

THE ORIGINS AND DISPERSALS OF AGRICULTURAL COMMUNITIES IN SOUTHEAST ASIA

Peter Bellwood

After 5,000 years ago, the world of the hunter-gatherer economy across Southeast Asia and on the western edge of the Pacific was confronted rather suddenly by another economic system: that of the first agricultural populations. New populations and languages, with close links with contemporary populations in central and southern China, began to spread across the region to form the foundation of the pattern of ethnolinguistic groups which exists today, beneath the veneer of twenty-first-century global civilization (see Figure 1.1).

This is not to state that there were ever mass migrations of early farmers who marched their way across the landscape, eradicating all former hunter-gatherer presences. The reality was far more complex, and must be modelled demographically in terms of what we know of differing farmer and hunter population profiles under differing environmental circumstances. More importantly, we need to understand the historical processes concerned in terms of the distinct and independent data sets from archaeology, linguistics, genetics and palaeoanthropology.¹ It is not sufficient simply to accumulate all the data into a vague concept of "migration", and then to visualize something akin to the observations of Julius Caesar on the migrations of the Helvetii into Gaul in 58 BC, complete with their families, pack animals, wagons and seed corn. Of course, some ancient populations perhaps did migrate in this way. But we must also think hard about how archaeological and economic items (e.g. stamped pottery, rice, domestic pigs), proto-languages, and specific "marker" genes might have originated and moved through space, sometimes in fairly independent ways.

Archaeologists, linguists and geneticists are currently very interested in the question of how agriculture spread after its initial appearances in various parts of the world. Was it through the demographic increase and range expansion of farmers, via a process termed "demic diffusion" by geneticists? Or was it through hunter-gatherer adoption of agriculture? The problem is, rather often, that the relevant archaeological, linguistic and genetic data does not always point with perfect precision to one or other of these polar options. This doubtless means that the reality was somewhere in-between.

The archaeological assemblages we associate with early agriculture – the crops, domesticated animals, pottery, ornaments of stone and shell, ground stone tools, spindle whorls (for spinning fibre) and village-sized settlements – all spread far and wide within various cultural complexes during the early Neolithic of Southeast Asia, essentially

spanning the whole area between 3000 and 1500 BC (and being generally earlier in the north than in the south). The foundation movements of the major agriculturalist language families of Southeast Asia (Figure 2.1), especially Austroasiatic and Austronesian, also spread far and wide, carried in the main by populations of native speakers of the proto-languages concerned, although localized instances of language shift doubtless occurred as well.

However, genetic data in Southeast Asia does not point clearly to total replacement of pre-agricultural peoples, and this is true in terms of nuclear DNA markers as well as mitochondrial DNA and Y chromosome haplotypes (the last two being inherited without recombination through females and males respectively).² In fact, genes sometimes give away processes of population admixture far more clearly than do languages. Indeed, if we think about modern situations carefully, it is apparent that even recent colonial episodes of truly mass migration into the Americas and Australasia have

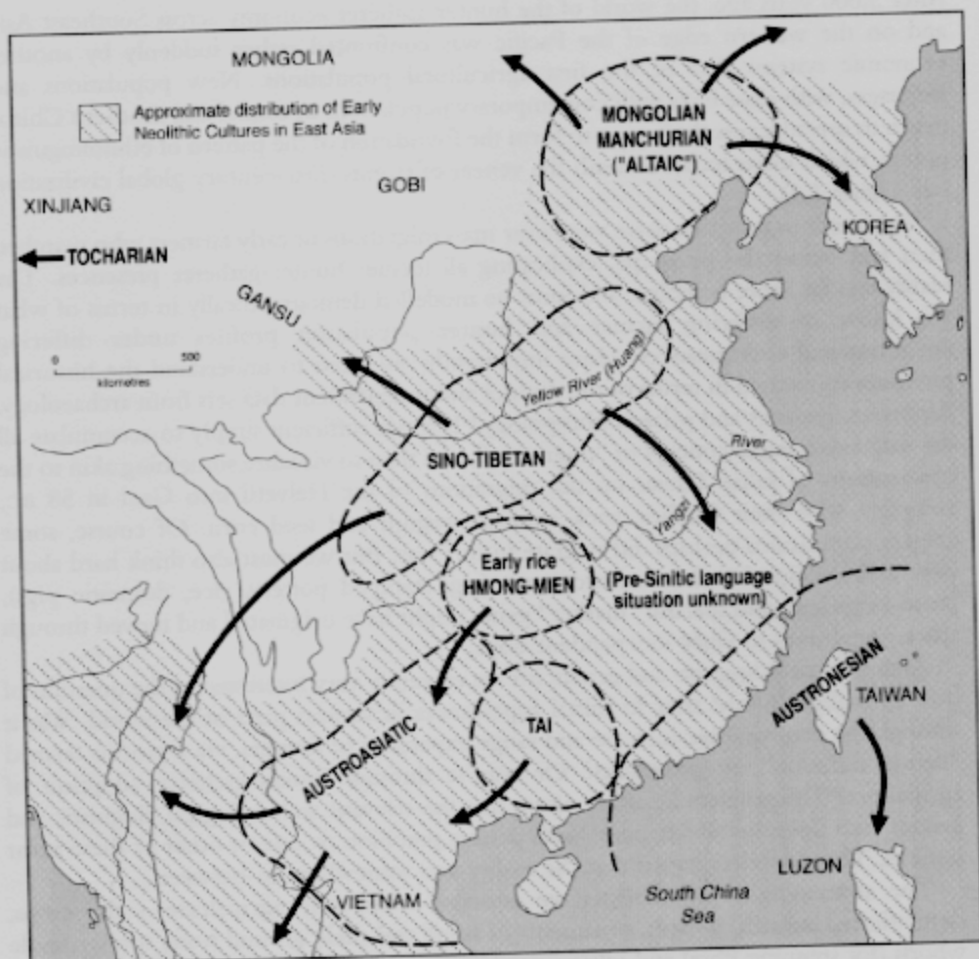


Figure 2.1 Putative homelands of the major language families of China and Southeast Asia.

not completely removed all traces of previous peoples. Native peoples of course live on, very vigorously indeed in many regions of the recently-colonized world.

So, with this introduction, we can perhaps begin to consider the Neolithic prehistory of Southeast Asia in terms of real ancestral populations, their movements, and their interactions.

The first farmers

Why did transitions to agriculture occur, all within the past 12,000 years or less, sufficient to shake the human world irreversibly from its two-million-year Palaeolithic state of relative hunter-gatherer demographic equilibrium? The "bottom-line" answer, if we wish to search for ultimate causes, probably lies in the post-glacial climatic amelioration after 15,000 years ago. This led, as a result of warmer and wetter climates, to a massive increase in the productivity of the earth's tropical and subtropical surface, at least from a human viewpoint.

The three most significant of the indigenous transitions to agriculture in the world, in terms of population growth and impact on later history, occurred in the Middle East, China, and the tropical Americas. These regions are all in fairly low latitudes with strongly seasonal rainfall distributions, where combinations of domesticable animals and plants, especially annual large-grained cereals and other seed crops, proliferated in the warmer post-glacial conditions. In the Middle East and China, we know that some populations turned to harvesting these resources, particularly wheat and barley in the former region, and rice, foxtail millet and broomcorn millet in the latter. In good times, such plentiful cereal foods would have encouraged a degree of sedentism and population growth. But the warmth was not continuous and ever-increasing; unstable climatic fluctuations are known to have occurred, leading to periodic quite severe cold reversals. Perhaps, as a result of stresses in food supply because of these climatic fluctuations, some groups in the Levant and China began to select for domesticated features in their animals and plants. Such selection, whether conscious or unconscious, increased productivity via a number of changes promoting better yields and easier processing. The results would have benefitted pure subsistence as well as those competitive aspects of affluence, such as feasting and wealth accumulation, which have always tended to characterize increasingly large and sedentary populations. Thus, both social and environmental factors could have reinforced each other within this very important developmental trajectory.

The first such development of agriculture with morphologically domesticated cereals occurred in the Middle East about 10,500 years ago, followed closely by China by about 9,000 years ago. The Americas followed much later, with their first major domesticated food crops, especially maize, being dated to about 5,000 years ago. The absolute reasons for the many indigenous transitions to agriculture are still not totally understood by archaeologists and each region has to be examined on its own merits, but one fact remains transparently obvious. These transitions were fundamental for the present demographic situation of humanity – they unleashed a cycle of population growth without which none of the ancient or modern civilizations, nor the problems of overpopulation and poverty in the modern world, would exist.

Early agriculturalists in China, Southeast Asia and New Guinea

The islands of Southeast Asia and the Pacific witnessed a two-part development and dispersal of agricultural populations. In the Highlands of New Guinea, agricultural systems based on the drainage of swamps and the shifting cultivation of tubers on surrounding slopes had developed indigenously by at least 6,000 years ago. But the absences of cereals and domesticated animals in this island meant that populations were generally small. Pigs were not introduced to New Guinea until about 3,000 years ago, and the American sweet potato, a major highland food source today, perhaps not until after AD 1550 (although it might have been a little earlier, particularly if it could have been transmitted from prehistoric Polynesia where it was present from about 1,000 years ago). The relatively low demographic profile of prehistoric New Guinea societies meant that no agricultural colonization of Australia, the last completely hunter-gatherer continent to survive until European contact, ever occurred. This remarkable fact did not reflect any inherent deficiency in the Australian environment. Rather, it reflected the absence of any sizeable agricultural population in the malarial southern lowlands of New Guinea, combined with the geographical circumstance whereby the migrations of Austronesian agriculturalists into Oceania occurred along the northern side of New Guinea, not the less hospitable southern side.

After 5,000 years ago, both the mainland and the islands of Southeast Asia eventually became incorporated into a phase of increasing agricultural activity, characterized by the spread of a basically Neolithic set of artefacts of types generally absent in Australia and the New Guinea Highlands (apart from ground stone axes). To understand these trends we need to examine the beginnings of agriculture in China, the second but by far the most significant of the two regions of early agriculture in the Indo-Pacific region.

By 8,500 years ago, the archaeological record reveals the first village-agricultural societies in the Yellow and Yangzi river basins of China. These people grew foxtail and broomcorn millet in the north and rice in the south, and kept domesticated pigs, dogs and poultry. They made pottery, used polished stone tools, lived in substantial villages of timber houses, and knew such important technological innovations as kiln-firing for pottery (in the Yellow River valley), weaving, jade working and skilled carpentry. By 5,500 years ago the agricultural way of life had spread through the coastal provinces of China and southwards through interior valleys to the Pearl Delta and Taiwan.

It would be a cardinal mistake to regard all these people as "Chinese", in the sense of speaking ancestral Sinitic languages and being genetically ancestral only to modern Chinese ethnic groups. "China" at 6,000 years ago was an ethnic mosaic, presumably with early Sino-Tibetan-speaking societies in the north, and societies in the south ancestral to the present Tai, Austroasiatic and Austronesian peoples (Figure 2.1). At 5,500 years ago it is most unlikely that the major modern language families would have been delineated as they are now. Instead, a time-travelling linguist would have noted a network of languages and dialects of tribal size spread over the whole region, from only some of which are descended modern language subgroups and families such as Sinitic, Austroasiatic and Tai. These modern subgroups and families have arisen because, in certain places and under certain demographic conditions, some early societies underwent processes of expansion. The oldest of them spread with agricultural colonists into a world peopled by fairly sparse groups of hunters and gatherers.

This leads us to an important observation about the totality of language distribution in Southeast Asia. Figure 1.1 indicates that Austronesian languages have spread like a blanket over Island Southeast Asia, with no surviving remnants of earlier linguistic landscapes west of the Moluccas. This situation only changes as one approaches West Papua (Irian Jaya), with Papuan languages having a relatively restricted presence in parts of Halmahera and the eastern Lesser Sundas. As will be demonstrated below, the Austronesian dispersal was mainly a Neolithic phenomenon, and since then only within-family linguistic rearrangements have occurred, for instance the expansions of Malay and Javanese.

However, the Southeast Asian Mainland is a veritable mosaic of many language families, often rather chaotically interdigitated, particularly in the mountain regions between the major rivers in the northern zone. The Austroasiatic family evidently spread first, to judge from its fragmented distribution, and the more recent spreads of languages of early civilizations, such as Mon, Khmer and Vietnamese, still render the Austroasiatic family one of major significance. The spreads of the Tai (especially Thai and Lao) and Hmong-Mien languages, together with Burmese, have taken place into Southeast Asia very much more recently, indeed mainly within the past millennium or so according to historical accounts. The mainland has thus had a much more complex ethnolinguistic history than the islands, possibly because of the greater number of large-scale societies here, from Iron Age times (c.500 BC) onwards, that have periodically reconfigured the political and ethnic landscape through colonization, assimilation, and on occasion downright conquest. In this sense, while the foundation dispersals of some of the major language families undoubtedly occurred in the Neolithic, much linguistic rearrangement on the mainland has occurred since, especially in the regions of Indic kingdom formation.

In the remainder of this chapter, I wish to focus on the Austronesians and their colonization of Island Southeast Asia and Oceania, since the question of the contemporary Austroasiatic dispersal through the mainland of Southeast Asia is dealt with by Charles Higham in the following chapter. These two language families appear to have been the first to spread with agricultural populations through Southeast Asia, although it is also possible that the Tibeto-Burman languages could have commenced their spread into the Himalayan and Burma regions with early farmers – we simply do not have much information on this family and its possible archaeological record at present. Austronesian prehistory gives us one of our best-studied examples of a successful, and hugely long-distance, spread of Neolithic agriculturalists well over half way around the circumference of the world.

The Austronesian dispersal

The expansion of the Austronesian-speaking peoples undoubtedly involved a real colonization process by ethnolinguistically-coherent groups who spoke early Austronesian languages. As the most widespread ethnolinguistic population on earth prior to the European colonizations of the last few centuries, the Austronesians settled more than half of the earth's circumference in tropical latitudes, only escaping into cooler climates to reach New Zealand and Easter Island. Today they number well over 350 million people and speak more than 1,000 different, although related, languages. Their dispersal, a process which took place in various stages between 5,000 and 1,000 years ago, took them ultimately from a homeland in the region of southern China and Taiwan to places as far away as Madagascar, Hawai'i and Easter Island (Figures 2.2 and 2.3).

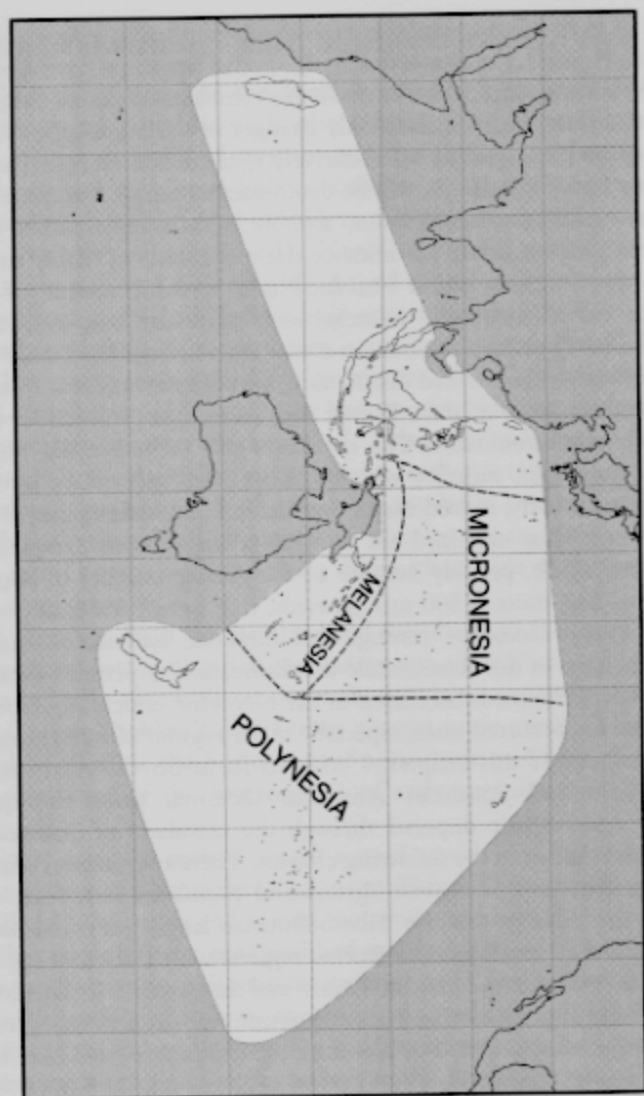


Figure 2.2 Overall distribution of the Austronesian language family.

Research on the prehistory of the Austronesians has now become a multidisciplinary industry involving the work of many scholars; not just linguists and archaeologists, but also social anthropologists, geneticists, palaeoanthropologists, palynologists and environmental scientists of many kinds.³ From the outset, it is essential to remember that the Austronesians are defined as such because *they all speak Austronesian languages*. This circumstance alone is a guarantee of a high degree of shared ancestry and history, but it is easy to observe that Austronesians today are not a unified population in terms of biological affinity – the speakers of Austronesian languages share a wide range of Asian and Melanesian phenotypes. Neither are the Austronesians a single “type” in terms of

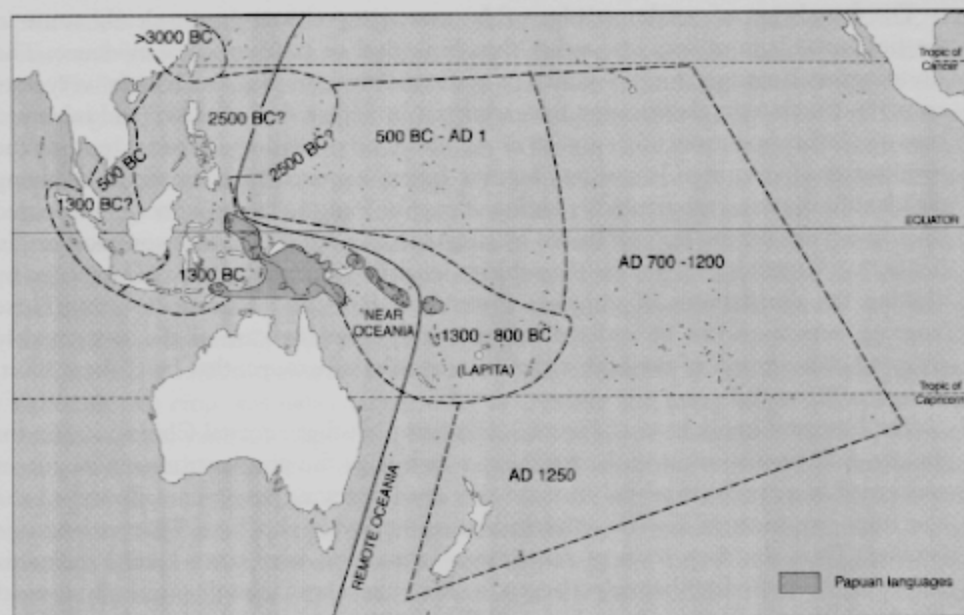


Figure 2.3 Approximate dates from archaeological and linguistic data for initial Austronesian colonizations across Southeast Asia and the Pacific.

society or culture. Essentially, we must be aware that Austronesian languages, cultures and biological gene pools have not evolved locked together as a single entity through prehistoric times, but have blended together or drifted apart from time to time according to historical circumstances.

The languages of the Austronesian family, and the cultures to which they belong, share to varying degrees an ultimate common ancestry located on the Asian Mainland at least 6,000 years ago. This can be seen not only through the languages, but also (admittedly to a hazier extent) through comparative archaeological, anthropological and art-historical observations. Since 5,500 years ago the Austronesians have undertaken an immense amount of colonization, leading to cultural divergence and adaptation to new, strange and often highly challenging environments. Their colonizations also brought them into varying degrees of contact with the pre-Austronesian populations of Island Southeast Asia and Melanesia – people whose ancestors had settled in these islands more than 35,000 years ago and who, for example, in parts of New Guinea, had already developed systems of agriculture independently of the Austronesians. In the case of Indonesia and the Philippines it appears that the pre-Austronesian populations were hunter-gatherers, and in these areas the dominance of Austronesian languages and cultures at the present time is much stronger than is the case in New Guinea. In this chapter there is not space to examine these issues of interaction in depth, but assimilation of, and interaction with, pre-existing peoples have clearly been of significance in regions as far east as the Solomons, beyond which no pre-Austronesian populations ever managed to penetrate. The extent of Pleistocene, pre-Austronesian, colonization in Island Southeast and the western Pacific is shown in Figure 1.3.

The foundation of our knowledge of Austronesian prehistory must clearly come in the first instance from linguistic rather than biological or archaeological evidence. The Austronesian languages form a coherent phylogenetic grouping, with only very rare examples which resist classification, characterized by a great deal of shared and inherited core vocabulary and many other aspects of grammar and phonology. In order to study the prehistories of unwritten languages, linguists favour a process of comparison involving the identification and geographical plotting of cognate items in living or recently recorded languages (cognates are features shared by languages as a result of shared common origin rather than borrowing). They are then able to identify genetic subgroups of languages by plotting the distributions of uniquely shared and innovated cognate features. These language subgroups can be ordered hierarchically, as in the case of the most widely accepted classification of the high-order Austronesian subgroups, that by Robert Blust, shown in Figure 2.4.

The historical implication of Figure 2.4 favours a southern coastal Chinese origin for the pre-Austronesian roots of the family, at which stage the pre-Austronesian languages concerned were perhaps related in some way (by borrowing or genetic affinity) to the contemporary roots of the Tai, Austroasiatic and possibly also Sino-Tibetan language families. Thus, the deep roots of Austronesian expansion were sown several millennia before the Austronesians themselves began to differentiate as an ethnolinguistically-distinct people via their migrations to and beyond Taiwan. Austronesians, technically speaking, have only existed in an ethnolinguistic sense *since* the period of Proto-Austronesian, located in Taiwan about 5,500 years ago. Earlier populations are, by definition, Pre-Austronesian.

According to the linguistic evidence, the pre-Austronesian phase was followed by a colonization of Taiwan (the linguistic homeland of Proto-Austronesian), and then a dispersal southwards through the Philippines into northern Indonesia. From here, in the general region of northern Borneo, Sulawesi and the Moluccas, later population dispersals

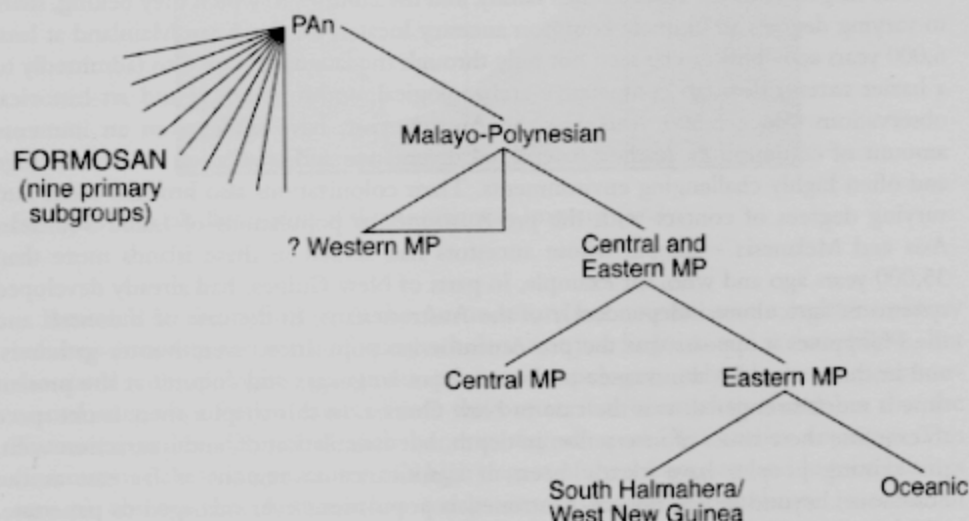


Figure 2.4 The higher-level structure of the Austronesian language family (after Robert Blust).

proceeded westwards to the Malay Peninsula, southern Vietnam and Madagascar, and eastwards into Oceania. These colonizations followed the development, presumably in the Philippines and Indonesia, of sufficient maritime technology to cross oceans easily and regularly. However, despite the glamour of ethnographically-recorded Oceanic voyaging traditions, maritime skills alone were not the sole cause of Austronesian expansion, at least not in the earlier stages (although the status given to navigators was an increasingly important reason for later voyages of discovery in Remote Oceania). Systematic agriculture and animal husbandry were probably of far greater overall significance in the earliest days of expansion, since they would have been indispensable for the rapid growth of a healthy population and indispensable later on for colonizing Oceanic islands with limited terrestrial resources.

One of the earliest mainstays of the Austronesian economy in Southeast Asia was rice, although this crop was never taken as far as Oceania and many tropical crops such as coconuts, taro, yams and sago were added to the economic plant roster as Austronesians expanded southwards into equatorial regions. Concerning the early Austronesian economy in more detail, it is crucial to note that the reconstructed Proto-Austronesian vocabulary⁴ indicates a people growing rice and millet, with domestic pigs and dogs (and perhaps chickens too), canoes, knowledge of tattooing, and use of the bow and arrow. By very soon after the Proto-Austronesian phase, in the Proto-Malayo-Polynesian phase of Figure 2.4 (perhaps located c.4,500–4,000 years ago in the northern Philippines), they were building substantial timber houses and using pottery, sails and outriggers on canoes, looms (probably backstrap type) for weaving, and chewing betel. They had also added the tropical tuber and fruit crops listed above to their diet. Indeed, most of these Proto-Malayo-Polynesian additions (except for the tropical crops) probably existed in the climatically more temperate Proto-Austronesian phase in Taiwan as well, but clear linguistic proof of this in the form of pan-Austronesian cognates has not always survived since many Formosan Aboriginal languages have now been replaced by Sinitic languages (Taiwanese and Mandarin).

In terms of archaeology, the signatures of agricultural societies with sedentary villages, domesticated pigs and dogs, pottery, polished stone tools and the remains of rice are clearly marked in the coastal southern Chinese record, extending southwards from Zhejiang through Fujian to Guangxi, Guizhou and Guangdong Provinces, and Taiwan, and perhaps into northern Vietnam and Thailand too, by about 5,000 years ago. Some of these early Mainland Southeast Asian Neolithic assemblages cannot yet be associated directly with evidence for agriculture, especially in Vietnam and Thailand and some coastal regions of southern China, leading Charles Higham in the following chapter to associate them with foraging. However, we have firm dates for rice in Taiwan by at least 5,000 years ago (see below), and the Taiwan situation indicates clearly that poor conditions for preservation might have led to cereal invisibility in earlier excavations. While it would be imprudent to state that all Neolithic cultures in the region were *dependent* on rice cultivation, and while some were undoubtedly still harvesting available wild resources, the fact remains that we have no long-lived or significant complex of Neolithic cultures in China or Southeast Asia for which some degree of agricultural subsistence can be confidently ruled out. Future improvements in the recognition of carbonized tubers such as yams and taro, as well as the recognition of rice in the form of charred grains, as chaff in pottery or in phytolith form, should increase greatly our knowledge of early farming economies in the future.

Whatever the precise economies present in southern China before 5,000 years ago, it is again important to stress that such early East Asian Neolithic cultures cannot be equated with Austronesians *per se*. However, it is interesting to note that many artefact types typical of later Island Southeast Asian and Oceanic archaeological cultures are very widespread on the Asian Mainland as well. These include red-slipped and/or painted, stamped and cord-marked styles of pottery, knee-shaped wooden adze handles, untanged or stepped and polished stone adzes, art styles emphasizing the uses of spirals and circles, and bones of potentially-domesticated pigs, dogs and chickens (the wild ancestors of domesticated dogs are not native to Island Southeast Asia, and neither are wild pigs native to islands east of Sulawesi). An excellent assemblage of this early and potentially-ancestral type comes from the c.7,000 year-old site of Hemudu, in the lowland coastal region of Zhejiang Province, where it is associated with prolific evidence for rice cultivation.

In Taiwan, archaeological cultures identified by such features made an appearance at some uncertain time between 4000 and 3000 BC. The carriers of a Neolithic economy to Taiwan and the P'eng-hu (Pescadores) Islands made cord-marked and incised pottery and used polished stone adzes, slate spear points and stone barkcloth beaters. Archaeological evidence for rice cultivation is present in Taiwan by 3000 BC in the form of carbonized grains in the Nan-kuan-li site near Tainan,⁵ and similar evidence for rice is already attested before 2000 BC far to the south in the cave of Gua Sireh, located in the equatorial latitude of Sarawak, Borneo. At Nan-kuan-li the rice was harvested using reaping knives of shell.

By about 3000 to 2500 BC, the Austronesian population which had colonized Taiwan, presumably replacing or incorporating earlier populations of hunters and gatherers, was ready to move further. One of the next steps according to the dated archaeological record, with the linguistic record in strong support (see above), seems to have been a southwards and eastwards move which incorporated, around 2500-1500 BC, the Batanes Islands and the rest of the Philippines, eastern Indonesia and northern Borneo. By 1500 BC people had reached the Mariana Islands of western Micronesia across an absolutely astonishing 2,500 km of open sea to the east of Luzon. Soon afterwards, parts of island Melanesia were reached (especially the Bismarcks, Solomons, New Caledonia, Vanuatu, Fiji), and then, by about 1000 to 800 BC, the islands of western Polynesia (Tonga, Samoa, Wallis and Futuna). This southwards and eastwards move was undoubtedly one of the most astonishing bouts of colonization ever to occur in early human history, and as we learn more about the archaeologically less-known regions of western Austronesia it may turn out to have been even more extensive than we now realize (dates for initial Austronesian colonization in western regions such as Borneo, Sumatra and Java are still uncertain, but are also perhaps likely to fall between 2000 and 1000 BC). In a period of under 1,000 years, Austronesian ancestors spread from Taiwan, through Island Southeast Asia into Melanesia and central Oceania, over about 7,000 km of land and sea. In order to do this they had to develop systematic strategies for the exploration and colonization of faraway islands, strategies well described by Irwin and Anderson.⁶

In the islands of Southeast Asia, the early Austronesians moved rapidly around coastlines already settled, as in Taiwan, by sparse groups of hunters and gatherers. In New Guinea, however, the indigenous peoples (as noted above) seem to have already developed techniques of taro, sugar cane and fruit (banana, pandanus) agriculture, at least in the highlands, and possibly intensive harvesting of yams, sago and other tree products in

many lowland regions. For various reasons little understood, but perhaps reflecting both the prior existence of large populations and environmental factors (malaria?), New Guinea together with much of the Solomons seem to have been relatively avoided by the *earliest* Austronesian colonizers, although our knowledge of prehistory in many of these regions is still subject to constant revision. Later on, Austronesian descendants filled in some of the available gaps, except in the New Guinea Highlands, where Austronesian settlement never penetrated.

One point to remember is that this amazing phase of coastal dispersal from Taiwan to as far as Samoa took place at least 1,500 years *before* the better-known phase of Eastern Polynesian colonization and long-distance voyaging during the first millennium AD (see Figure 2.3). In Island Southeast Asia, the archaeological traces of this expansion of the second and early first millennia BC are visible in a number of sites, mainly caves and rockshelters, with red-slipped pottery, shell tools and polished stone adzes, found through the Batanes Islands and the northern Philippines, Sabah (northern Borneo), the Talaud Islands, northern Sulawesi, eastern Java and the northern Moluccas (Figures 2.5 and 2.6). A site called Andarayan in northern Luzon has yielded rice husks embedded in potsherds dated to 1500 BC, and, as noted above, rice had already reached Sarawak before 2000 BC, although here in association with a type of paddle-impressed pottery quite different from the eastern red-slipped ware. At the site of Bukit Tengkorak in Sabah, the Neolithic red-slipped pottery, here dated from about 1300 BC onwards, was found with two rather surprising occurrences of a lithic nature; an industry of agate microblade drills used for drilling shell artefacts, and obsidian imported from sources in New Britain in Melanesia, located over 3,500 km to the east and probably representing one of the longest-distance transfers of a Neolithic commodity in world prehistory. New research in the Batanes Islands and the Cagayan Valley in the northern Philippines has produced many sites with stamped red-slipped pottery and stone artefacts related to contemporary sites in Taiwan, and in the case of the Pamittan site in the Cagayan Valley (northeastern Luzon) the dates for red-slipped pottery range back to about 2000 BC.⁷

Palynological results from lakes in the highlands of Taiwan, Java and Sumatra also indicate clearance for agriculture from 2000 BC onwards, although the exact dates for these activities are not very secure. As noted, dates for Austronesian colonization in the large islands of Borneo, Sumatra and Java, and also the Malay Peninsula, remain uncertain owing to the sparseness of the archaeological record, but dates in the second or first millennia BC seem very likely. One of the problems in these large islands with their powerful erosion regimes is that the oldest coastal Neolithic sites are likely to be buried under huge depths of alluvium, and so extremely hard to find and excavate. The Malay Peninsula, which still today has many interior regions populated by Austroasiatic-speaking (Aslian) populations, was probably only first settled, in coastal areas, by Austronesians less than 2,500 years ago. These Austronesians would have found agriculturalists, ancestors of some of the modern Aslians, already in occupation since at least 2000 BC.

Madagascar was probably only reached in the mid-first millennium AD, evidently by colonists from southern Borneo, perhaps with Malay- or Javanese-speaking leaders according to recent linguistic analyses.⁸ In the other direction, the furthest reaches of eastern Micronesia (Carolines, Marshalls, Kiribati) and eastern Polynesia (Societies, Marquesas, Hawai'i, Easter Island) were reached at various times between 500 BC and AD 1000, and perhaps only by AD 1200 in the case of New Zealand.



Figure 2.5 Sites (in italics) with Neolithic red-slipped pottery in Island Southeast Asia.



Figure 2.6 A selection of dentate- and circle-stamped pottery, from southern China to Melanesia. All sherds except a) are red-slipped and have lime or white clay decorative infill.

a) Xiantouling, Guangdong coast, China (c. 3000 bc). Courtesy Yang Yaolin.

b) Magapit, Cagayan Valley, Luzon (1500–1000 bc). Courtesy Yoji Aoyagi.

c) Yuanshan, Taipei, Taiwan (1000 bc). Courtesy National Taiwan University.

d) Nagsabaran, Cagayan Valley (1500–1000 bc). Courtesy Tsang Cheng-hwa.

e) and h) Batungan Cave, Masbate, central Philippines (800 bc). Courtesy Social Science Research Institute, University of Hawai'i.

f) Kamgot, Anir Islands, Bismarck Archipelago (Lapita – 1300 bc). Courtesy Glenn Summerhayes.

g) Lapita (Site 13), New Caledonia (1000 bc). Courtesy Christophe Sand.

i) and j) Achugao, Saipan, Mariana Islands (1500 bc). Courtesy Brian Butler.

k) Bukit Tengkorak, Sabah, 1300 bc.

Why did the initial Austronesian dispersal occur?

At this stage it is necessary, before continuing the record after 1000 BC, to move back to the linguistic and archaeological evidence in Southeast Asia to consider just what promoted all this movement and activity into lightly settled, or, in the case of Oceania beyond the Solomons, totally uninhabited regions. Why did the Austronesians, like many peoples in history, not simply stay at home? In fact, the Austronesians were not particularly unusual in being colonists since the development of agriculture allowed population expansions to occur in many regions of the world. The main claim to fame of the Austronesians is that their migrations ultimately crossed such vast ocean spaces. They were able to develop their maritime skills for the simple reason that their homeland zone was located in a strategic location, close to the Asian end of the greatest series of island chains in the world. Chance dealt a good geographical hand to the Austronesians, a chance which they did not ignore.

Of course, there are many more specific reasons why individual Austronesian colonies were founded. One important social reason is that the process of colonization itself can increase the status of an individual and his/her descendants. Micronesian and Polynesian legends (e.g. the famous Maori "Fleet" traditions) are full of the exploits of founder-figures, after whom kin groups were named and whose direct descendants still form aristocratic lineages today. Such a "founder-focused ideology"¹⁰ would always be sufficient to foment a desire to discover new territory. In addition, some small islands in Oceania might also have become overpopulated quite quickly, especially if we think of birth-rates similar to those typical of recent European colonists into fertile, relatively disease-free and only lightly populated land masses such as the more heavily colonized parts of Australia and North America (averaging seven children per family in European Australia in the 1840s and 1850s). The Bounty Mutineers and their Austronesian (Tahitian) wives in Pitcairn recorded similarly spectacular growth rates. Yet overpopulation was clearly not the real reason for Austronesian expansion, certainly not in the huge islands of Indonesia and the Philippines, and high rates of population growth might have been the results rather than the causes of such large-scale population dispersals.

The main *underlying* reason for the Austronesian diaspora, the *sine qua non* (albeit not necessarily the main immediate reason for all individual population movements), was surely the possession of an efficient agricultural economy combined with reliable access to meat sources, especially in the form of domesticated animals and fish. A successful agricultural economy is a way of life transportable to any new and suitable environment. Hunters and gatherers cannot colonize and permanently settle small isolated islands on a continuing basis with guaranteed success; often there is simply insufficient food to support a viable population. The Neolithic inhabitants of southern coastal China, between 5000 and 3000 BC, by developing both systematic food production and also successful methods of maritime travel, were able to put their tremendous potential for demographic growth to work in new and welcoming environments. Once colonization began, the only process to stop it, apart from geographical or technological barriers, would have been other populations equally empowered with demographic and cultural muscle.

The early Austronesians of course met such populations: the Austroasiatic speakers of Peninsular Malaysia, Vietnam, perhaps parts of Borneo, and the Papuan speakers of New Guinea. Such prior populations, when strongly entrenched like the Papuans, delayed the process of colonization and in the case of interior New Guinea made it non-existent

prior to the period of modern Indonesian transmigration. Austronesians have only settled minor pockets of coastline around New Guinea, seemingly only within the past 2,000 years according to both archaeological and linguistic evidence. Indeed, the impressive dominance of the Melanesian phenotype in the western Pacific indicates strongly that some of the Austronesian languages of Melanesia spread via processes of language shift rather than colonization. In other words, some coastal and island populations, descended genetically from the initial colonists of Melanesia, also migrants from Southeast Asia, but over 35,000 years ago, abandoned their native languages to adopt the incoming languages of the Austronesians, in many cases at relatively early dates in the trajectory of Austronesian dispersal.

Yet it must be remembered that this kind of language shift, while common in some regions, was probably rare in the totality of Austronesian history. It is not possible to explain the vast extent and relative homogeneity of the Austronesian family of languages by a process of language shift alone. Unmoving indigenous populations did not simply adopt some form of early Austronesian language and abandon their own vernaculars all the way from Sumatra to the Solomons; there are no known social mechanisms at a tribal social level which could account for such a phenomenon. For instance, none of the historical empires – Roman, Inca, Mongol nor any others – were capable of such a feat over such a large area. English and Spanish only spread through such vast regions because of deliberate and sustained policies of colonization by European powers. Also, there are no *widespread* indications in Austronesian language history (e.g. strong traces of substrata or interference through shift) that such a massive process of language shift ever occurred. The dispersal of the Austronesian languages must be, at a guess, for at least 80 per cent of the geographical distribution of the family, the result of colonization by Austronesian-speaking founder communities. This is one of the greatest, perhaps *the greatest*, human dispersal on record since our common ancestors left Africa.

There remains one unanswered question. Why did the Austronesian dispersal commence *when* it did? As noted, we cannot trace back the early Austronesians directly to the earliest farmers in central China, so some kind of “sealed” origin within an early rice-cultivating Hemudu-type Neolithic at 5000 BC would not be a very viable hypothesis. The main Austronesian migrations commenced quite late in terms of the chronology of Neolithic China, at about 3500 BC or later, with the main phase following 2000 BC. Agriculture had already been in existence in central China for 3,500 years by this time. The factors which allowed the Austronesian dispersal to occur – the agricultural and maritime skills, the demographic profile required to encourage expansion, the social desires to initiate colonization – did not develop overnight and probably increased in impact as the expansion process unfolded. It also seems likely that “domino effects” in some form might have contributed, with rising agricultural population densities in China stimulating, even pushing, populations in more peripheral areas into movement. Robert Suggs once suggested that the Polynesian migrations could have been stimulated by the rise of Shang power in Bronze Age China after 1800 BC.¹⁰ We know now that Suggs’ dates were too recent to explain Austronesian dispersal as a whole, but the general idea makes good sense. Humans then, as now, were inexorably bound up in networks of mutual relationship – a major rearrangement of population in one region could have had effects far beyond the immediate social horizon.

The prehistory of the Austronesians since the “big bang” of colonization from the Philippines to Polynesia in the second millennium BC has obviously been complex and

detailed, the more so because, as with the aftermaths of all great population dispersals, the archaeological and cultural records simply become more regionalized everywhere with time and so more difficult to read in terms of long-distance correlations. People clearly stopped moving very far once the initial phase of colonization in each area was over, as one might expect. Settling in became the norm, albeit with some continuing degree of trade and intermarriage, often over long distances (witness the extensive trade networks of the New Guinea region last century, albeit in situations of remarkable cultural and linguistic heterogeneity). For instance, Island Melanesia at 1000 BC was extensively occupied by culturally-homogeneous bearers of the Lapita culture, who probably spoke only one of a few closely related Austronesian (Proto-Oceanic) dialects and made very similar types of decorated pottery (Figure 2.6) and shell ornaments across an island region almost 5,000 km from west to east. But by AD 1000 the Melanesian islands were dotted with literally hundreds of "settled-in" local cultures and languages, despite the existence of trade and interaction. We see the same pattern in the later prehistory of eastern Indonesia, Polynesia, or wherever we look in the Austronesian world beyond the influences of the relatively homogenizing Indianized and Islamic civilizations. Initial population dispersals are therefore much easier to describe than their ultimate regionalized products, and the intensely diversified ethnographic record of Austronesia, today with more than 1,000 languages and cultures, gives a graphic picture of just how much diversification has occurred.

Some highlights of later Austronesian archaeology

The Austronesian colonization process must have passed through all significant coastal regions of Island Southeast Asia during the second millennium BC, perhaps earlier in the Philippines and, of course, Taiwan. After this time, despite the tendency to develop cultural diversity, the region has seen a number of periodic but widespread stylistic horizons. The most significant of these is generally dated to between 300 BC and AD 700, when metallurgy, widespread styles of decorated pottery and the beginnings of trade contact with India and China spread through huge parts of the Indo-Malaysian Archipelago and adjacent regions of the mainland. The ancestors of the Malays and Chams (southern Vietnam) probably owed their arrivals on the Asian Mainland to the activities of this phase, and by its end the first Austronesian migrants had reached Madagascar. Late in the first millennium AD we witness the beginnings of another very widespread stylistic horizon, this time based on the import of glazed ceramics from Chinese kilns to all parts of Southeast Asia.

The circumstances surrounding the arrival of Indian contacts, iron metallurgy, glass beads and other exotic trade items in Southeast Asia are touched upon in several of the following chapters. In Island Southeast Asia, bronze and iron metallurgy appear to have arrived together, perhaps soon after 300 BC. By the first century AD, the presence of plentiful sherds of Indian Rouletted Ware and moulded pottery at Sembiran in Bali, together with a sherd graffito in Brahmi or Kharoshthi script, inform us that contact with India was well underway (Figure 2.7). Just who travelled where, of course, is hard to know, but it is possible at this stage that most movement was by Austronesians, who after all were soon to colonize Madagascar and perhaps to carry Southeast Asian crops such as bananas and taro to eastern Africa, from where they were incorporated into West African agricultural systems. Yet the graffito also hints at an Indian presence, as also do the oldest

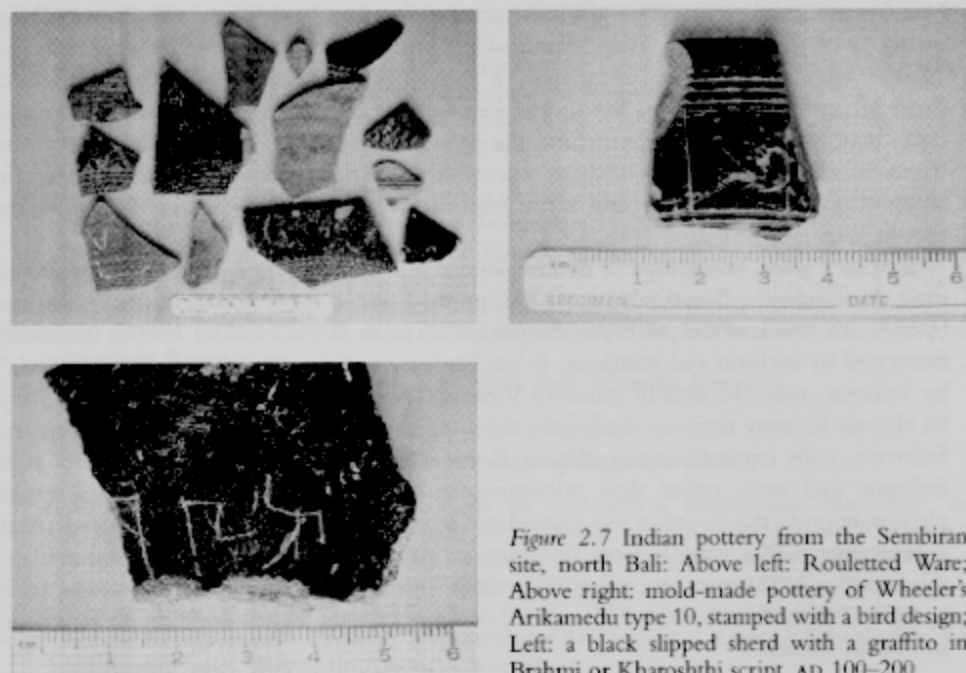


Figure 2.7 Indian pottery from the Sembiran site, north Bali: Above left: Rouletted Ware; Above right: mold-made pottery of Wheeler's Arikamedu type 10, stamped with a bird design; Left: a black slipped sherd with a graffito in Brahmi or Kharoshthi script. AD 100–200.

inscriptions in Southeast Asia, all in Sanskrit and some dating as early as AD 400. As noted in the introduction to this volume, Indians never colonized Southeast Asia, but the impressive Indic temples constructed after the seventh century could hardly have come into existence without *considerable* Indian knowledge and bodily presence.

From the indigenous perspective, the period of initial contact with India was a period of considerable efflorescence of style and material culture. Not only did bronze and iron come into common use, but massive bronze drums of Dong Son style, mainly originating in northern Vietnam, spread rapidly down the length of Indonesia, particularly along the islands of the Sunda Chain and ultimately to as far east as the Bird's Head of New Guinea. Sulawesi and the Philippines have so far produced almost none of these drums, and they are rather rare in southern Vietnam. But all of this makes sense when we realize that southern Vietnam during the Iron Age was the home of the Chamic-speaking Austronesian populations, close linguistic relatives of the Malays and, like the Malays, believed to be of immediate origin in Borneo. The Dong Son drums themselves, manufactured most vigorously in northern Vietnam and Yunnan, were probably made under the aegis of Tai- or Viet-speaking kingdoms whose trade and alliance links with the rest of Mainland Southeast Asia appear to have followed interior riverine rather than coastal routes. Thus, Dong Son drums are common in Thailand, Laos and West Malaysia. They probably spread easily into Sumatra, Java and the Lesser Sunda Islands since these regions form virtually a continuous chain of land.

Contemporary with the spread of these drums went the spread of beads of coloured glass or stone, ultimately of Indian inspiration (where carnelian and agate beads were made before 4,500 years ago – witness their presence in the Royal Graves of Ur in

Mesopotamia), but sometimes of local manufacture. Local traditions of bronzeworking sprang up on the Southeast Asian Mainland and Java/Bali, characterized by large bells and "flasks" with spiral surface decoration, a variety of bronze weapons (spearheads and daggers), and kettledrums in the special Pejeng style manufactured in Eastern Java and Bali, these being rather different from the more standardized "Heger 1" types made in Vietnam and Yunnan. Many of these objects in western Indonesia come from uncertain archaeological contexts, but some of the drums were used as bone containers for burial in sites in Java.

In recent years, knowledge of Bronze-Iron Age developments in Indonesia has grown most quickly in the Borneo-Sulawesi-Philippines region. Here, as noted many years ago by Solheim, much of the pottery of the period between 500 BC and AD 1000 is intricately decorated by incision and stamping. It has been termed the "Sa Huynh-Kalanay Style" by Solheim, after two sites in southern Vietnam and the central Philippines respectively. Sa Huynh-Kalanay regional similarities subsume the Philippines, southern Vietnam and Sulawesi, with extensions into eastern Borneo and the Moluccas. They reflect style diffusion and trade rather than migration, and thus cannot be considered a similar phenomenon to the spread of red-slipped and incised/stamped pottery with Austronesian colonization 1,500 years before. But they do indicate the significance of inter-island relationships 2,000 years ago, pulsating in time with much vaster linkages as Rome, India and Han China first stimulated the global economy on the largest scale, up to that time, in human history.

Acknowledgements

I wish to thank Jenny Sheehan of the Cartography Unit at ANU for drawing Figures 2.1–2.5. Lyn Schmidt and Dominique O'Dea of Archaeology and Natural History at ANU drew Figure 2.6.

Notes

- 1 See Bellwood 2001a; Bellwood and Renfrew 2003 on these issues.
- 2 See Hurler 2003 for a good discussion of the genetic history of Austronesian dispersal.
- 3 Surveys of the results of some of these disciplines are presented in Bellwood *et al.* 1995.
- 4 Vocabulary reconstructions for Proto-Austronesian are discussed by Blust 1995.
- 5 Tsang Cheng-hwa, personal communication.
- 6 See Irwin 1992; Anderson 2000.
- 7 See Tanaka and Orogo 2000 for Pamittan.
- 8 This book does not cover the societies and history of Madagascar, even though the major populations there are Austronesian. For some recent linguistic and archaeological observations see Adelaar 1995; Dewar and Wright 1993.
- 9 For a discussion of this in the Austronesian context, see Bellwood 1996b.
- 10 Suggs 1960: 225–6.

Select Bibliography

Early agriculture – general

- Bellwood, P. (1996a) "The origins and spread of agriculture in the Indo-Pacific region", in D. Harris (ed.) *The Origins and Spread of Agriculture and Pastoralism in Eurasia*, pp. 465–98. London: UCL Press.

- Bellwood, P. (2001a) "Early agriculturalist population diasporas? Farming, languages and genes", *Annual Review of Anthropology* 30: 181–207.
- Bellwood, P. and Renfrew, C. (eds) (2003) *Examining the Farming/Language Dispersal Hypothesis*. Cambridge: McDonald Institute for Archaeological Research.
- Denham, T. P., Harberle, S. G., Lentfer, C., Fullager, R., Field, J., Therin, M., Porch, N. and Winsborough, B. (2003) "Origins of agriculture at Kuk Swamp in the highlands of New Guinea", *Science* 301: 189–93.
- Golson, J. and Gardner D. (1990) "Agriculture and sociopolitical organisation in New Guinea Highlands prehistory", *Annual Review of Anthropology* 19: 395–417.
- Lu, Tracey Lie-dan (1998) *The Transition from Foraging to Farming and the Origin of Agriculture in China*, Oxford: BAR International Series 774.
- Malone, C. (ed.) (1998) "Special Section: Rice Domestication", *Antiquity* 72: 857–907.
- Price, T. D. and Gebauer, A. B. (eds) (1995) *Last Hunters First Farmers*, Santa Fe: School of American Research.
- Smith, B. (1995) *The Emergence of Agriculture*, New York: Scientific American.

Austronesian and other areas of linguistic history

- Adelaar, A. (1995) "Borneo as a cross-roads for comparative Austronesian linguistics", in P. Bellwood, Fox J. J. and Tryon D. (eds) (1995) *The Austronesians: Historical and Comparative Perspectives*, pp. 75–95, Canberra: Department of Anthropology, Research School of Pacific and Asian Studies, Australian National University.
- Bellwood, P., Fox, J. J. and Tryon, D. (eds) (1995) "The Austronesians: Comparative and Historical Perspectives". Canberra: Department of Anthropology, Research School of Pacific and Asian Studies, Australian National University.
- Blust, R. A. (1984–5). "The Austronesian homeland: a linguistic perspective", *Asian Perspectives* 26: 45–67.
- Blust, R. A. (1995) "The prehistory of the Austronesian-speaking peoples: a view from language", *Journal of World Prehistory* 9: 453–510.
- Blust, R. A. (1996). "Austronesian culture history: the windows of language", in W. H. Goodenough (ed.) *Prehistoric Settlement of the Pacific*, pp. 28–35. Philadelphia: American Philosophical Society.
- Collins, J. (1998) *Malay, World Language*, Kuala Lumpur: Dewan Bahasa dan Pustaka.
- Driem, G. van (1999) "A new theory on the origin of Chinese", *Bulletin of the Indo-Pacific Prehistory Association* 18: 43–58.
- Dutton, T. (1995) "Language contact and change in Melanesia", in P. Bellwood, J. J. Fox and D. Tryon (eds) (1995) *The Austronesians: Historical and Comparative Perspectives*, pp. 192–213, Canberra: Department of Anthropology, Research School of Pacific and Asian Studies, Australian National University.
- Hurles, M. (2003) "Can the hypothesis of language/agriculture co-dispersal be tested with Archaeogenetics?", in P. Bellwood and C. Renfrew (eds) *Examining the Farming/Language Dispersal Hypothesis*, pp. 299–31, Cambridge: McDonald Institute for Archaeological Research.
- Pawley, A. K. (2003) "The Austronesian dispersal: languages, technologies and people", in P. Bellwood and C. Renfrew (eds) *Examining the Farming/Language Dispersal Hypothesis*, pp. 251–74, Cambridge: McDonald Institute for Archaeological Research.
- Pawley, A. and Ross, M. (1993) "Austronesian historical linguistics and culture history", *Annual Review of Anthropology* 22: 425–59.

Neolithic archaeology – Mainland Southeast Asia

- Bellwood, P. (1993) "Cultural and biological differentiation in Peninsular Malaysia: the last 10,000 years", *Asian Perspectives* 32: 37–60.
- Higham, C. F. W. (2002) *Early Cultures of Mainland Southeast Asia*, Bangkok: River Books.
- Higham, C. and Thosarat, R. (1998) *Prehistoric Thailand: from early settlement to Sukhothai*, London: Thames & Hudson.

Neolithic archaeology – Island Southeast Asia and Oceania

- Anderson, A. (2000) "Slow boats from China: Issues in the prehistory of Indo-Pacific seafaring", in S. O'Connor and P. Veth (eds) *East of Wallace's Line*, pp. 13–50, Rotterdam: Balkema.
- Bellwood, P. (1996b) "Hierarchy, founder ideology and Austronesian expansion", in J. Fox and C. Sather (eds) *Origins, Ancestry and Alliance*, pp. 118–40, Canberra: Department of Anthropology, Research School of Pacific and Asian Studies, Australian National University.
- Bellwood, P. (1997) *Prehistory of the Indo-Malaysian Archipelago*, 2nd edn, Honolulu: University of Hawai'i Press.
- Bellwood, P. (2001b) "Southeast Asia Neolithic and Early Bronze", in P. Peregrine and M. Ember (eds) *Encyclopaedia of Prehistory, vol. 3: East Asia and Oceania*, pp. 287–306.
- Bellwood, P. (in press) "Formosan prehistory and Austronesian dispersal", in D. Blundell (ed.) *Austronesian Taiwan*, Taipei: SMC.
- Chang, K. C. and Goodenough, W. H. (1996) "Archaeology of Southeast China and its bearing on the Austronesian homeland", in W. H. Goodenough (ed.) *Prehistoric Settlement of the Pacific*, pp. 36–56, Philadelphia: American Philosophical Society.
- Ipoi Datan and Bellwood, P. (1991) "Recent research at Gua Sireh and Lubang Angin", *Bulletin of the Indo-Pacific Prehistory Association* 10: 386–405.
- Irwin, G. J. (1992) *The Prehistoric Exploration and Colonization of the Pacific*, Cambridge: Cambridge University Press.
- Kirch, P. V. (1997) *The Lapita Peoples*, Oxford: Blackwell.
- Kirch, P. V. (2000) *On the Road of the Winds*, Berkeley: University of California Press.
- Solheim, W. G. II. (1967) "Two pottery traditions of late prehistoric times in Southeast Asia", in F. S. Drake (ed.) *Symposium on Historical, Archaeological and Linguistic Studies on Southern China, Southeast Asia, and the Hong Kong Region*, pp. 15–22, Hong Kong: Hong Kong University Press.
- Spriggs, M. (1997) *The Island Melanesians*, Oxford: Blackwell.
- Suggs, R. (1960) *The Island Civilizations of Polynesia*, New York: New American Library.
- Tanaka, K. and Orog, A. B. (2000) "The archaeological excavation at the Pamittan site", *Journal of Environmental Studies* 8: 113–41, Japan: Keiai University.
- Tsang, C-h. (1995) "New archaeological data from both sides of the Taiwan Straits", in P. J-k. Li, C-h. Tsang, Y-k. Huang, D-a. Ho and C-y. Tseng (eds) *Austronesian Studies Relating to Taiwan*, pp. 185–226, Taipei: Institute of History and Philology, Academia Sinica.

Post-Neolithic archaeology

- Bernet Kempers, A. J. (1988) *The Kettledrums of Southeast Asia*, Rotterdam: Balkema.
- Dewar, R. E. and Wright, H. T. (1993) "The culture history of Madagascar", *Journal of World Prehistory* 7: 417–66.
- Glover, I and Syme, B. (1993) "The Bronze Age in Southeast Asia: its recognition, dating and recent research", *Man and Environment* 18/2: 41–74.
- Higham, C. (1996) *The Bronze Age in Southeast Asia*, Cambridge: Cambridge University Press.

SOUTHEAST ASIA

From prehistory to history

Edited by Ian Glover and Peter Bellwood

- 1 Southeast Asia: prehistory and early history 1
- 2 The origins and development of agriculture in Southeast Asia 11
- 3 Mainland Southeast Asia from the Neolithic to the Iron Age 21
- 4 The archaeology of early contact with India and the Mediterranean World, from the fourth century BC to the fourth century AD 2004
- 5 Pre-Angkorian and Angkorian Cambodia 27
- 6 The archaeology of the Iron Age in Southeast Asia 37



RoutledgeCurzon

Taylor & Francis Group

LONDON AND NEW YORK