

## The peopling of the Philippines: A cartographic synthesis

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**Abstract:** *This paper aims to plot cartographically the different theories proposed to explain the peopling of the Philippines. The first map locates the existing Pleistocene and Paleolithic archaeological sites while the next seven figures compile the different theories dealing with the evolution or dispersal of the Austronesian speakers. A final figure tends to summarize and formalize the different approaches of the Austronesian dispersal.*

### Introduction

The way the Philippine islands have been peopled has long been a controversial ground. As soon as they set foot on this “dust of islands” at the western edge of the Pacific Ocean, the Spaniards tried to explain the presence of different kinds of people that they respectively called Negrillos (now known as Negritos), Indios (non-Negritos pagans) and Moros (Muslims) (Colin 1903-09). During the 19<sup>th</sup> century a new classification of people came out. This includes Negritos, Proto-Malays (or Indonesians) and Deutero-Malays (or Malays), for whom J. Montano (1886) and F. Blumentritt (1882) were among the main defenders. Noteworthy is that, in his reference work on the Malay Archipelago, Wallace (1890) only referred to Malay and Negrito people. This above-mentioned arrangement first included the notion of waves of migrations that would have come successively into the Philippines. In 1897, R. Virchow (1899) made the first critical assessment of the existing data about the peopling of the Philippines and explored new ways in physical anthropology using skull analysis data. Two years later, in 1899, Wilhelm Schmidt first referred to the family of languages spoken from Taiwan to New Zealand and Madagascar to Eastern Islands as “Austronesian” – a term which marked the beginning of a new era of research and which is being used up to this time. Indeed, with the rapid development of sciences like archaeology, anthropology, linguistics, biology and genetics, many

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new theories eventually came out during the 20<sup>th</sup> century. Most of them deal with the Austronesian speakers issue since very little is known about the first layer of population that occupied the Philippines during the Pleistocene period.

This article aims to compile and plot cartographically all these theories. It does not tend to discuss the validity of the different approaches. Attempts to discuss the different hypotheses and theories have recently been made but did not lead to cartographic synthesis (Montillo-Burton, 2000). However, this topic, which is eminently geographic by essence (movements of people), requires uniform mapping for fair comparison. This paper tends to fill this gap. First, we will map the sites that have yielded physical and cultural remains dated back to the Pleistocene period. Afterward, we will review the theories related to the Austronesian speakers evolution or dispersal by looking at the different possibilities regarding the homeland and routes followed by these seafarers. A final figure will summarize and formalize the different approaches of the Austronesian evolution or dispersal.

### The Pleistocene-Early Holocene period and Paleolithic cultural stage

#### A. Pleistocene environmental conditions

The Pleistocene period began around 1.6 million years ago and extended until 12,000 years ago. It is characterized by mid-latitude glaciations interspersed with short interglacial periods. In Southeast Asia, the climatic changes have been better recorded for the late Pleistocene period since 240,000 years ago. It is acknowledged that glacial maxima were reached around 135,000 years ago and again around 18,000 years ago. At these times, the sea level in Southeast Asia may have been as low 120 or 140m below its present level. Eventually, it rapidly rose during the early Holocene to reach its present level (or slightly higher) around 6,000 years ago (Chappell and Thom, 1977). At glacial maxima, large tracts of land of the shallowly submerged Sunda continental shelf may have been exposed to the surface. The Sunda shelf stretches from Sumatra, Nias and Siberut on the West to Palawan, Borneo and Sulawesi on the East. Further eastward, most of the present Philippine archipelago, except Palawan, may have been grouped in one or two islands separated from the mainland by narrow

sea corridors. The physical separation between Sundaland and the present Philippine archipelago had a major impact on the dispersal of fauna and flora species at this time. Today, it is argued that a biogeographical boundary called Huxley's line marked the easternmost spatial diffusion of Sundaland fauna species (*Figure 1*). Beyond this line, in the Philippines (except Palawan), Sundaland species drop dramatically (Bellwood, 1997). These environmental considerations are of great importance in understanding the dispersal of early hominids in the Philippines and Southeast Asia as a whole.

#### B. Evidences of early hominids in Southeast Asia and the Philippines

The oldest remains of hominids in Southeast Asia are the fossils of the so-called 'Java man' retrieved from different sites in Central Java (Ngandong, Trinil, Sangiran, Sambungmacan, Perning, Kali Giagah) (*Figure 1*). These fossils of *Homo Erectus* have been dated back to between 1.3 and 0.5 million years ago (early Pleistocene). Very little is known about the level of cultural development of this *Homo Erectus*. Indeed, only one site in Southeast Asia, Ban Mae Tha in Thailand, has yielded Paleolithic stone tools with secure Middle Pleistocene age-control (Bellwood, 1997 and 1999) (*Figure 1*).

Much more is known about the late Pleistocene period which began around 125,000 years ago. A couple of sites, Gua Cha (Malay Peninsula), Niah (Borneo) and Tabon (Palawan), all located in Sundaland, have indeed yielded human remains of modern *Homo Sapiens* of younger Late Pleistocene to Early Holocene age (from 50,000 years ago) (*Figure 1*). The Tabon Caves are one of the most significant archaeological sites in the Philippines. The caves have yielded a tibia fragment and a mandible both dated back to 47,000 ( $\pm$  11,000 years) and 31,000 years ago ( $\pm$  8,000 years). These complement the skull of the so-called Tabon Man (from the same Tabon Caves), recently redated back to around 16,500 years ago (Fox 1970; Detroit and Dizon 2002; Dizon et. al. 2002). Associated to those human fossils, a number of contemporary Paleolithic chert flakes and pebble tools, ranging from Late Pleistocene to Early Holocene, have been collected in the Tabon Caves (Fox 1970 and 1978; Mijares to be published). Paleolithic stone tool artifacts of Late Pleistocene – Early Holocene age have actually been recovered all over Sundaland (Northern Vietnam, Indochina

Peninsula, Northern Thailand, Malay Peninsula, Java, Northern Borneo) (Bellwood, 1997 and 1999) (*Figure 1*).

Of great interest is that Paleolithic cultural remains have also been discovered beyond the Huxley's line, in Southern Sulawesi (Wallanae sites, Leang Burung, Ulu Leang), Eastern Timor (Lie Siri, Bui Ceri Uato) and in Luzon, in the Cagayan Valley (*Figure 1*). The Cagayan Valley, in Northern Luzon, is rich of several cave sites (Rabel, Laurente, Arku, Musang, Lattu-Lattuc, Callao, Minori...) with relatively secure Pleistocene-age dates. Middle and Upper Paleolithic flake and pebble artifacts from these caves have been dated up to 28,000 years ago. This lithic technology extended early into the Holocene period (Fox 1977 and 1978). Recently, alleged lower Paleolithic stone tools including a proto-handaxe have been found in Arubo, Nueva Ecija (Luzon), but out of their geological context (Pawlik 2002) (*Figure 1*). Other sites in Rizal Province, Davao, Taal (Batangas), Novaliches (Metro Manila) (Beyer 1948; Fox 1978) and Balubuk (Tawi Tawi) (Paz, to be published) have yielded cultural materials also claimed to be of Paleolithic culture but without secure dating or geological context. During the late Pleistocene period, early men may have lived in company of mammals (elephas, stegodons, rhinoceros...) which fossils have been recovered almost all over the present-day Philippine archipelago (Cagayan, Pangasinan, Rizal, Panay, Agusan...) (Casal et al. 1998; Braches and Shutler 1984).

### C. Implications to the peopling of Southeast Asia and the Philippines

Several observations can be made regarding the initial peopling of Southeast Asia and the Philippines during the Pleistocene period. First, the date continuum of hominids fossils discovered in Sundaland indicates that Sundaland may have been continuously occupied from 1.3 Million years ago to the present time by early *Homo Erectus*, then *Homo Sapiens* and finally present-time *Homo Sapiens Sapiens*. More controversial is the lineage of the first occupants of Sundaland. It is generally admitted (Bellwood, 1997 and 1999) that the ancestors of Southeast Asian *Homo Erectus* came from Africa around 1 million years ago. However, two models are opposing regarding its fate and the origin of the later *Homo Sapiens* discovered in Southeast Asia. The first and most widely accepted model asserts that Southeast Asian *Homo Sapiens* are the

direct descendants of the Java *Homo Erectus*. On the other hand, the second and recently conceptualized model called “*Noah’s Ark model*” claims that Sundaland *Homo Erectus* has disappeared before being replaced by incoming and modern *Homo Sapiens* allegedly originating in Africa (Bellwood, 1997 and 1999).

The discovery of Paleolithic cultural remains beyond the Huxley’s line is another challenge in understanding the peopling of Southeast Asia and the Philippines in particular. The presence of hominids, most probably *Homo Sapiens*, together with contemporary mammals, in Luzon, during the late Pleistocene glacial period, without evidences of local *Homo Erectus* ancestors to date, questions the validity of the biogeographical boundary marked by the Huxley’s line. It leads to think that early hominids and mammals may have crossed the narrow water channels which separated the Sundaland, including Palawan and Formosa, from the rest of the archipelago at this time. As of now, the evidences are however too meager to emit any hypothesis regarding the routes and date of dispersal.

The cultural remains discovered however indicate that these late Pleistocene-early Holocene populations relied on hunting-gathering activities to make a living. But this is with a higher degree of cultural development that early stated by Movius (1944). Indeed, the classic model of evolution which describes chopping-tool-culture Southeast Asia as culturally slowly developing compared to hand-axe-culture Europe and Africa during the Paleolithic cultural stage, seems to be outdated by more recent archaeological researches. These works show that Pleistocene hominids rather adjusted to their immediate tropical environment by using other materials like bamboo or rattan to make basic tools and complement their workshop (Hutterer, 1976 and 1977; Mijares, 2003). Although evidences are cruelly lacking, some supposed that these early hunter-gatherers hominids who occupied the Philippine archipelago during the Pleistocene period were the ancestors of the Negritos that today sparsely occupy some remote and mountainous regions of the country (Omoto 1985; Headland and Reid 1989; Sather 1995; Bellwood 1997). Two models are proposed for their potential evolution and eventual adaptation into the Holocene period. The first and most widespread “*isolation stance*” (R. Gordon cited by Headland and Reid 1989) argues that the Hunter-Gatherer Pleistocene had at most infrequent contacts with the

culturally advanced Austronesian speakers that spread within the archipelago during the Holocene (for example see Fox 1952). The defender of this model claims that Negrito people were until recently almost completely isolated and separated from the lowland farming populations and thus remain chiefly hunter-gatherers up to now. However, a more complex interdependent model of evolution suggest that strong trading interactions have been maintained between Negritos and Austronesian speakers at least for the last 1,000 years and quite possibly 3,000 years (Hutterer 1976; Bailey et al. 1989; Headland and Reid 1989; Sather 1995; Bellwood 1997 and 1999). The defenders of the interdependent model claim that “*Negritos evolved culturally into what they are today as they moved into the forest to collect wild products to trade with agriculturalists and oversea traders for tools and starch food*” and that “*they are kept there by their more powerful neighbors and because it is economically their most viable option in their very restricted circumstances*” (Headland and Reid, 1989, p.51).

#### The Middle and Late Holocene periods and Neolithic cultural stage: Internal development versus movement of people

It is acknowledged that a second and distinct layer of population occupied the archipelago during the Holocene period: these are the so-called ‘Austronesian speakers’. The Austronesian speakers are associated with the spread of Neolithic culture in the Philippine archipelago. Neolithic cultural stage in the Philippines usually includes the development of agriculture, polished stone tools, pottery making and Austronesian languages. More contentious is the origin of the early Austronesian communities. Indeed, the peopling of the Philippines and of insular Southeast Asia as a whole by Austronesian speakers could be seen from two different angles. One views the inhabitants of the Philippines as indigenous people who have undergone a long period of internal development. The second hypothesis considers the Philippine Austronesian speakers as exogenous, implying movements of people. The movements of people indicates the existence of homelands, that could be seen multiple or unique, and routes of migration. All of these differ from one theory to another.

### *Internal development and indigenous people (Figure 2)*

The first theory has mainly been developed by archaeologist William Meacham (1988 and 1995). This asserts that the homeland for Austronesian speakers lies within a wide triangle called '*Austronesia*'. This triangle stretches from Sumatra, on the southwest angle, to Formosa, on the north, and to the Lesser Sunda Islands, on the southeast (Figure 2). Meacham does not contest the existence of relationships (trade...) between the different communities located within the triangle, but rather he insists on the period of internal development the people underwent. These local evolutions are at the origin of the current cultural and linguistic differences existing within insular Southeast Asia. Meacham's theory did not gain many followers.

B. Bronson (1992) also asserts that people of Island Southeast Asia underplayed a period of local and internal development due to radical isolation. This differs from the Meacham's hypothesis which acknowledges trading contacts within the area. Bronson therefore contests the existence of large group of people migrations for various reasons, i.e., absence of irrefutable evidence, shaky date concordance between linguistic and archaeological proofs, serious competition with previous residents. In the Philippines, only F. Landa Jocano (1967, 1983-84 and 1998) defends a quite similar approach, while adding a political dimension to it.

### *Movements of people and the question of the homeland*

#### A. The multiple homeland hypothesis (Figure 3)

American anthropologist H. Otley Beyer has developed one of the first and most popular theories on the peopling of the Philippines. This involves movements of people coming from different homelands (Beyer and de Veyra 1947; Beyer 1948; Dizon 1979). During the Holocene period, he distinguished four main waves of migrations (Figure 3). The first one, composed of seafaring and stone tool-using *Indonesian 'A'*, would have occurred 5,000 to 6,000 years ago. About 2,500 years ago, *Indonesian 'B'*, featured by their bark cloth-wearing skill, would then have reached the archipelago. Less than one millennium later (between 800 and 500 BC)

would have come the terrace-building Proto-Malays from a provenance of central Asia. Finally, around 300 to 400 years BC, the Deutero-Malays would have sailed to the current Philippines from insular Indonesia. At the beginning of the 21<sup>st</sup> century, this theory is still widespread in Philippine history textbooks (Agoncillo 1990; Zaide 1994).

#### B. The unique Melanesian homeland hypothesis (Figure 4)

In the early 1960's, using lexicostatistical analysis, American linguist Isidore Dyen (1962 and 1965) locates the homeland of Austronesian speakers somewhere in Melanesia, between the Bismarck Archipelago and the New Hebrides. He came to this conclusion because of the great concentration of diverse language in that area of Melanesia. From there, people would have moved westward to the mainland of Asia and the current Philippines sometimes around 3,500 years BC (Figure 4). This theory has also been formalized and mapped by British diplomat A. Coates (1974). However, it did not gain much support.

#### C. The unique South China Sea homeland hypothesis (Figure 5)

The fourth theory dealing with the Austronesian homeland is the one of American anthropologist and archaeologist Wilhelm G. Solheim II (1988, 2002, In press, n.d.). Since, the term 'Austronesian' first applies to the linguistic domain, he chose to call the ancestors of the Philippine Austronesian speakers and other insular Southeast Asian people '*Nusantao*' (from '*nusa*' for '*island*' and '*tau*' for '*man*' or '*people*'), which encompasses a wider cultural dimension. The main reason for territory expansion would have been trading activities of the maritime-oriented Nusantao. Solheim indeed excludes major movements of people but rather, insists on the fact that Proto- and Pre-Austronesian language would have developed as barter language among the people of Southeast Asia. In this way, Solheim rejoins the hypothesis of W. Meacham, yet with a smaller area of original development. Mostly from pottery and shell tool evidence, Solheim asserts that the '*Nusantao*' trading network would have originated from the edges of the Celebes Sea including northeastern Borneo, the northern Celebes and southwestern Mindanao. Around 5,000 BC, the earliest

communities of Nusantara would have sailed northward to trade in/at Taiwan, following the dominant sea currents and wind pattern of the Batanes-Formosa strait. Other seafarers would have simultaneously spread toward the Wallacea, the Pacific islands and Indochina (Solheim, In press). Noteworthy is that Solheim recently got the support of geneticist S. Oppenheimer in defending this theory (Oppenheimer and Richards 2001a and b).

#### D. The unique mainland Southeastern China hypothesis

The last theory locates the Proto-Austronesian homeland in mainland Southeastern China. Linguists such as Kern (1889), Benedict (1942 and 1975) and above all Blust (1980 and 1988), and also archaeologists like Chang (1964), have been very convincing in positioning it according to lexicon and morphological evidences. Noteworthy is that Dyen (1995) has contested this theory. However, the routes the Austronesians would have followed to reach the Philippines and the date of their arrival in the archipelago are still being debated.

- Archaeologist Robert Heine-Geldern (1932) was one of the first to propose a scheme for Austronesian speaker movements from South China. He actually locates the Proto-Austronesian homeland a little bit westward from that of Blust. Heine-Geldern asserted that, between 2,000 and 1,500 BC, early Austronesian speakers would have moved south toward the Malay Peninsula before crossing the strait that separates it from Borneo. From Borneo they would have gotten access to the Philippines, possibly through Palawan, before spreading toward Formosa and eventually reaching Japan (Figure 6). Heine-Geldern based his hypothesis on extensive and referred archaeological evidences but that date back to the first decades of the 20<sup>th</sup> century and surface collections. Later, Loofs (1993) revived the data and the hypothesis of Heine-Geldern but without gaining much interest. More recently, some geneticists suggested a similar Malay Peninsula-Borneo route using Y chromosomes evidences (Jin & Su 2000; Su et. al. 2000).

- Based on lexico-statistical and glotto-chronological analyses, some linguists (Thomas and Healey 1962; Llamzon 1977) assert that, from Southeastern China,

Austronesian speakers would have moved southward to Indochina (around 2,000 BC) before spreading westward to the Malay Peninsula and Eastward to Borneo around 1,100 BC. Then, the Borneo group would have branched into two sub-groups that would have reached the Philippine archipelago around 700 years BC, one through Mindanao and the second through Palawan and Mindoro (Figure 8). Grace (1964), who quietly supports this theory, claims that Austronesian speakers reached the Philippines as early as 1,500 BC or shortly thereafter.

- On the other hand, Philippine anthropologist Arsenio Manuel (1966, 1991, 1994) defends a multiple route hypothesis. It is actually noteworthy that this scholar locates the homeland of Austronesian speakers a little bit more southward than Blust, near the Tonkin Gulf. From there, some communities would have reached Formosa and Luzon through Hainan Island. Others would have moved southward along the Indochina coast before spreading toward Borneo and Luzon (Figure 7). To demonstrate his theory, Manuel resorts to archaeological, cultural (rice growing techniques) and linguistic evidences.

- Finally, the last theory has been developed, early in the 1960s and 1970s, by anthropologists and archaeologists like Robert Suggs (1962) and Richard Shutler and Jeffrey Marck (1975). It has eventually been formalized by archaeologist Peter Bellwood (1988, 1991, 1995, 1997) who thinks that the proto-Austronesian speakers crossed the strait separating China from Formosa before 4,000 BC to individualize themselves as Austronesian. Subsequently, they would have reached Luzon, through the Batanes Islands, between 3,000 and 2,000 BC, before spreading toward Borneo, the Celebes and the Pacific Ocean (Figure 9). The reasons of such a dispersal remain unknown but one hypothesis suggests that the Neolithic revolution associated with the domestication of rice would have triggered new pressure on the land. Rice cultivation would have caused permanent settlements and communities. These would have quickly encountered overpopulation problems given the limited resources available. In the search of available lands, they would have eventually crossed the strait between Taiwan and the Philippines. Trade and territory expansion motivations could not, of course, be rejected when looking for the reasons of the origin of the Austronesian speaker

migrations. In 1988, physiologist Jared Diamond (1988) made big noise by calling a ‘fast track’ evolution of this theory the “*Express train to Polynesia*”. The Bellwood hypothesis got the support of linguists (Blust 1988; Gray and Jordan 2000; Diamond 2000), geneticists (Melton et al. 1995 and 1998), dental specialists (Matsumura 2002) and physical anthropologists, while sometimes quite in a controversial way (Brace 1980; Brace and Hinton 1981). The pattern of diffusion of rice species (especially *Oryza indica*) in Island Southeast Asia, from Mainland China to the Philippines, also supports this theory (Pejros and Shnirelman, 1998; Paz, 2003). Biologists remain prudent but do not reject the Taiwan to Philippines route theory (Houghton 1996).

### Conclusions

This hierarchical approach of the peopling of the Philippines, especially during the Holocene period, could be schematized as shown in Figure 10. When tackling the question of Austronesian speakers dispersal in Southeast Asia, two views are conflicting. The first one sees the Austronesian speakers as indigenous people who eventually underwent a period of internal development. The second approach includes movement of people from one or several homelands which have first to be defined. In this case, the routes used are also subject to discussion. This summary of the different theories dealing with the peopling of the Philippines does not tend to make any claim on the validity of any of these approaches. Especially because the very fast evolving ground it encompasses, in particular with the recent development of genetics, still lets open many doors. The final and definitive story of the peopling of the Philippines is indeed far to be known.

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