WHEN IS A SCAR A SCAR? EVALUATING SCARRED AND MARKED TREES AT SYDNEY OLYMPIC PARK

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Background
In 2003 several tree scars at Sydney Olympic Park were evaluated to determine their possible Aboriginal origin. This work was carried out as part of the Aboriginal History and Connections Program (AHCP), established by the Parklands Unit at Sydney Olympic Park in April 2002, to examine Aboriginal connections to the Homebush Bay area of Sydney from the earliest occupation until the present day. The AHCP included a review of previous archaeological work in the area and the completion of an Aboriginal sites survey in those parts of Sydney Olympic Park deemed to have potential to retain evidence of pre-European use of the area by Aboriginal people.

The landscape of Sydney Olympic Park has been highly impacted by historical activities ranging from land reclamation to industrial uses as far back as the early 1800s. Consequently, only one area within Sydney Olympic Park was identified as having the potential to contain Aboriginal cultural remains. This was the area of relict Cumberland Woodland known as the Wanngal (Newington) Woodland, within the Newington Nature Reserve, which is managed by the Sydney Olympic Park Authority on behalf of the New South Wales Department of Environment and Conservation.

An examination of previous archaeological work showed that the Woodland had been subject to several archaeological ‘surveys’ of varying aims, coverage and standards of documentation (e.g. Fox and Associates 1986; Paton 1995; Lee and Lennis 2000). Of particular interest was the identification in 1995 of three eucalypts (Scribbly Gums) with scars said to be of Aboriginal cultural origin (Paton 1995). These trees have subsequently been referred to by consultants (e.g. Lee and Darwala-Lia 1998), whose reports, which reached a broad audience leading up to the Sydney 2000 Games, included some speculative sub-missions as to the purpose and significance of the trees (Lee 1999:122; Lee and Darwala-Lia 1998:28-30). Several stone artefacts have also been recorded in the woodland.

A comprehensive Aboriginal sites survey was undertaken within the Wanngal Woodland in 2003 for the AHCP to relocate and reassess these previously recorded features (artefacts and scarred trees) and to record any further evidence of Aboriginal use.

The location
The Woodland itself is approximately 13 hectares in area and is located on a low hill on the southern side of the Parramatta River at Newington, immediately west of reclaimed land which was originally extensive mudflats (known as Arrowanelly by the local Aboriginal inhabitants (Vocabulary… 1790-1792:360) and as “The Flats” by the early colonists at the entrance to Homebush Bay). The Woodland today is a mixture of Scribbly Gum and Ironbark woodland with a grassy understorey.

The survival of the Woodland along the river is due to its inclusion as part of a Naval armament storage facility which occupied much of Sydney Olympic Park for over a century from the late 1800s to the 1990s (its rarity lead to its dedication as a protected nature reserve). The Woodland itself was not untouched however, having been cleared and burnt, and having its undergrowth regularly slashed by Naval depot workers to reduce the hazard from fire. In addition, several vehicular tracks criss-cross the reserve and an armament storage facility with connecting rail track is situated within the Woodland. Since becoming a nature reserve in 2000, access to the Woodland has been heavily restricted.

The survey
The Aboriginal sites survey took place in February 2003 with the participation of AHCP staff members Paul Irish (Program Coordinator and archaeologist), Suzanne Ingram (Program researcher), Dr Val Attenbrow, Australian Museum (Program Advisor) and Evan Gallard (Darug Custodians Aboriginal Corporation representative). Other Aboriginal organisations were invited to attend but had previously surveyed the woodland and whilst endorsing the current survey, did not wish to participate.

Relocation of the exact trees recorded by Paton was difficult but the area in which they were all located was easily found. After examining all Scribbly Gums in this area it was noticed that many displayed irregular scars at their base. At least one of the trees could be matched to that described by Paton on the basis of description and photographs (Fig. 1).

In determining their cultural or natural origin, use was made of identification criteria established by other researchers in Sydney and throughout Australia, and summarised in Table 1. Although these criteria are non-definitive, when used in concert they provide a useful indicator of the likelihood of a scar having an Aboriginal cultural origin. Importantly a recent case study of “Culturally Modified Trees” in South Australia has also highlighted the importance of knowing exactly what tree bark was used for in a specific area, and the resultant scar shapes which could be expected (Carver 2001).

Of these criteria, the most useful and relevant in this case were found to be the shape and position of the scars on the trees, their context and tree age. All scars were at or just above ground level, indicating that they were unlikely to have been made by a person. Scars of cultural origin were generally made at a height convenient for cutting, and will also grow upwards with the tree. A ground level scar, necessarily at least 100 years old if it is to have been scarred by Aboriginal people, is therefore highly unlikely to have an Aboriginal cultural origin. The scars were also mainly asymmetrical and of a range of irregular shapes and sizes, not matching any possible known use from the Sydney region, and suggesting a natural origin. The large number of “scars”
Short Reports

- Scars do not usually reach the ground
- If a scar reaches the ground its sides should be roughly parallel
- Scars are usually symmetrical, with parallel sides or concave in form
- Scar outlines should be fairly regular in outline and regrowth
- Scar ends are usually squared off or tapered
- Scars with axe or adze marks on the original scar surface are likely to be of human origin
- Scars should possess a similar shape to those types of artefacts known to have been locally made from tree bark
- Scar age must be appropriate for the area (e.g. in Sydney at least 100 years old)
- The tree species bearing the scar must be endemic to the area
- Heartwood (xylem) is usually exposed (but older scars can be totally overgrown by outer bark growth) and is usually flat
- Xylem grain pattern is usually parallel to the trunk or branch on which the scar is located
- The presence of Aboriginal cultural remains (e.g. stone artefacts, hearths) in close proximity increases the likelihood of cultural origin
- Inspection of scar forms on surrounding trees may clarify the likelihood of a natural scar origin
- Knowledge of local Europeans tree marking types (e.g. surveyors marks) can exclude these scars as Aboriginal

Table 1

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Figure 1 ‘Aboriginal scar’ on tree recorded in 1995 in the Wanngal Woodland (© Sydney Olympic Park Authority).

on surrounding trees also made a cultural origin less likely. Finally, knowing the history of the Woodland, there was little likelihood that any living trees were of sufficient age to have been scarred by Aboriginal people.

Based on this criteria, it was considered extremely unlikely, if not impossible, that the scars had an Aboriginal cultural origin, and far more likely that they were the result of natural processes or the slashing of undergrowth by Naval workers (AHCP 2003:37-38).

The survey located several previously unrecorded Aboriginal stone artefacts and also identified several axe-cuts in the dead stump of a eucalypt, which were interpreted as possibly having been made by Aboriginal people to hunt possums or collect native honey (AHCP 2003:31-4). Such hunting behaviour is well-documented in Sydney (Collins 1798[1975]:456, Hunter 1793[1968]:61, Tench 1979:154-5) and is likely to have continued for some time after initial European contact.

The tree stump bears two axe-marks spaced about 0.6m apart, the lower mark being about 0.7m above the ground. The lower axe-mark is the most distinct, having a clear V-cut into the heartwood at least 20mm deep and 140mm wide (Fig. 2). The upper mark consists of two parallel axe cuts into the heartwood, the bark possibly having formed the bulk of the ‘toe-hold’.

Both the upper and lower marks are sharply incised into the heartwood and appear on this basis to have been cut with a metal axe. This would be of great interest, given the paucity of physical evidence of post-contact Aboriginal land-use in Sydney, especially in an area surrounded by such total landscape modification. It should be noted that the Aboriginal groups involved in and consulted on the survey were sceptical of the Aboriginal cultural origin of the marks, having seen more convincing examples in Western Sydney and the Blue Mountains.

The identification criteria summarised in Table 1 were of limited use in assessing the possible Aboriginal cultural origin of the axe-marks. They are clearly of human origin, and of a form resembling that resulting from historically documented Aboriginal hunting practices in the Sydney region. The determining factor in this instance was therefore the age of the tree.

A professional arborist was consulted to provide a visual (ie non-intrusive) assessment of the age and nature of the tree and axe-marks. This would also provide a basis for establishing the most appropriate means of conserving the marks and the tree stump if they were evaluated as having a likely Aboriginal cultural origin.

We were half right! The axe marks were made with a metal axe, however the tree was assessed to have died no more than 50–60 years ago, and the axe-marks were cut within a year or two prior to the tree’s death, given the lack of xylem growth after the cuts were made (Hartley 2004). Furthermore, the tree itself was likely to have been around 50 years old at its time of death, meaning that it was born, scarred and died whilst the Woodland was managed by the Navy. The axe marks can therefore be convincingly shown to be of European origin.

Whilst disappointing, the experience of recording and determining the Aboriginal cultural evidence of tree scarring
and marking within the Wanngal Woodland was an interesting experience in archaeological methodology. Although the diagnostic features outlined in Table 1 are under-utilised in general, tree age is often the most deciding factor when considering possible Aboriginal origin of tree scars, but also one of the most variable and difficult to determine. The resulting uncertainty, leads to the prudent but problematic situation of trees being accessioned as Aboriginal sites on cultural heritage registers, even when they are only barely possibly of Aboriginal cultural origin. In many cases, a more decisive determination could be made in the field by a qualified arborist. Qualified and experienced arborists can be reached through organisations such as the National Arborists Association of Australia (website http://www.naaa.net.au/).

While archaeologists routinely engage geo-morphologists to assist in the assessment of the archaeological potential of sub-surface deposits, arborists appear to be under-utilised for assessment with respect to trees, despite previous calls for their use (Sullivan 1984:40). This time-saving and cost-effective procedure could potentially prevent many ensuing management issues associated with the registering and de-accessioning of ‘sites’ and their appropriate management. Whilst not providing a guarantee of Aboriginal cultural (or other) origin, it is likely to be better than the best guess of most archaeologists. In tandem with the judicious use of the other diagnostic criteria, far greater certainty could be achieved.

References
Carver, G. 2001 An Examination of Australian Aboriginal Culturally Modified Trees in South Australia. Unpublished BArchaeology Honours thesis, Department of Archaeology, Flinders University, Adelaide, South Australia.
Hartley, M. 2004 Re: Axe marks to the tree. Letter report to Paul Irish from “The Tree Doctor”.

Figure 2 The lower axe-mark recorded in the Wanngal Woodland by the AHCP Survey in 2003. The sharp incised cuts suggest a metal axe was used (© Sydney Olympic Park Authority).