Aboriginal land management in 1788

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This talk sketches how Aboriginal people used fire and no fire to manage land at the time Europeans arrived ("1788"). Across the continent people allied with fire to locate and distribute plants and therefore animals, making their resources abundant, convenient and predictable. The landscape was not natural in 1788, but made. It was maintained by a strict and universal Law, and by hard, constant work.

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Introduction

This paper sketches how Aborigines managed land in 1788. No people were less urban. They spread much more evenly over the land than Australians today, and though they had villages, including some of stone, they never occupied them permanently. So you may be surprised to find me at an urban history conference, as I was surprised to be invited. But few people, perhaps no people, planned and maintained their entire landscape with more care and detail than did the people of 1788, so our conference title's words "Landscapes, Ecologies and Planning" are appropriate.

If that surprises, or seems stretched, it is because 1788 was a lifestyle and philosophy fundamentally unlike ours. Maori and pakeha are farming peoples; Aborigines farmed, but never relied on farming. The difference induces quite different ways of seeing land. Peter Dwyer showed this brilliantly in comparing three Papua New Guinea Highlands groups, one gardeners, one largely hunter-gatherers, one both. The more a group cultivated, Dwyer found, the more it drew mental and physical boundaries around its cultivation. Physically and mentally, only the gardeners fenced their world. The others had no words for centre and periphery, no sense of being spiritually distinct from the rest of creation, no landform hierarchy. For the gardeners "wilderness" began just beyond their fences, for the hunter-gatherers it did not exist [1]. Fences on the ground made fences in the mind. Australia had no fences in 1788. Some places were managed more closely than others, but none were beyond the pale. My talk builds a picture of this difference between them and us, to suggest why Maori and pakeha can come together in an urban planning conference, but most Aboriginal people prefer to stay on country, if they can.

In 1999 the geographer Bill Jackson calculated that 47% of Tasmania should have been rainforest in 1788, but wasn't. It was eucalypt forest, scrub, heath or grass, sometimes above burnt rainforest logs displaced thousands of years before. Tasmania had much less rainforest than New Zealand's south island, a comparable climate and size. Why? Because, Jackson concluded, Tasmanians burnt extensively and purposefully [2]. The question is, how purposefully? Here is that story.

1. Swamp Gum [Mountain Ash] southwest of Scottsdale, Tasmania, January 2011.

[Mike & Edwina Powell, Launceston].

Eucalypts chase light, even though Australia has plenty. In the open they spread, in forest they shoot straight up. Australians know Mountain Ash as dense forests of tall, straight trees. A fire rages, the forest dies, in the rich ash thousands of seedlings race for the light, tall forest returns. But this Mountain Ash has spread, because it has always stood in the open. How? A bushfire would kill it and replace it with swathes of competing seedlings, whereas without fire this is rainforest land. Only centuries of controlled fire could burn back that rainforest without ever touching this fire sensitive tree.

This is one example of where what we might call a natural plant cycle has been interrupted. You see the same thing in stand-alone karri in Western Australia, and where eucalypts are capturing former grassland, and under their cover rainforest encroaches. So without fire those places grow rainforest. Only determined and repeated fire could have made them grass in 1788, sometimes by mere metres at a time. Those fires are no more, so rainforest returns.

Colonial words, paintings and survey plans depicting land tell the same story. Many show 1788 grassland now eucalypt forest. Why only now? Why not then? Some researchers say that bushfire converted pre-1788 forests to grass, but after a bushfire scrub comes back more, not less, and bushfire rarely clears big eucalypts: they re-sprout and soon recover their dominance. Only repeated fire, clearing seedling and sapling for centuries until the old trees die out, converts eucalypts to grass, and only people make such fire. As a result Australia probably had more grass in 1788 than now. Grassland carried many useful plants, and most animals with most meat. It was a firebreak, it made seeing and travelling easier, and it confined forest, making forest resources more predictable. Almost certainly there was more open forest and less dense forest then than now, and certainly less scrub, or "underwood" as early observers put it.

In short, for 225 years the land has been shouting that newcomers have got it wrong: it was not natural, but made. Aborigines made it, by using fire or no fire to distribute plants, and plant distribution to locate animals. Giving plants and animals ideal conditions made them abundant; carefully distributing their habitats made them convenient and predictable. This was possible because most Australian plants tolerate fire, and because in Australia, almost uniquely, the only large predators to disturb prey were people.

Most Australians accept what Rhys Jones neatly called "fire-stick farming" [3]: patch-burning grass to bring on fresh growth to lure grazing animals. A few early newcomers realised this. At Albany (WA) George Vancouver observed in 1791,

> *Fire is frequently resorted to by rude nations, either for the purpose of encouraging a sweeter growth of herbage in their hunting grounds, or as tools for taking the wild animals, of which they are in pursuit* [4].

In northwest Tasmania Henry Hellyer remarked in 1828,

> *It is possible that the natives by burning only one set of plains are enabled to keep the kangaroos more concentrated for their use, and I can in no way account for their burning only in this place, unless it is to serve them as a hunting place* [5].

Aborigines themselves stated at Evans Bay in 1849,

> *observing that the grass had been burnt on portions of the flats the Blacks said that the rain that was coming on would make the young grass spring up and that would bring down the kangaroos and the Blacks would spear them from the scrub* [6].

Evans Bay is next to Torres Strait – as far from Albany and Tasmania as you can get in Australia, yet all three peoples managed land similarly. Evans Bay is also next to islanders who gardened. People could compare their management with Torres Strait agriculture. Given Cape York's exotic edible plant species, it's possible that they tried gardening, but if so they abandoned it. Instead they matched the rest of the continent, choosing a course they thought more efficient and reliable. In 1845 Ludwig Leichhardt called this choice "a systematic management" [7] of their country.

The choice made large-scale gardening impossible, because people allied with fire. About 70% of Australia's plant species tolerate or encourage fire. Trees and bushes re-seed or re-sprout, while dominant fodder grasses are perennial, so unlike Europe's fodder annuals they re-shoot. In other words they re-fuel. 1788's first fire task was to control fuel, by ceremony, and by constant, careful burning. This let people *prevent* the terrible killer fires which have immolated the fringes of every Australian capital except Darwin in recent decades, fires which must have decimated people in 1788 had they occurred. But regular fires prevented irregular fires; instead of the slogan of my youth, "Prevent bush fires", the rule was "A fire a day keeps bushfires away." Taming fire was a great achievement.

It was also cause to manage every corner of the continent. There was no wilderness, no *terra nullius*, in 1788. Edward Eyre observed in 1841,

> *no part of the country is so utterly worthless, as not to have attractions sufficient occasionally to tempt the wandering savage into its recesses... the very regions, which, in the eyes of the European, are most barren and worthless, are to the native the most valuable and productive* [8].

Of course people burnt the most useful land most and sterile or sensitive land perhaps not for generations, but sooner or later they burnt everywhere, in "every part of the country, though the most inaccessible and rocky", John White observed in April 1788; on "the highest mountains, and in places the most remote and desolate... [in] every place", Thomas Mitchell wrote in November 1836 [9]**.** If fuel built up, it was burnt.

This unleashed rich possibilities:

1. The more fuel is reduced, the more easily is fire controlled, so the more useful it is.
2. Even hot fires leave unburnt patches, but the cooler the fire the bigger the patches.
3. Patches benefit animals by joining burnt (feed) to unburnt (shelter) land.
4. Patches form mosaics, which can be adjusted in size by varying fire intensity.
5. Intensity can be regulated by fire frequency and fire timing.
6. Frequency and timing are local. They depend on local flora and local moderators like rain, wind, temperature and aspect.
7. The better people understand these variables, the more they can burn with purpose. They can move from limiting fuel to shaping country.
8. This lets them selectively locate fire tolerant and fire sensitive plants, situate mosaics and resources conveniently and predictably, and arrange them so that one supplies what another does not.

Local variations in managing fire and no fire are many and obvious. You could never burn rainforest in the same way as spinifex, in the north you can rarely burn during the Wet whereas in the south there are opportunities year round, and people vary according to season and circumstance on whether to burn or not burn. But everywhere the basic *purposes* of fire were the same: to limit fuel, to ensure diversity and abundance, to regulate plant and animal populations. The plant *patterns* people made with fire and no fire were the same too: grass on the best soil, forest split by grass, tree and scrub clumps in grassland, undergrowth uncommon. And the *benefits* were the same: plants and animals were located predictably and conveniently.

This is much more than fire-stick farming. To my dismay some readers think my book merely elaborates fire-stick farming. They mistake my case, and diminish the beauty and complexity of what people were doing in 1788. Fire-stick farming was an end-point, a harvesting. It activated patches, but on land made ready long before by very different fire regimes. To think it all people did with fire is like equating burning sugarcane with farming sugar.

Proof of its limits lies in how much 1788 fire did not suit it. For example people made some grassland to keep animals off, so never patch-burnt it for fresh growth. Yam daisy (a tuber staple) grows amid the same rich grass which best lures grazing animals, and kangaroos love it, yet in the southeast it flourished in millions in 1788. Fire also thinned or distributed forest and scrub, while along forest edges people might let grass grow and dry, then in the right wind fire it hot to drive prey to waiting hunters:

2. Joseph Lycett (c1775-1828), *Aborigines using fire to hunt kangaroos*, c1820.

[PIC R5689, NLA].

Dense forest rises from low ground between grassy hills. A sharp edge divides trees from grass. Fires drive grey kangaroos, some slowed by the slope, to waiting spears. The hunters are not chancing on game but predicting when and where it will come. They are also protecting the forest, firing its lee edge so that the wind takes the flames into the grass. If the wind lay the other way they could burn the opposite edge. Skilful burning keeps the forest dense, the grass clear, the game convenient.

Near Brisbane John Mathew saw a reverse technique: hunters “fire the grass in a line from one projecting point of the scrub to another and force the game away to a corner, formed by the scrub margin” so that “the game, obliged to seek shelter in the scrub, became easy marks for the persons posted along its edge” [10].

People also back-burnt around clumps or single trees to protect them, and sheet-burnt to clean country. In the Centre in June 1876 Ernest Giles reported,

> *The few native inhabitants of these regions occasionally burn every portion of their territories, and on a favourably windy day a spinifex fire might run on for scores of miles. We occasionally cross such desolated places, where every species of vegetation has been by flames devoured.*

Big fires scour the Centre today, but 1788’s big fires were controlled. Giles continued, “Devoured they are, but not demolished, as out of the roots and ashes of their former natures, phoenix-like, they rise again” [11].

Fire sensitive plant communities evidence other fire regimes not fire-stick farming. Today rainforest remnants in sheltered inland gorges like Palm Valley and King’s Canyon seem curious anomalies, green oases ringed by aridity, but their survival shows that for generations people took care to regulate how many fires, or more exactly how few, broke into them.

Again, early travellers cursed dense forest. In fact people laced such forest with paths and clearings, but since some plants and animals prefer it, in Law it must be provided. The value of dense eucalypt forest was strikingly demonstrated in January 1798, when the First Fleet emancipist and initiated man John Wilson led an expedition from Sydney southwest through Bargo Brush, soon to become notorious for its poor soil, stringybark, and tangles of scrub and fallen timber. In one memorable week the party noted the first koala, the first lyrebird, the first gang-gang cockatoo and the first mainland wombat recorded by a European. The gang-gang was new to Wilson, but he knew the wombat and the koala, giving their Aboriginal names, *wombat* and *cullawine*, from which no doubt "koala" derives (pronounce it). He knew the lyrebird but called it a pheasant, which perhaps is why today it has no familiar Aboriginal name. The point is that no-one in a settlement thirsty to discover, no-one keen to make a quid, had reported these creatures. Their country was bad, formidable, seeming untouched. Wilson knew them because Aborigines valued them, and made or left habitats for their benefit [12].

Where a purpose is apparent, I call plant communities deliberately associated, "templates". Water margins and dense forest were as much templates as grass-open forest associations for fire-stick farming, but no matter which plant communities dominated locally, similar templates for similar purposes recurred across Australia. From Tasmania to north Australia, people associated food plants and shelter plants. By selecting optimum conditions on templates and not nearby, they made target plants and animals on them abundant, convenient, and predictable. They then activated the templates in planned rotation. Thus they knew where their resources would be, and when to harvest them. They could choose. They depended not on chance but on policy.

Lycett's painting depicts a template; here are two more, from opposite edges of the continent:

3. Eugen von Guerard (1811-1901), *Crater of Mt Eccles*, 1858.

[Southwest Victoria: PIC S1011, NLA]

You can stand where von Guerard stood and match this scene's features...

4. The crater of Mt Eccles, Victoria, 18 March 2007.

[BG]

... but its vegetation now is nothing like then. Those grass strips are forest now. They were lanes made to lure wallabies by judicious patch burning, then to trap them between hunters above and below.

5. James J Cobon, Survey plan south of Cowie Point, Cape York, 24 January 1891.

[C153.301, Lands Museum, Dept Environment & Resource Management, Brisbane]

Green is rainforest, white open eucalypt forest. Cobon had to certify "on honour" that his plan was accurate, yet every vegetation type is on every terrain. Rainforest ("vine scrub") screens beach camps from hunting grounds. It follows creeks but not always, while open eucalypts dominate hills but not always. Compare the swamp edges, on the same level. This template led early Europeans to think it good cropland, usually for tobacco, but without repeated fire this land becomes dense rainforest, as it is now {see Google Earth}.

Two factors blended to make templates, one ecological, the other religious. Ecologically, laying out country variably to suit and balance all other species meant undeviating commitment to very intricate land management. Individual inclination and enterprise must be curbed, and ecological rules and knowledge must reach beyond living generations. The Law, a religious philosophy rooted in ecology, compelled this. Across Australia it taught that every living thing has at least one totem derived from a creator ancestor, otherwise it can't exist. Even life Europeans introduced – rabbits, camels, house flies – have a totem, and every totem has people who belong to it, and at the risk of their souls must care for it. Emu people must care for emus and emu habitat, and emus and emu habitat must care for them, and so on. Rules, myths and ceremonies about the sanctity of totems, including fire, warned and instructed, until the consequences of disobeying were too terrible to contemplate. Totems thus protected diversity and enforced conformity via religious sanction, the most powerful in any society. Evidence for this intricate fusion of Law and ecology exists in enough dispersed places to say that the whole continent was a single estate.

People went further. They made land beautiful. After "bush", the most common word newcomers used to describe the landscape was "park". It's a striking word. Europe's parks were made. They deliberately associated water, grass and trees in picturesque array. Few were public in 1788; most were the preserve and mark of gentry. They signified wealth and leisure. Yet newcomers frequently compared Australia with them. In Port Jackson (Sydney) on 26 January 1788, Arthur Bowes Smyth rejoiced at

> *the beautiful and novel appearance of the different coves and islands as we sail'd up... the finest terras's, lawns, and grottos, with distinct plantations of the tallest and most stately trees I ever saw in any nobleman's grounds in England, cannot excel in beauty those w'h nature now presented to our view* [13].

In November 1826 Robert Dawson thought the country inland from Port Stephens (NSW)

> *truly beautiful: it was thinly studded with single trees, as if planted for ornament... It is impossible therefore to pass through such a country... without being perpetually reminded of a gentleman's park and grounds... The first idea is that of an inhabited and improved country, combined with the pleasurable associations of a civilized society* [14].

In Tasmania John Hudspeth praised a "beautiful and rich valley... more like a gentleman's park in England, laid out with taste, than land in its natural state" [15]. WH Leigh thought the country south of Adelaide "a wild but beautiful park, which reminded one of the domain of an English noble" [16], and Alexander Buchanan considered semi-arid mallee land "really most beautiful, like a gentleman's park all the way. Fine plains and thinly studded with trees" [17]. There are hundreds of similar remarks.

Even when they saw parks, most newcomers still thought the land natural. They assumed that primitive hunter-gatherers lacked the skill and inclination to make parks. Yet a clue was there, in that observation that fire made fresh grass to lure kangaroos. The lure works on golf greens today, where kangaroos prefer to risk flying golf balls and angry greenkeepers to get at fresh growth, although safer but longer grass is only metres away.

Let's explore this lure with grey or forester kangaroos such as Lycett depicted. To attract them with fire, you must ensure that they go where you've burnt. So you must

* make sure the grass you burn is the sweetest and most nutritious available
* take care not to burn other grass too close
* provide shelter nearby so kangaroos won't feel vulnerable.

To ensure that the grass you burn is the sweetest and most nutritious available, you must put it on the best soil. Trees grow on such soil, so you must burn to keep it permanently clear of trees, or most trees. Yet kangaroos shelter among trees so you must provide them, neither too open so the kangaroos feel exposed, nor too dense so they fear being slowed down. So beside grass you must have open forest, and perhaps beyond it dense forest, to shepherd the roos back towards the grass. In other words you must make not only the grass, but the land around, using at least three distinct fire regimes, probably more.

There is no point in doing all this just in one place, because after you hunt kangaroos they move. You must lure them to the next place you've prepared, then the next, and so on. In short you must pattern the whole country into places which will and won't shepherd grey kangaroos if you want to farm them successfully.

Now think of all the other marsupials: red kangaroos, wallabies, potoroos and so on, not all in the same area, but each with their habitat preferences. Think of all the other plants, animals, birds, reptiles and insects which flourished when Europeans arrived. All had their place, all had food and shelter which suited them, many are now gone or going.

To accommodate such diversity, a great variety of templates must be set up. Of course some species find a home in more than one template – possums for example, as New Zealanders know only too well – but others don't. Spinifex and mulga, rainforest and blady grass, eucalypts and tussock grass with bulbs and tubers, mangroves, reeds and other water plants, all must be laid out. Given how long some trees live, this might take centuries to set up.

Templates for the same purpose could be close, but when activated had to be far enough apart not to disrupt each other, as this would make target animals unpredictable and the system pointless. Activating a template thus meant negotiating with neighbours and totem elders. The Law prescribed most of this, but still negotiation must have been constant, so the template system could hardly have had land boundaries. There could not be a place where it was practised and next to it a place where it wasn't; a place where neighbours negotiated continuously next to a place where they behaved randomly. Australia was inexorably a single estate.

The system was much more than merely sustainable. Possibly even in hard times, it was so abundant that people may normally have harvested only resources made surplus by expanding off their templates. Such abundance was possible because people had plenty of land, so they could let plants and animals recover undisturbed. Mobility was thus a great advantage. Whereas farming licensed population growth, mobility curbed it. Whereas farming drove people out of marginal land, mobility let them prosper there. People did not have to stay by their crops, and no livestock, no beast of burden, anchored them. Donald Thomson noted that Arnhem Land (NT) clans spent several months

mobile and several months sedentary each year, but each period was equally planned and predictable,

> *a regular and orderly annual cycle carried out systematically, and with a rhythm parallel to, and in step with, the seasonal changes... the nomadic movements of these people can be forecast with accuracy, and... their camps... foretold with reasonable certainty* [18].

Phyllis Kaberry thought mobility, abundance and predictability let Kimberley women work less hard than farmers' wives, yet get food more certainly:

> *It is not the steady strenuous labour of the German peasant woman bending from dawn to dusk over her fields, hoeing, weeding, sowing, and reaping. The aboriginal woman has greater freedom of movement and more variety... the agriculturalist may be left destitute and almost starving if the [crops] fail or are destroyed by drought, flood, fire, locusts, or grasshoppers, as sometimes happens in China and in Europe. I never saw an aboriginal woman come in empty-handed, though in 1935 there was a drought.*

She concluded, "women's work... compares favourably with a European eight-hour day" [19]. Geoffrey Blainey pointed out that people worked many fewer hours a day to secure food and shelter than farmers anywhere [20]. Perhaps neither author counted fire or ritual as work, but only people untroubled about food could have held so many ceremonies. Of course there were hungry times, or people may not have managed their resources so carefully, but it was not the norm. People were not hinging on uncertainty or toil.

On the contrary, they could afford to host hundreds of guests, sometimes for months. This required setting aside big stretches of country for years ahead to build up food, yet such occasions were common. Abundant resources are also attested by how much spare time people had. Europeans often complained, and some still complain, that Aborigines were lazy: that they sat around for hours talking, dancing or singing, even in broad daylight. Today many outsiders think the most distinctive features of Aboriginal society relate to art or corroboree – to what Europeans think leisure. In fact much of this is work, planning or performing to keep country and future alive, but only a well-ordered society could afford so much time away from the food quest.

The people of 1788 made Australia. In terms of our conference, they planned and maintained its landscapes and ecologies. Everywhere templates shaped the land: grass on good soil, forest split by grass, undergrowth uncommon. This suited invading Europeans exactly. Eyre warned,

> *The localities selected by Europeans, as best adapted for the purpose of cultivation or grazing, are those that would usually be equally valued above others, by the natives themselves, as places of resort, or districts in which they could most easily procure food* [21].

At Albany (WA) John Wollaston noted, "*Warrung* [yam]... flourishes where the best feed for stock is found. Hence the usurpation of the ground and the secret destruction of the aborigines" [22]. "The very spots most valuable to the aborigines for their productiveness", Edward Parker declared in Victoria, "the creeks, water courses, and rivers – are the first to be occupied" [23].

In 1837 Alexander Mollison, camped with cattle near Barnawartha (Vic), went with "a native black to examine two plains which he describes as well adapted for a station. This black, Jimmy, came to us at the Murray [River] and has been daily pressing me to make my station on his ground". They rode to

> *a forest plain between three or four miles when Jimmy pointed to the right. We... shortly came upon a small open plain of very sound ground, the grass quite young, having been burnt only a month before. Proceeding much in the same direction, about two miles through timber, we came to a creek having very fine large water holes and, ascending a bank on the right, we stood on the edge of a very fine and extensive plain. The grass was too young for immediate pasturage but the ground was very firm and we thought ourselves well repaid for our journey from the camp. Jimmy was delighted to observe that we were pleased and repeatedly reminded me of it, saying, "Cobawm bimble, Bunderambo", fine ground at Bunderambo, Tousand birribi (emu), tousand duck"* [24].

Bontharambo was a template associating a "forest plain" with an "open plain" edged by a creek and circled by forest. To activate it before he began seeking a settler, Jimmy burnt its grass. He knew what would result: a park abundant with emu, duck and more. He managed his land in every sense, indeed with so much sense that he seems to have thought that the newcomers would manage and share it equally sensibly. He paid fearfully for his mistake. Unknowing how momentous his gift was, unseeing how carefully his land was made, uncaring of his pride, they displaced him, and within months his people were fighting a losing battle to save his country. We don't even know his name. So the country richest in grass, in resource and story, passed to the white people, and a great tragedy began.

Aboriginal management similarly shaped Australia's cities. A migrant city needs first a port and fresh water, then grass. At Sydney, Brisbane and Adelaide the first camp was on a grass-forest template; at Perth it was on a grass ridge between swamps; at Hobart, Melbourne and Canberra on intricate patterns of forest, woodland, grass and swamp. All these cities overlooked the work of generations, in both senses, but that work dictated where they located, for they seized the best places. In this way those unknown and unknowing 1788 families whose land they took were Australia's city founders.

We all lost by this. No city planned its landscape, certainly not its ecology, with anything like the knowledge and skill of the people of 1788. Parks vanished. Stopping fire let trees grow. Near Hahndorf in the Adelaide hills in mid-summer 1839, Dirk Hahn saw people burning in the Onkaparinga valley:

> *They form a circle about twenty English miles in diameter, light fires around this area, and then direct the fire closer and closer in toward the centre of this circle. The long dry grass, bushes and young trees burn fiercely; all the animals living in this area flee toward the centre, where the savages then capture them... the fire burned for some days; I had never before seen such a fire* [25].

In the same valley Hahn saw the result of such fire:

> *beautifully-formed trees, which nature had planted there as if with the hands of a gardener. Every tree stood about 40 feet apart from the others. Some were perhaps an acre apart, so that the land could be cultivated without uprooting a single tree... I found grass 3 feet 4 inches [a metre] high: they looked like our European cornfields* [26].

Here is that valley 30 years later:

6. William Rodolph Thomas (1822-89), *Aboriginal family group on the Onkaparinga River near Hahndorf... 1870*

[vn4935828 NLA]

You see the scattered big trees Hahn admired, like that Mountain Ash their spread confirming that they grew in the open, but there are no cornfields now, only scrub. This ruin is what many think Australia was like when Europeans arrived. The southeast colonies passed their key closer settlement acts in the 1860s, so this 1870 scene conveys what those settlers faced: no parks by then, but decades of back-breaking axe work. A hundred axes are not nearly as effective as controlled fire, and of course no-one had a hundred axes.

To conclude: to locate and rest resources the template system needed big areas free of people, while allying with fire required a mobile population with few fixed assets. A scant and scattered population made 1788 Australia vulnerable to invasion, but this should not mask how impressive the Aboriginal achievement was. To balance land and people so richly for so long across so great an area ranks among humanity's great achievements. No other world civilisation managed it. Almost all turned from hunter-gathering to agriculture, thence in time to a bad end or an uncertain future. Aborigines never joined the agrarian world's race to a complex technology. There are instances of farming in 1788, but people were never likely to convert to it [27]. Fire gave too many advantages. It let people fuse the ecology and religion of an entire continent into the biggest estate on earth, and instead of dividing Aborigines into gentry and peasantry, it made them a free people.

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