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Interactive Benefits

I now turn to more detailed discussion of connectivities within the living world of eco-place. I will be analysing a system in which the interconnections among living things benefit both self and others. Indeed, a system of connectivity cannot privilege self over others, as the wellbeing of self is so intertwined with that of others that nurturance of others is also nurturance of self, and nurturance of self, properly advanced, also nurtures others.

The field research that facilitated the information is presented here. My first grant for ethnobotanical research came through in 1986. I worked with botanist David Cooper. For the most part, we travelled with a few keen individuals, and we always took people who knew the Country and people who were owners of the Country (in Aboriginal Law). Jessie Wirrpa was our keenest and most knowledgeable guide and teacher. Some of the trips we made were simply opportunistic, but as we began to develop a good range of specimens, we were able to become more targeted. If we were lacking riverside plants, we proposed a day at the river. If we were lacking dry hillside plants, we proposed a trip in that direction. Eventually, we also began to target particular plants. Thus, having heard about 'native tobaccos' without encountering any, we began to ask to be taken to places where these plants would be found. In extending the research to other communities we worked out of Lingara, being guided primarily by Jessie Wirrpa and Riley Young. In Pigeon Hole we were guided and taught primarily by Ivy Kulngarri and Molly Nyurruwangali. I did some spot checks in Daguragu with Old Jimmy Manngayarri, Bulngarri and others. Across the Murrnaji, as stated earlier, Nugget and Long Captain guided and taught.

As we built up the collection of specimens and information, we also expanded the data by working with people back in camp who had not been on the original expedition. We went through stacks of specimens with knowledgeable older people. Usually, a group of people attended and participated. In this way we were able to document names in numerous languages, and to gain a wide variety of information.

We found that, with a few exceptions, people did not like trying to identify a specimen just by looking at it. They wanted to know the size of the plant it was taken from, where it had been growing, how old it had been and, in some cases, what other plants had been growing nearby. In addition, they wanted to know the name or names we had been given by other people. We discussed stacks of specimens with Dora (who was not able to travel), with Hobbles (who was not always available); these interviews include input from another six to ten people. In the end, we found that we had information that exceeded our expectations in every respect.

Most of our trips began with a truck; we ended up on foot for varying lengths of time depending on our targets, our teachers and everyone's interests. The longer the footwalk portion of the research the greater the amount of information, and the greater the pleasure. Footwalking holds a person open to the place and time of the world in ways that a truck can never do. The unexpected overcame us far more frequently when we were on foot than it did when we were in the truck.

Use benefits

In working through piles of specimens with teachers like Jessie, Dora and Hobbles, it became clear that people in their age range (over 60) easily identified well over 150 plants and knew of more for which I had no specimens. Some of these plants are foods, some are technological resources or medicine, some are used in ritual, some have local Dreaming significance, some are in the song cycles and some give rise to songs of more daily use. Many have technological uses, some give you the time/season and some, of course, fit into many of these categories. In discussing the plants with my teachers, both in the bush and back in camp looking at specimens, it became clear that almost every plant that has a use has a name. As we worked through so many specimens, it became clear that many of the uses that people identified are not human uses. Thus, for example, berries that

are not eaten by people were identified as tucker for another species; flowers, pollen and leaves are food for others; some bushes offered shade, some trees contained nests.

In so far as this is a use-based system of nomenclature, a point I will take up later, my starting point here is that the system is not human-centred. Having interviewed human beings, however, my focus is with human use.

Multiple uses

Pampilyi (*Capparis lasiantha*) is a good plant to start with in thinking about the multiple uses and meanings of a single species. It is a scrambling vine with thorns that point backward like barbs. It grows across numerous landforms, and in the wet time it produces a sweet fruit. The fruit is edible, and is eaten by numerous species, including humans. Because of its little thorns, it is the kind of plant that clings tenaciously if you brush against it. *Pampilyi* is in a song that is part of men's business, and no more than that is known publicly. However, *pampilyi* is also a song for what is called 'love magic'. Men sing *pampilyi* and direct the song towards their desired sweetheart. The song makes the woman long for the man who sings to her, causing her to cling to him as relentlessly as the barbed vine.

Another plant, *jalartu* (*Tinospora smilacina*), is also a vine. *Jalartu* grows after the rains come and wraps itself round and round a tree trunk. This plant is associated with rain, and there is a *jalartu* song that has the power to stop rain. The fruits are forbidden for eating, but *jalartu* is medicinal. The leaves are boiled, and the warm water is used as a healing wash that is good for any sickness or pain. *Jalartu* is also part of men's song.

Like *jalartu*, the parasitic vine *jakotakota* (*Cassytha filiformis*) can be used to send away rain. Dry the stems, burn them on the fire and the smoke hunts away rain. This versatile vine can also be used as a hair dye. Burn the stems until they are black and rub them in your hair to darken it up. This plant is also medicinal and is said to be especially good for babies. Moreover, *jakotakota* grows in such thick profusion that it makes wonderful shade. It is part of the travels of the Nanganarri Women: they rested in the shade of a *jakotakota* vine as they walked across the hot black soil plains of Bilinara Country where they were putting the little tubers called *wayita*.

Ritual and Dreaming

Some plants are used in ritual. *Jakalira* (*Ventilago viminalis*) provides the wood that is made into a fire-stick and is used in ceremony: the mother of the boy being made into a young man carries the fire-stick and keeps it burning. Another plant that is used in ritual is the aromatic grass *walayi* (*Cymbopogon bombycinus*). The vernacular English name citronella grass evokes its fresh aromatic quality. This grass is broken into small pieces and used in the first ritual of childhood in which the baby is rubbed with an aromatic slurry (Rose 1992, 61–67). *Walayi* is described as ‘really boss for all the baby’ because its aromatic properties work to give babies life, strength and attachments to place. Other grasses can also be used in this ritual, and different Countries draw on different grasses. The evidence thus suggests that as different grasses give the infant a different smell, they thus serve to fix the child in its own Country by virtue of the smell of the air and grass of that Country.



Figure 7.1. Baby (Louisa Bishop) after being rubbed with a slurry of antbed and aromatic plant material to ‘fix’ her to Country, Yarralin, 1982.

Source: Photograph by Darrell Lewis.

Another plant that can be used in this ritual is the *jangarla* tree (also a season marker). Women would take the bark of this tree and roast it, mix it with water and rub it on the baby, right up to the head, including the hair and all. This makes the baby ‘properly black’, or ‘black like a crow’. Some people suggested that *jangarla* was used in trying to conceal ‘half-caste’ babies from the authorities who were charged with removing them from their families and placing them in institutions.¹

As indicated, many plants have Dreaming origins, having been put in their proper place, or habitat, by travelling Dreamings. They are likely, then, to be sung when the Dreaming itself is being sung. Some plants are identifiers of regions, as I have discussed in relation to *miyaka* and savanna desert (Chapter 5). Some plants are also part of the genre system. Here again, *miyaka* is a good example. It is the matrilineal ‘flesh’ of several families in the region (see also ‘running into change’, Chapter 5). Many individual trees are also Dreaming trees. The nutwood trees at Pigeon Hole are a good example. They are Nanganarri Dreaming Women. Elsewhere, as discussed, snappy gums are uninitiated men on their travels south. Trees, generations of people and attachments to place are discussed in greater detail in Rose (1992, 106, 108, 211–13).²

Technologies

Technological items are numerous. Obvious ones are the straight and strong branches or saplings that are good for spears. Some are necessarily of very strong wood, so that a heavy point can be mounted on it, and it can be used to kill an animal that requires a lot of force. Strength is one factor, brittleness is another. Recall Jirrikít’s efforts to get *wirlit* so that he could kill the crocodile? *Wirlit* from the north is more flexible than the inland variety. Other spears are made of less heavy material, and they are useful for hunting other animals and birds. A key property of a good spear in this monsoonal region is that the wood will hold its straight shape in the wet season. *Nyimili* (Leichhardt tree, *Nauclea orientalis*) is used for spears and spear throwers

1 The half-caste removal policy in the Northern Territory affected the lives of almost every family, and certainly of every community. The best analysis is *Bringing Them Home: Report of the National Inquiry into the Separation of Aboriginal and Torres Strait Islander Children from Their Families* (1997). For information on local effects see Schultz and Lewis (1995, 146–48) and Rose (1991, 169–73).

2 Debbie intended to expand this section. She had a note here observing that ‘Old Jimmy Manngayarri had a strong interest in trees (along with almost everything else). Trees were people too. In creation some trees were walking around “organising” themselves’—eds.

that do not warp in the humidity. For a boomerang, you want a heavy wood that will kill on impact, and for preference you want a wood that already bends itself in the shape of boomerang. Bullwaddy (*Macropteranthes kekwickii*) is highly prized, but of course its distribution is restricted. Locally, in Victoria River Country, *Hakea arborescens* is good for boomerangs, and so is beefwood (*Grevillea striata*). For a shield, however, you want wood with flex, like the kurrajong tree (*Brachychiton diversifolius*), so that it will absorb the shock of the big fighting boomerang without shattering.

Other technological items include the wood that is used for making fire, when you have no matches (*Premna acuminata*), and the wood that catches fire so easily that it is said to be like kerosene. Another plant, curly spinifex (*Plectrachne pungens*), is used for its wax and for making windbreaks and shelters. The wax is used as a fixative in tool making. In the big river Country, sugarbag wax was preferred over both spinifex and ironwood wax, but all do the job. Yet other plants produce fibre: the cotton tree, *Cochlospermum fraseri*, for example, grows a pod with a fibrous interior not dissimilar to cotton. It was spun into string. This plant also has an edible root, although only the young plants are said to make decent eating. *Parrawi* is a fish poison and is also good for spears; in addition, its seeds are edible. Bush ‘tobaccos’ such as *walmalmat* (*Lobelia quadrangularis*) were important items and probably have chemical properties that produce their desired effects; they have now been largely replaced by commercial tobaccos. Other woods have other chemical properties. For chewing tobacco, you want to roll your wad of tobacco in the ashes of bark from the white gum tree (*Corymbia papuana*), and this is done with both bush and commercial tobacco.

When processing the toxic tuber *jarrwana* (*Dioscorea bulbifera*), soak it in water to which you have added ashes from the *wanyarri* tree. *Wanyarri* is also medicinal: the leaves are boiled to make a healing concoction which is drunk, and the roots can be processed to make a wash that heals sores. Native bees make their nests in *wanyarri* trees, so there may be food there. In addition, the bark and leaves can be chewed when a person is dying for water: *wanyarri* can ‘save you from perishing’. One of the *wanyarri* trees not far from the Victoria River Downs (VRD) Centre Camp is a Dreaming tree: the boys who killed old Jirrikit’s crocodile were swept away by the big wind, and one of them is there now, transformed into a big old *wanyarri*.



Figure 7.2. Hobbles Danaiyarri making a *nula nula* (hardwood club or fighting stick), Yarralin, 1984.

Source: Photograph by Darrell Lewis.

My emphasis is on living things, but I should mention a few others. The right kind of stone for spear points and other tools such as knives, axes and scrapers is the subject of detailed knowledge. As well, these items have been (in some cases still are) traded across long distances (Chapter 5). Today stone points are rarely used. The preferred points include wire (usually several prongs) used for fishing, hardwood, including the poisonous hardwood of the saltwater mangrove, and the big iron point called a 'shovel spear'.

There is also the body of knowledge concerning the use of animals in addition to their value as food. Kangaroo tail tendons are good for binding, and a small bone from the kangaroo makes a good tool for slicing. Animal fat is used extensively in ritual and in healing, and termite mound matter is used medicinally and in ritual (Rose 1992, 61–68).

As I have indicated, there is specific knowledge of how to process the 'cheeky' foods so that the toxins are removed, and there are detailed recipes for how to process foods, such as grass seeds or sugarleaf, to make it edible and transportable.

Medicine

Many of the medicines are fairly generalised, like the *jalartu* that you boil and bathe with and that is good for most sicknesses. However, the medicinal qualities of some plants are extremely specialised. *Kumpulyu*, or white currant (*Flueggea virosa*), is a food for people as well as a number of birds and other animals, including turkeys but not goannas. It is a 'mate' for conkerberry, and they usually ripen at about the same time. This medicine is a diuretic; the name *kumpulyu* builds on the term for urine (*kumpu*). The bark is scraped and soaked or boiled in water. The resulting drink will induce urination and reduce swelling. People said that if you've walked too much and become swollen in the legs, *kumpulyu* infusion will help. Daly reported that one man who had blood in his urine from an internal injury was treated with *kumpulyu* and recovered. Other plants are used to treat diarrhoea: *pirijpirij*, for example, produces an edible gum that is mixed with water and drunk as a tonic to strengthen digestion and to work against diarrhoea.

Lamparlampar (*Ocimum sanctum*) is a bush tea that is also medicinal. Its fragrant smell is carried on the wind at certain times of year and makes you feel good just to breathe. Some people said it was good to put under

your pillow if you had a cold. If you wanted to be more direct, you could take the leaves of another medicinal and aromatic plant, *ngunungunu* (*Pterocaulon serrulatum*), and put them right in your nose. Other plants are medicinal for dogs as well as humans. *Japawin*, a fig tree, produces a milky sap that is good for treating sores on people and on dogs. At least one plant, an orchid (*Cymbidium canaliculatum*), is used to make a poison for killing dogs if they turn vicious.

Food for everybody

As I have been indicating, most plants have multiple uses. *Hakea lorea* or *pulka*, for example, is used for technology: the wood is good for boomerangs and spears. It does not produce anything edible for humans, but bees and honey-eating birds feed on the nectar of the flowers. Conkerberry (*Carissa lanceolata*) is another: the root is used to make the peg that goes on the end of a spear thrower; the wood is good for starting fires; the smoke repels mosquitoes. Almost every animal in the region eats the berries: humans, birds, dingoes, goannas, emus and turkeys. When you go walkabout for *ngamanpurru* you often see bushes where the berries have been eaten off just up to the height of a turkey, and you know who was there before you.

Muyin (bush plum) is widely beneficial. According to Dora:

muyin—for kids and all. It's big tucker for that dingo, you know. Emu, dingo, any kind of animal tuck out that one. [It grows a] lotta tucker, and everyone get in. Bird and all, dingo and all.³

Jessie Wirrpa and I went for conkerberries many times. On my first expedition I was carefully picking one berry after another and putting them in my billy can with regard to avoid bruising. Having spent summers as a child in the strawberry and bean fields of Oregon I was well educated about how to pick. There I learned that you could get fired, and probably lose a lot of your earnings, if you only picked the best and biggest, or if you handled them roughly, or if you worked too fast and became careless and left some behind. Of course, you would not want to get caught eating any of the crop. I didn't think about those lessons when I was picking conkerberries with Jessie; I just picked as I knew how to pick. Before long I found that

3 Dora Jilpngarri, tape 74, recorded at Yarralin, 15 April 1988.

I was way out of step with the other women. They were ambling along picking the biggest, juiciest and most enticing berries and leaving all the rest behind. They ate as they picked, and they kept close together so they could chat as they moved along. Jessie brought me up and asked me why I was so slow. When I said I didn't want to waste any, she scolded me. 'Its not waste to leave im there,' she said. 'Everybody eats this tucker. This tucker for everybody. You not waste im, you leave im there for somebody nother one.'

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Much of the knowledge of animal foods is extremely detailed. *Marntayark* produces fruit that is food for black cockatoos, in particular. This tree is also a major source of edible gum for humans, and the gum also has technological use as an adhesive in attaching the spear point to the spear. *Kinyuwarrangarna* (*Cyprus* sp.) is a preferred food for brolgas, and humans can eat it too. Brolgas and people eat the little bulbs that grow underground, while other birds eat the seeds when the top part flowers. This plant is strongly associated with brolgas, and thus belongs to the matrimoiety that brolgas are identified with. *Winparnin* (*Dodonaea lanceolata*) is used as a spear, as a spear point to be mounted on a different shaft and as a fighting stick (*nula nula*). This wood is said to become 'hard like steel' and can be used as a tool for flaking stone to make stone tools. Its flowers are one of the tuckers that parent birds feed to their babies. *Indigofera linifolia*, *karrkarta*, is a small shrub that produces little seeds. These seeds are food for small birds like the little *nini* finches and are also playthings for children; they put them in each other's hair, like nits, and pick them out.

Animals

I know less about animals than I do about plants. The mobility of most of them makes identifications more difficult, and a good number of marsupials in particular are either locally extinct or so rare as to be beyond contemporary human interaction. Unless an animal was brought into camp as food (as many were), or was relatively immobile (such as mussels), or was unmistakable (such as the sulphur-crested cockatoo), identifications were problematic.

Animal nomenclatures follow the pattern of plants. Almost every animal (mammal, bird, fish, crustacean, insect) encountered in the region bears its own name. A few animals are further divided into more detailed

nomenclatures: plains kangaroo, for example, is *wawirri*; males are *jaliny*; females are *ngalijirri*. This pattern is widespread in Aboriginal Australia, although the particular species so defined vary from region to region.

The animals that occupy the daily attention of Victoria River people are foods or means to food (such as insects for bait). Like plants, many animals are part of song and ritual. Mussels, for example, were placed in the Bilinara billabongs by the Nanganarri Women. They continue to live there, doing their own dance in the water. Bilinara women have a mussel dance too, which they perform in mixed company.

Some animals are taboo to some people at certain times of their lives. Again, mussels are a good example, being taboo to young men. In addition, many animals are part of the system of genres, or 'totems', as will have become clear in previous chapters.

Mutual benefits

Many Aboriginal people in Australia articulate the idea that 'nothing is nothing' (Sutton 1988, 13). My Yarralin teachers had a slightly different take on this. Plants that to their knowledge are of absolutely no use to anyone were not named and were classed under generic terms. Most of the plants that were said to have no use were grasses and were thus classed as *yuka* (grass, generic). Dora, in particular, went on to describe these classed together plants as *walayinkarri*. Her gloss for this term was 'rubbish' or 'just the nothing'. These glosses suggest that some things (most of which turned out to be introduced grasses) really are just nothing. When I put this directly, however, asking if a specific plant was just nothing, they protested, saying, 'No, no, it's for itself'.⁴

A similar point can be made in respect of animals. As will have become clear, most animals are the descendants of Dreaming ancestors who travelled in the region. The few animals that are not part of any Dreaming are anomalies. Being out of relationship, they are out of human ken. Like plants that have no apparent use for anyone else, they exist for themselves, occupying a marginal zone of un-connection. They are just there. The only

4 A note in the manuscript here indicates that Debbie wanted to expand this section to include an example of a non-introduced species that is 'just for itself'—eds.

plants I can positively class as un-connected are a few grasses, some of which are introduced. The only animals I can positively class as un-connected are diverse varieties of ants.

It is interesting that cattle seem to have remained outside this system. On the one hand, there is no Dreaming for them, and they are very explicitly identified with conquest. In Hobbles's words, 'Captain Cook [came] and all his boat people, horses, cattle.' The marginal status of cattle is re-articulated through plant nomenclatures. Introduced grasses are not deemed to have a use even though they are clearly food for cattle.

The vast majority of Indigenous plants and animals are something rather than nothing, in the logic of Yarralin and Lingara people's statements. They are of use to someone other than themselves. These 'useful' species are in relationship. Their lives benefit others as well as themselves.⁵

I should like to move away from ideas of use and consider, rather, ideas of mutual benefit. Looking at species from the perspective of any individual species that is in connection, their life in the world is for both self and other. From this perspective, it is not a question of use so much as a question of benefit. The corollary is that to exist only for self is to be out of relationship, out of connectivity, because one has no benefit to offer.

As benefits move across species they start to ramify. The *Indigofera* that bears little seeds that are eaten by the *nini*/finches become implicated in the matrilineal flesh of emu people. Jessie, when she spoke to the little finches, was speaking to one of her own kind, or genre, because *nini* are mates for emus. By the same logic, *Indigofera* benefits knowledge of seasons because it benefits *nini*; it is *nini* who 'gives you the time'. And by the same token, *nini* benefits hunters like Daly who hunt the emus who drink the water that the finches mark for them by their presence. Emu people do not hunt emus, so the benefit here is not distributed across the whole of the local human species, but only across part of it (see Rose 1992, 83–84).

As I have shown, many species benefit not just one other species, but many others. *Indigofera* offers a small range of direct benefits but consider conkerberries; food for so many animals and birds, technological benefits and the glorious benefit (for humans) of repelling mosquitoes. The benefits are spread across species and the shrub itself is part of an important

5 Debbie intended to expand this section, possibly discussing some taxonomical studies—eds.

Dreaming story. The Emu Dreaming travelled from west to east, going through western Ngarinman Country (Bumundu Country) and Bilinara Country. She piled up conkerberries in western Ngarinman Country and the site is there today: a little hill shaped like a large pile of berries. Conkerberries nourish emus, and emus bring us back into Law, creation, matrilineal genres and land ownership.

Benefits ramify, but not forever. The pattern is by now familiar. Everything that offers benefit is in connection. Nothing is connected to everything, but as benefits ramify, crosscut, overlap and link up, they form a world of connections in which to enter that world at all is to enter dense and patterned relationships. If followed, the patterning would eventually take you through the known and named world.

Benefit in this system, then, is both direct and indirect. The reciprocity of benefit is also both direct and indirect. Birds that eat fruit and spread the seeds are an obvious example of direct reciprocity. There are far more examples of indirect reciprocity. The benefits spread widely, and the logic of the system is that as life is promoted, so the lives of living things are promoted. To put it more broadly: the promotion of relations of connectivity is a benefit in its own right, as it keeps connections flourishing, and thus remains seriously alive.

Humans engage in direct reciprocities in this system too. They are, as I have shown, the direct beneficiaries of many plants and animals. Their own reciprocal benefit is offered primarily in forms of restraint, curation and ceremony. One of the main forms of both restraint and curation is fire ecology.⁶

A fire excursion

Hobbles spoke of Aboriginal people walking around organising the Country. Fire was the major technology of organisation. The centrality of fire in Aboriginal life throughout Australia cannot be overestimated. Every European explorer from Tasmania to North Australia saw smoke, fire or burnt ground wherever they went. In addition to land management, fire and smoke are central to virtually every aspect of daily life, and to every life

6 Following this section in the manuscript, a heading, 'Restraint', shows that Debbie intended to discuss this concept, but never managed to do so—eds.

passage. Birth, initiations, dispute resolutions and funerals all require fire and smoke. Rights to use fire in particular contexts are allocated among kin and defended in the same way that rights to songs, designs and other forms of knowledge are defended. According to John Bradley:

It is important to note that burning country is not just fire, smoke and blackened vegetation. Firing country involves people who have ways of interpreting their place within the environment where they live, on the country they call home. Their relationship with fire at its most basic is as a tool, but fire is also related to events associated with the past and the future, events which to the outsider may not be considered that important, but to the indigenous community are very important. Fire, then, can be seen to be a part of an ecology of internal relations; no event occurs which stands alone. An event such as the lighting of country is a synthesis of relationships to other events. Fire is but one event which is related to many others. (1995, 31)

Some general considerations

On a pragmatic level, fire-stick farming involves getting rid of long grass and grass seeds which impede travel. It means being able to see the animal tracks, and thus to hunt better. It means being able to see snakes and snake tracks so as to avoid them.

Burning benefits other animals: new growth is up to five times richer in nutrients than old growth (Braithwaite 1995). The benefit to others is also good for hunters. To quote April Bright, a traditional owner of floodplains in the area between the Finnis and Reynolds Rivers:

‘Burn grass time’ gives us good hunting. It brings animals such as wallabies, kangaroos and turkeys on the new fresh feed of green grasses and plants. But it does not only provide for us but also for animals, birds, reptiles and insects. After the ‘burn’ you will see hundreds of white cockatoos digging for grass roots. It’s quite funny because they are no longer snow white but have blackened heads, and undercarriages black from the soot. The birds fly to the smoke to snatch up insects. Wallabies, kangaroos, bandicoots, birds, rats, mice, reptiles and insects all access these areas for food. If it wasn’t burnt they would not be able to penetrate the dense and long spear grass and other grasses for these sources of food. (1995, 60)

Controlled burning has among its aims that it will not wreak havoc on animal life. East Arnhem Land/Yolngu man Joe Yunupingu explained:

I care of the fire. The fire burnt only traditional way. Because we look after the animals, birds and land. The land is real important for us. Our lands. If we want to go make a fire, to burn, every year not to fire, every year. Take about two, three year for the right time got to be burnt. Got to look for animal. Kill animal, few, not much. We look after the animals, eat them not to waste it ... That's the law for the Yolngu people. (1995, 65–66)

In addition to fire to promote animal life and to facilitate hunting, there is also evidence of the use of fire to manage harvests. One method was to spread the harvest out through time by successively burning small areas (Bright 1995, 62). Another method is to produce a large harvest all at once to generate surpluses for ceremonial gatherings (Hallam 1987, 52–53; Lewis 2002, 50; Mulvaney 1987, 88–89).

The knowledgeable use of fire depends on detailed knowledge of soils, landforms, surface and underground water, and types of vegetation, as well as time of year, time of day and type of wind. Bright, in her detailed discussion of fire, speaks of big winds and slow winds, hot burns and cool burns. She notes that different combinations are appropriate for different landforms and different times of year (1995, 60–65).

In addition, there are always areas which are not burnt. In many parts of Australia the area around a sacred site is kept free of fire. Some of these areas serve the function of refuge for plant and animal species. Protection of particular areas requires, of course, careful burning in the vicinity. Other areas which are not burnt include many forested areas, particularly rainforests. These areas are vital resource areas for foods such as yams and medicines and are essential habitats for a range of other animals.

The right to burn is one of the rights and duties of ownership of Country, and the corresponding obligation is to refrain from burning other people's Country. This links with a key point in starting a fire, which is knowing where it will stop. Only with this knowledge is it possible to avoid burning places that should not be burnt for ecological, social or religious reasons (and these three factors may be connected in many instances). For example, Nanikiya Munungurritj, an Aboriginal traditional owner in East Arnhem Land, and a ranger with the Dhimurru Land Management organisation,

spoke about burning his Country, saying that you sing the Country before you burn it. In your mind you see the fire, you know where it is going and you know where it will stop. Only then do you light the fire.⁷

The ubiquity of fire is counterbalanced by the fact that there is also good evidence for regional variation in fire regimes. In the northern flood plains, for example, burning is initiated towards the end of the wet season. The appearance of browned-off grass is the signal to start burning, and the appropriate place to start burning, for ecological, pragmatic and other reasons, is along the higher Country that borders the floodplains (Rose et al. 2002, 20).

The knowledge of when and where to start burning is complemented by the knowledge of where the fire will stop. This knowledge is built up out of intimately detailed knowledge of the specific grasses, soil type, landforms and plant communities. The duration of burning varies. People continue burning to clear off long grass for as long as there is evidence (in the form of green grass) that there is enough moisture to slow a fire down and enable regrowth. In the monsoon tropics where the rains are relatively predictable, the main burning months are April, May and June.⁸ As Bright indicated, there is a specific season for burning off the long grass. She calls it 'burn grass time', and she notes the moral imperative to burn: 'It is part of our responsibility [to be] looking after our Country. If you don't look after Country, Country won't look after you' (1995, 59).

In contrast, Peter Latz (1995, 31, 34) reports that in the desert Aboriginal people burned throughout most of the year. Fire was an important tool in hunting, and the desert fires were by preference restricted in extent. Seasonal variation is extreme in these unpredictable environments, and rain is not strongly linked to annual cycles. Aboriginal people reportedly did not favour hot summer fires. There was, therefore, no annual regime, but there was avoidance during the hottest times of year when possible.

The use of fire to create a mosaic effect is well documented for spinifex Country and is also well documented for some of the landforms in the tropics (Latz 1995, 33–34). Recent research indicates that fire ecology

7 Personal communication with Nanikiya Munungurritj during the Bushfire '97 Conference, Darwin, 8–10 July 1997.

8 Information provided by Nancy Daiyi, Margaret Daiyi and Linda Payi Ford.

throughout Australia, from Tasmania in the south to the most northern regions was managed to create ecological mosaics (Latz 1995, 34; see also Gammage 2002; Jones 1969, 224–28; Stevenson 1985).

In sum, at a general level it is possible to say that there was a system of fire management that involved interruption of ‘natural’ fire regimes, protection of certain fire-sensitive species, use of fire regularly to control scrub, use of fire to time harvests of certain plants, use of fire to attract game, use of fire to produce a particular aesthetic that signals growth, fertility and clarity of vision, and use of fire to produce mosaics of micro-habitats. This latter point required knowledge of fire history as well as a range of habitats. While the specifics of how to achieve these ends shift across ecological zones, the purposes seem remarkably stable.

Into the Victoria River Country

There are several major ecological zones which are defined by Victoria River Aboriginal people today and which in pre-contact times would almost certainly have been managed under different fire regimes. These zones are the higher rainfall region north of the Stokes Range; the riverine savannas inland from the Stokes Range; and the dry watershed regions and mesa tops. It is most unlikely that there would have been uniformity of fire regimes within the Victoria River District.

Explorers and settlers

An examination of explorers’ accounts of their travels in the Victoria River valley shows that they observed extensive, even ‘luxurious’, grass growth at all times of year. This is to say that they did not observe the effects of large-scale burning at any time of year, either north or south of the range.

They did note areas that had been burnt, and they were quick to observe that new grass grew readily and that kangaroos were attracted to it. James Wilson, a member of the North Australian Expedition, noted:

In April and May, when the grass becomes dry, they burn it off about such water-holes and creeks as the kangaroos frequent; when the grass is thus early burned, the roots being still moist send up a second crop, and this is so sudden that I have seen green grass the third day after the dry was burned. This is done by the native to induce the kangaroos to come to such spots to feed and be the more convenient for him to hunt. (1885, 151)

During the entire expedition Wilson was based on the lower Victoria 'saltwater side'. His statement identifies April and May as 'burn grass time' and is thus consistent with the floodplain evidence discussed above. A compilation of explorers' observations shows that Aboriginal people were making fires in every month of the year, as one would expect (Lewis 2002, 54–61). It is rarely possible to specify the exact purpose of the smoke or burnt grass that was observed, and the general knowledge extant today suggests that any fire may have had multiple purposes.

When settlers came into the Victoria River Country in the early 1880s, they saw fires and they began to think that Aboriginal people were using fire as a weapon against them. This view was not unfounded, from either a white fellow or an Indigenous perspective. The explorer Augustus Gregory left some of the members of his party at a depot at Mt Sanford, while he proceeded inland on his explorations. On his return to the depot, he learned that his party:

had been, however, somewhat annoyed by the blacks, who had made frequent attempts to burn the camp, and also the horses, by setting fire to the grass, and on some occasions had come to actual hostilities. (1884, 143)

Subsequently, settlers and police suspected that Aborigines were setting fire for the purpose of burning them and their beasts out. They took a merciless line on fire, suppressing Aboriginal burning wherever and whenever possible. Their efforts were aimed at protecting their stock, feed for their stock, fences, homes and lives. Among the losses were the habitats of animals who depended on fire, the mosaic of habitats produced by Aboriginal burning, the diminution of distribution of fire-dependent species, the loss of balance between controlled and uncontrolled fires, and the opening up of land to woody shrub and other floral invasions (Chapter 8).

Settlers' repression of Indigenous use of fire was savage. It remains scarred into the consciousness of many of the older people I spoke with. The effect of their efforts is that in many areas very little detailed knowledge appears to have survived concerning the use of fire outside of camp and ritual contexts. Dora Jilpngarri, the oldest person now alive at Yarralin, explained when asked about Indigenous use of fire in the Country: 'No, they never used to burn. They weren't allowed to. Policeman would kill them, or manager would kill them. They weren't allowed to burn. They never used to burn.'

A number of people of her age cohort have asserted that Aboriginal people never burnt the Country, even before white fellows came. Jilpngarri's words show the ambivalence of the position. On the one hand she asserts that they never did burn. On the other hand, that people were not allowed to burn. The fact that burning was prohibited indicates that burning was being done, and that it was being brutally suppressed. As I will discuss shortly, the term burning has developed a context-dependent polysemy which goes some way toward clarifying the ambiguity of Dora's statement.

In both northern and southern regions, pastoralists also instituted burning regimes. Where Indigenous and white pastoralist burning regimes are similar, it is not possible to determine whether the pastoralists adopted Indigenous regimes, or whether Indigenous people adopted pastoralist regimes. It is possible, of course, that both groups were burning in response to the ecological demands of Country and independently arrived at similar regimes. However, the evidence shows Aboriginal people making fires for a great variety of reasons and making them throughout the year. The suppression of Indigenous fires targeted all types of fire, and it was also resisted in some instances. Daly Pulkara made this point in relation to signal fires: 'Fires are for signal—*kartiya* [white fellows] can't stop them. They put fire there for signal.'

My working hypothesis is that prior to white settlement, Aboriginal people in this district used fire in ways that are consistent with the general system discussed above. The further hypothesis is that people would have developed fire regimes suitable to their savanna homelands and that there was a distinctive savanna burning regime, with its own seasonal indicators and its own aesthetic. The hypotheses cannot be proved beyond doubt, but the information is, in my view, sufficient to confirm that these are reasonable hypotheses that merit further investigation in other savanna regions.

Daily life

The following purposes of fire are significant in the Victoria River District:

- for cooking;
- for boiling water;
- for warmth;
- for light;
- in ceremony (mortuary and other rituals);

- for knocking down dead trees for firewood;
- for cleaning up an area prior to camping;
- for healing—to create warmth and steam, using medicinal plants (also gender-restricted rituals);
- to make the ashes used with chewing tobacco;
- as part of the process of leaching toxins out of certain foods to make them edible;
- to drive away dangerous supernatural figures;
- to erase the traces of life so that dead people will not want to return;
- for hardening spear points and digging stick points;
- to anneal stone to make it better for working into tools;
- to alter the chemical structure of haematite, transforming yellow ochre to red ochre;
- for communication—signalling peoples' presence in an area;
- in hunting (no longer allowed):
 - to attract animals to a place where they can conveniently be caught;
 - in conjunction with hawk-hunting hides;
- as a system of land management (fine-grained detail is lacking, but the concept appears to have been present, although the specific practices are no longer allowed).

Fire for hunting

The main uses of fire in hunting are in clearing out old grass to allow for green pick, and the use of fire in hawk-hunting hides. The first is consistent with Indigenous practices throughout the continent; fires that burnt off dry grass at a time when new grass would grow facilitated hunting by bringing animals close to the hunters.

The second is a technique that is unique to an area largely coterminous with the Victoria River District. In this region Aboriginal people used to build small stone enclosures with roofs of branches and grass. One or two men would sit in the hide while others set the surrounding bush on fire. Using a small bird as bait on the roof of the hide (spinifex pigeon was identified as preferred bait), the hunters in the hide enticed the circling hawks to dive for the bait, and then grabbed them and broke their necks (Lewis 1988⁹).

9 Lewis also discusses some of the comparative literature from other parts of the continent.

Timing indicators

Many of the uses of fire mentioned above are not restricted to any time of year and would have been used throughout the year. Fires for cooking, medication, cleaning up a camp, signalling and other daily activities were omnipresent. Fires in funeral ceremonies were of course dependent on the timing of death, but had no particular seasonal component, as far as is known. Fires in other ceremonies were linked to the ceremonial cycle. That cycle has changed with white settlement. According to informants, ceremony formerly took place after the wet season when resources were rich enough to allow large numbers of people to gather and stay together. After the pastoral regime was established, ceremonies were rescheduled to take place *during* the wet season, as this was the period when Aboriginal people were released from station work and allowed (indeed required) to go bush.

Aboriginal people south of the Stokes Range were adamant that before white fellows arrived in the Country, burning was initiated after the first or second rains, at a time when green grass was appearing. This is consistent with the pastoral regime south of the ranges, where firing began at this time. This information was offered by a number of people independently, and on separate occasions spanning 20 years of research. Perhaps the most interesting account of burning was offered by an old man, now deceased, who explained that the time to clean up or clear up Country is when new green growth appears. The presence of green growth as an indicator for burning is an extremely context-sensitive indicator. It first appears with the first rains and continues throughout the wet season and into the dry. The emphasis, however, is on first appearance, as the time to start burning. It thus suggests a cycle of fire that begins with the early rains, and probably continues whenever possible through the wet season.

This contrasts with the floodplain data, where the indicator for initiating burning is the appearance of dry-brown grass. The contrast reflects the different rainfall regimes (1,514.9 mm annual mean rainfall, Finniss River; 632.6 mm annual mean rainfall for VRD station). Different rainfall zones produce different problematics and different conceptions of the annual cycle. High rainfall requires people to remove grass, and people develop an annual cycle that begins with the appearance of dry grass after the rains. Low rainfall requires people to curate new grass, and people develop an annual cycle that begins with the appearance of new grass when the rains start.

The green grass indicator is specific to any given place, soil type and plant community, and thus has the quality of localised knowledge and practice that is the hallmark of Aboriginal knowledge. It contrasts with the pastoralist regime. According to the few Aboriginal people who spoke of pastoralists' burning, after the first or second rain the manager would send out some young Indigenous men on horses with matches, telling them to burn the old grass (see Lewis 2002, 63–70). That regime apparently afforded little sensitivity to the localisation of rains, the rates of regeneration of different plant communities and the differential effects of fire on different plant and soil types.

The idea that the imminent approach of the wet (or the appearance of new green growth) is the appropriate time to initiate burning of old growth is consistent with information collected from Aboriginal people in other parts of the semi-arid savannas.¹⁰ Fiona Walsh and colleagues (2003) have recently queried this finding, suggesting that it is a borrowing from pastoralists and that before settlement people would have burned in the cold season. The people interviewed at Yarralin and Lingara (south of the Stokes Range) insisted that they did not burn in the cold weather.

North of the range in the higher rainfall saltwater side zone, there would almost certainly have been more intensive burning, more burning at the end or beginning of the dry season, and perhaps also more attention to the need to know where fires were going to stop. In this spear grass Country, there was a clear imperative, shared by Aborigines and pastoralists alike, to render the country accessible by removing excessive growth. It is probable that the Indigenous burning regime was more like that described for the northern floodplains and other spear grass Country. It may be significant that the most detailed information available on the social management of fire (discussed below) was obtained north of the Stokes Range.

Pragmatics

South of the ranges, people were adamant their ancestors never burnt large areas at once. The explorers' accounts bear this out. People spoke of the usefulness of patches of tall grass behind which a hunter would hide when stalking. They also spoke of the fact that kangaroos and other animals eat

10 Kimber and Smith (1987, 221–23); see also Kimber (1983).

grass. They regarded extensive burning as both wasteful and dangerous. It was wasteful in destroying grass that was needed by both herbivores and hunters. The concept of danger will be discussed below.

North of the ranges, as discussed above, the pragmatics of dealing with spear grass provided strong reasons for burning off after the wet season.

There was general agreement south of the Stokes Range that people should burn in their own Country, and not burn in other people's Country. There was general condemnation of fires that get out of control (from the station rubbish tip, from tourists, from kids 'mucking around' and other sources). It is probable that people's right to burn in their own Country was matched by a corresponding prohibition on burning other people's Country.

North of the Stokes Range, in contrast, people stated forcefully that to set a fire that burned into someone else's Country was to commit a capital offence. The punishment was death, at least in principle.

Aesthetics

Lesley Head (1994) has carried out extensive research into fire in the Kimberley, and her findings (in a higher rainfall zone) suggest that Aboriginal people have an aesthetic of fire that values the look of burnt Country. She hypothesises that this fire regime, and thus the aesthetic, is ancient (several millennia at the least), and that it is ongoing. Walsh and colleagues (2003) have contested this analysis. In their view, the aesthetic of burnt Country is recent, and represents Aboriginal people's response to returning to Country that had not been burnt for a long time. In burning again, people restored Country to a state that was visually pleasing. Walsh et al. indicate that they do not accept that this aesthetic formed a part of pre-white fellow burning.

It is not possible to resolve this difference of opinion for all times and places, and it is best to consider the strong possibility of regional variation. It seems certain, however, that Head is correct in her assessment of the long-term continuity of an aesthetic of burnt Country for some regions. A crucial piece of evidence comes from Bathurst and Melville Island, where Andrée Grau (2005) has for many years studied the aesthetics of dance. She has found that Tiwi dance calls for clean, clear bodily motion and clearly articulated bodily shapes. Tiwi people consciously link the aesthetics of dance with the aesthetics of burnt Country. In both dance and Country, the desired state is one in which clear clean lines are visible, in which angles are demarcated

and in which shapes have strong sharp outlines. It is almost inconceivable that this strong association of dance and burnt Country could have arisen within the recent period of white contact. The logical probability is that this is an old and deeply internalised aesthetic.

In the Victoria River District, people south of the ranges articulated an aesthetic of 'clear' Country. Their position was that Country looks good when you can see. Keeping the grass and scrub from obscuring vision, and keeping the trees from becoming too dense, were both articulated as ideals for a clear Country. This aesthetic of clarity has pragmatic implications for hunting, of course. Country where the hunter can see is Country in which the hunter can hunt. Alternatively, the aesthetic of clarity was balanced by a concern that Country not be denuded. The logic here was that hunters need to have something to hide behind, and so do animals. The balance between clear Country and denuded Country suggests that in this region, as elsewhere, a fine-grained mosaic would provide the balance being discussed.

North of the Ranges, the pragmatics and aesthetics were almost certainly generally consistent with those reported for well-watered regions. They include the concept of clearing or cleaning excessive growth so that people and others can move around. Clarity of vision was also part of this aesthetic.

In contrast to the Tiwi aesthetic of clean, articulated shapes, Yarralin people express a savanna aesthetic. Clarity of vision across distance is the heart of the aesthetic. Jessie Wirrpa expressed her sense of this aesthetic in another context. Years ago, she was taken to Adelaide for an operation. Describing her time there she said that she was unhappy because she couldn't see anything. There were too many buildings in the way.

Riley Young spoke to the loss of this aesthetic in his own home Country where the woody weed invasion (Chapter 8) is destroying clarity of vision. He and others defined the loss of clarity as *marnin*—glossed as 'you can't look', or 'shut im up, can't get through'. Both glosses vividly communicate the sense of trying to see, hunt and travel in scrub-invaded Country.

An ethic of care

The people interviewed in this study articulated a strong view of their use of fire, consistent with the culture of fire articulated in myth. That is, they claim for themselves and their forebears the ability to use fire carefully and productively. Allan Young was eloquent on this point: 'They never burned

the Country. They bin holdem Country. They bin holdem Country.’ The term ‘hold’ is Aboriginal English; it bears connotations of sustaining. The idea of holding Country indicates the human responsibility to interact with Country in ways that sustain it in a condition that continues to benefit the creatures, including human creatures, who live there (see Chapter 9).

These assertions clearly gain rhetorical force in the context of pastoralists’ broadacre burning and the out-of-control fires that are now prevalent. However, it is not the case that these views have arisen only in response to white fellow burning. They are consistent with views that are so widespread, and so prevalent in areas where white fellow influence has been minimal, that they clearly articulate an Indigenous ethic of care that is given added emphasis because of the contemporary fire situation.

My teachers were particularly vehement about not allowing fires to get into sacred sites. Their views thus rely on the implicit assumption that fires lit responsibly would be lit by people who know the Country and who know fire. That is, fires were and are lit by people who know where the sacred sites are, what the terrain is like and other factors influencing fire. They know how the fire would behave—where it would go, and where it would stop. ‘Holding’ the Country, and preventing damage, thus requires the local, detailed knowledge of ecological and sacred geographies within which the lighting of domesticated fires is embedded.

Wild and domesticated

The evidence from mythology speaks to a culture of fire. Two main aspects are noteworthy. The first is fire as an out-of-control source of danger. In myth, these fires race through Country after Country, crossing social boundaries and burning Country and animals with harmful effects. Sometimes these events are configured as acts of aggression, and in other stories they figure as events that just happen. These stories define out-of-control fires as extremely negative events. Today, in people’s daily discussions of the out-of-control fires that ravage the region, the harm is identified as direct harm to humans, animals and Country and also as potential harm arising from Dreaming. If fires burn out sacred areas, damage to the sacred site of an area produces negative effects for the traditional owners and, in some instances, for people and other living things as well.

The second aspect of fire is that it is a central feature of human life. The centrality of fire to humanity is symbolised by the fire-stick. In myth, fire-sticks are associated with women, and thus with kinship, camp, cooked food and other major signs of human life as distinguished from the lives of animals.¹¹ Fire-sticks are associated with ceremony and with cleaning up areas for camping. They are never associated with the large out-of-control fires discussed above.

Evidence from myth thus indicates a distinction between wild and domestic. We have encountered this distinction before in relation to dingoes. In the context of fire, it prompts the view that Aboriginal people in this region regard their own use of fire as a practice comparable to what in other parts of the world is called domestication. They have taken a wild element of the world and brought it under control by human effort and knowledge. In contrast to most parts of the world where humans domesticated plants and animals, Australian Aborigines have domesticated fire.

The distinction between wild (out-of-control fire) and domestic (fire that 'holds' the Country) has acquired new meanings in recent years. People now contrast their own fires with the 'wild fires' that rage across the country, started accidentally by tourists, or breaking out of rubbish tips, or getting away from rangers and pastoralists who are trying to burn responsibly but miss the mark.¹²

11 Gender-restricted myth and ceremony enhances these understandings.

12 A note at the end of this chapter shows that at this point Debbie wanted to discuss 'a nomadics of fire'—eds.

This text is taken from *Dreaming Ecology: Nomadics and Indigenous Ecological Knowledge, Victoria River, Northern Australia*, by Deborah Bird Rose, edited by Darrell Lewis and Margaret Jolly, published 2024 by ANU Press, The Australian National University, Canberra, Australia.

doi.org/10.22459/DE.2024.07