Sacred pathways and extended songlines are not restricted to Australia, as a 1932 map of the British Empire, produced in Melbourne by the National Mutual Life Association of Australia, so colourfully illustrates as the red lines of the empire encircled the globe. Huge patches of reddened imperial lands are linked by red trade routes, as though the oceans were imperial lakes.

It was in 1897 that Frank Gillen wrote to Baldwin Spencer from Alice Springs to acknowledge his new insight into the lines which linked Aboriginal society: 'It was a happy inspiration that caused you to start me working on the wanderings of the various totems and much of the information now going to you is the outcome of that work...' (Mulvaney et al 1997: 166).

By coincidence, during that same year, in Queensland, Walter E. Roth elaborated the significance of Gillen's discovery that ceremonial places were linked by Dreaming stories and tracks: 'Thus it happens that ideas are interchanged; superstitions and traditions handed from district to district ... new words and terms ... and corroborees are learnt and exchanged, just like other commodities'. Roth recognised the European utility of this knowledge: 'for future pioneers ... a knowledge of the aboriginal lines of travel or trade-routes might prove of great value, since only along them would there be a chance of finding water' (1897: 136).

Here then is the little acknowledged truth, that the routes of our iconic explorers frequently 'followed the routes of Aboriginal people, who followed, in turn, the epic routes of their own iconic continental explorers, the ancestral Dreaming creation beings. So it was that Stuart's priority in establishing the Overland Telegraph route had been anticipated long before. 'By the discovery of springs on this trip, he proudly claimed, the road can now be travelled to the furthest water' (Stuart 1865: 94, 482).

Even earlier, in 1857, A.C. Gregory followed 'a well-beaten path' near Cooper's Creek, 'where the aborigines have taken the trouble to remove natural obstacles from their paths' (1884: 207).

The abundantly pathed Aboriginal landscape was initiated by spirit ancestors whose epic journeys created places, plants, animals and people as components of an interconnected organic system. The country was criss-crossed by mythological tracks, but these should not be envisaged as a maze, because elders at each nodal point were familiar with the traditions and permissible routes, so that nobody but intruders could be 'bushed'.

Even the Simpson Desert contained a complex of trackways which permitted lawful points of social contact. A dingo centre within the Simpson was linked, for example, with another dingo place at Mt. Gillen. Such social and ritual links allowed people in stressful times to utilise resources in areas with which they had ceremonial ties (see Strehlow 1970: 94). Early Europeans explained the periodic gatherings of people, reflecting this social cohesion, as trade, or barter, a matter-of-fact economic transaction (summarised in Mulvaney 1976: 72-3). Within recent decades fuller recognition of their spiritual and ceremonial value has deepened.

Pioneering studies by McCarthy (1939) and Micha (1970) documented this reciprocity across continental regions, following growing appreciation through tropical fieldwork by several anthropologists during the period 1930-1960. Pioneering studies by McCarthy (1939) and Micha (1970) documented this reciprocity across continental regions, following growing appreciation through tropical fieldwork by several anthropologists during the period 1930-1960. Succinct expression of the social value of such exchanges was provided by Stanner when he concluded that 'it is the gift rather than what is given that matters' (1933: 162). Donald Thomson expressed the implications more fully: 'it is the preparation for a visit to relatives within the ceremonial exchange cycle to discharge his obligations, the journey, the ritual, the formalities ... on arriving ... the niceties of behaviour and etiquette, rather than the ... goods themselves that he values' (1949: 53).

Ethnographic research linked with scientific laboratory analysis has today identified the sources of stone and ochre, thereby establishing the complexity and distances which goods travelled within these exchange systems.

Isabel McBryde has undertaken remarkable and painstaking work (e.g. 1984, 1987, 1997, 2000), first by concentrating upon the dissemination of hatchet stone around the Southeast. She then turned her attention to the exchange of ochre, pituri and sandstone mortars within the Lake Eyre region. Her distribution maps are based upon detailed artefact documentation, and collaboration with laboratory analysts, and most significantly, oral and ethnographic indigenous sources.

Observers remarked on the emotional aspects of such interpersonal traffic, that even preparations for journeys to these ceremonial exchange centres stimulated excitement, while participants derived deep pleasure from meeting kin and experiencing deep contact with Dreaming events and rituals. Yet periodic meetings also produced obvious material benefits, with welcome access to rare and valued goods over and above the spiritual nourishment and bonding. This constituted a delayed return economic system.

While the antiquity of pituri, shell, or hatchet stone circulation is unknown, recent fieldwork hints at great longevity for ochre traffic. The Mungo Inhumation burial had been thickly powdered with ochre brought from some unidentified source. More specific are data relating to Puritjarra rock shelter, far west of Alice Springs, where ochre pieces occur throughout 32,000 years of occupation. Geochemical sourcing methods were applied, which determined that two ochre mines supplied most pigment. One was Ulpunyali mine 50 km south-east of Puritjarra, but the chief source was Karrku, a subterranean
mine described by Peterson and Lampert (1965) in Warripit country 120 km distant to the north. The relative abundance of each ochre source varied throughout this vast time, testifying to ancient traffic, but whether it was reciprocal cannot be established (Smith et al. 1998). Remarkably, Karrku mine has remained in use through 30,000 years into the present.

That there was more, however, to ochre exchange than simply material gain is evident from the prestige of ochre from the Flinders Range quarry at Parachilna (Pukarou). It exhibits a smooth, silvery sheen, resulting from an admixture of cinnabar (mercuric sulphide), but which Aborigines attribute to the blood of a creation-time emu. Whichever explanation is preferred, it was superior ochre to the other accessible sources, which were bypassed.

There is historical evidence for this selective preference of ochre sources. During the late 1860s pastoralists sought to prevent the periodic passage of armed warriors en route to collect ochre. The Port Augusta Dispatch informed readers on 9 June 1882, that ‘the Government sought to overcome the difficulty by purchasing some red ochre in Adelaide, and it was forwarded ... to the mission station at Kopperamana, but the natives would not use it. It was not the right sort’. (p.3)

The intangible values of ceremonial exchange, therefore, were the most thrilling and anticipated experiences for Aboriginal participants, including meeting with distant kin and sharing in rituals which sustained human existence. The best documented non-material exchange concerns a century-old dynamic ceremonial activity involving dance and song. This was the Mudlungra (Molonga, Mutunga) which possibly originated in far north-west Queensland (Roth 1897: 117; Spencer 1926: 236-8; J. Gregory 1906: 209-21; Mulvaney 1976: 90-2; Hercus 1980; Kimber 1990).

It was first recorded by Roth on the Georgina River and he documented its subsequent Queensland passage during the early 1890s. Variants were observed as exciting new ceremonies were performed at Killalpaninna and Alice Springs in 1901 and at The Peak, west of Lake Eyre during 1902. It reached Penong, on South Australia’s west coast, in 1915, and by 1918 was celebrated in the Ooldea region. These latter appearances may have resulted from a revival of the ceremony in the Marree area around 1914 (Kimber 1990: 186). In any case, it travelled some 1600 km in about 25 years, or alternatively, over 800 km within its first nine years.

The free flow of ideas even across more difficult deserts is testified by more recent evidence, though modern transport possibly assisted. Ooldea and Jigalong are separated by 1500 desert kilometres, yet ceremonies containing almost identical words and tunes travelled from one to the other centre within 22 years (Tonkinson 1987: 207).

Ideas also flowed along the wire of the Overland Telegraph, whose construction was a supreme white pioneer example of technology and endurance, insufficiently celebrated in Australia today. The impact upon indigenous peoples was less commendable, and it is time to reflect upon this aspect of the south-north continental route.

While the Line functioned as a track along which land-takers drove stock, and as a safety net for explorers who moved outwards from the Line or travelled from east or west towards it, for Aborigines it brought an influx of white males eager to occupy their land, even by force (see Mulvaney 1998).

More serious, however, were the psychological factors of sudden separation from their clan territories, and the introduction of micro-organisms and epidemiological disasters, including measles, whooping cough, respiratory and venereal diseases. Over a few months of 1899-1900, Ernest Cowle, police officer at Illamarra Springs, reported the death of 30 people from measles and six children from whooping cough, and that many old people were suffering from ‘a sort of cold’ (Mulvaney 2000: 123,141). Given the population density, this must have killed at least ten per cent of the population, while venereal diseases ensured future female infertility.

Simultaneously the Line assisted environmental and biological species shifting and extermination as horses, cattle, sheep, goats, camels and cats impacted in various ways on the ecology. Naturally, pastoralists selected the best water points, virtually excluding the Aboriginal owners.

Consequently people drifted towards the repeater stations, where they were assured of some ration handouts. Mounted Constable Cowle stated the problem in 1902:

I am quite convinced that it is a mistake, this distribution of rations in a regular manner - from what I can see it has the effect of encouraging Natives in to centres where game is very scarce and the natural goods almost entirely absent, they get a pittance of flour and hang on ... whereas if they remained in their own country in little groups they would be fat. (Mulvaney 2000: 162)

Cowle overlooked the reality, however, that they were then unable to inhabit their own land in traditional manner because of the consequences of pastoralism.

Four places illustrate the different perceptions by black and white peoples along or near the Line. They reflect aspects of cultural contact, but also issues of heritage and cultural management, themes so identified with Isabel McBayte. Stuart named Chambers Pillar, a sandstone column near the original Line, in 1860 (1865: 151-2). Significantly, he noted ‘numerous tracks of blacks all about’ and remarked that other sandstone remnants resembled ‘old castles in ruins’. Like so many of his mundane place-names which have stuck, he named it after an Adelaide backer. In future years it proved a landmark for pioneers along the original track, many of whom felt the urge to carve their names, following the lead of Alfred Giles in 1870. It has become an historic autograph album, sadly defaced by recent visitors.

Yet the carefully engraved named of nineteenth-century Centralian celebrities already had defaced and desecrated a structure which was the embodiment of itirkawara, a knob-tailed gecko of Dreaming times, whose legendary sexual transgressions with women of the wrong kin group resulted in evil itirkawara being transformed into this sandstone pillar. A female who crouched nearby in her shame, became Stuart’s Castle Hill. For all Aboriginal people of the region, here was a perpetual reminder that moral laws of marriage must be obeyed.

Nobody violated this place - and Aboriginal people - more than the sadistic Mounted Constable William Henry Withshire, who carved his name with pride on three occasions during the mid-1880s. Like Itirkawara, Withshire evidently ignored moral and sexual rules. When he wrote The Land of the Dreaming he assured his readers, that ‘Men would not remain so many years in a country like this if there were no women, and perhaps the Almighty meant them for use as He has placed them wherever the pioneers go’ (1896:18).
Around 1891 Willshire was stationed at another sacred Aboriginal place on the Finke River, south of Hermannsburg. Aitjara is a sandy flat just beyond the gorge, associated with two ancestral ghost-gum serpents and a wallaby; the latter is still present as one of the tumbled rocks. This was an important Arrernte ceremonial place, and its economic significance by the river is still evident from the scatter of stone tools and grindstones.

Willshire established a police post here in 1889. So much did Aboriginal and European perceptions contrast, that picturesque Aitjara became Boggy Hole. It was strategically sited to protect settlers and stock, chiefly on Tempe Downs, and the surviving ruin provides evidence that the post dominated this significant place, thereby preventing its traditional use.

It was from Boggy Hole that, in 1891, Willshire and his native police rode to Tempe Downs and shot two Aborigines at dawn in their camp. So close were they to the homestead, that Willshire breakfasted there while his men cremated the bodies to conceal their murder.

Those critics who claim that massacres have been exaggerated, should read Willshire’s books. Although the following extract is much quoted, it is not his only contemptuous reference to Aboriginal life. He was stationed a few years later on the Victoria River when this episode occurred:

> at 3 o’clock we came upon a large mob of natives camped among the rocks. They scattered in all directions. It’s no use mincing matters – the Martini-Henry carbines at the critical moment were talking English in the silent majesty of these eternal rocks. (1896: 40-1).

Across 600 million years the arkose grit rock which is Uluru has weathered and eroded into curious shapes and cavities. In the intellectual universe of this region, Indigenous people explain them all as due to creation-time occurrences, set within territory where major topographic features and water sources are hubs for radiating and interconnected Dreaming pathways. Uluru is focus for several Dreaming tracks traversed originally by creatures including Mala, the hare wallaby, Kuniya, the carpet snake, and Liru, a venomous reptile (Layton 1986).

Present clans travel the same routes for ceremonial purposes or seasonal necessity, each person associated with a specific clan territory. No feature is contemplated in isolation, however, because Dreaming stories are linked with places such as Katajuta (the Olgas) and Atilla (Mt Connor). Probably no place within this landscape is more significant than another. Certainly Uluru poses no challenge for Indigenous rock-climbers, for such action would be impious and spiritually dangerous. By contrast egocentric white tourists crave to climb, photograph, and boastfully wear T-shirts proclaiming their feat.

Today Uluru and Katajuta constitute a World Heritage property, both under natural criteria and for their cultural values. The Aboriginal owners jointly manage the National Park with the Australian National Park Service. Isabel McBryde has proven an active and sympathetic management board member. So keen was she to collaborate positively with the indigenous board members, that she learned to speak the Pitjantjatjara language, a key to her dedication to the process of conciliation.

Now to move south to the South Australian border and visit the Charlotte Waters repeater station. Arrernte people traditionally lived near the waterholes on Coglin Creek near its junction with the Finke. It was an important emu ritual centre, but the Overland Telegraph construction team named the place after the mother of a storekeeper on that sector, Lady Charlotte Bacon. During the 1880s the parched landscape somehow maintained 500 sheep, 100 cattle, over 150 goats, 32 horses and frequent passing camel caravans. Rabbits arrived in 1895. Little wonder that photographs depict a flat, treeless and exhausted country, or that Paddy Byrne, who spent over 40 years here, called it Bleak House.

The Commonwealth disposed of the disused building in 1945, when it provided roofing iron for remote Andado station and stone for New Crown station. It remains an important place today for its symbolic importance as a major repeater station between 1872 and 1930 and for its practical value as an archaeological site. Yet it is not on any heritage register (Mulvaney 2000: 83-97).

It is important, also, that through the 1880s Frank Gillen and Byrne staffed the station. Here Gillen learned to converse with Arrernte people and published his first study, a word list. In 1894 Charlotte Waters was the first destination of the Horn Expedition, whose report initiated the scientific survey of the Centre. One of its members, Baldwin Spencer, recruited Byrne and a host of Aboriginal collectors, mostly women, as chief suppliers of fauna for his Melbourne biology laboratory. Some type specimens of marsupials resulted.

The Horn Expedition terminated at Alice Springs, where Frank Gillen eagerly partnered Spencer in their famous anthropological partnership. While based at Charlotte Waters during their epic travel along the Line during 1901, they filmed a number of Aboriginal activities and ceremonies and sound recorded on cumbersome wax cylinders. This was a landmark in global ethnographic fieldwork.

It was from here on their 1901 expedition that two Arrernte men accompanied them to Borroloola. Erlikilyika (Jim Kite) and Purunda proved reliable assistants in camp chores, with the horses and transport, and in riding long distances to delivery mail. Erlikilyika understood the Barrow Creek language, Kaytetye, and acted as an indispensable research assistant. Provided at Borroloola with horses, rations and revolvers, they unexpectedly returned to Charlotte Waters.

Erlikilyka of Charlotte Waters went on to become a significant artist and sculptor, whose works became well known during the period to 1920. He should be ranked as one of the first Aboriginal artists to adapt traditional styles to European taste. Surely Charlotte Waters merits registration on both the national and Northern Territory heritage registers (Mulvaney 2001).

Paddy Byrne grew old at Charlotte Waters and in his final letter to Spencer, in 1925 (Mulvaney 2000: 258), he expressed his opinion of the consequences which followed the Line's construction:

> Whatever the past hides, the present of the unfortunate Aborigine is sufficiently miserable. Native food of any description is almost non-existent, and ... the rations issued to the old natives are insufficient... In addition, our Missionaries undermine their authority, and ridicule their traditions, we take from them everything that makes life worth living, work them until they can work no longer, and then hand them over to the police, whose main endeavour is to work things as cheaply as possible, and thus please a Gov't that has neither knowledge nor conscience. It is a despicable crime.
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