The Primate dispersal, residency and migration of **Homo sapiens**

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**Summary**

The present paper seeks to establish inter-linkages between the human occupation of Wallacea and the dispersal of **Homo sapiens** to Australia and New Guinea. It has long been recognised that **Homo sapiens** reached Eastern Australia and New Guinea prior to 45 000 years ago. However, it has been unclear whether **Homo sapiens** first colonised Australia from New Guinea, or vice versa. This paper demonstrates that the most likely scenario is that **Homo sapiens** colonised New Guinea first, before 45 000 years ago, and then dispersed to Australia. The paper also presents evidence that **Homo sapiens** first arrived on several Wallacean islands by 30 000 years ago.

The paper begins with a review of the archaeological and palaeoanthropological evidence for the dispersal of **Homo sapiens** to Wallacea and Australia. It then discusses the evidence for the dispersal of **Homo sapiens** to New Guinea, and the possible routes taken. The paper then presents evidence for the dispersal of **Homo sapiens** to Australia, and the possible routes taken. The final section discusses the implications of these findings for our understanding of human dispersal and migration.

**Introduction**

The dispersal of **Homo sapiens** to Wallacea and Australia is one of the most important events in human prehistory. The first signs of human occupation of Wallacea, represented by stone tools, were discovered on the island of Flores in the Early Pleistocene. The first signs of human occupation of Australia, also represented by stone tools, were discovered on the island of Australia in the Late Pleistocene. The dispersal of **Homo sapiens** to Australia and New Guinea is therefore a key event in the history of human dispersal and migration.

The dispersal of **Homo sapiens** to Wallacea and Australia is a complex process that has been studied by archaeologists and palaeoanthropologists for many years. The first signs of human occupation of Wallacea, represented by stone tools, were discovered on the island of Flores in the Early Pleistocene. The first signs of human occupation of Australia, also represented by stone tools, were discovered on the island of Australia in the Late Pleistocene. The dispersal of **Homo sapiens** to Australia and New Guinea is therefore a key event in the history of human dispersal and migration.

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that can generate the most rational explanations of how very early maritime navigation may have been achieved.

Fig. 3. The Nale Tasih 1 during sea trials on the Timor Sea, 8 March 1998.

However, in matters to do with survival, that may not introduce as much uncertainty as perhaps in aspects involving greater

that both these replicative approaches involve uncertainties, but these can be minimised by rigour, and the procedure is still

in order to arrive at the known product. However, if only the result of a particular strategy is known, and not the physical

detailed microscopic studies of the resulting objects (e.g. microwear), by-products or markings. In contrast to Semenov

working of wood, bamboo, fibres and resins, and butchering with stone tools (e.g. Bednarik 1997a). This has usually included

aspect of this first landfall: where and when it occurred, at what sea level, where the sailors originated, how many there were,

large, sea-going rafts in Aboriginal Australia.

there would be unsuitable for lengthy sea journeys (Massola 1971; Jones 1976, 1977, 1989; Flood 1995). Indeed, this raises

Replicative experiments

sophisticated communication, most probably in verbal form (speech), or some other suitable mode of language.

technological Rubicon crossed by the human genus, most probably at the Strait of Lombok, clearly demanded the use of

skilled application of cultural systems to utilise natural ones. Ultimately it resulted in the unsurpassed seafaring skills of modern

an artefact that harnessed the forces of nature: the carrying capacity of a floating object, and the currents, waves, and winds at

period managed to cross), I have proposed to test the proposition that Europe was first colonised via the Strait of Gibraltar

and south of the western Mediterranean, which can hardly be a coincidence. In view of the very short distance to be crossed

there is no Early Acheulian in eastern or central Europe, but the trajectories of that industry are entirely identical in north-

no interest so far. It is generally assumed that Europe was initially occupied from the east, either via the Bosporus (or

Sondaar et al. 1995). Crete was occupied by humans during Middle Palaeolithic times at the latest (but possibly much earlier),

seafaring, in the form of insular obsidian from Melos on the mainland, comes from Frachthi Cave in Greece, being only

Watercraft and paddles of the late first half of the Holocene are also known from two Japanese sites (Aikens and Higuchi

Physical evidence of Pleistocene seafaring has not ever been reported, nor have we any credible depictions of watercraft in

Buka Island (180 km from New Ireland) (Allen et al. 1988; Wickler and Spriggs 1988; Bellwood 1996; Lourandos 1997). In

suggested to have occurred in the order of 60 000 years ago (Roberts et al. 1990, 1993; but cf. Allen and Holdaway 1995;

rather than attributing these and various technological uniformities (which exist across physically different groups, like

production of cupules and line petroglyphs, the collection of crystals and other unusual objects, beads and pendants, and, in a

Middle Palaeolithic industries (Rust 1950; Garrod and Kirkbridge 1961; Copeland 1978; Hours 1982), and the following

000 years ago, with the use of mineral pigment and the collection of 'exotic' objects (crystals, fossil casts; d'Errico et al. 1989;

damage (Chase and Dibble 1987; Davidson and Noble 1989). Hence the insistence that Eve's progeny reached Southeast

millennia of the Pleistocene, so this model cannot accommodate seafaring ability before 50 000 B.P. without sustaining severe

this latter concept), who according to the ideologically closely related 'African Eve' scenario appeared towards the Late

preserve of that very pinnacle of human evolution, 'anatomically modern humans' (see Tobias 1995 for a pertinent critique of

50 000 B.P. (see below), at which time there seems little doubt that Homo sapiens had crossed the Strait of Gibraltar, and was

had a high density of cultural markers visible in the Middle Palaeolithic industries of southern France, such as a marked

and 850 000 years old: Mata Menge (a-e, g) and Boa Leza (f, h).

Fig. 2. Stone tools of the final Early Pleistocene of the Soa Basin, central Flores, thought to be between 750 000

Fig. 3. The Numic Tabi Dari light weight boat in the Plane of Five Mountains.
The peopling process of islands began apparently with the crossing of the most important biogeographical barrier in the world, the entrance of Homo into the New World (Thomson 1979; Sondaar 1987). The only large mammals that have ever crossed to these islands, other than Homo, were elephants, which arrived via the Mediterranean. Evidence for the arrival of Homo is likely to have been up to a million years ago. To do so, and especially to do so with a colonising party of adequate size to establish a new population, he had to acquire seafaring capability. Consequently the Indonesian evidence demands that marine navigation was initially developed around a million years ago.

Fig. 1. A raft built by the First Mariners Project team in Lombok, Indonesia, 2000

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To suggest that such vessels were built without a quite deliberate plan, and that an adequate number of people was in each and every case we can document. This required adequate vessels to carry these people, their supplies and equipment. The author has been engaged in replicative archaeology for about thirty years. Since we lack any physical remains of maritime technologies, nor have they attempted or considered replicative experiments. The available knowledge from other areas of technology of the periods in question, must be determined according to systematically derived probability estimates based on experimentation. In the case of acquired through replicative experiments. The understanding of Pleistocene technology to be acquired in this period is therefore at a very early stage. However, Bednarik’s (1996) attempts to build two rafts entirely with stone tools on the Moroccan coast in preparation for testing issues of Mediterranean Pleistocene maritime design, and thus presumably occupy Lombok and Sumbawa first, the author has found his stone tools also on Timor and Roti, two islands further south-east, and there are unconfirmed reports that such tools may also occur on Sulawesi (Van den Bergh 1997b, 1997c, 1997d, 1998a, 1999a, 1999b, 2000b). The understanding of Pleistocene technology to be acquired in this period is therefore at a very early stage. However, Bednarik’s (1996) attempts to build two rafts entirely with stone tools on the Moroccan coast in preparation for testing issues of Mediterranean Pleistocene maritime design, and thus presumably occupy Lombok and Sumbawa first, the author has found his stone tools also on Timor and Roti, two islands further south-east, and there are unconfirmed reports that such tools may also occur on Sulawesi (Van den Bergh 1997b, 1997c, 1997d, 1998a, 1999a, 1999b, 2000b). The understanding of Pleistocene technology to be acquired in this period is therefore at a very early stage. However, Bednarik’s (1996) attempts to build two rafts entirely with stone tools on the Moroccan coast in preparation for testing issues of Mediterranean Pleistocene maritime design, and thus presumably occupy Lombok and Sumbawa first, the author has found his stone tools also on Timor and Roti, two islands further south-east, and there are unconfirmed reports that such tools may also occur on Sulawesi (Van den Bergh 1997b, 1997c, 1997d, 1998a, 1999a, 1999b, 2000b). The understanding of Pleistocene technology to be acquired in this period is therefore at a very early stage. However, Bednarik’s (1996) attempts to build two rafts entirely with stone tools on the Moroccan coast in preparation for testing issues of Mediterranean Pleistocene maritime design, and thus presumably occupy Lombok and Sumbawa first, the author has found his stone tools also on Timor and Roti, two islands further south-east, and there are unconfirmed reports that such tools may also occur on Sulawesi (Van den Bergh 1997b, 1997c, 1997d, 1998a, 1999a, 1999b, 2000b).


