

Cultural and Biological Differentiation in Peninsular Malaysia: The Last 10,000 Years



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IN THIS ARTICLE I address a question that has provided a source of intellectual interest for almost a century.¹ How have the cultural, linguistic, and biological differences among the various indigenous populations of Peninsular Malaysia evolved? Are they the result of processes of cultural and biological differentiation totally internal to the peninsula? Or have successive migrations—either piecemeal or large-scale—from outside regions, such as Thailand and Indonesia, produced these differences? Perhaps more realistically, given the time-span involved, has there been a combination of both internal and external factors?

The indigenous populations of Peninsula Malaysia are classified today, in terms of language, biology, and culture (with varying significances given to each according to the situation), as Malay, Aboriginal Malay, Senoi, and Negrito (Semang). It must be fairly obvious, however, that these are not pure and internally homogeneous populations. Like all major human groups, they undoubtedly never have been. But it may be legitimate to ask whether the relatively high degree of contact and diffusion noted between these groups in the recent recorded past demonstrates their origins out of a single prehistoric population complex, or whether the populations of the peninsula were more isolated and differentiated from each other in the millennia before the rise of Malay civilization with its worldwide linkages of religion, trade, and technology. In other words, can one extend the assimilatory qualities of traditional Islamic Malay culture, as described by so many authors (e.g., Harrison 1970 for Sarawak; Wee 1985 for Riau), back without qualification into the smaller-scale societies of prehistoric times? Although I am unable to answer this question with absolute certainty I will still try to reach a conclusion as to whether some or all of the Peninsular Malaysian populations, especially the Semang Negritos and the Senoi, have a common origin as a result of purely local differentiation, as suggested recently by Benjamin (1985, 1986, 1987) and Rambo (1988), or whether they had partially separate origins as conceived by many earlier authors (e.g., Schebesta 1926–1928:276; Skeat and Blagden 1906, 1:12–13).

In entering into debates concerning the origins of peoples, one must first of all examine issues of terminology. Many past misunderstandings that have arisen in

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debates about ethnogenesis have involved confusions of biological, linguistic, and sociocultural categories. These three systems of human variation do not evolve in total unison, although I find myself in some disagreement with a widespread belief that they vary independently of each other. Nevertheless, there are difficulties today in offering complete and precise biological and cultural definitions of the present populations of the peninsula. This circumstance has been discussed biologically for the Semang and Senoi by Rambo (1988:21) and for the Semaq Beri of Pahang (a Senoi group) by Endicott (1975:4–5). For this reason it is necessary, though difficult, to consider linguistic, biological, and sociocultural variations separately, especially since the archaeological record is likely to intersect with the three systems in slightly different ways. For the purposes of this paper the linguistic record is given a primary classificatory importance, simply because the language families involved have widely agreed-upon phylogenies that offer a coherent starting point.

The generally accepted linguistic classification of populations of Peninsular Malaysia (Fig. 1) is that which separates the speakers of the Aslian languages, related to the Mon-Khmer languages in the Austroasiatic family (Diffloth 1979; Ruhlen 1987:148–158), from the speakers of the Malayic languages, which belong to the Austronesian family. Internal divisions within these two families have been studied in detail by Benjamin (1976, 1983, 1985:227), who divides the Aslian languages into Northern, Central, and Southern subgroups. The Northern subgroup is associated mainly with the Semang Negrito foraging populations, whereas the languages of the Central and Southern Aslian subgroups are spoken mainly by Senoi agriculturalists and collectors for trade. The Austronesian languages, most of which are basically dialects of Malay, are spoken by various Orang Asli Melayu (Aboriginal Malay) groups, such as the Temuan in the south of the peninsula, as well as by the Malay population proper.

In this paper I examine three questions about Malaysian prehistory, drawing on the three major diachronic data sets that can be derived from archaeology, linguistics, and biological anthropology. First, what is the evidence for forager settlement in the interior of the Malay Peninsula during the early Holocene, and how does this evidence relate to the origins of the Semang and the Senoi? Second, when and how did agriculture arise in the peninsula, and what implications for the origins of the Senoi cultivators lie behind the very strong northern connections of the Malayan Neolithic and the Aslian languages? Third, when and how did the Malayic speakers settle the peninsula, and can one find their traces in the archaeological record?

EARLY HOLOCENE FORAGERS IN THE PENINSULA

Interior Rainforest Foragers

In a paper originally written in 1986 (Bellwood 1990a), I drew the conclusion that the core regions of equatorial and perhumid rainforest in Sundaland, particular in the interiors of Borneo and Sumatra, were only sparsely occupied, if occupied at all, before the expansion of agriculturalists around coastlines and up the larger river valleys within the past 4000–5000 years. During the drier conditions of the last glaciation it is possible that more open forest conditions allowed foragers to pene-

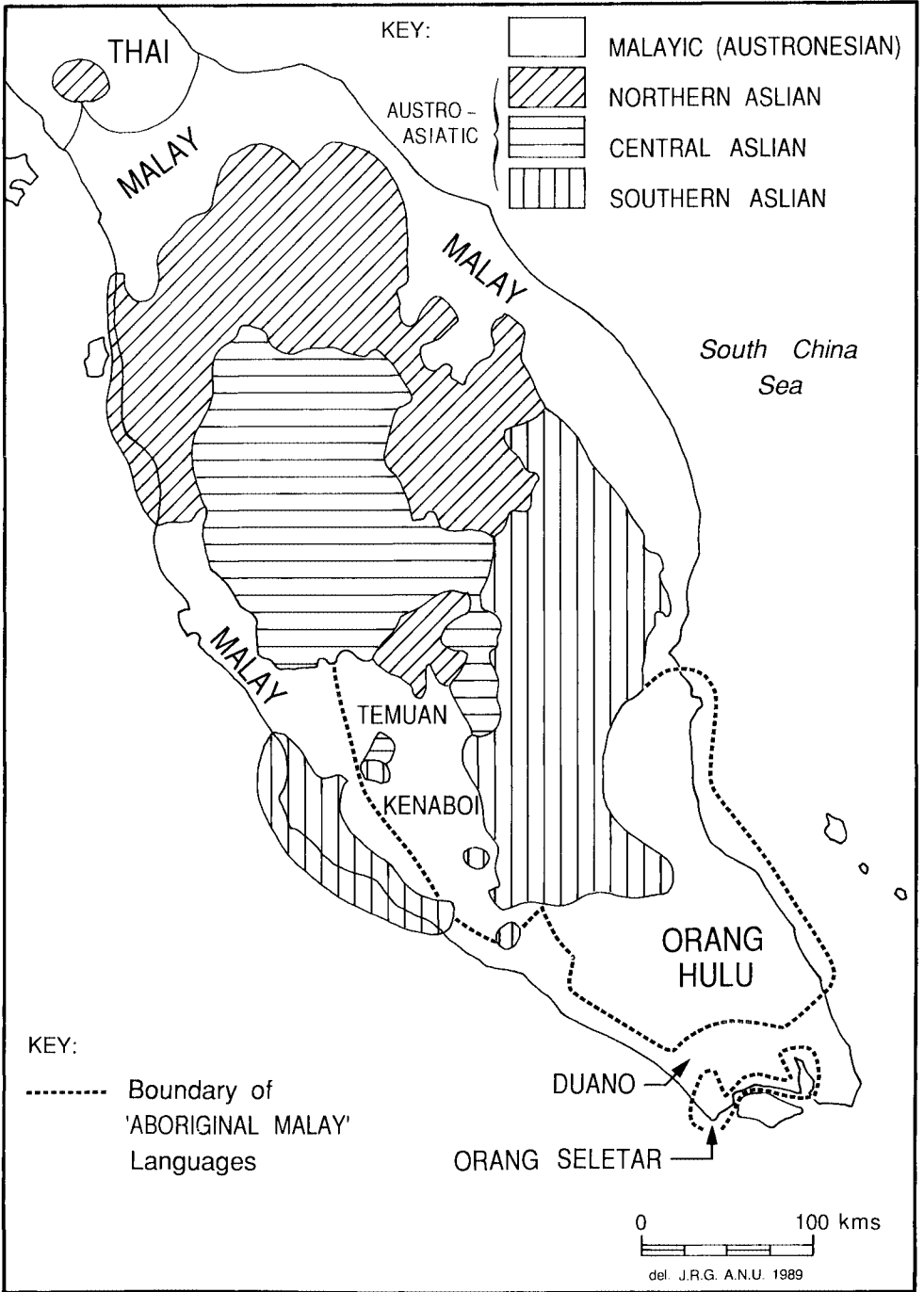


Fig 1. The languages of Peninsular Malaysia. (General source: Wurm and Hatori, 1983.)

trate quite far inland, as in the cases of the Tingkayu and Baturong (Hagop Bilo) sites in Sabah (Bellwood 1988a) and the Kota Tampan site in Perak (Zuraina and Tjia 1988). But during the warmer and wetter Holocene the closed forest conditions would have restricted human foragers mainly to coastal regions—with one marked and quite surprising exception. This exception is the Hoabinhian assemblages of interior Peninsular Malaysia.

Since writing that article I have read with interest some even stronger opinions about the poverty of the rainforest environment for human foragers. Hart and Hart (1986) have suggested that Mbuti foragers could not have survived in the African equatorial forests without access to carbohydrates produced by their agricultural neighbors, and that consequently they have entered the rainforest only within the last century or so. Headland (1987) has offered a similar opinion for the Negritos of the wet rainforests of northeastern Luzon, stating that before the arrival of Austronesian-speaking cultivators, they must have lived in seasonal forest or wooded savanna, or have practiced some kind of cultivation themselves. Since there is no evidence for pre-Austronesian cultivation practices in Luzon, it is much easier to assume that seasonal forests, which would always have been quite widespread in the monsoonal climatic zone of the western Philippines, were preferred.

If these views on rainforest hostility are universally correct, the inland Hoabinhian foragers of basically nonseasonal and equatorial Peninsular Malaysia would have found life a little hard. Rambo (1988:22) clearly agrees with these views when he writes that “before the appearance of agriculture in the Malay peninsula . . . , the aboriginal population was probably largely confined to coastal and riverine zones with the vast interior forests essentially uninhabited. This forest is, from the standpoint of terrestrial mammals, virtually a biological desert.”

But is this picture of a Hoabinhian vacuum in inland Malaya really convincing? The difficulties of food gathering in closed rainforests are quite evident, yet in a broad review of the whole issue, Bailey and colleagues (1989) note the possible significance of the Malaysian Hoabinhian as one of the few cases of documented pre-agricultural settlement in an interior equatorial rainforest. In accord with Endicott's view that Batek Negrito foragers could subsist entirely within the rainforest if they needed to (Endicott 1984:48; Endicott and Bellwood, 1991), there is ample archaeological evidence that people were living in the early Holocene interior forests of the peninsula for many millennia with no obvious signs of regular access to coastal or agricultural resources.

When examined in broad perspective, the Malaysian Hoabinhian is quite a remarkable phenomenon. Across the northern and central regions of Peninsular Malaysia, at least nine limestone cave and shelter sites have produced excavated evidence for inland occupation by pre-agricultural foragers² (Fig. 2). In one of the largest sites, Gua Cha in Kelantan, the Hoabinhian layers are almost 2 m thick and date between approximately 10,000 and 3000 years ago (Adi 1985:35). Gua Bukit Taat in Terengganu has a ¹⁴C date from a presumed Hoabinhian context of c. 9000 B.P. (Nik Hassan et al. 1990:9), although the preceramic levels here are only 40 cm thick. The only other site with sufficient recorded depth to suggest that it might have been occupied for longer than Gua Cha is Gua Kerbau in Perak (Callenfels and Evans 1928; Evans 1928), but here no absolute dates are available. The deposits in all other sites appear to be thinner and may be safely attributed to the Holocene rather than to the Pleistocene.



Fig 2. Archaeological sites in Peninsular Malaysia discussed in the text.

In addition to the inland sites there are also the western coastal shell middens at Gua Kepah (Pinang) and Seberang Perak (Adi 1983:53–54). The presumed importance of such coastal middens in the Hoabinhian settlement pattern, especially in nearby Sumatra, might suggest that Hoabinhians used them as base camps and only foraged inland for very brief periods. If this were the case in Peninsular Malaysia, one might expect to find traces of marine items, such as shells (useful for

tools and ornaments), in the inland Hoabinhian sites. Yet only at Gua Kerbau does it seem likely that marine shells occurred, and even here there is uncertainty owing to inadequate recording (Dunn 1975:125). Marine shells were certainly not found in the Hoabinhian layers at Gua Cha (Kelantan) or Gua Kelilawar (Perak), the only inland sites for which shellfish data have been published. Marine shells are common in the Hoabinhian layers at Gua Bintong in Perlis, but this site was adjacent to the sea when it was occupied.

The basic observation concerning the food remains in the inland Hoabinhian sites is that the sites were occupied for long periods by people who did not have frequent access to the coast, a point reinforced strongly by Dunn (1975:125). Although plant foods have not left coherent traces, the Hoabinhian deposits at Gua Cha (Adi 1985) yielded bones of at least 18 genera of mammals (and probably many more species), including large animals, such as cattle, deer, and pig, and smaller ones, such as monkeys and squirrels. These animals were probably caught by trapping or by the use of projectile devices, such as the bow and arrow or the blowpipe. Bulbeck (1985:97) has suggested that the teeth of Hoabinhian burials excavated in 1979 in Gua Cha point to "a well-balanced diet, with animal proteins, considerable fibrous starchy vegetables (especially wild yams), and a relatively large proportion of sweet foods, specifically fruits and honey."

The data offered cannot, of course, prove beyond doubt that some Hoabinhian populations lived continuously in interior rainforest. Yet short-term forays from the coast would hardly be undertaken lightly across rugged mountain ranges or up fast-flowing rivers to far inland sites, such as Gua Cha. The concept of small but stable inland populations of Hoabinhian foragers remains, to my mind, the likeliest explanation of the observed pattern.

The question now arises of the Hoabinhian role, if any, in the development of agriculture in the peninsula. Since the discovery by Gorman (1970) of plant remains in Hoabinhian layers at Spirit Cave in northwest Thailand, many scholars have favored a scenario of indigenously developed Hoabinhian agriculture. Dunn (1975:132) was even willing to consider an antiquity in Peninsular Malaysia of 20,000 years for "some form of incipient root crop cultivation." The past 20 years, however, have yielded no data that strongly support the Spirit Cave findings. The fertile Khorat Plateau region of Thailand, where one would expect Hoabinhians to have undergone the proposed transformation, appears to have been almost uninhabited at this time. In his recent survey of Thai prehistory, Higham (1989:60-61; see also Bellwood 1988*b*) regards the Spirit Cave, Banyan Cave, and Steep Cliff Cave sequences from northwest Thailand as most likely the results of a broad-spectrum foraging adaptation, possibly lasting to A.D. 900. The Spirit Cave plant remains themselves cannot be shown to have come from cultivated or domesticated plants (Yen 1977).

In the peninsula the widely accepted "overlap" in time between the Hoabinhian and the Neolithic becomes very diffuse and ephemeral when examined in detail. It is completely absent at Gua Cha, as stressed both by Sieveking (1954, 1987) and by Adi (1985). It seems also to be absent in the diagrams presented by Peacock for Kota Tongkat in Pahang (Bellwood 1985:170; Peacock 1971). Hoabinhian tools in both these sites overlap hardly at all with pottery, and given the very high chance of disturbance in soft dry cave deposits, as noted by Matthews (1965), I am unwill-

ing to take older reports of overlap seriously—especially in view of the lack of stratigraphic awareness manifested by the early excavators of these sites.

The site of Gua Kechil in interior Pahang has provided perhaps the strongest claimed evidence for overlap. Thanks to the very competent report by Dunn (1964), the situation can be examined in detail.³ However, cord-marked and burnished pottery occurs to the base of occupation in the site, so there is no truly pre-ceramic occupation. The finding of only eight Hoabinhian bifaces in the lower part of the deposit seems to be insufficient evidence on which to base a claim that the Malaysian Hoabinhian evolved in situ into an agricultural Neolithic economy. There may have been slight overlap, but there is certainly no sign of a convincing locally generated transition.

Hoabinhian and the Origins of the Semang and Senoi

It is apparent that the record of Hoabinhian occupation in Malaysian caves and shelters does not go back much before 10,000 years B.P.; before that time the only signs of human occupation in the peninsula are the open site of Kota Tampan in Perak (Zuraina and Tjia 1988), of unspecified date but probably older than 30,000 years B.P., and the tools from the lower layer in Lang Rongrien Cave in Krabi Province (Fig. 3), which date to between 27,000 and 38,000 years B.P. (Anderson 1987, 1990). Lang Rongrien was not inhabited during the last glacial maximum but was reoccupied at the beginning of the Holocene, when occupation also began in the Hoabinhian caves in Malaysia and Ongbah Cave in Kanchanaburi Province (Sorensen 1988). The peculiar situation thus exists that the Malay Peninsula shows no sign of cave habitation during the last glacial period of maximum dryness, when forest conditions should have been at their most open, yet it does show substantial signs of cave occupation when rainfall and forest closure were perhaps approaching their Holocene maxima. As Sorensen (1988) has noted, the Hoabinhian actually seems to be a product of the warmer, wetter Holocene conditions.

A possible reason for this may be that people during the last glacial maximum period focused more on the distant coastlines produced by the low sea levels and spent less time in the interior. In the absence of an archaeological record, however, further surmise on this question seems pointless. Nevertheless, the one firm conclusion from this review of the Hoabinhian is that pre-agricultural populations were spread throughout most of the Malay Peninsula, perhaps more thinly in the interior than around the coasts, from at least 10,000 years B.P.. Unless the Negrito foragers entered the peninsula from some outside region during this time—a hypothesis I think all scholars would consider most unlikely—then they must have their origins somewhere within the Hoabinhian foraging population. The same may apply, in part, to the Senoi.

Current opinions on Negrito origins differ, often very widely. Solheim (1980) has suggested that the Semang Negritos were the original occupants of the coastal shell mounds, while the ancestors of the Senoi lived in the limestone areas inland. Rambo (1988) believes the ancestors of both groups lived near the coasts during the Hoabinhian and only moved inland after the arrival of agriculture. Differing environmental adaptations then caused them to separate toward the Semang and Senoi biological modes (Rambo 1988: table 2.1). Both these authors clearly derive



Fig 3. Southeast Asian archaeological sites discussed in the text.

all the peninsular Asian-speaking populations from indigenous Hoabinhian origins, but they differ fundamentally in their ultimate conclusions.

I find both views hard to accept. Solheim's fits rather oddly with the present distribution of the Semang, most of whom live inland today, although a greater coastal presence can obviously be argued for prehistoric times. Rambo favors a remarkably rapid rate of differentiation, with Negritos developing dark pigmentation and tightly curled hair in closed forests and Senoi developing light pigmentation and wavy hair in cleared agricultural environments. This prompts me to ask why, given almost identical environmental conditions, the Penan forest foragers of Borneo should be very light pigmented and straight haired (that is,

Mongoloid-like), while many of the agricultural western Melanesians who live in cleared environments have dark pigmentation with tightly curled hair, like the Semang foragers. The argument for a completely localized adaptive radiation of the Semang and the Senoi seems to lack some essential ingredients.

Unfortunately, the available skeletal and genetic evidence for the ancestry of both the Semang and the Senoi is rather sparse, which may account for Rambo's valiant attempt to infer a purely hypothetical local adaptive model. Skeletal data from Malaysian Hoabinhian sites point to an ultimate Australo-Melanesian rather than a Mongoloid affinity (Bellwood 1985:89–98). One must not forget, however, that by 10,000 years B.P. the inhabitants of the Malay Peninsula and those of Australia and New Guinea had probably been separated genetically for at least 30,000 years. This may explain some of the uncertainty expressed by many authors concerning matters of biological affinity, as summarized by Trevor and Brothwell (1962) for Gua Cha and other Malaysian sites (see also Jacob 1967; Snell 1949).

In short, many researchers are willing to accept very generalized Australo-Melanesian affinities for the Hoabinhians, but few are willing to be more specific. Most seem to agree that the samples contain no recognizably Negrito skeletons. One wonders, however, if the full range of ancestral Negrito skeletal variation that may have been present during the Hoabinhian can be gauged from the very small population—about 2000 people—that survives today. Furthermore, the stature of Negrito males given by Polunin (1953:84–86) ranges between 143 and 168 cm (averaging about 153 cm), whereas the range of stature estimates given by Bulbeck (1985:97) for Hoabinhian male skeletons is between 150 and 169 cm. There is clearly considerable overlap here, so that there appears to be little basis for ruling out the possibility that the Malaysian Hoabinhian population as a whole included the ancestors of the modern Negritos. The genetic data do not provide much further help in determining ultimate Negrito and Senoi origins. To my knowledge no research has yet been done on mitochondrial DNA variation in Aslian populations, and the genetic systems surveyed to date simply indicate great heterogeneity at the local level with no clear external affinities (Fix 1982; Lie-Injo 1976). Indeed, Fix (1982:198) has suggested, specifically for the Senoi, that “to infer history or affinity from gene frequencies is a risky procedure.” For the Philippine Negritos, Omoto (1987) suggests genetic isolation for between 20,000 and 25,000 years; he is unable to show ancestral connections with Melanesians, Australians, or any other outside group. The problem may, of course, lie in the short-term variability of the genetic complexes studied and their inability to preserve unequivocal traces of shared ancestry after the passage of tens of millennia, rather than in any absolute lack of ancestral affinity between these populations.

The question of Semang origins thus seems as mysterious as ever. Rather than despair, I will offer two observations that may help to dispel at least some of the fog. First, there are no Negrito populations in equatorial Sumatra or Borneo, and no evidence that any have ever existed there. Many interior lowland regions of Sumatra and Borneo are so sparsely settled today that it seems most unlikely that a widespread Sundaland Negrito population could have been assimilated with no biological trace at all. The Semang are thus at the southern extremity of the Negrito range, and it is clear that the focal areas of Negrito evolution in Southeast Asia occurred not along the equator, at least not in interior regions, but in areas considerably to the north, which may have been under more open forest in the late

Pleistocene. The Negritos of the Malay Peninsula—and, I suspect, some in the Philippines too—represent a population that has adapted to a closed rainforest environment during the Holocene and that may well have acquired relatively short stature within this 10,000-year period (see Bailey et al. 1989:73–74; Merimee et al. 1981). It is worth remembering also that many of the Senoi have a range of stature similar to that of the Negritos (Polunin 1953), and many Senoi phenotypic features may also be traceable from the Hoabinhian population in a generalized way.

Second, the phenotypic differences between Semang and Senoi are unlikely in my view to be due entirely to local differentiation. Rather, they relate in part to a period of gene flow, to be discussed below, focused on the Senoi from Southern Mongoloid agricultural populations located around the head of the Gulf of Siam after about 4500 years B.P.. The Semang may therefore be the most direct (that is, the most externally uninfluenced) descendants of the Hoabinhians in the Malay Peninsula, despite the apparent difficulties involved in recognizing them in the available, but extremely small, skeletal sample.

LATER HOLOCENE AGRICULTURALISTS IN THE PENINSULA

The appearance of Neolithic assemblages in Peninsular Malaysia marked a dramatic cultural change from the preceding Hoabinhian. At Gua Cha, and to a less certain extent at Gua Kerbau and Gua Baik (Gol Ba'it), the mode of burial changed fairly sharply from flexed to extended.⁴ In addition, the rather sumptuous burials at Gua Cha (c. 1000 B.C.: Adi 1985; Sieveking 1954) have produced a wide range of artifacts that have no local Hoabinhian antecedents. These include stone bracelets with D- and T-shaped cross-sections, beaked and plain quadrangular-sectioned adzes, shell bead necklaces, a barkcloth beater, and pottery of a well-made burnished and cord-marked type, occasionally with fine incised and punctate decoration.

The ultimate source of this flow of Neolithic influence down the peninsula has long been suspected to be southern and central Thailand (Fig. 3). The burial site of Ban Kao in Kanchanaburi Province (Sorensen and Hatting 1967) dates to the second millennium B.C. and has yielded extended burials with a range of grave goods including untanged stone adzes, barbed bone harpoon or spear points, shell beads and bracelets, and finely made cord-marked pottery with common high pedestal or tripod supports. The habitation layers of the site have also produced many other important categories of Neolithic technology, including shouldered adzes, stone bracelets, bone fishhooks and combs, and baked clay barkcloth beaters and spindle whorls (possibly for spinning cotton thread). One site south of Ban Kao has yielded the postholes of a small raised-floor house, and there is some evidence that these people may have had domesticated pigs, chicken, and cattle. Thus far there is no direct evidence for rice at Ban Kao, but its presence is assumed by Sorensen (1974a:482). It is also worthy of note that the skeletons from Ban Kao (Sangvichien et al. 1969) appear to be of Southern Mongoloid people little different from present-day populations of Mainland Southeast Asia.

The relationships of the Ban Kao artifacts to those of the Peninsular Malaysian Neolithic were clearly recognized by Sorensen when he coined the term *Ban Kao culture* (Sorensen 1974a) to include the Neolithic assemblages of both southern Thailand and Malaysia. One of the key artifact types is the tripod pottery vessel,

now reported from approximately 20 sites extending over a remarkable range of 1500 km from Ban Kao southward to the vicinity of Kuala Lumpur.⁵ The Ban Kao ¹⁴C dates suggest that many of these tripod vessels may date to the second millennium B.C.. Four ¹⁴C dates on charcoal ranging between 2000 and 1200 B.C. after calibration have been obtained by Leong Sau Heng (1990, 1991) for tripods and associated cord-marked pottery from the Jenderam Hilir site in Selangor. The Neolithic pottery of Gua Cha, which does not include tripods, seems to be a little later in date, some time after 1250 B.C. (Adi 1985:61). The end of the tradition may be marked by the trumpet-shaped vessels without tripods from Ongbah Cave in Thailand and Bukit Tengku Lembu in Perlis. These may be only about 2000–2500 years old, as suggested by the Ongbah ¹⁴C dates and by a possible sherd of Indian Northern Black Polished Ware (or a similar fabric of early historical date) at Bukit Tengku Lembu (Sieveking 1962; Sorensen 1988).

Recent work in southern Thailand has made the regional homogeneity of the Ban Kao phenomenon even more apparent. Srisuchat (1987) illustrates cylindrical barkcloth beaters from Buang Baeb Cave in Surat Thani that are almost identical to the specimens from Gua Cha (Sieveking 1956*b*) and Jenderam Hilir. Pottery similar to that from Ban Kao has also been excavated in the important cave of Lang Rongrien in Krabi; extended burials occur with it, as at Gua Cha and Ban Kao (Anderson 1990). The burnished and cord-marked pottery is so distinctive in style everywhere, from Gua Kechil and Jenderam Hilir in the south right up to Ban Kao, that an ultimate common origin for the tradition can hardly be doubted. In addition, the recent excavations in the massive habitation and burial mound of Khok Phanom Di, at the head of the Gulf of Siam about 50 km east of Bangkok (Higham et al. 1986–1987; Higham and Bannanurag 1989), have revealed something of the surprising wealth that certain coastal communities in southern Thailand were able to generate at this time.

Khok Phanom Di is 200 m in diameter and has almost 7 m of archaeological deposit dating between 2000 and 1400 B.C. It thus appears to be approximately contemporary with the Ban Kao burials and the occupation at Jenderam Hilir. When first occupied it lay close to a mangrove shore, perhaps with freshwater ponds where rice, in plentiful evidence from this site, could be cultivated. The basal of the three major excavated cultural phases yielded extended burials in presumed lineage clusters, some wrapped in barkcloth and dusted with red ocher. Grave goods of this phase included shell beads and bracelets, stone adzes, and well-crafted pottery of which the finest vessels have black burnished surfaces and incised horizontal zones of decoration. This pottery has some quite striking stylistic similarities with that from Ban Kao and Gua Cha, although tripods of the type described for these two sites do not occur in Khok Phanom Di.

In the middle cultural layer of the site, dating presumably to early in the second millennium B.C., some richly provided burials were found. One woman was buried under a large cone of the clay cylinders from which pots were made, with more than 120,000 shell disk beads over her chest and lots of fine pottery vessels (Higham and Bannanurag 1990:327). Evidently she was of high status and possibly a potter. A child, perhaps a member of the same family, was buried near her with similar high-status goods. These wealthy burial assemblages could indicate that the society was ranked on a genealogical basis with consequent inheritance of wealth; females in particular seem to have enjoyed high positions. As realized by Higham

(1989:85–89), this picture of burgeoning Neolithic wealth might indicate an attractive source region for a gradual colonization both inland into central Thailand and also down the Malay Peninsula. While the material culture of Khok Phanom Di is not identical to that of either Ban Kao or the Malaysian sites, it obviously shares a very high degree of generic relationship.

As far as Peninsular Malaysia is concerned, the explanation of the Ban Kao culture in anthropological and historical terms will necessarily be rather complex. An important observation, which I have addressed in several recent papers (Bellwood 1990*b*, 1991, 1992), is that according to the ethnographic record, factors involving sedentism, economic scheduling, and aspects of social structure appear to inhibit rainforest foragers from adopting agriculture on a widespread basis by simple free-will emulation alone (see Benjamin 1985, 1986 for Malaysia; Headland 1986 for the Philippines). Because of this it seems unlikely, given the widespread archaeological similarities right down the peninsula, that agriculture and the distinctive associated artifact forms were simply adopted wholesale by preexisting Hoabinhian foragers, without considerable pressure from immigrant farmers. Even when such pressure exists, the routes toward agriculture can be very hazardous. For instance, while some modern Agta groups in the Philippines have adopted agriculture (Brosius 1983), many others, similarly pressured by diminishing resources into following the same course, have for various reasons been less successful (Eder 1988; Headland 1986). For Malaysia I know of no evidence to suggest that any long-standing practice of cultivation has ever occurred among the Negrito populations (see Endicott 1984 on the Batek of Kelantan), who unlike the Philippine Agta may not have been subjected until very recently to intense competitive pressure from other groups.

I am inclined to conclude that the Senoi are likely to be the descendants of both the Hoabinhians of the peninsula (or some of them) and, perhaps to a greater extent, of an intrusive Southern Mongoloid population of pioneer Neolithic farmers moving slowly southward into agriculturally uninhabited terrain from central Thailand,⁶ opening new lands for agriculture by generation-by-generation expansion as local groups increased in number. The southward expansion of the Ban Kao culture appears to have led to two major introductions into Malaysia: agriculture and the Aslian languages. The latter were eventually adopted by the Semang Negritos, perhaps through mechanisms similar to those described by Reid (1987) for his “early switch” hypothesis for Philippine Negrito foragers, who likewise have all adopted Austronesian languages from their agricultural neighbors.

THE MALAY PENINSULA AFTER 1000 B. C.

Austronesian Linguistic History

Any discussion of Austronesian settlement in the Malay Peninsula must commence with an excursion into linguistics, since the Malayic languages of the peninsula are so closely related to those in Sumatra and Borneo. According to Benjamin (1983), most of the Austronesian languages of the Malay Peninsula, whether classified as Para-Malay, Aboriginal Malay, or Local Malay, can be regarded as varieties of Malay rather than as separate languages. The only possible exceptions would seem to be the Orang Kuala or Duano language of Johor and parts of eastern Sumatra

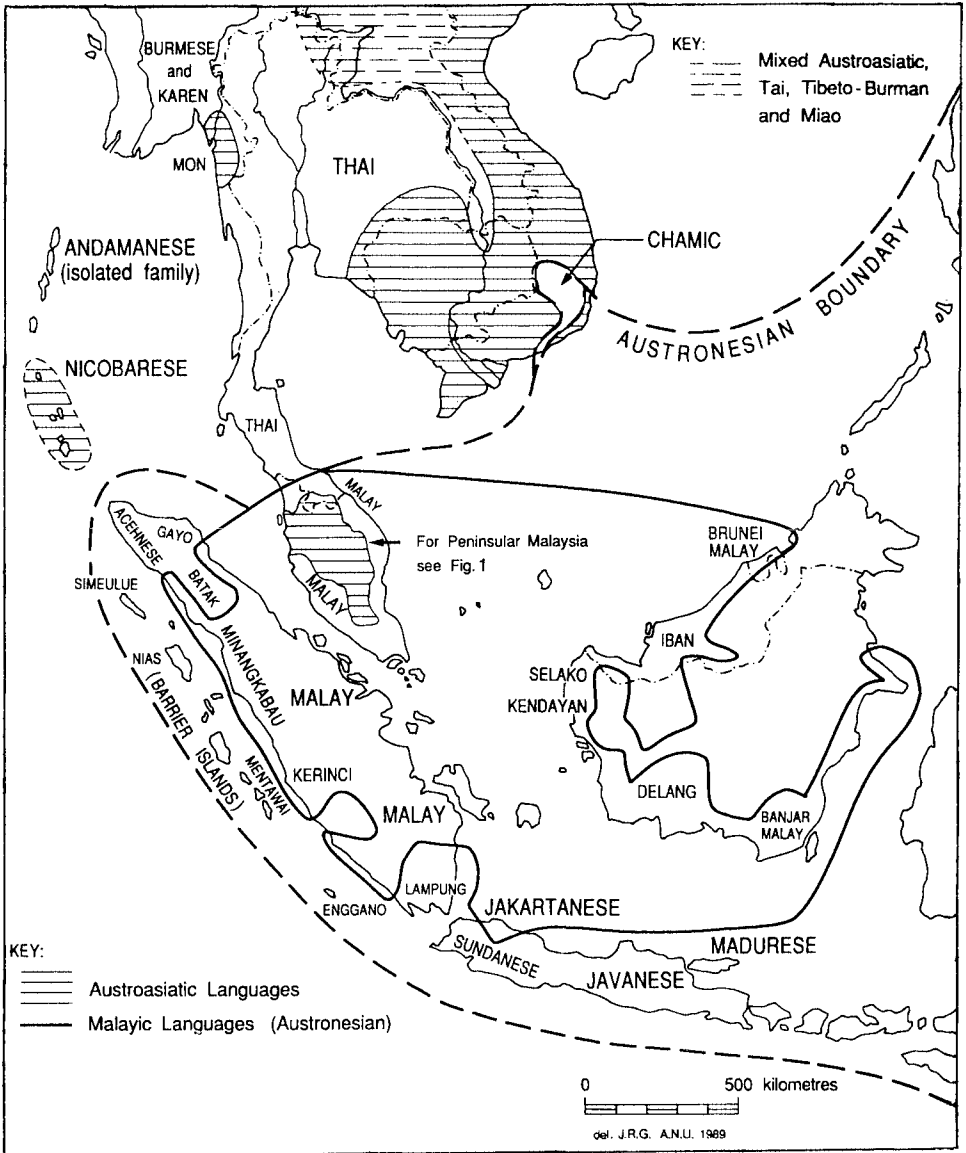


Fig. 4. The distribution of the Malayic languages. (General source: Wurm and Hattori 1983; Austronesian areas after Adelaar 1985.)

(Sandbukt 1983), and possibly Kenaboi of Negri Sembilan and Melaka (Benjamin 1987:131). The Malayic languages of the peninsula are thus relatively homogeneous and have recently been expanding into areas formerly occupied by Aslian languages.

The close relationships of the Austronesian languages of the peninsula to those of eastern Sumatra and western Borneo have been emphasized by many linguists (Fig. 4). Hudson (1970) defined a "Malayic" category of related languages in which he placed Iban and Selako of western Borneo, Minangkabau, Aboriginal Malay,

and Malay (retaining the latter term only for the speech of Moslem Malays). The most recent comprehensive work on the Malayic languages is that of Adelaar (1985, 1988, 1992), who includes within the subgroup the Malayic-Dayak languages of Borneo, Minangkabau, and the various Malay dialects of Peninsular Malaysia, lowland Sumatra, coastal Borneo, and Bacan Island in Maluku. Adelaar excludes such languages as Rejang, Lampung, Sundanese, and Maduresc from Malayic. Other classifications, however, which use the term *Malayic* in a broader sense and which include some of these languages, have recently been offered by Blust (1988a, 1988b) and Nothofer (1985, 1988).

The most recent statement by Blust (1988a:57) gives the following scheme of successive linguistic differentiations in western Indonesia and Malaysia, with approximate dates derived from both archaeological and linguistic reasoning:

1. Initial differentiation in southeast Kalimantan (commencing c. 1500–1000 B.C. according to Blust) of languages ancestral to (a) Barito and Malagasy; (b) Javanese, Balinese, and Sasak (Lombok); and (c) Malayo-Chamic.
2. Establishment of ancestral forms of the Javanese, Balinese, and Sasak languages after 1000 B.C.
3. Differentiation of Malayo-Chamic (commencing in the third or fourth century B.C. according to Blust) into (a) Chamic and Acehnese; and (b) the “Malayic Complex,” an entity broader than Adelaar’s more strictly defined Malayic (see above) and in which Blust includes Malay, Minangkabau-Kerinci, Iban and other Malayic-Dayak languages of Borneo, Maduresc, Sundanese, and perhaps Lampung of southern Sumatra. Blust relates initial Malayo-Chamic differentiation to population movements out of southwestern Borneo into Viet Nam and the Malay Peninsula. Adelaar (1992) also suggests that Proto-Malayic was located somewhere in Borneo.

The classifications discussed above have obviously left out some Sumatran languages, recently subgrouped as the “Barrier Island–Batak group” by Nothofer (1986, 1989). These include the languages of the small islands off western Sumatra (Nias, Enggano, Mentawai, Simeulue), the various Batak dialects, and probably Gayo. The relatively high diversity within this subgroup could suggest that its component languages have diversified in situ since the initial Austronesian settlement of western Indonesia took place. In addition, its geographical distribution might later have been reduced by the success of the Malayic and other related Hesperonesian languages. Much of this Malayic expansion could have resulted from the activities of the trading kingdom of Srivijaya and its successors, including Melaka and the other Moslem sultanates.

Given the presumed historical importance of Srivijaya, it is possible that the Malayic languages that now dominate Peninsular Malaysia were only introduced into this region from Sumatra in or after the seventh century A.D. This, at least, appears to have been an acceptable hypothesis to several authorities, including Wilkinson (1923:11), Sieveking (1956a), and Dunn (1975:107). Benjamin (1987) believes that the modern Standard Malay varieties may possibly be descended from a high variety of the Old Malay used in Srivijaya and that Malay may have replaced Mon, the major pre-Thai language of southern Thailand, in Kelantan only during the twelfth century A.D. But a Srivijayan source for the first recognizable forms of

Malay need not mean that other Malayic or Austronesian languages were not spoken in Peninsular Malaysia before this time.

Indeed, there is now fairly convincing evidence that some Austronesian languages were spoken in the peninsula long before the coastal and maritime hegemony of Srivijaya. For instance, Benjamin (1986, 1987) has suggested that many Aslian languages contain Austronesian loan-words that belong to a pre-Malayic substratum. The Duano language of Johor, as discussed by Sandbukt (1983), might possibly be a survivor of such a substratum, as might the recently extinct Kenaboi (Benjamin 1987:131).

Austronesian Expansion in the Peninsula

A date younger than 2000 years B.P. for the initial expansion of Austronesian languages into the peninsula is also made unlikely by some palynological evidence from Sumatra. Peninsular Malaysia is one of the few places in the Austronesian world (the other major ones being southern Viet Nam and western Melanesia) where Austronesian settlers found agriculturalists, in this case Austroasiatic speakers, in prior occupation. In Sumatra, however, there are no communities of Austroasiatic speakers today, even though Austroasiatic influences on Acehnese are mentioned by Benjamin (1986:28). It is unclear, however, whether Austroasiatic languages were once actually spoken in Sumatra or whether the influences into Acehnese were acquired in a Mainland Southeast Asian homeland, prior to Acehnese settlement in the island.⁷ Certainly, Sumatra appears not to have produced any Neolithic assemblages clearly related to those of West Malaysia, although this may simply reflect lack of data. Nevertheless, if the data are taken at current face value, they might suggest (and the reasoning is admittedly tenuous) that the first Austronesian-speaking settlers in Sumatra found the island occupied only by sparse groups of foraging Hoabinhians (the builders of the northeastern coastal shell middens; see Fig. 3), perhaps with other technologically allied foragers in the south (Bronson and Asmar 1975). In other words, a case can be made for linking the initial spread of agriculture into Sumatra with the initial expansion of Austronesians into the island.

If the speakers of Austronesian languages really were the first agriculturalists to settle Sumatra, at least in the northern and central highlands, then this occurrence may be dated by the pollen record of forest clearance—if we assume (with most palynologists) that this clearance was associated with agriculture. The swamps tested all lie at high altitudes in the Sumatran volcanic interior (Flenley 1988 gives a general summary) and indicate that forest clearance was under way by at least 4000 years B.P., with indications of permanent clearings from about 2000 years B.P. Two sites on the Toba plateau indicate that some clearance might have begun as early as 7000 years B.P. (Flenley 1988; Maloney 1980, 1985), but such an early date is far out of line with all other evidence for agriculture in this region. Volcanic eruptions can also cause marked vegetation change, and Maloney (1983–1984) has also suggested that inert carbon dioxide from volcanic eruptions can make radiocarbon dates too old. Nevertheless, a presence of agriculture by 2000 B.C. in the highlands of Sumatra does seem an acceptable hypothesis.

This chain of argument suggests that Austronesian speakers might have been in

northern Sumatra as early as 2000 B.C. and thus *within reach* of the Malay Peninsula from this time onward. In terms of the archaeological evidence, however, there is little sign of any major cultural change in the peninsular Neolithic until new artifact styles appear with bronze and iron metallurgy after about 500 B.C. It may be important that the red-slipped and incised pottery styles so characteristic of the Philippines, Borneo, and eastern Indonesia in the first millennia B.C. and A.D. (see Bellwood 1985) seem to be quite absent in the Malay Peninsula and Sumatra. Does this simply represent lack of research, or is the absence real?

Unfortunately, this question is at present almost impossible to answer. One reason is that the archaeological assemblages of the peninsular Early Metal Phase do not form such a tightly related complex as do the Neolithic assemblages. The bronze bells and Dong Son drums (Loewenstein 1956; Peacock 1979) appear to have come from northerly manufacturing centers in Viet Nam and perhaps Cambodia. Likewise, the industry of shaft-hole iron tools (Sieveking 1956a), despite its striking idiosyncrasies, has northerly echoes in the late first millennium B.C. iron industries of sites such as Phu Hoa in Viet Nam and Ongbah Cave and Ban Don Tha Phet in central Thailand (Fontaine and Hoang 1975; Glover et al. 1984; Sorensen 1974b). These observations, however, may bear little relation to questions of ethnicity. The peninsular Neolithic assemblages appear for the most part to have been locally manufactured and show close connections with southern and central Thailand; the Metal Phase artifact types, including the glass and carnelian beads, are mostly traded goods and belong to much wider spheres of trade and interaction. They cannot be tied specifically to any particular archaeological culture, and the glossy resin-coated pottery of the Malaysian Early Metal Phase has no clear outside parallels at all.

Basically, the material culture discussed so far would allow one to postulate either Austroasiatic or Austronesian populations—or perhaps both with Austronesians mainly confined to the southern regions—in lowland areas of Peninsular Malaysia at about 2000 years B.P. The slab graves of Perak and Selangor admittedly have parallels in the Early Metal Phase complexes of southern Sumatra (Pase-mah) and eastern Java (Bellwood 1985:289–299), but again this may be a result of diffusion or simple coincidence rather than any real identity of tradition.

Indeed, objects such as beads and bronze bells, and perhaps even the heavy bronze drums, might well have been traded around the region during the early phase of Indian contact (after c. 400 B.C. at Ban Don Ta Phet: Glover 1990:36), rather than in the late prehistoric period proper. Roulctted Ware, a brand of pottery made on the eastern seaboard of South Asia and dated by ¹⁴C to between 200 B.C. and A.D. 200 at Anuradhapura in Sri Lanka (Deraniyagala 1986), has now been found in both western Java and northern Bali (Ardika and Bellwood 1991; Walker and Santoso 1977). This makes it very likely that Indian traders were active in the archipelago during the period of the Dong Son bronze-working apogee.

So the question of when Austronesians first arrived in the peninsula and what kind of cultural baggage they brought with them must, I think, be left open for the time being. Archaeology proves most useful for the later stages of Malay expansion—those connected with Srivijaya, with the great outflow of ceramics from Song and Ming China, and with the growth of the Islamic Malay-speaking sultanates. Although these stages fall well outside the prehistoric period, they do form a fitting endpiece to this paper, especially through the dispersal of the distinc-

tive paddle-impressed pottery that Matussin Omar and I have called Tanjong Kubor Ware (Bellwood and Omar 1980; Omar 1981) and that Solheim (1981) calls "Malay pottery."

This pottery has now been found in sites of the early and mid-second millennium A.D. around the coasts and coastal lowlands of the peninsula (Pengkalan Bujang, Johore Lama, Kota Tinggi), Sumatra (Kota Cina), Singapore (Fort Canning; Miksic 1985:56), and western Borneo (many sites in western Sarawak and Brunei; see Fig. 3). It has also been found in the Philippines, especially in association with the remains of lashed-plank vessels near Butuan City in northern Mindanao (Ronquillo 1985; Scott 1981). In this connection it is interesting to note that the sultanate of Sulu in recent centuries also used Malay as a court language (Pallesen 1985). The Tanjong Kubor tradition appears to have been kept alive by the Iban of Sarawak, who have continued to make similar paddle-impressed pottery until recently (Freeman 1957). The Iban are also Malayic speakers, and it may be of some relevance that they have traditions of ancestral connections with Sumatra (Sandin 1967:2).

I am therefore very willing to agree with Solheim (1981) that this specific kind of paddle-impressed pottery (illustrated by Omar 1981 for Brunei) marks the course of expansion of Malayic-speaking traders, the Malay language proper, and ultimately the chain of Islamic sultanates from Melaka across to Sulu and possibly even onward to Ternate and Tidore.

CONCLUSION

The results of archaeological and linguistic research in Southeast Asia over the past twenty years have revolutionized our understanding of prehistory, and specifically of Peninsular Malaysian prehistory. Heine Geldern (1932) was clearly wrong, whatever the overall merits of his prehistoric reconstructions, when he suggested that early Austronesians migrated from Mainland Asia through the Malay Peninsula into Indonesia. The true course of Austronesian expansion was in the other direction.

The opposing and currently much favored view—that most cultural and biological developments in the peninsula were *sui generis*—may also be questioned. Indeed, I am not sure that any scholar actually accepts such a scenario as the only possible one. Benjamin and Rambo, for instance, both of whom have supported this view in their recent papers, also accept that many of the Malay-speaking populations have their ancestries in Indonesia (Benjamin 1986:22; Rambo 1988). In addition, the *sui generis* view has some attractive aspects. Benjamin has shown in a series of papers (1976, 1985, 1986, 1987) how the ways of life of Malayan peoples could have developed "through processes of mutual assimilation or dissimilation" (Benjamin 1986:5), leading to an eventual "locking in" to different socioeconomic modes as expressed in marriage and avoidance relationships and in dialect patterning in languages. Such processes have undoubtedly also affected biological patterning in the peninsula. In addition, it is very likely that the Peninsular Malays have genetic ancestries derived in varying degrees from the earlier Austroasiatic-speaking populations who must at one time have occupied the whole of the peninsula.

But have expansions of people into the peninsula from other regions really been

as insignificant as Benjamin and Rambo have suggested? I suspect not. While I am happy to agree that the Semang are an indigenous population of Peninsular Malaysia with a local ancestry dating from at least 10,000 years B.P., I am unable to accept the same entirely for the Senoi, who clearly do have an ancestry connected in some way with that of the Neolithic societies of central and southern Thailand. This does not mean, of course, that the Senoi were once all immigrants. Many of their phenotypic and cultural features have surely been shared with the Semang since Hoabinhian times. The Malayic populations, on the other hand, have clear and unequivocal cultural and linguistic origins in the Austronesian world of Island Southeast Asia, despite varying degrees of genetic and cultural interaction with earlier peninsular populations.

I approach the end of this paper with a regional observation about diversity. If we compare the human diversity represented in Peninsular Malaysia with the relative homogeneity in culture and biology represented in Sumatra and Borneo—both adjacent to the peninsula and almost identical environmentally—can it really be accepted that the peninsular situation is due only to internally generated differentiation? If this explanation is accepted, then it must be shown why Peninsular Malaysia should be so different from, and so much more diverse than, the regions adjacent to it. I doubt that this can easily be done.

My suggestions of successive population flows into Peninsular Malaysia, however, need not conflict with the regional continuity model for Southeast Asian populations favored by Bulbeck (1982) and Turner (1989). If Southeast Asia is defined prehistorically to include China south of the Yangtze, then all populations discussed in this paper are entirely Southeast Asian in origin and probably share some degree of common ancestry in the final resort.

Finally, what should we be looking for in the archaeological record to answer some of the questions raised in this paper? In my view the biggest archaeological void concerns the early Austronesians in the peninsula. We badly need more archaeological assemblages of the pre-Srivijayan period to illuminate interactions with the islands of Southeast Asia, especially Sumatra and Borneo. The question of the interface between the Hoabinhian and the succeeding Neolithic also needs more careful examination, partly because, according to the hypotheses presented in this paper, the ancestral Senoi should have emerged in regions where such an interface occurred, whereas the ancestral Semang should perhaps have continued to occupy regions of continuing Hoabinhian culture and economy.

NOTES

1. An original version of this paper was presented at the Second International Conference on Malay Civilization, Kuala Lumpur, 16–20 August 1989. I would like to thank the conference organizers for making my attendance possible. Parts of the section on the Hoabinhian have also been published in a paper by Endicott and Bellwood (1992).
2. Using the evidence given in Matthews (1961), Dunn (1975, chap. 9), Bellwood (1985:164–172), and Adi (1985), as well as many pre-World War II site reports, definite pre-agricultural Hoabinhian occupation can be accepted for the following caves and shelters: Gua Bintong in Perlis; Gua Kajang, Gua Kerbau, and Gua Kelawar (Adi and Zulkifli 1990) in Perak; Gua Cha and Gua Madu in Kelantan; Gua Kintamani and Kota Tongkat in Pahang; and Gua Bukit Taat in Trengganu (Nik Hassan et al. 1990). The situation for Gua Baik (Gol Ba'it) in Perak is a little unsure, but it probably had a true Hoabinhian lower layer with flexed burials. Gua Musang (Kelantan) and Gua Kechil (Pahang) appear to have pottery to their bases; Gua Kechil is discussed in the text. Other investigated sites listed by Matthews (1961) are equivocal.

3. The single bone collagen date of 4800 ± 800 uncal B.P. (possibly c. 3500 B.C. if calibrated) published for an upper level of this site by Dunn (1966) may be unreliable. Present understanding of the Peninsular Neolithic would make a calibrated date older than 2500 B.C. unlikely for its beginnings in Malaysia. Single ^{14}C dates such as this have given inaccurate results for other Southeast Asian sites, despite the good intentions of their excavators (Spriggs 1989).
4. What may have been a survival of the Hoabinhian flexed burial posture was recorded in a recent Semang grave in Kedah (c. 1900?) by Skeat and Blagden (1906, 2:92).
5. Tripod vessels or parts thereof have been reported from the following sites in southern Thailand: Ban Kao; Buang Bep (or Buang Baeb) and three other sites in Surat Thani Province (Peacock 1964; Srisuchat 1987); and at least seven sites in Krabi, Nakhon Si Thammarat, and Trang provinces (Srisuchat 1987). In Peninsular Malaysia they have been reported from Gua Bintong, Bukit Cangkul and Gua Gergasi in Perlis (Adi 1987; Leong 1990); Gua Pasir, Gua Taufan, and Gua Berhala in Kedah (Adi 1987; Peacock 1964); Gua Baik (Gol Ba'it) in Perak (Leong 1990); and Jenderam Hilir in Selangor (Leong 1991). There are thus at least 12 sites in southern Thailand and at least 8 in Malaysia with tripod pottery.
6. Trevor and Brothwell (1962:8) stated that little evidence could be found for appreciable physical divergence between the Hoabinhian and Neolithic populations in Gua Cha. This may simply suggest that greater Hoabinhian-to-Senoi biological continuity occurred in the remote interior than in the more accessible coastal regions of the peninsula.
7. An anonymous reviewer of this paper states that toponyms imply that speakers of an Austroasiatic language once occupied the Aceh region. Some published data on this matter would be welcome.

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ABSTRACT

This paper addresses questions of ethnogenesis and prehistoric cultural development in the Malay Peninsula. Both archaeological and linguistic sources are used and the time span extends from early Holocene foragers to the Malayic trading states of early history. Reasons are discussed for recognizing migration into the peninsula at various times as a necessary ingredient to explain ethnic diversity. Other models which claim totally *in situ* forms of cultural evolution to the exclusion of all external stimuli are evaluated and shown to be incomplete. KEYWORDS: Malaysia, prehistory, ethnogenesis, foraging, agriculture, colonization.