

The Initial Peopling of Wallacea and Sahul

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Abstract. – This paper reviews significant misunderstandings concerning the earliest evidence of human colonizations involving sea travel. In particular, the navigational ability of *Homo erectus* is considered, and its implications for the technological, cognitive, and intellectual capability of that species. Some of the epistemological implications for heuristic modelling dynamics in archaeology are discussed, especially in relation to limitations imposed by language and familiarity with existing archaeological literature. [Australia, Southeast Asian islands, Lower Palaeolithic, navigation, hominids, first watercraft, epistemology]

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1 Introduction

The most weighty single issue of Australian archaeology is undoubtedly the question of the continent's initial settlement by humans. It is also an important issue of global Pleistocene archaeology. Not only does it play a key role in models concerning the dispersion or evolution of anatomically modern humans, it is also widely recognized as proving conclusively the competence of hominids in navigating the open sea, their ability to colonize isolated regions, and indirectly their use of some form of complex communication, presumed to have been uttered language. In short, a number of answers to fundamental questions of recent hominid evolution ought to be found in the islands separating Australia from Asia, particularly the deepwater islands collectively known as Wallacea, and ultimately in Sahul (Greater Australia) itself.

Australian archaeology has been traditionally neglected, having been considered as being of little consequence to the rest of the world until the 1960s or 1970s. Since then, however, a young

school of Australian archaeology has made great strides. During the 1980s, the favoured model of initial Australian colonization was based on radiocarbon dates from sites in both Australia and various islands to its immediate north that seemed to peter out at ages of around 40,000 years (40 ka). Consequently it was assumed that occupation of the Southeast Asian islands east of Java was achieved quite swiftly, and entirely by *Homo sapiens sapiens*.

In principle, this "short-range" model continues to dominate both textbooks and academic curricula, except that in recent years, a series of TL (thermoluminescence) and OSL (optically stimulated luminescence) dates from sediments at a few northern Australian sites has been widely accepted as extending human occupation securely back to about 60 ka BP (Roberts et al. 1993). Implicit in this model is the assumption that the lack of radiocarbon dates of above 40 ka is attributable to a "dating plateau" related to the method's own limitations. Some Australian archaeologists, however, reject this view, basically because the same plateau has not been observed with "geological" radiocarbon dates from Australia, and they maintain that only ages of up to 40 ka are secure (Allen and Holdaway 1995). Nevertheless, there is no significant further difference between these two models, called the short and middle-range hypotheses respectively. Both have to contend with a conspicuous paucity of *H. sapiens sapiens* remains of demonstrated Pleistocene antiquity from all Southeast Asian islands (this includes the undated Niah Cave skull from Borneo).

A third model has been advocated from time to time, the long-range hypothesis for first Australian occupation. This was based initially on palaeoecological evidence, particularly in the form of abrupt changes in pollen spectra and inferred incidence of vegetation burning (Singh and Geissler 1985; Kershaw 1993). A human presence in Australia by 140 ka to 130 ka ago is implied by this alternative. Recently, Fullagar et al. (1996) have presented a