star, Lismore, 28 Feb. 1953, and Mackay: Australian Agriculturist, p.28. See also Dawson: Present State, pp.393-4.

A REMNANT OF THE BIG SCRUB

LUMLEY PARK, Alstonville, a small rainforest reserve on Maguire's Creek. The foreground indicates how land cleared of rainforest was often utilised for dairy pastures. The background is representative of the vast Big Scrub which once extended from the Tucki Swamp to the McPherson Ranges. Small though it is, this reserve contains many species characteristic of the North Coast rainforests, e.g.

Bangalow Palm	Archontophoenix cunninghamiana
Cabbage Tree Palm	Livistona australis
Native Tamarind	Diploglottis australis
Giant Stinging Tree	Dendrocnide excelsa
Red Cedar	Toona australis
Silky Oak	Grevillea robusta
Colonial or Hoop Pine	Araucaria cunninghamii
Brown or Plum Pine	Podocarpus elatus
Coachwood	Ceratopetalum apetalum
Black Bean or Moreton Bay Chestnut	Castanospermum australe
Wheel Tree or White Silky Oak	Stenocarpus sinuatus
Corkwood	Ackama paniculata
Churnwood or Soapwood	Citronella moorei
Teak or Crow's Ash	Flindersia australis
Bennett's Ash	Flindersia bennettiana
Yellow Ash	Emmenosperma alphitonioides
Thorny Yellow Wood	Zanthoxylum brachyacanthum
Stavewood, Ironwood, Crowsfoot Elm, Booyong	Heritiera trifoliata
Black Myrtle, Myrtle Ebony	Diospyros pentamera
Sydney Blue Gum	Eucalyptus saligna
Walking-stick Palm	Linospadix monostachyus

Plants noted 21 Sept. 1968.

Eucalyptus forests. Considering the great density of the rainforests, their destruction was surprisingly rapid and final. Some trees, such as Rosewood, Dysoxylum fraserianum which did not burn readily, were rolled by the hundred into pits and buried.[344] The loss of Red Cedar, White Beech, Hoop Pine, Rosewood, Australian Teak, Black Bean and other rainforest timbers which had proved inaccessible to the earliest timber-cutters, cannot be estimated. To-day, a few isolated pockets of the Big Scrub remain to suggest something of the grandeur and resources of this remarkable ecological form.

Clearing was carried out by both farmers and graziers. While there was no doubt that land could hardly be cultivated effectively between trees, whether living or dead, or between stumps and roots, there were some doubts about the wisdom of total clearance to improve native pastures. Peter Cunningham maintained in 1826 that

> the grasses on cleared land are sooner destroyed by the frosts, and therefore the general process of clearing may be said to be the means of rendering a country colder in winter and warmer in summer...[345]

Atkinson, experienced both as a farmer and grazier, conceded that some did maintain that clearing was valueless for grazing, "as the trees only afford a beneficial shade and protection to the grass,"[346] but he himself did not agree. It was, he felt, better

> to clear the old forest entirely away, and then to plant small clumps of exotics, or of trees indigenous to the country; any mimosas, acacias, native cherries, or other trees that have a thick green foliage, and afford a good shade for stock, should, however, be preserved.[347]

This was not the only occasion when the planting of exotic

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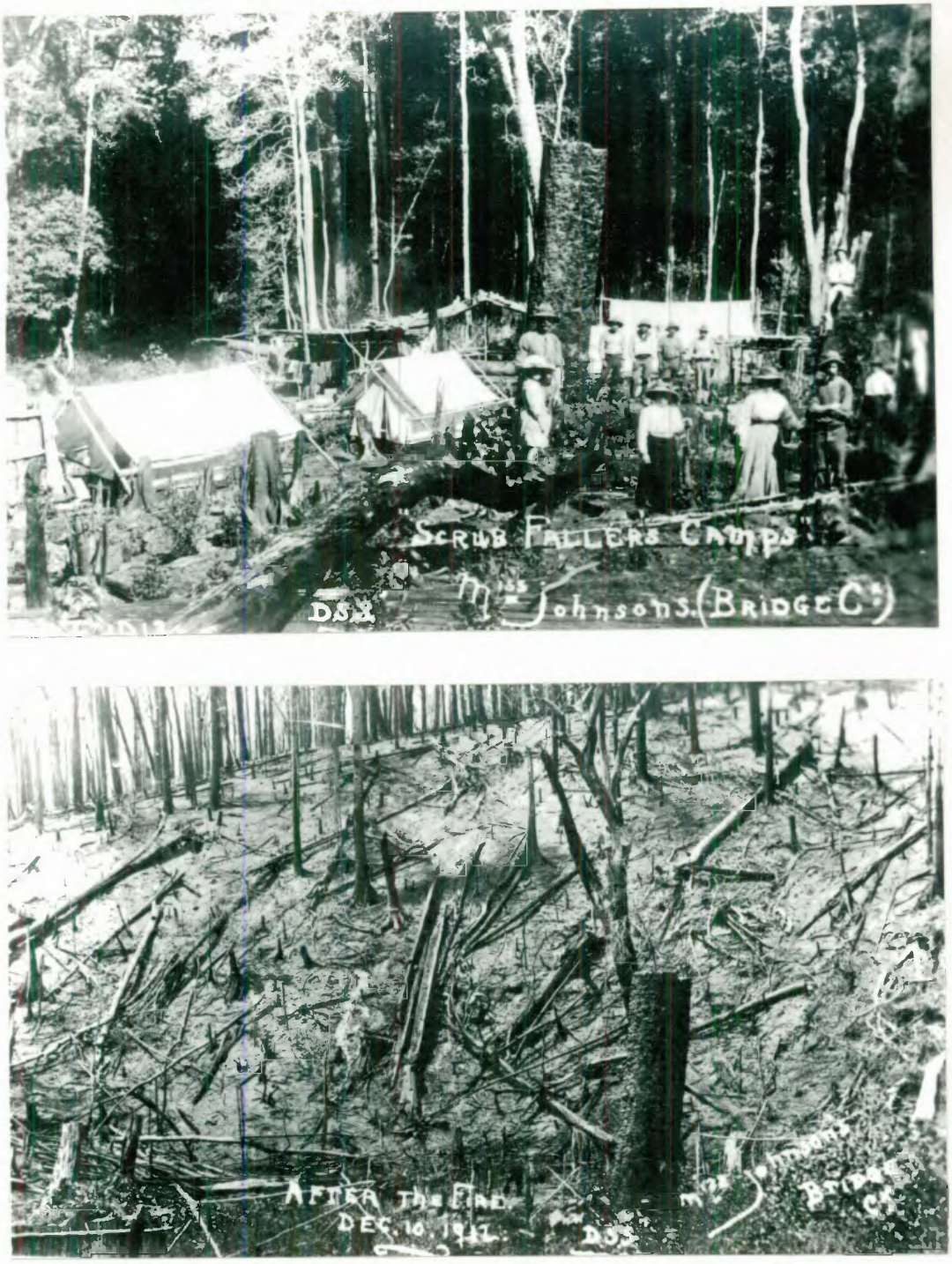
344 W. MacDonald in Ag.Gaz.NSW, 1894, p.369, referring to the clearing of the Macleay brushes.
345 Cunningham: Two Years, II, p.168. Barron Field agreed that "in New South Wales the cold is found to be increased by clearing the land." Field: Geog.Memoirs, p.425.
346 Atkinson: State of Agriculture, p.89.
347 Atkinson: State of Agriculture, p.90.

CLEARING RAINFOREST



CLEARING RAINFOREST: Upper: Scrub-clearers' camp in rainforest, McPherson Ranges, September 1912.

Lower: The same area of rainforest after cutting and burning operations. Note the same Hoop Pine stump in middle ground. The ashes are sown with Rhodes Grass, Chloris gayana, 10 Dec. 1912.

Photos.: Tweed River Historical Society.

CLEARING RAINFOREST

CLEARING RAINFOREST: The same view at "Miss Johnson's, Bridge Ck." McPherson Ranges, 31 March 1913, "3 months after the fire." The Hoop Pine stump remains, while the slope in the background is now well covered with Rhodes Grass to provide fodder for a dairy herd. Although taken just prior to World War I, this series of photographs shows clearly the traditional way of dealing with rainforests. Some years before 1898, for example, brothers M. and J. O'Shannessy "selected two areas in the brush on opposite sides of the Thone River" (a southern tributary of the Hastings). "After the first burn-off grass-seed was sown amongst the logs and stumps." Of these grasses, (Perennial Rye, Lolium perenne, Cocksfoot Dactylis glomerata and Prairie, Bromus unioloides), Cocksfoot was the most satisfactory. (W. S. Campbell in Ag.Gaz.NSW, 1898, p.49). A tremendous amount of valuable softwood timber was lost during such operations.

Photo.: Tweed River Historical Society.

trees was advocated either for aesthetic or practical reasons.[348] Clearly, however, Atkinson was suggesting a very limited conservation of indigenous species; others also appreciated that the practices of total clearance and ringbarking raised the question of degree. Even Cunningham, who pointed to the need to protect the grasses from frost, changed his stand somewhat to point to certain advantages of ringbarking:

> the mere girdling of the trees improves the pasture a full fourth; it becoming sweeter from not being exposed to the droppings of the leaves, and more luxuriant from the nourishment formerly taken up by the trees being now applied to the grasses.[349]

By the end of the century, this was being questioned, and the disadvantages of ringbarking were said to outweigh any advantages.

When Captain John Lort Stokes of the "Beagle" visited the Australian Agricultural Company's headquarters at Stround in May 1839, the Company was still, after fifteen years, experimenting with methods of clearing, "one of which was by what they call ringing the trees."[350] The practice was apparently revived on a large scale by Thomas Hungerford on the Hunter River about 1860, and many of his neighbours followed suit.[351] By the seventies, the controversy over ringbarking was at its height, with two Anglican clergymen-scientists leading the attack against the practice. Speaking to the Royal Society of N.S.W. in November 1876, the Reverend William B. Clarke maintained

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348 e.g. Breton: Excursions, p.288: "...the colonists might more generally introduce the various European trees upon their farms;...Surely our umbrageous and ornamental trees, setting aside the value of the wood when arrived at maturity, would conduce infinitely more to the beautifying of an estate than the huge ungainly gums, crowned with a few scattered branches, and affording little or no shade..." Mossman & Banister: Australia Visited, p.269: "It would be a relief to the eye of the traveller,...to meet with the oak-tree more frequently in the colony..." Marsh: Overland, p.53, expressed pleasure at seeing "elms and oaks" in New England.

349 Cunningham: op.cit., II, p.166.

350 Stokes: Discoveries, I, p.315.

351 Aust.Encyclopaedia, 7, p.434. See also Trollope: Australia, p.202--the "nomad tribe" was employed when trees were "to be 'rung'".

ECOLOGICAL VARIETY: LAKESIDE AND RIVERSIDE

LAKE GEORGE, discovered by Joseph Wild in 1820, attracted the immediate attention of Macquarie who quickly inspected the area with Commissioner Bigge, Surveyor John Oxley and the Colonial Botanist, Charles Fraser. See Chapter II, p.63. The Common Reed, Phragmites communis is in the right foreground.

Photo.: L. G., 20 Jan. 1967.

DRY BED of the Bogan River near its confluence with the Darling. Sturt and Mitchell would have passed close to this spot, the former in a similarly unfavourable season.

Photo.: L. G., 1 May 1968.

ECOLOGICAL VARIETY: SALTBUSH AND MYALL

SALTBUSH PLAIN on the western side of the Darling. The suitability of such country for sheep was quickly appreciated.

Photo.: L. G., 15 m. S. of Wilcannia 26 Aug., 1968.

STAND OF MYALL, Acacia pendula, a tree praised by explorers for its graceful appearance and by graziers for its value as fodder. Named by Allan Cunningham during Oxley's expedition of 1817.

Photo.: L. G., Yanko Creek near Jerilderie, 30 Aug., 1969.

> it may be true that the custom of ring-barking trees is productive, for a time, of some extra growth of grass; but to say nothing of the deprivation of shade to flocks and herds, or of waste of timber...
> This process is defended on the ground that it enables a little more grass to be grown at the roots of trees that are dead, and that it does no harm to clear away useless scrub...the objection I have expressed is not the clearing off of useless timber, but to the destruction ...of our most valuable timber-trees, evidence of which is easily collected, not only from the dead forests of thirty or forty years existence, but from what is still going on in hundreds of fresh localities.

Clarke also pointed to the future demands

> for fencing, bridges, railway-sleepers, and other wood-consuming ingenuities, to say nothing of fuel...and the demands of the mining industries.

He claimed that

> sheep-farming may be carried on without injury to the forests, by...re-planting judiciously to compensate land now injudiciously laid bare or ~~disfigured by some who are killing the bird that~~ lays the golden egg.

Clarke's chief objection to ringbarking was

> that it is a practice of a slovenly and greedy kind, and is adopted to save the expense of clearing and stumping the ground,

but it also led to shortage of essential timber, lack of shade, and shelter, the advance of soil erosion, the diminution of ground water, the complete destruction of natural beauty, and the rejection of the "sanitary blessings...bestowed upon us by the abundant growth of forests."[352]

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352 W. B. Clarke: "Effects of Forest Vegetation on Climate"; Proc. Roy.Soc.NSW, 1876, pp.179-232, passim. Clarke, then 78, read his paper on 1 Nov. 1876, and after discussion it was further debated on 6 Dec. 1876. The Director of the Botanic Gardens, Charles Moore, did not agree that reduction of forests had affected climate, but Clarke remained adamant. It is now appreciated that the whole business of ringbarking and its effectiveness, involves a complex of factors, such as type of soil, slope of land, rainfall, the species of trees, the rate of stocking, the kinds of pasture plants, both native and indigenous, and so on. There is, however usually an immediate increase in growth of grasses following ringbarking, yet even this is not entirely attributable to the end of competition for soil nutriments—it is partly due at least to extra sunlight being made available to ground plants. Many have pointed to the fact that in some areas, grass grows right to the bases of living trees, and few progressive graziers to-day would disagree with all of Clarke's objections.

RINGBARKING

RINGBARKED SCLEROPHYLL FOREST west of Grafton. Note the scar at the base of the tree in the left foreground. Most ringbarking was carried out with the axe, but note the hand-forged ringbarking implement (right) now preserved in the Walcha Pioneer Cottage. This implement has a double row of teeth, which when drawn round a tree, would remove a band of bark about two inches wide.

Photos.: L. G., June 1967 and May 1969.

ECOLOGICAL VARIETY: THE RAINFORESTS

Left: Bangalow Palm grove in rainforest on Stott's Island, Tweed River.

Photo.: L. G., June 1967.

Below: North Coast rainforest - note Bangalow Palms and the white trunks of Flooded Gum, Eucalyptus grandis.

Photo.: N.S.W. Govt. Printer, No.2329, taken 1905, precise locality unknown.

Clarke's clerical colleague, the Reverend William Woolls, repeatedly referred to ringbarking as a "murderous process"[353] in which "some persons glory in being adepts." Woolls also saw a valuable resource being wantonly depleted:

> If the ringing were confined simply to scrubby species, little need be said, but when fine ironbark and other useful kinds are destroyed, one cannot speak too strongly on the subject.[354]

All too frequently, it was the "scrubby species" which became prevalent after ringbarking.

The issue even had strong xenophobic overtones. On the very day when Clarke launched his attack, there appeared a newspaper report of "seventy Chinamen...employed in ringing timber" on "Mr. Halliday's Brookong station" in the Riverina.[355] It might be pointed out, however that ringbarking and suckering were so physically exhausting that many Europeans tended to scorn these tasks if cheap labour were available.

George A. Brown, writing in 1880, referred with admiration to "a firm of squatters" who purchased "20,000 acres of box-forest, at £1 per acre", then valued at 2/6 acre.

> The plan they adopted for killing the box-trees was one that had only lately (sic) been tried. It consisted in cutting a notch round the tree through the bark and into the sap wood...This plan, called 'ring-barking' when performed at the proper season, effectually kills the tree, and it has since (sic) come into general practice all over Australia. I have ridden over the estate...where, years ago, there was not a blade of grass...is now a fine pasture, that even in indifferent years will keep a sheep to the acre.[356]

Occasionally, an old settler would look back to his own pioneering days, and sound a warning. Writing in 1893, James Demarr warned:

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353 W. Woolls: Lectures on the Vegetable Kingdom, Syd., 1879, pp.92, 180.
354 op.cit., p.180.
355 SMH, 1 Nov. 1876, from a correspondent of the Albury Banner.
356 G. A. Brown: Sheep Breeding in Australia, Melb., 1880, quoted in Willoughby: Australian Pictures, pp.208-9.

ECOLOGICAL VARIETY ON COAST AND TABLELAND

DRY SCLEROPHYLL FOREST in foreground and on the sandstone ridge in the background, with area of heath between.

Photo.: L. G., Peat's Ridge, 24 Jan. 1968.

Below: COASTAL TEA-TREE SWAMP, with Melaleuca quinquenervia and Casuarina glauca.

Photo.: L. G., near Maclean, 20 Jan. 1968.

Above: CLOSE SCLEROPHYLL FOREST, a good source of hardwood.
Photo.: L. G., near Woodburn, 20 Jan. 1968.

Right: WOODLAND of Pine and Eucalypt near Tamworth. Note the grass cover.
Photo.: L. G., 25 Jan. 1968.

> Let Australians be careful not to waste these bounteous gifts of nature, or Australia in time will become...a treeless desert...The forest timber of the country, and the snows of the Warragong Mountains, will be found to far transcend in value its gold mines...

Too often, he lamented, colonists had looked upon "the almost inexhaustible forests of a new country" as a nuisance.[357]

In 1881, the N.S.W. Parliament passed the Ringbarking Act, which forbade the ringbarking of trees on Crown leases without a permit,[358] but the trees on private property remained unprotected, and

RIGNEY'S FARM, a typical settler's clearing beside rainforest on the South Arm, Bellinger River, 1905. Note the cleared area with stumps and dead ringbarked trees; the slab-and-shingle homestead with detached kitchen of similar materials; the split paling and post-and-rail fences; the outhouses of slab and weatherboard, with roofs of bark, shingle and iron.
Photo.: NSW Govt. Printer, No.2323.

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357 Demarr: Adventures, p.120.

358 Ring-barking on Crown Lands Regulation Act, 45 Vic. No.8: An Act to regulate Ring-barking on Crown Lands and to limit claims for compensation under the 15th section of the 'Lands Acts further Amendment Act' of 1880.

ECOLOGICAL VARIETY: SCLEROPHYLL FOREST

SCLEROPHYLL FOREST around Middle Harbour, Port Jackson, in 1887. Note the post-and-rail fences, and the extent of tree cover.

Photo.: NSW Govt. Printer, No.324.

SCLEROPHYLL FOREST in the Grose Valley, Blue Mountains about 1880.

Photo.: NSW Govt. Printer, No.SH99.

ECOLOGICAL VARIETY: RAINFOREST AND SCLEROPHYLL FOREST

Close sclerophyll forest near Maclean.

Photo.: L. G., Jan. 1968.

Mt. Lindesay (Allan Cunningham's Mt. Hooker). Note the dark area of rainforest between the two spurs covered with sclerophyll forest which has been cleared from the foreground.

Photo.: L. G., Jan. 1968.

Rainforest on Stott's Island, Tweed River. This provides some idea of how the banks of the northern rivers appeared when the explorers and cedar-cutters first penetrated the area. Compare the photograph on p.157.

Photo.: L. G., June 1967.

Close sclerophyll forest near Woodenbong. Note the new orange bark of Grey Gum, E.punctata, and the grassy floor of the forest.

Photo.: L. G., Jan. 1968.

the Act itself was not inspired by motives involving conservation.[359] By 1890, it was claimed that

> undergrowth including ferns and young saplings... do more to prevent grass from growing than the larger and deeper rooting trees,

and while "ring-barking trees has proved beneficial in some cases," it was "anything but beneficial in others."[360] Peter Cunningham's warning of 1827 concerning the protection of pastures from frost, was reiterated, and the need to leave "a few living trees...upon grazing land" was

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359 The Bill was apparently prepared to deal with certain rather embarrassing questions asked in the House concerning the payment of compensation "for improvements" to lessees of land by selectors under conditional purchase. Test cases had resulted in magistrates deciding that ring-barking, along with houses, fencing, dams, etc. constituted an 'improvement' under the terms of an Act of 1880 concerning compensation. This finding had some interesting effects. It led to increased ring-barking for the sake of compensation, and it caused concern to the Government who saw in the high cost of compensation a bar to the policy of land selection. The controversy raged throughout 1881. Mr. Halliday, of Brookong Station, previously mentioned, had had land ringbarked for 9d an acre, yet had successfully claimed compensation of 5/- acre when the selectors moved in. There were further questions in the House concerning the ring-barking of timber at Brookong without permission. Mention was made of a case at Murrurundi where a selector was obliged to compensate at 10/- acre for ringbarking which had cost 9d acre. The view was taken that it was not so much a matter of what improvements had cost, as what they were worth, in terms of extra feed etc., to the selector. The outcome was that the Hon. Ezekiel Alexander Baker, Secretary for Mines announced that he was awaiting further information on Brookong from a Forest Ranger who was making an inspection, and shortly after on 22 July 1881, Baker presented his Ring-barking Bill. He withdrew the Bill upon protest on a point of order on 28 July, but pointed out that "there was a regulation attached to the Crown Lands Alienation and Occupation Acts to the effect that no pastoral tenant should be allowed to ring-bark without permission." There were also timber regulations as well. The first permission to ring-bark had been officially issued on 20 Dec. 1875. The present Bill however, promised a penalty of from 1/- to 10/- tree for ring-barking without permission, but it was mainly concerned with the business of compensation. Baker re-introduced his Bill on 2 Aug. 1881, and after considerable debate and amendment, it finally received the Royal Assent on 24 Nov. 1881. By then however, Baker had resigned as Secretary for Mines on 11 Aug., and had been expelled on 8 Nov. as Member for Carcoar for conduct unworthy of a member during an inquiry into the Milburn Creek Copper Mining Company. See N.S.W. Parliamentary Debates, 1881, passim; V. & P. Leg. Assembly NSW, 1881, Vol.I, passim.

360 Mackay: Australian Agriculturist, p.27.

emphasised.[361] During the nineties, some foresters held that

> that pernicious system of indiscriminate ringbarking practiced (sic) throughout the country cannot be too loudly censured.[362]

By this time, however, the wholesale clearing and ringbarking had caused the ecology of much of New South Wales to be irrevocably changed. Other significant factors were overstocking, the introduction of exotic plants, both nutritious and noxious, and the alarming spread of the rabbit plague.[363]

Not only did the bush in its diverse ecological forms, suffer remarkably as settlers established themselves, their stock and crops in new land. Permanent occupation meant constant demands upon native pasture plants,[364] and upon bush materials for two other basic needs—fencing and shelter.

RING BARKING.

- from Willoughby: Australian Pictures, 1886, p.209.

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361 op.cit., p.28.

362 W. MacDonald in Ag.Gaz.NSW, 1894, p.376. In 1893-4 a survey was made among foresters to investigate the whole matter of ringbarking. While there was general agreement that "the effect of depriving trees of life, whether by ringbarking or sapping, is to increase the quantity and to improve the quality of the grasses," at least one forester maintained that this effect was transient, and "that after about four years" grass under both living and dead trees was not significantly different. "Indiscriminate ringbarking" was agreed to be "a great mistake", especially in areas likely to be badly affected by drought. Special control over selectors taking up conditional purchases of land was advocated. Ag.Gaz.NSW, 1894, pp.14-39

363 especially after 1880.

364 for pasture plants, see Appendix VIII.

From the earliest days of settlement, steps were taken, albeit often reluctantly, to mark and protect the boundaries of cultivations, stock paddocks, roads and building sites. In Governor Hunter's time were issued constant reminders that stock had to be adequately controlled, but the need for effective fencing even in the midst of Sydney Town itself, was perhaps most shockingly demonstrated to the more respectable inhabitants in 1804, when the grazing of goats and the rooting of pigs in the Burial Ground seemed to threaten the incumbents with a premature resurrection.[365] The cemetery was therefore enclosed by a split paling fence, part of which was, however, shortly appropriated for fuel, to the further horror of Sydney residents.[366]

These split paling fences figure prominently in early sketches of the developing towns, especially around domestic gardens which then had vital importance.[367] Some palings appear to have been very heavy, rather like building slabs, giving the impression of an enclosed stockade rather than of a home garden, and doubtless such protection was then very necessary. Other palings were lighter, split like roof shingles, and sometimes fashioned into rough pickets by being pointed at the upper ends. Some split paling fences still exist, but when sawmills became

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365 Syd. Gaz., 5 Feb. 1804. The Old Burial Ground, on the site of the present Sydney Town Hall, was further desecrated when the pigs turned on their more peaceful grazing companions. Syd. Gaz., 23 Sept. 1804.

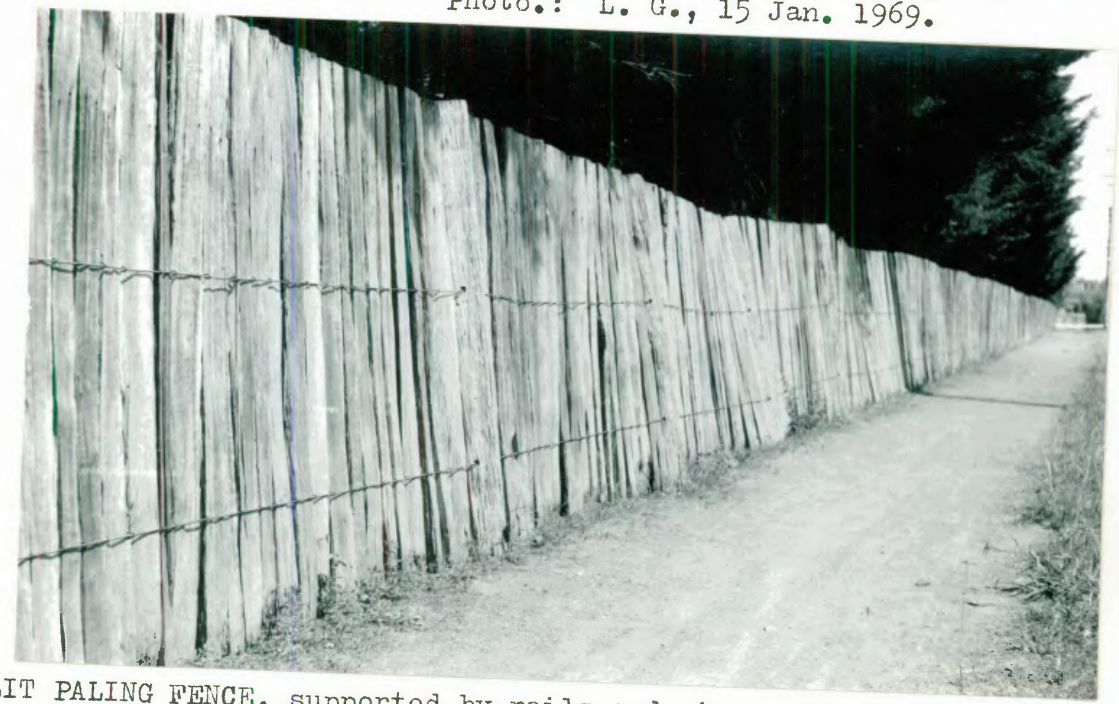
366 "The fence round the Burial Ground has of late been robbed of part of its paling...Dastard must be the living spirit that would thus pollute the mansions of the dead with wanton and unprofitable crime." Syd. Gaz., 23 Sept. 1804. Strictly speaking each split piece of wood was a pale. When placed in position these pales constituted paling. In Australian and American usage, paling is used in a singular, rather than collective sense.

367 see for example, the plates in D. Collins: An Account of the English Colony in New South Wales, Lond. 1798. Some of these split paling fences were quite formidable, e.g. the fence around "Denbigh" near Cobbitty (1826) was "about seven or eight feet high, intended to keep out bushrangers..." Hassall: Old Australia, p.3.

DOMESTIC FENCING

SPLIT PALING FENCE. Old Stanborough Hotel, between Bundarra and Inverell. Such fencing (apart from the interlaced supporting wire) was used in the earliest days of settlement. The palings were split in much the same way as roof shingles.

Photo.: L. G., 15 Jan. 1969.



SPLIT PALING FENCE, supported by rails and wire. The Armidale School, Armidale.

Photo.: L. G., 23 Feb. 1969.

POST, RAIL AND PALING

SPLIT PALING FENCE around dairy pastures near Henry Cooper's house at Bowraville. Note that interlaced wire, not rails, supported the palings.

Photo.: L. G., 17 May 1969.

POST-AND-RAIL FENCE WITHOUT MORTISING. This fence of light roughly-trimmed timber indicates one way in which the task of mortising posts could be avoided, either because of lack of time, skill, or suitably large timber. Note the multi-rail stockyard in the background, also composed of round rails.

Photo.: L. G., Burdenda Station, near Tottenham, May 1968.

plentiful, sawn palings and pickets replaced the rougher, split materials. The twiggy sclerophyll shrubs of the heathlands provided material for light brush fences, which although very susceptible to fire, did have some value.[368]

The fence with the longest continuous history was the ubiquitous post-and-rail fence of fairly heavy split timber.[369] The mortised posts supported two, three, four or five rails, and even more, and wherever adequate timber and skill were available, the post-and-rail fence became the traditional fence of the New South Wales landscape. The convict artist, John William Lancashire showed a two-rail form in his sketch of Sydney in 1803;[370] William Cox used post-and-rail fencing to enclose the more dangerous sections of his mountain road in 1814;[371] Macquarie ordered that "cropped or cultivated lands" were to be secured "against the trespass of cattle" by being enclosed

> with a good and sufficient fence, at least equal to a three-railed mortise fence, or one composed of two rails and a ditch.[372]

Commissioner Bigge recorded in 1823 that

> the more opulent settlers have begun to fence their estates with strong railing made of the stringy and iron bark trees.[373]

As proof of this, Joseph Lycett depicted "rail-fences" in his sketches

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368 Trollope described one kind of brush fence for sheep in 1871, as composed "of bushes laid lengthways and staked down with forked timber." Trollope: Australia, p.195. See also footnote 395. In other instances the bushes were apparently arranged vertically, supported by wattling after the manner of the English stake fence. Possibly this was the kind of brush fence which enclosed the gardens of old Govt. House, Sydney. JRAHS, 1902, p.74.

369 It is interesting to note the excellent stringybark post-and-rail fence erected by a Wollomombi contractor in 1969 beside the Grafton Road on McIntyre's property north of the Point Lookout turn-off. Although constructed with the aid of power saws and other modern equipment, this fence is virtually a replica of its predecessor, built some 80 years earlier.

370 sketches in R. & T. Rienits: Early Artists of Australia, Syd., 1963, pp.166-7.

371 Cox: Memoirs, p.83. 26 Nov. 1814: "...got 100 posts split and 200 rails for fencing the road down the mountain."

372 quoted in J. T. Bigge: Report of the Commissioner of Enquiry on the Judicial Establishments of N.S.W. and V.D.L., Lond., 1823, p.47. Field considered this order "to be contrary to the principles of English law."

373 Bigge: Agriculture and Trade, p.14.

POST-AND-RAIL FENCING

POST-AND-RAIL FENCES with two, three and four rails were constructed along hundreds of miles of paddock boundaries, stockyards, and roadways in the nineteenth century. Fencers used maul and wedges to split the posts and rails, and a mortising axe to cut the apertures for the 'slip-rails'. Many of these fences were massively constructed, very strong and durable, and indicative of a plentiful supply of timber.

Photos.: Two-rail fence around a pasture near Frederickton, Macleay River. L. G., Jan. 1968.

Three-rail fence around playground, Nabiac School (1884), Wallamba River. L. G., Jan. 1968. The posts, about 12" x 3" are chiefly Bloodwood, E.gummifera, with some (possibly replacements) of White Mahogany, E.acmenioides. The 9 ft. rails, about 10" x 3", are Bloodwood and Blackbutt, E.pilularis.

POST-AND-RAIL IN TOWN AND COUNTRY

POST-AND-RAIL FENCE with four rails around a pasture paddock at Telegraph Point. Note the massive posts and the snugly-fitting rails.

Photo.: L. G., 17 May 1969.

POST-AND-RAIL FENCE with four rails around the old Homebush Saleyards on Parramatta Road. "...as in the suburbs of Sydney, so in the almost trackless wilds of the interior." See p.272.

Photo.: L. G., 8 May 1969.