

The Pleistocene settlement of the rim of the Indian Ocean

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ABSTRACT

Recent hypotheses on the early expansion of early modern humans out of Africa have emphasised the coastal route, crossing the Red Sea, following the coast of Arabia, India and eventually reaching insular SE Asia and Australia. Given the ca. 50,000 BP dates for these sites, a date of ca. 80,000 BP has been proposed for the preliminary move out of Africa. Indeed, this has been linked with the explosion of Mount Toba at this period. However, there is a striking lack of direct archaeological evidence for the greater part of this route; explanations for this lacuna are varied but none are wholly satisfactory.

Nonetheless, there seems to be an array of linguistic, cultural and genetic evidence that links together relic populations throughout this area. The paper proposes that the Malagasy Vazimba, the Sri Lankan Vedda, the Andamanese, perhaps the Shom Pen of the Nicobar Islands, the Negritos of SE Asia all provide evidence for this early expansion. Recent proposals for features common to the languages of Africa and the Pacific will be considered in the light of this model.

1. Introduction

It is now widely accepted that hominids not ancestral to modern humans diffused out of Africa at least 1.8 million years ago (Swisher *et al.* 1994), that modern humans evolved in Africa (Allsworth-Jones 1993; Horai *et al.* 1995; Thomson *et al.* 2000; Ingman *et al.* 2000; Ke *et al.* 2001) and that they spread out of Africa more than 100,000 years ago (Stringer & McKie 1996; Mitchell 2002). In June 2003, fossils of the earliest modern human, *Homo sapiens*, were uncovered at Herto village in the Middle Awash area of Ethiopia, about 140 miles northeast of Addis Ababa, and were dated with radioisotopes at 154-160,000 years old (White *et al.* 2003). Expanding modern *sapiens* displaced the existing hominids who populated the Old World so effectively that by ca. 30,000 BP these had been eliminated (Trinkaus 1983; Stringer & Gamble 1993). It is unlikely there was any genetic interchange between modern *Sapiens* populations and the resident *Homo erectus* (Krings *et al.* 1997).

The exact dates and routes by which modern humans spread remain controversial, but it seems increasingly clear that there were two distinct movements out of Africa, associated with different routes, physical types and possibly very different language characteristics. The first of these, 'coasting out of Africa' was a movement from the Horn of Africa, around the rim of the Indian Ocean, eventually reaching Australia. The assumption is that these early migrants had very simple water-craft in this first phase, although we know that by 30,000 BP more sophisticated boats had developed, since the migrants began to cross open water. Early dates for Australia indicate that modern humans reached there ca. 55,000 BP (O'Connell & Allen 1998, 2004). Ambrose (1998, 2003) has argued that there was a substantial genetic bottleneck some 70 kya associated with the eruption of Mount Toba and the subsequent 'volcanic winter'. The difficulties inherent in subsequent environmental conditions may have forced the earliest migrants out of Africa and across the Red Sea to the coast of southern Arabia, along the coastline of the Indian Ocean, eventually reaching Australia. Oppenheimer (2003) has published a popular account of such a migration, compete with associated television documentary, featuring reconstructions which attributes certainty to routes which are highly uncertain and makes unfounded claims for the security of genetic results.

The second movement out of Africa is more controversial, at least in terms of dates. At least one site in the Near East has evidence for modern humans in the Near East (Qafzeh) by 90,000 BP. This was long the source of a puzzle as the first evidence for modern humans in Europe (Cro-Magnons) was closer to 40 kya (Lahr and Foley 1994). It is now clear that the first expansion simply failed and the peopling of Northern Eurasia followed from a second migration out of Africa via the Near East around 50 kya. This second wave out of Africa was responsible for the peopling of the New World.

Evidence for this 'southern route' out of Africa is growing, but there are definitely problems with its archaeological characterisation. Recent genetics findings have added substantial weight to the relationship between the Negrito populations that occur sporadically around the rim of the Indian Ocean. This paper¹ collate evidence on the status and likely genetic heritage of these populations as well as their languages or former languages. It also explores the notion, first put forward by the Italian linguist, Alfredo Trombetti, that all human language can be divided into two major streams, Australs and Boreal, and links this with the 'two routes out of Africa'. Such a division of languages cannot be supported by lexical evidence; if this association is correct then such evidence would have long eroded. However, I claim that for the languages we know about², they show deep similarities of structure, which ally them at a chronological depth greater than can be shown by the application of the standard comparative method.

¹ This paper was presented at the 18th IPPA, Manila 20-26th March, and my attendance was funded through Paul Sinclair, African and Comparative Archaeology, Uppsala University as part of the Project *African Archaeology Network Support: Indian Ocean Programme*, sponsored by Sida/SAREC. Thanks also to George van Driem and Mark Thomas for discussions on some points in this paper. Especially given its speculative nature, need I emphasise that I am wholly responsible for its imaginings.

² I add this caveat because languages such as Andamanese are still so poorly known that we cannot make definite claims about their linguistic structure.

2. Australs and Boreals?

At this point it is probably best for mainstream linguists to shut their eyes. I am going to pick up the suggestion, first advanced by Trombetti in 1923 that the languages of the world roughly fall into two major classes, Austral and Boreal, and propose that these broadly correspond to the two migrations out of Africa. Trombetti worked on many topics, but his major contribution was essentially an argument for the unity of human language, first published in 1905 and then more fully in 1923. Trombetti was no Platonist, developing his case from a detailed study of comparative morphology and proposing a number of worldwide roots. There are many areas where he went astray, in particular in his understanding of African languages and his unlikely Dravidico-Australian proposal, but his analysis drew attention to points that are still under debate at present.

Trombetti's Boreal included all the languages of modern North Eurasia, North Africa and the New World and Trombetti pictured its homeland as Central Asia, somewhere due north of India. Austral languages, were the languages of Africa, Dravidian, Austroasiatic, Papuan and Australian. Trombetti places the homeland of Austral in central India. He then pictures the world's language phyla as spreading out from these points, Austral pressing through the Nile Valley into Africa and through SE Asia into Papua and Australia. Table 1 shows Trombetti's grouping of world language phyla and their modern equivalents.

Table 1. Trombetti's grouping of world language phyla and modern equivalents

Austral	Modern	Boreal	Modern
Bantu-Sudanese	Nilo-Saharan, Niger-Congo	Caucasico	Kartvelian, South Caucasian
Camito-Semitic	Afroasiatic, Nilotic (& some other E. Sudanic), Khoesan.	Indoeuropeo, Uraloaltaico	Indo-European, Uralic, Altaic
Dravidico-Australiano	Dravidian, Papuan, Australian	Indocinese	Sino-Tibetan, Daic, Miao-Yao
Munḍā-Polinesiac	Austroasiatic, Austronesian	Palaeoasiatico, Americano	Siberian, New World languages

This geographic placing reflects the notional centre of the language phyla under discussion and was put forward in ignorance of modern insights into history and archaeology and therefore should not be taken as a major problem. But can anything usefully be drawn from this mixed bag? Modern agreement on the 'out-of-Africa' hypothesis suggests that any model has to explain the world distribution of languages in terms of an African source. Moreover, the primary exit from Africa was presumably >70,000 years ago and few of the world's language phyla are diversified to the extent that they reach back to this period.

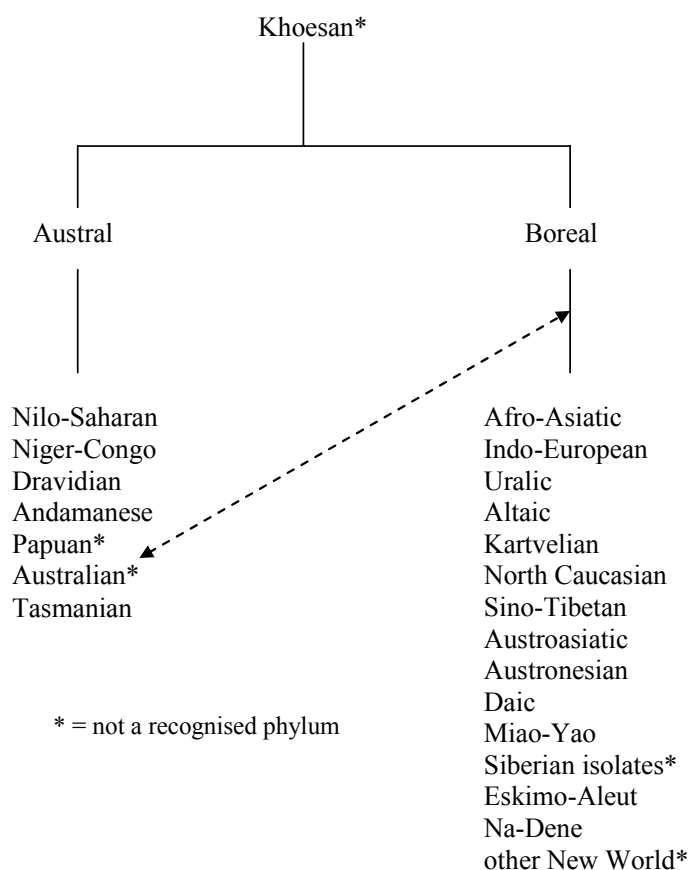
Table 2 shows the purported linguistic characteristics of Austral and Boreal macrophyla, derived from some of Trombetti's observations and my own additions.

Table 2. Linguistic characteristics of Austral and Boreal

Characteristic	Austral	Boreal
Noun classes and concord	+	-
Sex-gender	-	+
Case-marking	-	+
Numeral classifiers	-	+

Needless to say, these crude assignments admit of many exceptions. The most striking is Australian, which combines noun-classes, concord, sex-gender and case-marking (also characteristic of the exceptional Kadu languages of Kordofan in Sudan). It seems that the late Sergei Starostin had a similar idea, as his website includes some 'Borean' etymologies, where Borean is a macrophylum that includes Eurasiatic, Afroasiatic, Sino-Caucasian and Austric with potential parallels from the New World. Re-expressing the Austral/Boreal division in modern terms and adding phyla not considered by Trombetti, we get a division something like Figure 1. §3. considers the intellectual basis for such a major analytic leap.

Figure 1. Hypothetical division of languages into Austral and Boreal



3. Cognacy, typology and deep structural similarity

The classical method of determining kinship between languages is the comparative method, which depends ultimately of finding lexical cognates, including cognate morphemes. The history of language classification abounds with assertion of relationship that were found later to be typological similarities. Mithun (1999) provides numerous examples of this type of error in her overview of North American languages. Typological similarities can be understood by convergence, in other words, two languages developing similar structural features by entirely different routes³. The problem is that communities in long contact with one another may well begin to have convergent ways of expressing concepts without necessarily borrowing vocabulary wholesale, a process Ross (2003) calls 'metatypy'. Linguists familiar with only a subset of the world's languages may well consider something unique to a region which later turns out to be widespread in the world.

Beyond a certain time-depth, the actual number of lexical cognates becomes so low that it is impossible to abstract any regular rules relating two languages. Moreover, with only a few words to work with, it is very difficult to be sure their resemblances are not due to a) chance and b) ancient borrowing. By definition, if the number of apparent cognates are few, the credibility of any rules established to relate them is low and therefore it becomes nigh impossible to distinguish borrowing from genuine cognacy. Two of the world's non-phyla seem to be particularly affected by this problem. Linguists who study Papuan and Australian languages often feel that these languages have a great deal in common in terms of phonology, morphology and sentence structure. Hence they are often lumped together in overviews. Nonetheless, the base language(s) have clearly been splitting apart for so long that finding proof for their unity as phyla does not seem to be possible; lexical erosion has simply gone too far.

³ This has intriguing parallels in the world of zoological taxonomy. For example, it is now accepted that king-crabs and other crabs are not closely related and came to look like one another through constraints imposed by inhabiting a similar ecological niche.

Some linguists have considered that this is a rather unsatisfactory state of affairs, that techniques to explore commonalities between languages can be developed that reach further back into history. A significant proponent of this view is Johanna Nichols, whose book 'Linguistic Diversity in Space and Time' (Nichols 1992) put forward a body of structural features of the world's languages intended to help develop a broader sense of relationships between the world's languages. Nichols was in turn heavily influenced by the ideas of G.A. Klimov, the great lexicographer of the languages of the Caucasus, which by no coincidence is the region studied in depth by Nichols. It is safe to say that the linguistic world was not immediately converted by this view, although it attained some ephemeral popularity among archaeologists. The obvious criticism was that Nichols has only identified typological similarities.

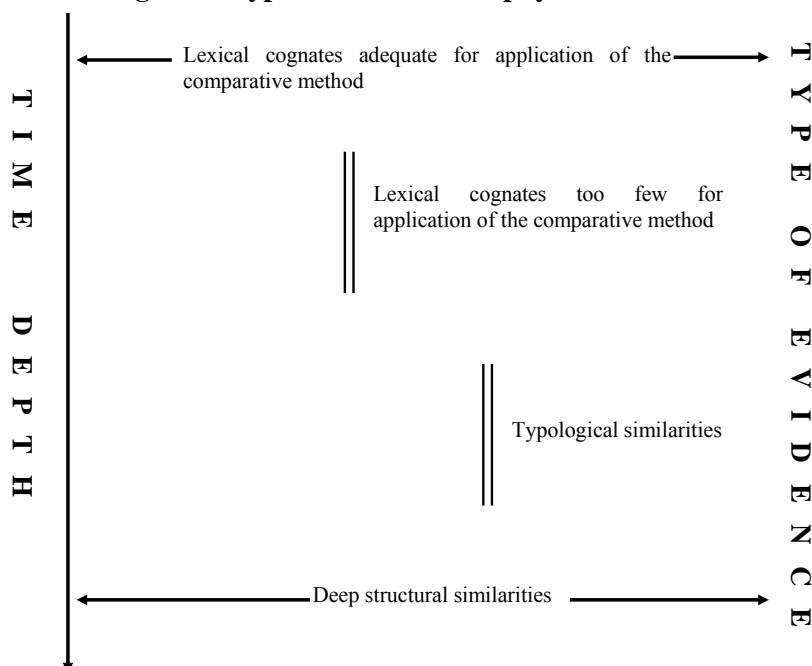
However, the case for such similarities cannot be so easily discarded. Structural traits in the world's languages can be broadly classified into those where there is good evidence for their constant re-evolution and those that seem very persistent and for which evidence is slight that they can arise *de novo*. A good example of this is systems of case-endings in nouns. Phyla that have such systems such as Indo-European, North Caucasian and Australian contrast sharply with those that do not, such as Niger-Congo, Nilo-Saharan and Papuan. Although there are examples of loss of such systems in phyla which have them, examples of their evolution in phyla that do not have them are rare. As a consequence, we might a system of nominal cases a 'deep structural feature'. I am aware that this is not entirely consistent with Nichols' proposed traits; indeed some do seem to me only typological. Nonetheless, there is something right underlyingly about the idea. We should be able to tell larger stories about the links between phyla, even where the lexicon is too eroded to provide more than hints. These features might be named 'deep structural similarity' (DSS).

This issue is taken on for a relevant set of languages by Terrill (2002). The East Papuan languages, spoken in New Britain, Bougainville and the Solomons, are notable for their gender/noun-class systems. Almost all these languages have some type of nominal classification and traces of concord, while the Reefs/Santa Cruz languages have a very rich system. Formal parallels between morphs are slight, as might be expected, due to the long period of diversification of these languages. As a consequence, this evidence cannot be used for a standard argument for genetic relatedness. Nonetheless, the structural similarities are very strong, and it seems this is a case where the languages have maintained underlying morphological parallelism, long after the actual lexicon has eroded.

Figure 2 attempts to represent graphically the relationships between different types of evidence for macrophylic relationships. The argument is broadly that significant numbers of lexical cognates can only be used at relatively shallow time-depths, to establish the unity of a phylum. At a deeper level, the scarcity of such cognates combined with the likelihood of ancient loanwords and phonaesthetic similarities make unequivocal results impossible. Earlier in time, languages may show typological similarities, which may or may not reflect genetic affiliation, but which are difficult to use as evidence, where there is evidence that such features may re-evolve. At the deepest level, structural similarities may be constitute a link between phyla, but this depends on a demonstration the feature in question does *not* readily arise over and over again in the languages of the world. Needless to say, this will not be easily accepted as the incidence of such features is highly controversial.

DSSs bear more than a passing resemblance to bottlenecks in genetics and material culture studies. Populations have bundles of features, some of which are unique and some of which can develop multiple times, in a fashion parallel to typology in linguistics. Human artefacts can show similar properties. Stringed instruments are typical of Africa and Eurasia and were not invented in the New World or Australia, despite the huge ethnolinguistic diversity of these continents. In other words, founding populations did not have these instruments and they were not innovated, suggesting that human creativity may be quite limited in some spheres. Similarly, in genetics, if a founder population is reduced to small numbers and then expands again, the new population will retain the features of this founder population to a marked extent. Hence, for example, indigenous Australians look phenotypically similar because they have had few interactions with external populations for most of their history. Europeans, by contrast are very diverse in appearance, both for ecological reasons and because Europe is more a crossroads than refuge.

Figure 2. Types of evidence for phylic affiliations



4. The Ethnographic situation

4.1 General

The history of phenotypic anthropology is replete with puzzled ethnographers trying to establish the relationship between the Papuans, Africans and Andamanese without any very convincing solutions. We do know that the tropical zones of the Old World have distinctive populations with darkish skins and (sometimes) curly hair. We also know that this cannot be simply an environmental effect, for otherwise presumably tropical Amerindian groups would have taken on the same appearance over time. So it seems reasonable associate these populations with demographic movement, in a pattern strongly correlated with the rim of the Indian Ocean. Significantly, this zone is still the home to fragmentary and dispersed populations of foragers and recent foragers, although these have been overwhelmed by the southward movement of Mongoloids in many regions. Table 3 represents a synthesis of the populations which may represent the evidence for this early human dispersal.

Table 3. Populations reflecting initial dispersal of modern humans out of Africa

Name	Location	Commentary
Non-Khoesan Africans	Africa	
Vazimba/Mikea	Madagascar	population described by the incoming Merina as small, dark-skinned and with curly hair. Vazimba groups today remain hunter-gatherers, are smaller than their neighbours.
Vedda	Sri Lanka	supposedly aboriginal population indigenous to the island of Sri Lanka prior to the Sinhala. Morphometric evidence for distinctiveness. Some evidence for a non-Indo-European language
Andamanese	Andaman islands	aboriginal population indigenous to the Andaman islands of Negrito type. Speak four languages which appear to be isolates
Shom Pen	Nicobar islands	hunter-gatherers living in hamlets in the centre of Great Nicobar. Apparently of Mongoloid type (though see photographs). Affiliation of language uncertain
Orang Asli	Malay peninsula	indigenous peoples of the Malay peninsula. Phenotypically, some

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		are negritos, others of Malay type. Today speak Austroasiatic languages
Agta/Aeta	Philippines	indigenous peoples of the Philippines. Today all speak Austronesian languages, perhaps with unknown substrate
Papuans	PNG, Indonesia, Solomons	Indigenous peoples of Papua New Guinea and adjacent areas. Papuan languages do not constitute a genetic group
Australians	Australia	indigenous people of Australia. Numbers and languages severely reduced
Tasmanians	Tasmania	now-extinct inhabitants of Tasmania. Curly-haired and speaking language isolates

The following sections discuss each group in somewhat more detail.

4.2 Mikea [=Vazimba]

Malagasy traditions insist that a small, dark-skinned people, the Mikea [=Vazimba], were already present on Madagascar when the Austronesian-speaking ancestors of the present-day populations arrived. The Mikea were hunter-gatherers, and indeed groups with this name still exist (Birkeli 1936; Molet 1960; Dina & Hoerner 1976; Fanony 1986; Trucker 2003). Johnston & Birkeli (1920) describe a number of groups and give samples of the languages of the Vazimba and Baūsi [=Beosy] languages. They cite some lexical items do not apparently resemble either Bantu or Austronesian, further deepening the mystery. The tradition of the Mikea might be spurious, as accounts of resident ‘small’ populations are also common on the African mainland, but only carefully excavated stratified cave-sites are likely to resolve this question. But it is certainly the case that the present-day groups remain largely hunter-gatherers and also are physically distinct from the surrounding highlanders (Photo 1).

Photo 1. Vazimba preparing fish



4.3 Wanniya-laeto (Vedda)

The Vedda are the apparently indigenous population of Sri Lanka. Although the literature and websites all use the term ‘Vedda, the term these people use for themselves is Wanniya-laeto, which is now the preferred ethnonym. The Wanniya-laeto were hunters until very recently, and indeed modern political fights have been partly about the abrogation of their hunting rights through development. There is some evidence that they once spoke a language unrelated to the modern Dravidian and Indo-European languages now spoken on the island, based on unetymologisable words in their language (Geiger 1935) but the material is inconclusive⁴. Photo 2 and Photo 3 shows the present-day Wanniya-laeto; most are apparently phenotypically indistinguishable from modern-day Sinhala.

⁴ Van Driem (2001:217-242) represents a valuable, indeed exhaustive compendium of early sources on the Vedda. Lackwits might object to such a panoramic view appearing in a book on the languages of the Himalayas, but this only shows the brevity of spirit obtaining in so many academic circles.

Photo 2. Wanniya-laeto (Vedda) hunters



Photo 3. Wanniya-laeto (Vedda) children



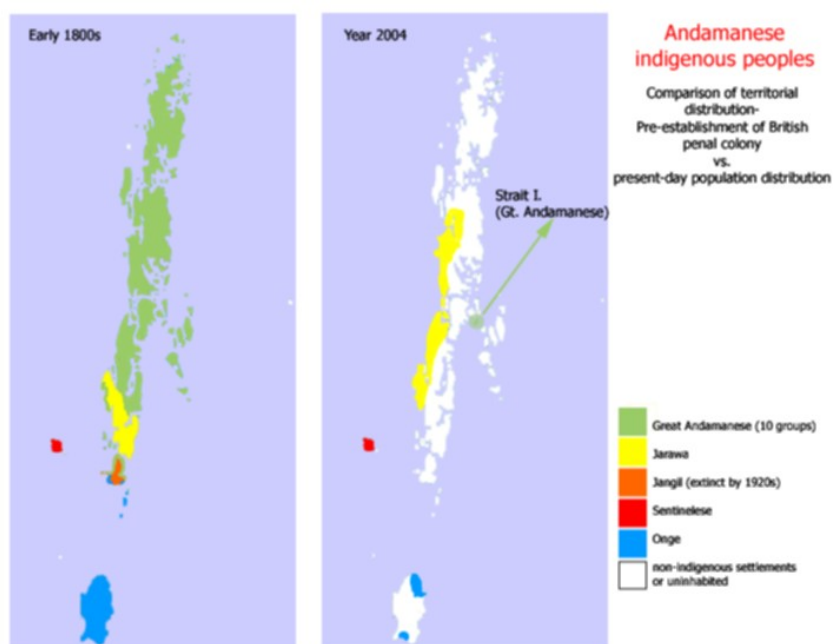
4.4 Andamanese

The Andaman islands, with their Negrito populations, have been the subject both of long speculation by outsiders and an unhappy record of interaction with the outside world. The creation of a penal colony on Great Andaman and the virtually uncontrolled influx of Bengali settlers, combined with extreme restrictions on research imposed by the Indian government for unspecified reasons, means that

Photo 4. Jarawa children, Andamans



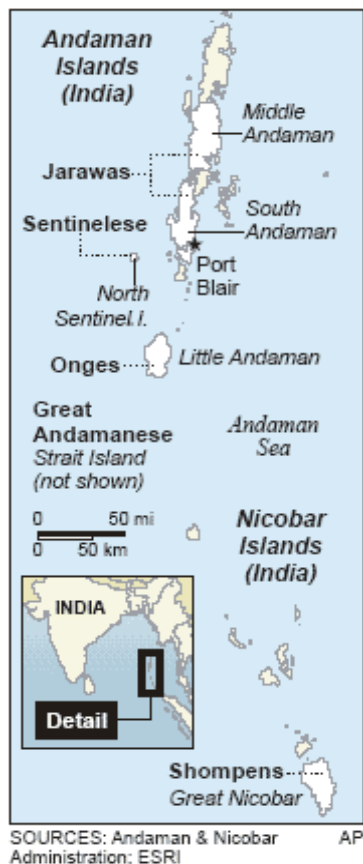
Figure 3. Andamanese languages past and present



linguistic data on many of the Andamanese languages is either non-existent or collected in such an amateurish fashion that any far-reaching conclusions would be unwise. All the available data on the languages of the Andamans has been reviewed by Zide and Pandya (1989) which also contains an exhaustive bibliography⁵. Figure 4 shows the general picture of language in the Andamans and Nicobars and Figure 3 shows the distribution of Andamanese languages past and present;

⁵ Although the obscurity of some items meant that the authors only saw a proportion of their references, and notably were unable to access the Man collection in the Royal Anthropological Institute in London.

Figure 4. Andaman and Nicobar islands



On Great Andaman, the majority of languages have become extinct with only minimal records remaining; A-Pucikwar may have a few speakers (Wurm & Hattori 1981-3) or Jeru (Zide and Pandya 1989) although the forms they reproduce may confound now disappeared lects. Little Andaman (=Onge), Sentinelese and Jarawa (Photo 4) are still spoken but Onge, at least, is severely threatened. No data on Sentinelese has ever been recorded and the islanders are officially classified as ‘hostile’, so classifications of the language are mere speculation (Photo 5 and Photo 6).

Photo 5. Sentinel beach, Andamans

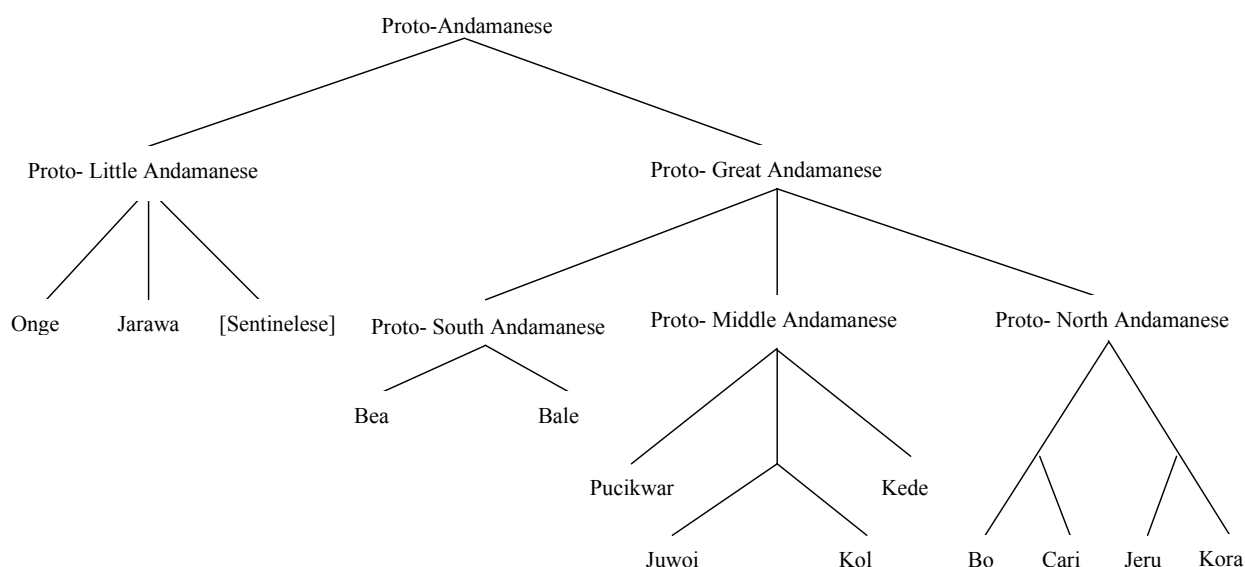


Photo 6. Seninelese fishermen



The most comprehensive ‘tree’ of Andamanese languages is given in Figure 5;

Figure 5. Classification of Andamanese languages



Source: Manoharan (1983)

Andamanese plays a key role in Greenberg's (1971) 'Indo-Pacific' hypothesis, rejected by most scholars, which links together Andamanese, Papuan and Tasmanian and gives a name to this culture-historical area. This hypothesis, originating with Gatti (1906-9), has a crypto-racial element since it links together the curly-haired 'Negrito' populations of the Indo-Pacific region. Although accepted and promulgated by Ruhlen (1991) and reproduced in a number of archaeological publications, it has garnered little support from linguists working on these languages. The Tasmanian element, in particular, has been rejected with withering scorn (Crowley & Dixon 1981). Ruhlen (1991: 180-183) compiled opinions that have been expressed about the validity of Indo-Pacific. Even though some links between the westernmost Papuan languages and Andamanese cannot be ruled out, the difficulties linking all the Papuan languages together would appear to exclude Indo-Pacific from serious consideration. However, it is fairly clear that the Andamanese languages are noun-class languages with the characteristics listed above. Ellis, writing in Man (1932:58) shows that nouns are 'sexless' and classified into groups and each has a concordial possessive pronoun which agrees with the class of the noun.

4.5 Shom Pen

The Shom Pen are foragers inhabiting the centre of Great Nicobar (Figure 6). They appear to be physically distinct from the main body of Nicobarese (who speak Austroasiatic languages most closely related to Mon and Aslian) and their language remains unknown apart from ca. 100 words recorded by De Roepstorff (1875). Apart from the first three numerals, the words of Shom Pen show no obvious relationship with other Nicobarese languages or other Mon-Khmer languages. Man (1886:436) says; 'of words in ordinary use there are very few in the Shom Pen dialect which bear any resemblance to the equivalents in the language of the coast people'. This fragmentary evidence does not suggest that the Shom Pen are Austroasiatic, and they may be a residual group corresponding to the Andamanese but with substantial genetic element from

Figure 6. Shom Pen settlements



Photo 7. Shom Pen Great Nicobar



Man also observed that different Shom Pen settlements showed substantial linguistic variation between one another. Pending further more reliable data on the Shom Pen, they may well be part of an ancient foraging group, but now extensively intermarried with the incoming Nicobarese.

4.6 Orang Asli

Orang Asli is a Malay cover term for the different non-Malay aboriginal populations of the Malay peninsula and adjacent Southern Thailand (Figure 7). The peoples (Semai, Temiar, Jah hut and others) speak Aslian languages, which are Austroasiatic, but are of diverse physical type, some apparently Negritos and others 'proto-Malay' (Photo 8, Photo 10). They are hunter-

Photo 8. Orang Asli group



Figure 7. Map of Aslian groups



gatherers or slash-and-burn cultivators, and now live encapsulated among the Malay. The nearest relative of the Aslian languages is Monic and then Nicobarese, and the ancestors of the non-Negrito groups probably moved into the Malay peninsula from further north *after* the establishment of Austronesian populations in the region. Skeat & Blagden (1906) first pointed out that there are 'Indonesian' words in Aslian that are not longer

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reflected in Malay. The process whereby the Negrito populations were converted to speaking an Aslian language is obscure, but Negritos in the Philippines similarly became Austronesian speakers (§4.7). Skeat & Blagden (1906) and Evans (1937:277) noted items of common subsistence vocabulary that are found across Aslian lects but which are neither Austroasiatic nor Austronesian. The hypothesis is that these are residual terms from a now-extinct complex of languages in some way related to Andamanese.

4.7 Philippines Negritos

Scattered around the Philippine islands are Negrito populations, in physical appearance quite close to Andaman islanders. There appears to be no recent genetic work on the Negritos but a very extensive survey in the early 1980s based on blood types, concluded that; except for the Mamanwa, all Philippines Negritos were closely related to one another and that their affinities were with the SE Asian mainland (e.g. Omoto 1984). Their distribution is shown in Figure 8. Today these populations have undergone extensive intermarriage with their Austronesian neighbours but they nonetheless show distinctive phenotypic characters and some are still engaged in a partial foraging life-style (Photo 11, Photo 9). No Philippines Negrito group speaks a non-Austronesian language today, although Vanoverbergh (1929) recorded some songs of Luzon Negritos in a language that can no longer be understood, which may reflect this former

speech. Vanoverbergh (1937) observes that Negrito

Figure 8. Distribution of negrito populations

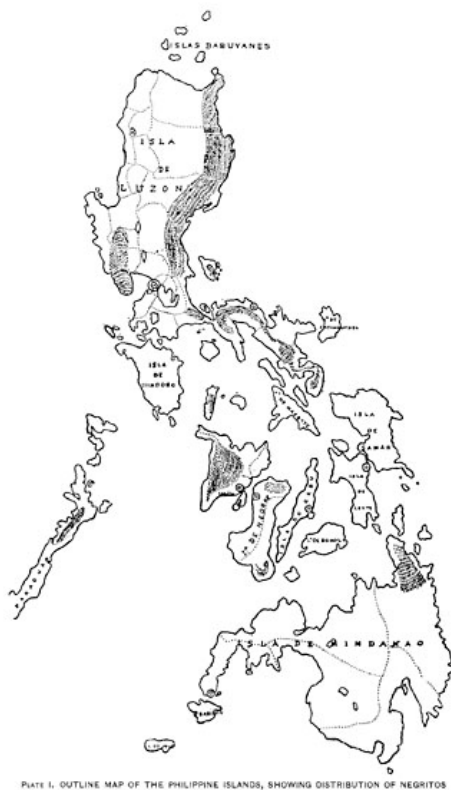


Photo 10. Orang Asli family



Photo 9. Aeta forager, Philippines



groups on different islands retain numerous similar expressions and Reid (1994a,b) was able to demonstrate that now scattered populations have demonstrably cognate substrate vocabulary. It therefore seems reasonable to assume that whole of the Philippines region was once populated by similar populations, that they were ultimately to the Negritos in the Malay peninsula and the Andamans and that these were essentially the same peoples who reached Tabon cave on Palawan 47,000

years ago (Dizon et al. 2002).

4.8 Papuan

The Papuan languages consist of some 700+ languages spoken principally on New Guinea, parts of the Solomons, East Timor, Halmahera as well as two isolates in the Lesser Sunda islands. The most significant overviews of Papuan are Wurm (1975, 1982), Foley (1986) and Pawley *et al.* (2005). Papuan is best treated as a 'geographical' term, and few writers apart from Greenberg (1971) have been willing to treat these languages as all related. However, a hypothesis that conjoins a large number of Papuan languages, the Trans New-Guinea phylum (TNGP), has recently received new support. The TNGP was first advanced by McElhanon and Voorhoeve (1970), has recently been revived benefiting from an explosion of data made available in the 1980s (Pawley 1995). Papuans are Australs *par excellence*, and represents the most significant concentration of an 'out-of-Africa' population. The obvious affinities of Papuans from a phenotypic point of view are the Andaman islands and the Malay and Philippines Negritos, but similarities identified so far seem to be of a very general nature. It has generally been considered that since Papua and Australia were conjoined until about 30,000 years ago, that Papuans and Australians must therefore be essentially similar. However, genetics has not been very supportive, with studies such as Redd & Stoneking (1999), Ingman & Gyllenstein (2003), Kayser et al. (2003) and Friedlaender et al. (2005) uncovering very marked differences between these populations. Moreover, the archaeological evidence begins to suggest more strongly that Papua and Australia were colonised out of sequence. O'Connor & Chappell (2003) argue that, despite the unending arguments about the validity of dating (e.g. O'Connell and Allen 1998, 2004), it appears that;

- a. Australia may well have been populated up to 15,000 years before Papua (i.e. 55kya as opposed to 40 kya)
- b. That the settlement of Australia was primarily in the interior and only secondarily along the coast, whereas all New Guinea sites are situated in coastal areas

This in turn suggests that the two waves of population advance 'split' quite early, perhaps in Western Indonesia, and that the potential for interaction represented by the land connection to Australia may only have been exploited subsequently.

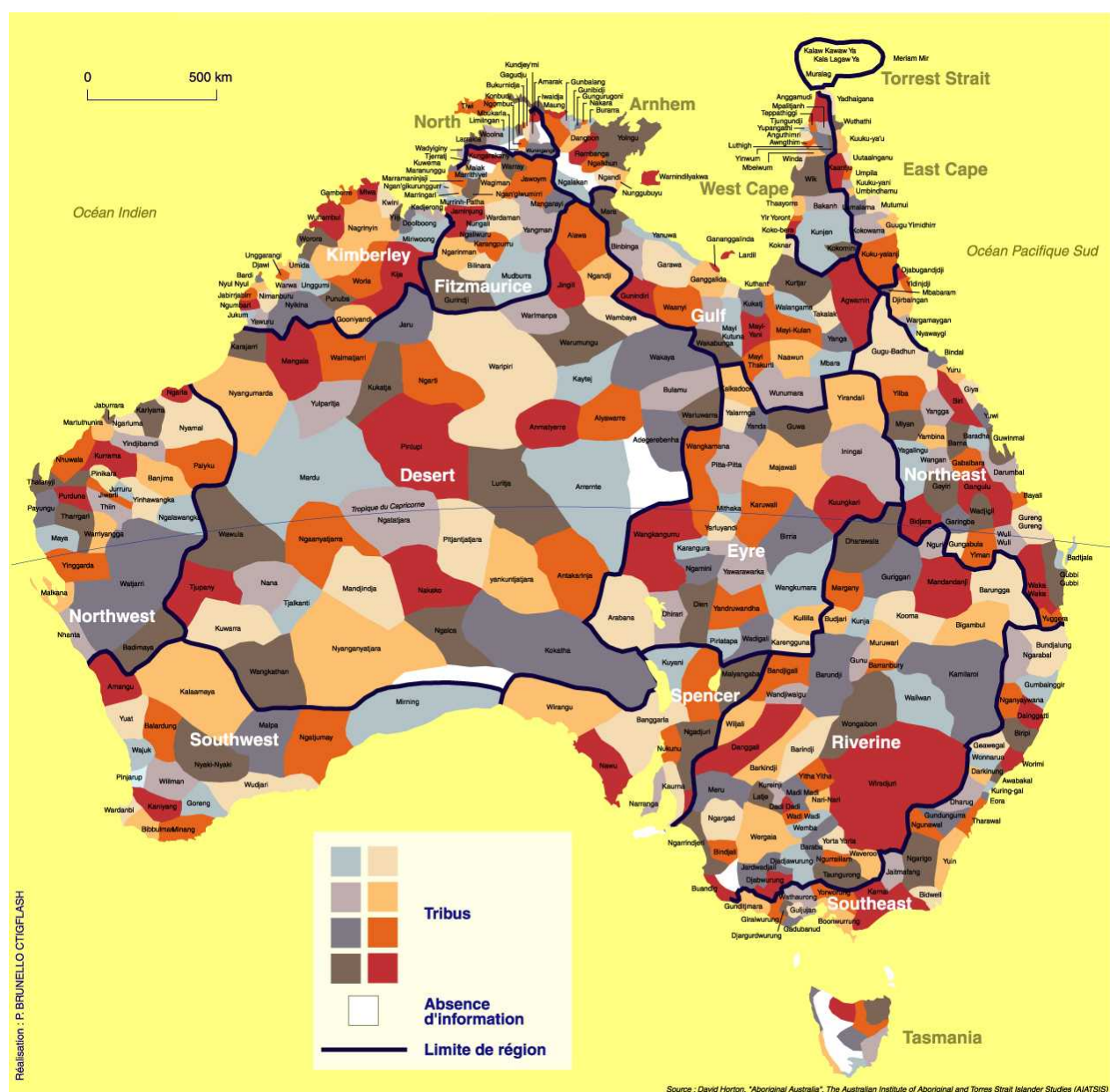
4.9 Australian

'Australian' represents a convenient cover term for the indigenous languages of Australia, but should not be taken to imply their genetic unity. It is widely estimated there were some 400+ languages in Australia prior to European contact, and that of these records remain for at least 280 (Dixon 2002). Ethnologue (2005) estimates that some 230 languages are still spoken although many may now only have one or two aging speakers (Figure 9). An intriguing aspect of Australian linguistic geography is the dominance of a single family, Pama-Nyungan, over 90% of the continent, reflecting a spread significantly more recent than the settlement of the continent as a whole.

Photo 11. Agta foragers



Figure 9. Australian languages



Despite the evidence for a land connection between Papua and Australia, a problem remains. Australian indigenous populations, with the exception of the now extinct Tasmanians, are largely of a different phenotype from Papuans, most notably in terms of their straight hair. Recent genetic studies of these populations show that this is not merely random phenotypic variation, that mainland indigenous peoples of Australia really are quite distinct (Tsintsof et al. 1990; Huoponen et al. 2001; Ingman & Gyllensten 2003; Friedlaender et al. 2005). Such a view is not accepted by all researchers and the evolution of the Australian phenotype is attributed by some to genetic drift in an isolated population. This suggests that a radically different phenotype entered Australia, presumably of Mongoloid type and assimilated with the resident populations. Perhaps this could be associated with the 'southern route' that led to the early settlement of Australia compared with Papua. This genetic transformation may correlate with the typological divergence of Australian languages from Papuan.

The 'Indo-Pacific' hypothesis of Joseph Greenberg (1971) has not found favour with linguists, it may be true in some historical sense. The Tasmanians may represent a relic of the first wave of the peopling of Australia, which was rapidly eliminated by a second wave, a movement of Mongoloids, which assimilated and

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replaced much of the ‘Papuan’ population on the mainland. Alternatively, two populations of different physical type may have co-existed in early Australia, with the Papuan type isolated in Tasmania.

4.10 Tasmanian

The Tasmanians probably crossed the Bass Strait into the island of Tasmania about 40,000 years ago (O’Connor & Chappell 2003:21) and were cut off there by a rise in sea-levels ca. 12,000 years ago. Although related to the Australians, they seem to have been of a different physical type with crinkly hair (Photo 13 and Photo 12). The Tasmanians were subject to nearly complete cultural extinction in the middle of the 19th century and the last full-blooded Tasmanian, Truganini, died in 1876. Their languages were recorded by amateurs and the transcriptions leave much to be desired, but it generally thought there were eight languages spoken on the island. Records of the Tasmanian languages are fragmentary and incomplete as well as being doubtfully transcribed. As a consequence, they have become a mirror for unlikely hypotheses, but their actual affiliations will probably remain unknown (Crowley & Dixon 1991). No relationship with the languages of mainland Australia has been demonstrated.

Photo 13. Tasmanians



Photo 12. Truganini, last of the Tasmanians



5. Archaeological evidence

The archaeological evidence for the ‘southern route’ is one of the most troubling aspects of this hypothesis. The data from Southern Africa for modern humans is now fairly solid. There are harpoon points from 75 ka from Semliki (DRC), bone needles and projectile points from the MSA (ca. 70 ka) at Blombos (Henshilwood & Sealy 1997; Henshilwood *et al.* 2001a,b), and intentionally incised bone and rock (d’Errico *et al.* 2001) striking evidence of ‘behavioural modernity’. Evidence for Palaeolithic settlement of Sri Lanka is dated to about 28,000 BP (Kennedy & Deraniyagala 1989). Similar dates may be supposed for South India, but there is no undisputed evidence (Misra 2001).

Table 4. Upper Pleistocene archaeological sites in southeast Asia with basal ages >20 ka

Site	Region	Technique	Earliest date (ka)
Golo Cave	Moluccas	C14	35.57±0.48
Kota Tampan	Peninsula Malaysia	C14	w31
Lang Rongrien	SW Thailand	C14	>43
Leang Burung	S Sulawesi	C14	w31
Lene Hara	East Timor	C14	34.65±0.63
Niah	Borneo	ABOX/AMS	42±0.67

Source: O’Connell & Allen(2004)

All dates are uncalibrated.

With the approach of SE Asia, a plethora of sites appear, notably Niah and Tabon cave (Dizon *et al.* 2002). Table 4 shows a table compiled by O’Connell & Allen (2004) for SE Asia showing the Upper Pleistocene sites and the methods of dating. Some sites in Malaysia may be as old as 70,000 BP, although this remains

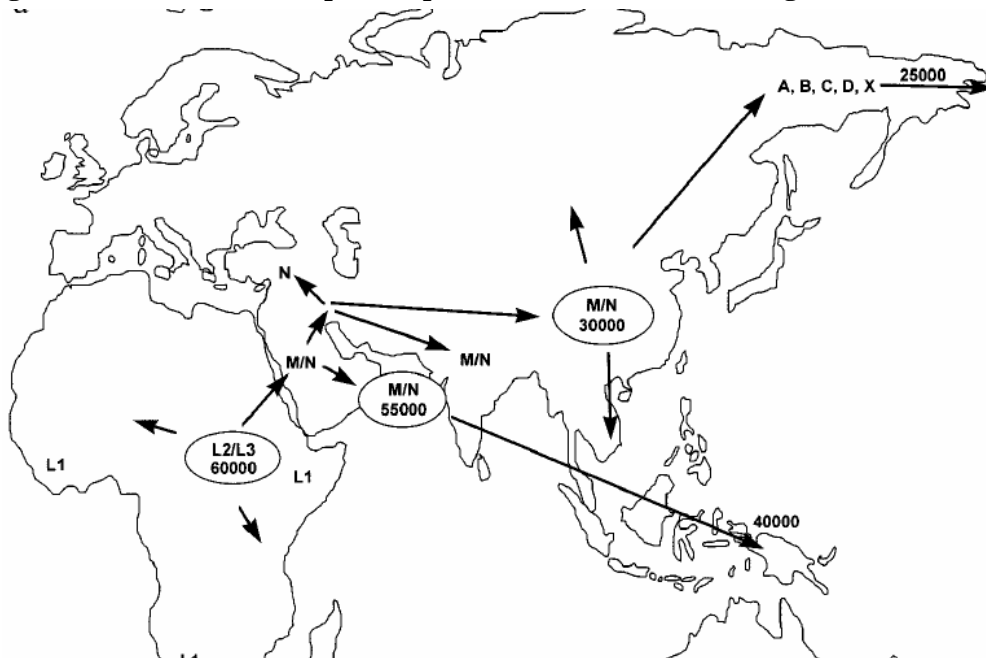
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disputed. None of these sites would allow modern humans to reach Australia by >50,000 BP, but presumably in due course, such evidence will be found. However, there are no sites in Arabia even approaching this antiquity and even South Asia, Myanmar, Bangla Desh are innocent of any direct evidence. We have no idea at all when the Andamans and Nicobars were settled. So the 'southern route' must remain a hypothesis, supported by evidence from genetics and current ethnography.

6. Genetic evidence

The two-stage model of the peopling of the world has begun to find favour with geneticists. One of the key questions is whether there were two distinct movement waves out of Africa, or a continuous flow of populations across the Red Sea that split, some going north and other going south. Forster et al. (2001) promote this type of model (Figure 10). However, it still seems problematic to understand why the split between Mongoloid and Papuan types is said to occur in Arabia and more likely reflects the two routes out of Africa. More recently, Forster & Matsumura (2005) have reviewed recent materials on the Orang Asli such as Thangaraj et al. (2003) and Macaulay *et al.* (2005) and consider that they support the 'southern route scenario'.

Figure 10. Eurasian and Papuan expansions 'out-of-Africa' using a molecular clock



Source: Forster et al. (2001)

Figure 11 presents what seems a more credible version of these routes, given the present archaeological evidence.

7. Other types of evidence

Apart from archaeological and genetic evidence, if it is true that Australs and Boreals were very distinct, there ought to also be evidence from cultural institutions and perhaps even material culture. If it is accepted that modern humans had a highly elaborated culture before they left Africa, then some traces may be detectable. In the light of this, some suggestions;

7.1 Elaborate and sometimes violent puberty rituals

Although some types of puberty ritual are recorded worldwide, there may be an elaborated type characteristic of Austral. In this form, boys are taken away from their mothers for a longer or shorter period and taught essential skills of manhood, often having to undergo scarring, beating or other physical violence that may or may not lead to the death of some initiates. In this case, the mother is told that a spirit or monster has 'eaten' her son. The use of the bullroarer is often integral to these rituals which are run by men's associations. Some of those in Africa resembling those in the Andamans, Australia and PNG in great detail (including ritual scarring etc.). The only external parallel appears to be some of the men's associations in Amazonia which parallel those in New Guinea, with paired flutes and bullroarers.

7.2 Tabooing the names of the dead and lexical replacement

A very striking practise typical of the Austral region is lexical replacement related to tabooing the names of the dead. Speakers must avoid the use of words that resemble the sound of a dead person's name by either borrowing from neighbouring languages or using complex periphrases. This is reported from Australia, Papua, in the Andamans and among the Nagas in Assam. It has been less reported from Africa, but it is found in some remote areas of Nigeria (Kleinwillinghöfer 1995) in a form identical to that reported for Australia. The specificity of this practice is such that it seems difficult to imagine its independent evolution. However, some non-Austral groups such as the Naga and the peoples of New Caledonia also practise tabooing. In the case of New Caledonia, the population is entirely Austronesian-speaking, but is of a Papuan phenotype. Since there is no evidence for tabooing in Austronesian populations in Taiwan and adjacent regions, this may be a contact phenomenon. Its presence among the Sino-Tibetan-speaking Naga is harder to account for, but it is broadly absent across much of Eurasia and the New World. Name tabooing is also an important source of the erosion of lexical cognates, which has been given as one reason why Australia and Papuan languages have such low rates of lexical cognacy.

8. Conclusions

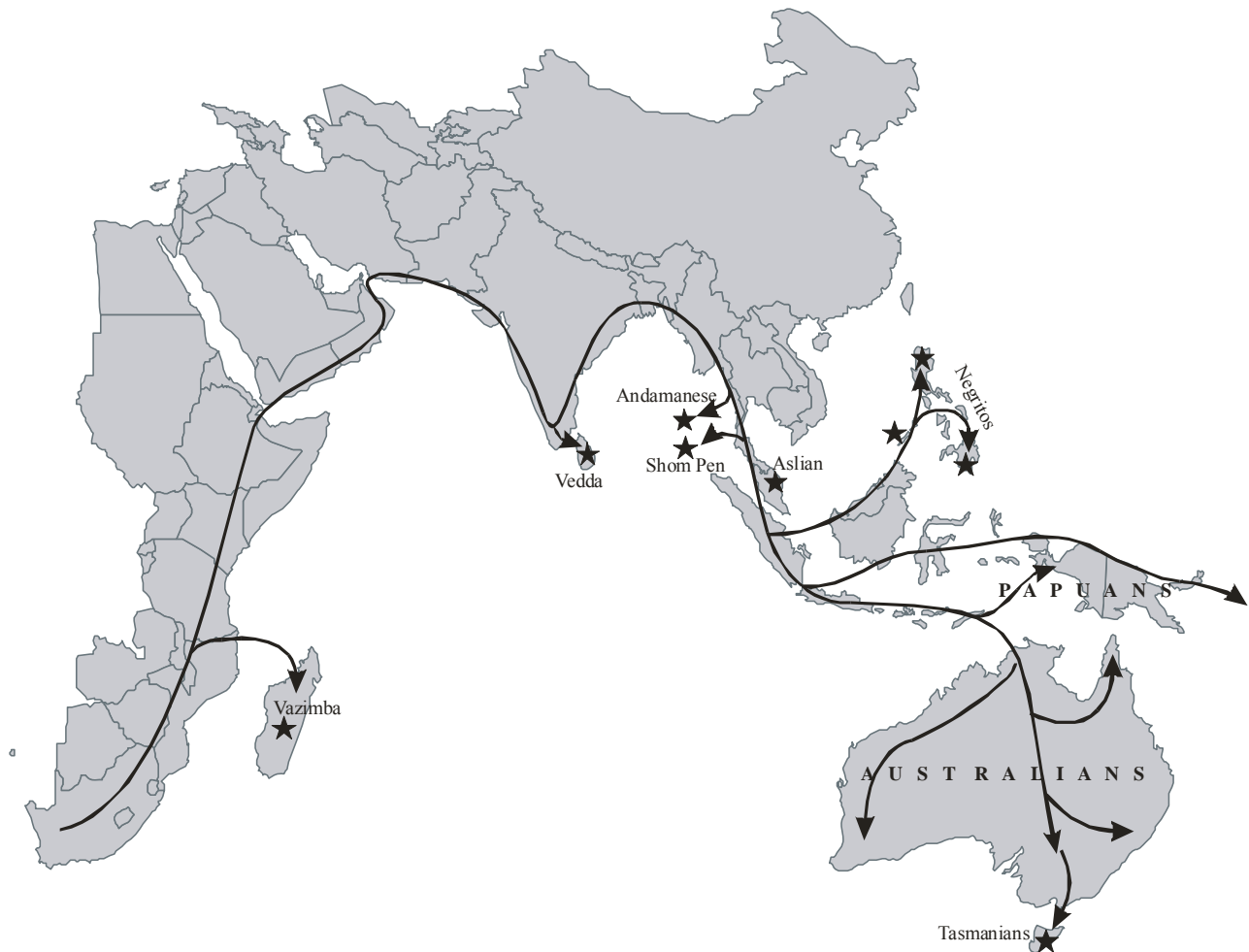
This paper puts together still fragmentary and sometimes inconclusive materials from a variety of sources to suggest that;

- a. Modern humans first left Africa across the Straits of Hormuz by at least 70,000 BP.
- b. That they were subsistence foragers specialising in exploiting coastal resources and presumably had simple water-craft
- c. That they were of African/Papuan type phenotypically and that they spoke languages which are all related at a level of deep structure, without implying that any lexical connections can be found today.
- d. That a number of residual modern-day populations around the shores of the Indian Ocean are reflections of this early period of expansion, most notably the Papuans and the Andamanese
- e. That Australia would have originally been peopled by such a movement, but that it was overwritten on the mainland by an influx of Mongoloids, leaving the Tasmanians as a residual Papuan type. This process is reflected in marked differences between Australian and Papuan languages
- f. That this idea is gaining increasing support from human genetics
- g. That archaeological evidence is prominent in SE Asia, Papua and Australia and notable for its absence in Arabia and India (which may reflect either changing sea-levels, problematic surveying or a problem with the model)

Many problems remain, most notably the lacunae in archaeological evidence between Africa and SE Asia and the transformation of the peopling of Australia. Although there is a persistent theme in the genetic literature of a link with Indian 'tribal' populations which is held to explain the 'Veddoid' characteristics of the population, it is hard to see how this would work in historical terms and there is an marked absence of archaeological evidence.

The map in Figure 11 illustrates the hypothesis of Austral expansion and marks the locations of residual groups discussed in this paper, as well as major populations such as Papuans and Australians.

Figure 11. The Austral expansion and the location of residual populations



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