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**The extinction of rigour: a comment on  
'The extinction of the Australian Pygmies' by  
Keith Windschuttle and Tim Gillin**

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In a 2002 article in *Quadrant* by Keith Windschuttle and Tim Gillin,<sup>1</sup> it was argued that a founding population of people of Oceanic Negrito origin were wiped out by subsequent population migrations into ancient Australia. The article borrows heavily from the trihybrid model proposed by Dr Joseph Birdsell and initially developed in the 1930s. Birdsell argued that this population was largely replaced in Australia by two subsequent prehistoric migrations except in the Cairns rainforest region and Tasmania. Birdsell referred to the hypothesised founding Negrito people as the Barrineans. Windschuttle and Gillin allege that Aboriginal activists (who started their campaign against Birdsell's thesis in the 1960s) were opposed to the theory as it ran counter to their political aspirations. Although no link is identified by Windschuttle and Gillin between the actions of Aboriginal activists and the archaeological community, the authors imply that archaeologists have opted to support the flawed 'one people' model for the prehistoric population of ancient Australia through an unscholarly concurrence between the designated experts and the political interests of Aboriginal people. In reality archaeologists have abandoned Birdsell's 70-year-old model because it is no longer sustained by the abundant archaeological evidence. In this paper we sketch some of the abundant evidence that is responsible for the abandonment of this outdated model of Australia's past and provide an overview of the two prevailing models for the peopling of this continent.

**Extinction of the 'pygmy model'**

Before Windschuttle and Gillin's suggestion that there was a major pygmy extinction event in Australia is even plausible, it is necessary to accept that a separate pygmy group derived from Oceanic Negritos once existed here. In fact there is no evidence from the archaeological and biological record for the existence of such a pygmy population in Australia.

One of the primary criteria for obtaining pygmy status in the modern world is short stature. Windschuttle and Gillin do not define what they mean by a pygmy and, in the absence of a specific definition, the classical anthropological definition proposed by E Schmidt in 1905, must apply by default. Schmidt defined pygmies as populations for whom *average* male stature is 150cm or less and *average* female stature 140cm or less.<sup>2</sup> Windschuttle and Gillin would indeed seem to be aware of this definition as they go to the trouble of claiming that most of the adult males around Kuranda and Cairns measured by Birdsell stood between 140 and 150 centimetres tall. This is a poor reading

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1. Windschuttle and Gillin 2002.
  2. Cavalli-Sforza 1986: 17.

of the biological data collected by Birdsell. The average stature reported by Birdsell<sup>3</sup> for males is in fact 155 cm in Cairns and 159 cm at Kuranda. Stature for females is not reported.<sup>4</sup> These people were rather short, but in the absence of an extended justification they are too tall to be classified as pygmies.

The case for pygmies in Tasmania is even less sustainable. People from Tasmania seem not to have been short at all. Information on stature from Tasmania is not anthropometric and is dependent upon ethnohistorical accounts, none of which suggest that Aboriginal people living in Tasmania were of small stature. It would seem that the only scrap of evidence that has been used to suggest that the Tasmanian Aboriginals were derived from Oceanic Negritos is their wavy hair. The research of Dr Colin Pardoe has demonstrated that, despite 10,000 years of geographic isolation from the mainland, the similarities between Tasmanian skeletal biology and the mainland Aboriginal population in Victoria outweigh the differences. It would seem that there has been very little divergence between the two groups.<sup>5</sup> Tasmanian Aboriginals clearly share ancestors with their relatives across Bass Strait and are not derived from a separate migration.

Windschuttle and Gillin follow Birdsell in claiming that evidence from the archaeological record supports the existence of a founding Negrito population. They argue that the gracile skeletal remains from Lake Mungo in the Willandra Lakes were most likely those of the smaller, more slender Negritos. However, biological anthropologists, including Birdsell, have failed to identify any diagnostically Negrito characteristics in the human fossil record from Lake Mungo or, indeed, any other part of Australia. It certainly does not appear that these individuals were small in stature, which is the only means of identifying a pygmy population in human palaeontology. Although there is still debate on the actual antiquity of the Lake Mungo 3 (LM 3) individual (the dates range between 40,000 and 60,000 years before present), and indeed its sex, it is certainly one of the oldest known human skeletons in the country. The right ulna has a maximum length of 297 mm which lies at the uppermost limit recorded for recent Australian Aboriginal males,<sup>6</sup> larger than the average male stature recorded by Birdsell (1993) across most of Aboriginal Australia. Indeed the stature reconstructions for *all* Pleistocene fossil humans<sup>7</sup> appear to be beyond the mean height for pygmies.<sup>8</sup> There is no evidence to suggest that any of the Pleistocene fossil humans have any affinities with those groups that have been referred to as Oceanic Negritos. On the contrary, the fossil human record demonstrates that Australia's first people were tall.

Stone tool industries have also been employed in the Windschuttle and Gillin article to support a founding Negrito hypothesis. For example, the Kartan stone artefacts were first described by Professor Norman Tindale, who employed them to construct a cultural chronology of Aboriginal tool types. Tindale argued that the Kartan artefacts were the earliest in the sequence and most likely represented the tool kit of the 'Barrineans'. It is now clear that this interpretation is entirely incorrect. Firstly, these purported

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3. Birdsell 1993: 309.

4. Birdsell 1967, 1993.

5. Pardoe 1991.

6. Brown 2000.

7. eg Brown 2000.

8. Brown 2000.

Kartan 'tool types' may not be tools at all, but simply manufacturing debris which is not diagnostic of chronology or maker. Secondly, such objects are now dated to the last 10,000 years and do not represent the debris of an early settlement of Australia. Thirdly, these kinds of stone artefacts are not found in chronological association with skeletal remains, so it is difficult to ascribe them to one of the trihybrid skeletal 'types'.

A similarly outdated reading of the archaeological evidence is present in Windschuttle and Gillin's statement that the dingo was introduced 6000 years ago and was accompanied by a whole new technology of stone tools. Although this was a view held by archaeologists 20–30 years ago it has been overturned by much recent research. Firstly, the dingo was probably introduced only 4000–4500 years ago, with claims for greater antiquity failing to take disturbance and poor dating into account. Secondly, we know that no new technology was introduced from outside Australia at that time. The stone implements that Windschuttle and Gillin refer to were present from before 7000–8000 years ago, and probably developed from pre-existing technology. During the last 10,000 years there were radical changes in ancient technology as Aboriginal groups adjusted to climatic and social change.<sup>9</sup> These changes are not indicative of new groups entering the continent.

Windschuttle and Gillin are also dismissive of the use of craniology to establish the genetic affiliation of different population groups, despite the fact that craniology incorporating multivariate analyses is used across different regions of the world to map human variation. It has proved to be a powerful tool in forensics and repatriation to establish the origin of crania of unknown provenance and population group. The basic assumption in craniological studies attempting to estimate the degree of genetic relatedness between populations is that those populations that display the most similarities are the most closely related.<sup>10</sup> The initial study of Queensland crania by Larnach and Macintosh,<sup>11</sup> who observed the frequency of anatomical traits of either metrical or non-metric definition, formally demonstrated that the 12 Cairns rainforest crania available to their study could not be coherently distinguished from other Queensland crania. The crania certainly did not indicate that there was any 'Oceanic Negrito' component in their cranial form.<sup>12</sup> Subsequent craniological research in Queensland incorporating metric data has been consistent with the results of Macintosh and Larnach.<sup>13</sup> There are subtle differences between different geographical regions in Queensland, the most distinct being amongst the Aboriginal people of the Keppel Islands who were semi-isolated by 14 km of sea and underwent slight microevolutionary change.<sup>14</sup> Slight variation in skeletal form is expected in indigenous populations spread over large areas of distance and geography.

### **Current models for the origins of the Aboriginal Australians**

Questions about the biological origins of Aboriginal Australians have been at the forefront of archaeological debate in this country since the establishment of archaeology as

9. Hiscock 1994.

10. White 2000: 430.

11. Larnach and Macintosh 1969.

12. Macintosh and Larnach 1973.

13. van Holst Pellekaan 1991; Pardoe and Donlon 1991.

14. Larnach and Macintosh 1972; Pardoe and Donlon 1991.

a professional discipline in Australia in the 1960s. Evidence on the origins of the first Australians relies heavily upon data taken from bones, including teeth. Other forms of archaeological evidence have placed the human fossil and osteological record into a broader context providing an understanding of the timing of expansion into different Australian environment types. Knowledge acquired from skeletal remains and the material record indicates that Aboriginal people have adapted, both biologically and culturally, to all Australian environment types ranging from deserts to tropical landscapes, geographically isolated islands and sub-temperate highlands. Indeed it would seem that even the marginal environments were occupied during those periods of increased aridity that characterised the Pleistocene.

Amongst specialists there are different opinions regarding the biological origins of Aboriginal Australians. This diversity of models springs from the complexity of the evidence that is available. In an attempt to address this difficult question, biological anthropologists not only acquire information by applying evolutionary theory to the fossil record, but have in the past obtained relevant data from recent and living populations in the form of molecular (blood types, DNA) and morphological evidence (craniometrics, physical characteristics – stature, skin colour, hair form etc).

As explained in the general Australian prehistory works referred to by Windschuttle and Gillin, ever since the archaeological communities general abandonment of Birdsell's trihybrid model debate has focused on two explanatory models. In addition to the 'one people' model criticised by those writers, other experts favour Alan Thorne's dihybrid model which proposes separate Pleistocene colonising events of Australia with ultimate roots in Southeast Asia and China.<sup>15</sup>

Thorne developed his views at a time when there was widespread acceptance of the 'multiregional continuity theory' on the origins of anatomically modern *Homo sapiens*, a model that traces today's regional indigenous populations to their supposed, respective *Homo erectus* forebears. Thorne's dihybrid model can be seen as an adaptation of multiregional continuity because, in addition to relating Australian Aborigines' ultimate origins to South-East Asian *Homo erectus*, the usual view at the time, he proposed a separate colonising thrust into Australia of a less robust population with its roots tracing back to North-East Asian *Homo erectus*. The last two decades, however, have seen the rise of the 'Out of Africa' theory which proposes a single origin of *Homo sapiens* within the last 150,000 years in Africa. Proponents of this view largely but not universally hold that after leaving Africa, anatomically modern humans gradually replaced more primitive species of humans (ie *Homo erectus* in Asia and *Homo neanderthalensis* in Europe) and also colonised previously unpopulated continents such as Australia and America. The biological variation that is seen in Aboriginal populations across the country, they argue, has been the result of adaptation to different environments over tens of millennia (a very long period of time).

Variations on both general theories exist and archaeologists continue to work on the problem from a vast array of perspectives. As Australia is often considered one of the strongest cases for supporting multiregional continuity,<sup>16</sup> the human fossil record

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<sup>15</sup> Thorne 1980.

<sup>16</sup> Antón and Weinstein 1999; Bulbeck 2001.

in this country has been the subject of intense scrutiny and debate by the international community on both sides of the argument.

The trihybrid model developed by Birdsell had its origins in the once commonly held view that there had been 'pure races' who had migrated across the globe including to Australia, and that the variation in today's populations is due to admixture.<sup>17</sup> Birdsell claimed that the first 'race' to inhabit Australia was of Oceanic Negrito stock,<sup>18</sup> the descendents of whom could be seen in Tasmania and the rainforest areas at Kuranda and Cairns at the time of European contact. This model does not correspond with any of the information from the human fossil record. As we have explained there are no fossil skeletons of pygmies and the earliest skeletons yet found were tall people.

Biological anthropologists and archaeologists seek to explain Australia's population prehistory through the use of material evidence. As further archaeological data has been collected over the years, a clearer understanding of Australia's population prehistory continues to emerge. No new evidence has emerged to support a trihybrid model. On the contrary, all of the current evidence indicates that the trihybrid model is wrong. One of the important characteristics of scientific archaeology, as practiced in Australia in recent decades, has been the willingness to abandon models that have been refuted by archaeological evidence. The rejection of Birdsell's trihybrid model is not an indication of political influence in the discipline of archaeology, but a reflection of the practice of science.

Science is increasingly developing a clearer understanding of environmental influences on human biology which assist in explaining the numerous causes and effects environment has on human variation. The research of Dr Julian O'Dea, for example, has suggested that the rainforest environment's low ultraviolet light levels in the Cairns area limit the skin's production of vitamin D which is important for skeletal growth and maintenance, leading to the evolution of small body size to expand the surface area of the skin, relative to body mass, available to absorb ultraviolet radiation.<sup>19</sup> O'Dea's claim for reduced ultraviolet radiation is consistent with Birdsell's documentation of lighter skin among the people from Cairns compared to those from adjoining areas. This is an example of the variation in physical features that has arisen amongst Aboriginal groups as they have adapted to different environment types. It is necessary to reiterate that differences in Aboriginal biology do not necessarily reflect different ancestry.

## Conclusion

Windschuttle and Gillin have engaged in a fanciful and ultimately superficial discussion of Australia's past. Instead of developing a solid understanding of the evidence and analytical techniques that archaeologists and biological anthropologists have employed to describe the history of human occupation in Australia they have concentrated on interpretations that are decades out of date and have resorted to the bizarre conspiracy theory that 'the fact that the Australian pygmies have been so thoroughly

<sup>17</sup> See Professor Colin Groves's discussion on this in 'Ockham's Razor', 28 April 2002, ABC <http://www.abc.net.au/rn/science/ockham/stories/s541202.htm>, accessed January 2006.

<sup>18</sup> Thomas Huxley (1870) was amongst the first to visualise a 'race' of Negritos in Tasmanians.

<sup>19</sup> O'Dea 1993.

expunged from public memory suggests an indecent concurrence between scholarly and political interests'.<sup>20</sup> The reason that pygmies are not discussed in models of human colonisation of Australia is that a separate group of pygmies never existed here. This is not a political statement but a scientific one, based on the absence of any biological data available for a pygmy population living in Australia, the skeletal evidence for population continuity throughout Australian prehistory and the archaeological evidence for cultural adjustment to climatic change rather than cultural replacements. It is essential in science that testable hypotheses stand the rigour of peer review. The trihybrid model does not correspond with the available data and therefore has been replaced by those models that convincingly address and accurately incorporate the archaeological and biological data.

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### References

- Antón, SC and Weinstein, KJ 1999, 'Artificial cranial deformation and fossil Australians revisited', *Journal of Human Evolution* 36: 195-209.
- Birdsell, JB 1967, 'Preliminary data on the trihybrid origin of the Australian Aborigines', *Archaeology and Physical Anthropology in Oceania* 2: 100-55.
- 1993, *Microevolutionary patterns in Aboriginal Australia*, Oxford University Press, Oxford.
- Brown, Peter 2000, 'Australian Pleistocene variation and the sex of Lake Mungo 3', *Journal of Human Evolution* 38: 743-9.
- Bulbeck, D 2001, 'Robust and gracile Australian crania: the tale of the Willandra Lakes', in Truman Simanjuntak, Bagyo Prasetyo and Retno Handini (eds) *Sangiran: Man, culture and environment in Pleistocene times*, Yayasan Obor Indonesia/The National Research Centre of Archaeology/École Française d'Extrême-Orient, Jakarta: 60-106.
- Cavalli-Sforza, LL (ed) 1986, *African Pygmies*, Academic Press, Orlando.
- Hiscock, P 1994, 'Technological responses to risk in Holocene Australia' *Journal of World Prehistory* 8(3): 267-92.
- Huxley TH 1870, 'On the geographical distribution of the chief modifications of Mankind', *Ethnological Society Journal*, London 2: 404-12.
- Larnach, SL and Macintosh, NWG 1969, *The craniology of the Aborigines of Queensland*. Oceania Monographs no 15, University of Sydney.
- 1972, 'The Keppel Islanders', *Archaeology and Physical Anthropology in Oceania* 7: 8-14.
- Macintosh, NWG and Larnach, SL 1973, 'A cranial study of the Aborigines of Queensland with a contrast between Australian and New Guinea crania', in RL Kirk (ed) *The human biology of Aborigines in Cape York*, Australian Institute of Aboriginal Studies, Canberra.

<sup>20</sup> Windschuttle and Gillin 2002: 18.

- O'Dea, JD 1993, 'Possible contribution of low ultraviolet light under the rainforest canopy to the small stature of Pygmies and Negritos', *Homo* (Stuttgart, Germany) 44(3): 284-7.
- Pardoe, C 1991, 'Isolation and evolution in Tasmania', *Current Anthropology* 32: 1-22.
- Pardoe, C and Donlon, D 1991, 'The Roth collection and other Aboriginal skeletal remains from the Keppel Islands and the central coast of Queensland (3 parts), Description and analysis, appendices, community report', Report to the Australian Museum, Sydney.
- Thorne, AG 1980, 'The longest link: human evolution in Southeast Asia and the settlement of Australia.' in JJ Fox, RG Garnaut, PT McCawley and JAC Mackie (eds) *Indonesia: Australian Perspectives*, Australian National University, Canberra: 35-43.
- van Holst Pellekaan, SM 1991, 'Aboriginal skeletal remains from the Cairns Rainforest Region', Report prepared for the Australian Museum.
- White, T 2000, *Human osteology*, Academic Press, San Diego.
- Windschuttle, K and Gillin, T 2002, 'The extinction of the Australian Pygmies', *Quadrant* 46(6): 7-18.