

## JUST HOW LONG HAVE ABORIGINAL PEOPLE BEEN HERE?

Before the 1940's it was thought that the arrival of Aboriginal people in Australia only dated back 2000 years. In 1940 this arrival date was dramatically extended when the Keilor skull was unearthed and dated at nearly 15,000 years. However the skull was in the upper sedimentary levels of the Maribyrnong River Gorge and by 1971, radiocarbon dating had pushed the date of the lower sedimentary layers back to 31,000 years.

In every decade since, the date of human occupation of Australia has inexorably marched backward as new scientific techniques have been developed. The problem though, is that scientists get attached to the theories and techniques of their own particular discipline. Certain ideas get entrenched with religious conviction in the scientific community and then in the general public.

For instance the technique of radiocarbon dating originally had a validity level of only 40,000 years, but with technological advancement is now 50,000 years. That is, the radiation decay in a  $C^{14}$  molecule is such that every 5,730 years its radioactivity decreases by half. Ultimately you get to a situation when a half of stuff all is still stuff all.

This means that the oldest artefact measured by radiocarbon dating always came out at 40,000 years, regardless of the fact that it might have been 80,000 years or even 180,000 years. So from this imprecise scientific method, a myth developed that Aboriginal people have been in Australia for 40,000 years. This is still the most quoted figure, even by Aboriginal people.

The point is, if you ask the question *'Well, if Aboriginal people arrived here 40,000 or even 50,000 years ago, how did they get here?'* The obvious answer is: *'They arrived by boat during an ice age when the sea levels were lower.'* Well, if that is right then the sea levels were right for migration into Australia around 70,000 years ago.

This is an interesting figure because about 75,000 years ago Mount Toba, a volcano in Sumatra erupted. It was a catastrophic event that almost wiped out life in the Northern Hemisphere. The toxic pollution would have been a great motivator to migrate southward into Australia which was not affected. However an arrival date in Australia of 70,000 to 75,000 years ago conflicts with the popular 'African Eve' theory.

Mitochondrial DNA (MtDNA) research, which traces ancestry through the female line, puts migration out of Africa at about 60,000 years ago. The big problem with such research is that every time a woman has no daughters, her genetic history disappears, because her sons cannot pass on her MtDNA. This means that the age of African Eve is constantly moving forward as female genetic history disappears. The same flaw also applies to male Y chromosome dating.

New research in fact now shows that there was indeed migration into Australia around 75,000 years ago. However there is also mounting evidence that Aboriginal people were already here. Another window for migration at the time of low sea levels occurred about 105,000 years ago, but various new techniques put the antiquity of Aboriginal occupation significantly longer than even this.

In 1985 Australian palaeontologist Gurdip Singh drilled a 72 metre core sample at Lake George in NSW and analysed the pollen and charcoal layers. He found that the charcoal deposits at a certain point became so regular, that it could only be explained by deliberate human activity. In other words it was due to Aboriginal firestick farming. \

Singh estimated this date as 120,000 years ago, and created a storm of controversy amongst conservatively minded academics. However his findings were replicated by core samples in North Queensland which pushed the date back to 140,000 years ago. Since then, thermoluminescence techniques have pushed the date of ochre paintings at Kakadu back to 150,000 years ago.

This is a really interesting coincidence of dates, because at this time there was a 20,000 year window of opportunity for migration into Australia, due to the lower sea levels of an ice age. So it now seems likely that Aboriginal people first migrated here at least 150,000 years ago.

As marsupial animals cannot communicate diseases to humans they found themselves in a disease free environment, and apart from the marsupial lion (the Dooligar), they had no predatory competitors. So within 10,000 years of arrival, Australia was fully colonised and Aboriginal people had begun systematically managing the environment by fire. However you will still see the culturally blind assumption in academic texts that Aboriginals were just using fire to hunt animals, rather than as a sophisticated tool of land management. Terra Nullius still insidiously influences our thinking.

If firestick farming was going on 140,000 years ago ***then it was underpinned by a systematic knowledge base.*** That knowledge base was of course the totem system, within which all knowledge was integrated to serve ecological purposes.