AnthropologicalForum.net

PRE-COPYEDITED VERSION — PUBLISHED AS

Lin, Hao-Li & Richard Scaglion 2019. Austronesian Speakers and Hereditary Leadership in the Pacific. *Anthropological Forum*, 29(3): 267-283.

Downloaded from **http://www.anthropologicalforum.net**

COPYRIGHT

All rights held by Lin, Hao-Li & Scaglion, Richard. You need to get the author's permission for uses other than teaching and personal research.

Austronesian Speakers and Hereditary Leadership in the Pacific

Hao-Li Lin

National Tsing Hua University, Taiwan

Richard Scaglion

University of Pittsburgh, USA

Abstract: This article explores the notion that peoples speaking Austronesian languages brought the ideology of social hierarchy based on hereditary leadership into the Pacific Islands. This social model contrasts with the strongly egalitarian leadership that likely characterised peoples already residing in New Guinea and nearby islands. While complex interactions between these two groups did occur, particularly in coastal areas, the latter populations rarely adopted hierarchical models of leadership. In contrast, the institution of hereditary leadership burgeoned into elaborate chiefdoms as Austronesian speakers expanded into Remote Oceania. Using linguistic and archaeological evidence, we argue that hereditary leadership, or the institutions to support it, may already have been in place in early Austronesian societies in Taiwan. We further evaluate this correlation by reviewing ethnographic reports of chiefs and reanalysing scholarly appraisals of big-man societies and chiefdoms. We conclude that the 'Melanesian big-man vs. Polynesian chief' contrast corresponds largely to the Austronesian and Non-Austronesian language divide; attention to which can clarify the development of hereditary leadership in the Pacific and illuminate historical relations among cultures in Near Oceania.

Keywords: Hierarchy; Leadership; Chief; Big-man; Austronesian

Introduction

Social hierarchy based on hereditary leadership is a fundamental element in the social lives of many of the cultural groups in the Pacific Islands that speak Austronesian (AN) languages, and the history and development of this phenomenon has attracted much scholarly attention (see for example, Bellwood 1996; Blust 2010; Douglas 1979; Goldman 1970; Hage 1999; Keesing 1985; Kirch 1984; Lichtenberk 1986; Pawley 1982; Sahlins 1958, 1963; Sand 2002). On the other hand, many societies in the Pacific Islands that do not have, or to put it more candidly, actively reject the notion of hereditary leadership speak Non-Austronesian (NAN) languages. This association does not imply a kind of 'linguistic determinism'. Rather, we suggest, that there were social tendencies stressing stricter genealogical rules regarding symbolic and natural resources in early AN-speaking societies that enabled and promoted, but did not always lead to, the development of hereditary leadership. As the descendants of these societies began to enter the Philippines around 4,000 years ago, and spread into Island Southeast Asia (ISEA) and eventually the Pacific Islands, they brought with them these social tendencies and probably the idea of hereditary leadership itself, which was likely already in place. Some authors have even argued that the very ideology of their genealogical principles, in which junior branches not inheriting titles and resources were driven to find new land, may have actually prompted the rapid Oceanic expansion of the AN-speaking peoples (Bellwood 1996; Fox 1995).

Complex biological/linguistic/socio-cultural changes took place as AN speakers encountered pre-existing populations along their journey. While interactions were frequent and the nature of changes varied greatly in different locations, one general trend could be observed: the speakers of a wide array of Papuan languages, who have long dwelt on the mainland of New Guinea and some nearby islands, were mostly able to resist the intruding AN speakers, maintaining their egalitarian socialities that were founded on relatively smaller, more fluid and dispersed settlement patterns, competitive exchange activities, and most importantly non-hereditary leadership positions of various types including the 'big-man'. AN-speakers on the other hand, typically settled on islands or along the coastal areas where they often interacted with local communities, producing various degrees of language change or adoption of cultural traits and social institutions.

Back in the Philippines, language shifts appear to have been more wholesale. The remaining indigenous 'Negrito' people today all speak AN languages. Likewise in ISEA, the descendants of previous local populations seem to have mostly adopted AN languages, although pockets of Papuan-speaking communities exist in the east. These language shifts, however, were by no means uniform and did not lead to similar magnitudes of transformations in social organisations. For example, the Negrito people in the Philippines, while taking up AN languages, became isolated in remote mountainous areas, possibly to avoid further interaction with AN speakers and escape headhunting raids by the latter (Reid 2013). In ISEA, even though most of the languages now fall under the AN family label, pathways to 'becoming Austronesian' were very diverse, with some being the result of creolisation, some actually mixed languages, some mostly lexical borrowing, and some from irregular inter-generational transmission (Donohue and Denham, in press). In western ISEA, current AN speakers may have been the descendants of an admixed population of the Austro-Asiatic speakers in Vietnam or peninsular Malaysia and a western stream of AN migrants (Lipson et al. 2014). The social organisations of contemporary societies speaking AN languages in ISEA therefore result from complex

interactions and do not necessarily follow the models brought by the first AN speakers who settled in this region.

After these diverse interaction scenarios in ISEA, some AN speakers, with their innovative Lapita cultural complex, ventured into Remote Oceania where islands were uninhabited. With increased population density, intensification of production, and level of social competition, the ideology of hereditary leadership began to flourish into elaborate chiefdoms (see for example, Goldman 1970; Hage 1999; Kirch 1984; Kirch and Green 1987, 2001; Lichtenberk 1986; Pawley 1982; Sahlins 1958). It is possible that another wave of speakers of Papuan languages from Near Oceania, who acquired seafaring technologies from their AN-speaking neighbours, settled in Vanuatu and New Caledonia around the same time. They may have eventually adopted the more widely dispersed AN languages around them, but nevertheless left many traces of their original languages and customs in the region (Blust 2008). This picture is augmented by recent genetic studies that suggest an eastward migrant event around 2,400 BP that brought people of Papuan ancestry to Vanuatu and almost completely replaced the Lapita-AN-speaking people of East Asian ancestry in the island group (Lipson et al. 2018). Others argue that it was a situation of repeated waves of migration and initial admixture, rather than a single massive turnover event, which explains why all of the descendants of the Papuan settlers in Vanuatu gradually switched to AN languages (Posth et al. 2018).

As outlined above, we are well aware of the regional complexities within the AN expansion, and are not promoting a simplistic model of social hierarchy being introduced unchanged into the Pacific by AN speakers. Likewise, a few more caveats are in order. First, we understand that hierarchy and egalitarianism as values can coexist in a society (also see Rio, this issue). For example, New Guinean 'egalitarian' societies with male cults and initiation rites can seem very hierarchical and socially oppressive. Similarly, ostensibly 'hierarchical' societies in the Pacific can demonstrate egalitarian tendencies based on reciprocity or status rivalry. Nonetheless, we focus here on the existence of hereditary leadership, which we think is the fundamental difference between 'big-man' and 'chiefly' societies, and is of central importance to the study of the AN expansion. We make no general attempt to explore the nuanced natures of 'hierarchy' and 'egalitarianism' in a more general sense, or their dynamic operations in different ethnographic situations (see Martin, this issue).

Second, we recognise that in the Pacific there are AN-speaking communities that do not have hereditary leadership, as well as NAN-speaking communities that do. Given the complex interactions that took place in the greater New Guinea region for the past 3,000-plus years, cases of AN-speaking communities without hereditary leadership could have been the result of the following scenarios: 1) Language change without much social change (as seen in the case of the 'Negrito' people in the Philippines mentioned above); 2) Trade that weakened old hereditary leadership (possibly Tolai, see Martin 2013, 184); 3) Founder's effect that led to the development of flexible leadership (for example, the AN expansion in the Philippines, see Gallego 2015); 4) Situations in which the hereditary leadership is manifested in descent groups, rather than individuals (for example, the Maisin people, see Barker this issue), or many other factors. On the other hand, cases of NAN-speaking communities with hereditary leadership could be explained by intensive contact with AN-speaking polities (for example, the sultanates

of Ternate and Tidore in North Maluku, see Bellwood 1998, 136; Lapian 1994, 12) or the development of extensive trade networks (Villiers 1990, 91). These societies, however, are exceptions to the general rule. Scaglion (1996) established a strong association between language affiliation and reports of chiefly leadership in the Pacific: of 78 NAN-speaking societies in his sample, only three (or 3.8%) were reported as having chiefs, whereas 52 of 73 (or 71.2%) of the AN-speaking societies were described as having chiefs (see below).

Finally, we acknowledge that this argument is not new (Bellwood 1996; Douglas 1979; Hage 1999; Keesing 1985; Lichtenberk 1986; Mosko 1992; Pawley 1982; Scaglion 1996). However, we maintain that the recognition of the close correlation between AN languages and hereditary leadership in the Pacific Islands can help refine the debates concerning Polynesian chief vs. Melanesian big-man, illuminate the development of hereditary leadership in the Pacific, and clarify historical relations among cultures in Near Oceania, particularly where hierarchical societies are juxtaposed with egalitarian ones. As an example, we offer up an analysis of a debate about the nature of leadership in Melanesia that we believe would benefit from attention to these associations.

We proceed by first exploring the specific hypothesis that AN-speaking peoples brought the concept of hereditary leadership to Melanesia (and other Pacific Islands), and discussing various archaeological, linguistic, and ethnographic materials from Taiwan and Island Southeast Asia to illustrate this framework. We then consider the implications of this notion for Melanesian and Pacific Islands studies more generally. As an example of the problems that can ensue when researchers pay insufficient attention to AN-NAN-speaking distinctions, we review an article by Christophe Sand, who has concluded that Sahlins's classic division between Melanesian big-man and Polynesian chief was too sharply drawn, and who argued that 'Melanesian' societies were actually quite hierarchical. Although both researchers were writing about 'Melanesian' societies, it is clear that Sand based his argument on Island Melanesian groups that were mostly AN-speaking, whereas Sahlins had drawn on mostly NAN-speaking groups for his characterisations of 'Melanesia'. Thus both articles taken together are actually talking about AN-NAN-speaking distinctions, although both employ the term 'Melanesia'. We conclude that both scholars are essentially 'correct', and that both articles support the arguments being offered here.

Early Austronesian Societies in Taiwan and Their Descendants

Whatever the social histories of Pacific peoples in the pre-contact era, when Europeans finally ventured into the Pacific, they encountered well-developed chiefdoms and social hierarchies in Polynesia and Micronesia. However, many of these AN-speaking peoples' linguistic relatives in Melanesia had forms of leadership characterised by softer forms of ascriptive authority during the early ethnographic period. This raises the question: Was hereditary authority characteristic of the early AN-speaking societies that ventured into the Pacific in the first place, continuing and perhaps developing further in some places but softening or declining in parts of Melanesia? Or were early AN-speaking societies more egalitarian, with hereditary leadership developing in Oceania, and conditions in Polynesia and Micronesia being more conducive to its growth than in Melanesia? What role, if any, did contact with NAN speakers

in Melanesia play in this process? Exploring these ideas is certainly not easy because of the remoteness of the time period when descendants of the early AN speakers first ventured into the Pacific and the prolonged interactions between AN- and NAN-speaking peoples in Melanesia ever since. As Bronwen Douglas has pointed out, '… several thousand years of migration, interaction and flux in western Melanesia have produced a complex mixture of cultures.' (Douglas 1979, 12)

Where were the AN-speaking ancestral societies located before their adventurous descendants encountered the NAN-speaking people, and what were their social organisations like? While it is difficult to answer these questions exactly, linguistic reconstruction and comparative methods have proven to be useful in providing some models (Blust 1980, 1995, 1996; Fox 1984). In a recent review of studies of the Austronesian homeland and dispersal, Blust (2019) provided several lines of evidence demonstrating the distinctive linguistic innovations of the AN languages spoken outside Taiwan, which led to the subgrouping called Malayo-Polynesian, consisting of all the AN languages outside the island. With the application of Bayesian phylogenetic methods, linguists have produced complex AN language trees yielding inferences about the origin, sequence, and timing of the expansion of AN-speaking societies. The results put the Formosan languages of Taiwan at the base of the tree with a 'pulse-pause' scenario: a long pause before advancing to the Philippines and quickly moving through Island Southeast Asia and Melanesia before another long pause in Western Polynesia (Gray, Drummond and Greenhill 2009, see Pawley 1999 for comparison). Based on currently available linguistic data, this model solidly places Taiwan at the base of AN languages, with a possible pre-Austronesian background in southern China (Bellwood 2012, 167). This is, of course, from a solely linguistic perspective, and the actual dispersal process was not by mere inheritance but involved complex local borrowings and interactions with other language groups (Denham 2018, 53-55). For example, recent genetic studies suggest that Neolithic immigration into ISEA was in part via Mainland Southeast Asia (MSEA), possibly involving speakers of Austro-Asiatic languages (Soares et al. 2016).

The 'pulse-pause' movement is significant to the AN out-of-Taiwan scenario because it suggests that through certain innovations, a once sedentary people in Taiwan quickly spread through the Philippines and into Near Oceania. These innovations could be the advancement of sailing technology, or the development of new social institutions as the descendants of the early AN-speakers encountered the local populations and environment. Proto-Austronesian (PAN) language is thus reconstructed from the Formosan languages spoken in Taiwan, with the northern boundary of the lower-order reconstructed Proto-Malayo-Polynesian (PMP) language drawn around Orchid Island (Lanyu) and Batanes of the Northern Philippines. It should be stressed that evidence shows inter-island connectivity, particularly through the nephrite (jade) trade, among Taiwan, Mainland Southeast Asia, North Philippines, and North Borneo, was active between 500 BC and 100 AD (Hung et al. 2013), suggesting that linguistic change was not associated with the breakdown of interactions. As stated before, AN speakers have social tendencies to control symbolic and natural resources based on genealogy within a given social unit, which forms the basis of hereditary leadership and social hierarchy. However, are they innovations that emerged in PMP-speaking societies, or did they also characterise PAN-speaking societies?

Before proceeding, it is important to give a brief overview of the social organisations of the AN-speaking indigenous people in Taiwan, who are the immediate descendants of the early AN speakers. With a total population of around 530,000, there are currently 16 officially identified indigenous groups in Taiwan, with many others still not recognised. With the exception of the Tao people who reside on Orchid Island, none of these are Malayo-Polynesian languages. When there were only nine officially identified indigenous groups in Taiwan, anthropologist Ying-Kuei Huang published a seminal article categorising these according to their forms of social organisation. In his scheme, Type A societies are designated as 'hierarchical', having chiefly positions that are either passed down through kinship lines or founded on generational age sets. This group includes Paiwan, Rukai, Tsou, Amis, and Puyuma. In contrast, Type B societies are more egalitarian. Even when they do have leadership positions, they are reportedly based on personal abilities and influence rather than genealogy. These societies include Bunun, Atayal, and Yami (Tao). The last group, Saisiyat, is placed in an intermediate position. In terms of social structure, Type A societies are larger and more complex, while Type B societies are smaller and lacking in formal organisations supporting the leadership (Huang 1986, 4-11, see also Ku this issue).

Of course, the social lives of the indigenous people in Taiwan have been greatly influenced by Dutch, Han Chinese, and Japanese colonial policies, as well as inter-ethnic group interactions. Nevertheless, we can observe that hierarchy based on hereditary leadership is present in at least four of the groups mentioned above (Paiwan, Rukai, Puyuma, and Tsou), with one (Amis) depending on age sets. Moreover, in certain 'egalitarian' societies, tendencies of hierarchy can still be found. For example, using both historical and ethnographic materials, Yang's study of the Bunun people, who are Type B in Huang's typology, suggested that they were actually oscillating between egalitarianism and hierarchy through different periods of head-hunting warfare in the region. More importantly, in some communities, hereditary leadership could be observed. It was the Japanese curtailment of head-hunting practices and policies of forced group migration that made them appear sedentary and egalitarian (Yang 2005). In another study where the 'great-men' model was used to re-analyse Bunun social organisation, Huang mentioned that in the past, there was a social tendency to have the patriclan control the entire settlement, which 'caused local organisation to be girdled by an *ascribed hierarchical order* comprising residents and operating under the rule of patrilineal descent.' (Huang 1995:73, italics ours). Finally, an important linguistic feature of hereditary leadership is the recognition of 'first-born' and the terminological distinction between older and younger siblings (Hage 1999, 206-9; Pawley 1982, 39-41, 45). These characteristics can readily be found in several AN languages in Taiwan (Fox 2009, 93; Blust and Trussell 2019).

Early Austronesian Societies and Possibilities of Hereditary Leadership

It would appear that elements of social hierarchy based on genealogical principles have a significant presence among some of the early AN-speakers in Taiwan. What can we say about these societies more generally? In terms of subsistence, linguistic evidence suggests that PAN speakers cultivated wet rice, albeit without elaborate irrigation techniques (Blust 1995, 1996; Sagart 2003). There are six PAN items indicating different states of rice: **pajay* 'rice plant,

unhusked rice', **beRas* 'husked rice'. **Semay* 'cooked rice', **bineSiq* 'seed rice', **qeCah* 'rice husk', and **zaRami* 'rice stubble'. Additionally, three PAN items have been reconstructed for millet: **baCar *beCeng, *zawa,* indicating different species or sub-species. The indigenous people in Taiwan likely consumed both rice and millet as main food sources, and the latter has significant functions in contemporary ritual ceremonies (Li 2015). Archaeological evidence corroborates that AN ancestors in Taiwan had domesticated rice around 4,200 years ago (Deng et al. 2018) and millet 5,000 years ago (Tsang et al. 2017).

Bellwood (2005) has been the main proponent of the scenario that the expansion of AN languages correlates with the dispersal of cereal production. For some time a dearth of evidence for Neolithic rice cultivation in the Philippines has complicated this Farming/Language Dispersal hypothesis (Bellwood et al. 2011, 337; Carson and Hung 2014, 511). It was also argued that only two sites in ISEA provided potentially early evidence for rice, one of which could even have been introduced from MSEA (Donohue and Denham 2010). However, recent discovery of rice grain charcoal in Nagsabaran and Magapit in the Lower Cagayan Valley of Luzon, dating as far back as 3,000 BP, has provided further support to the hypothesis (Carson and Hung 2018; Deng et al. 2018). On the other hand, even if the AN speakers did succeed in growing rice in these regions, ample evidence has shown that its prevalence decreases in frequency from west to east through Indonesia. Moreover, it wasn't brought to Oceania where many islands were suitable for wet taro production (Bellwood 2011). This could be explained by contrasting climatic conditions towards New Guinea that affected cereal agricultural potential (Cox 2008, Spriggs 2000). The local NAN speakers residing there also had a very well-developed tuber and fruit horticulture system, and may not have wanted to change their methods of cultivation. Finally, the migration of the AN speakers into Oceania via New Guinea was not simply west-to-east, but much more complex, creating more difficult circumstances for rice seed stock to persist (Bellwood 2011). These scenarios provide possible explanations of why, apart from their sheer numbers, the egalitarian NAN-speaking people in New Guinea were largely able to resist the AN expansion and its social institutions.

In terms of social organisation, linguistic reconstructions provide many useful clues regarding hereditary leadership. In the framework of Oceanic languages, Pawley (1982) has reconstructed a pair of contrasting terms **qalapa(s)* ('big, great') and **qadiki* (small). The former is the leader, chief of a descent group and the latter is the 'first-born' who will succeed to the position. While the assignment of **qalapa(s)* as a kind of hereditary leader was challenged by Lichtenberk (1986), later studies had supported the presence of hereditary leadership in ancestral Oceanic societies (Hage 1999). As for PAN, Dempwolff (1938) had proposed the term **datu* 'head of a kin group', commonly found in the Philippines and ISEA, and as far away as in Fiji. Blust (2010) later reassigned it to the PMP group for it does not have any reflexes in the Formosan languages spoken in Taiwan.[1] Using a comparative linguistic framework, Blust then proposed the following definitions associated with **datu*: 1) political leader, chief; 2) priest, custodian, and administrator of customary law and genealogical

[1] It should be noted that the Thao people in Taiwan actually have a hereditary chiefly position called *dadu*. Its linguistic relationship with **datu* begs for further investigation.

knowledge; 3) ancestor, elder, head of a kin group; 4) noble. He concluded that the term must refer to

> a priest charged with the guardianship of the sacred paraphernalia of his lineage and of customary law, with the conduct of public rituals and ceremonies, and with the preservation of genealogical knowledge, among other things. This role was filled by a senior male of noble ancestry, and probably was transmitted from father to (perhaps eldest) son. (Blust 2010, 47)

Working with AN languages in the Philippines, Gallego observed that the 'ancestor' component of **datu* has been lost, whereas the meanings of 'political leader, chief' and 'nobility' are retained, pointing to 'the dissolution of the exclusively hereditary of ascribed leader in PMP society and the possible innovation of the leadership type based on achievement' (Gallego 2015, 496). This, however, could be explained by the new subsistence strategies and settlement patterns implemented during the initial AN expansion into the Philippines. As exemplified by the Toraja people of Sulawesi, the connotation of ancestor and genealogy in reflexes of **datu* emerged again in ISEA (Blust 2010, 45).

Another term possibly indicative of hereditary leadership is the PAN **rumaq* 'house'. While in the present context it serves as the term for 'lineage' in several AN languages, Blust (1980) argued that early AN societies were possibly bilateral. Such a principle was subsequently weakened or lost with the AN expansion, possibly due to the encounter with lineage-minded NAN speakers (Lansing et al. 2011). The 'house' thus becomes a metaphor for these past 'bilateral kindreds' while also having the symbolic capacity to emphasise aspects of continuity and localisation (Blust 1980, 211). In contemporary AN-speaking societies, particularly in ISEA and Polynesia, 'house' is a very important concept that orders social reproduction, division, and leadership, and is the embodiment of ancestor, genealogy, and memory. For example, in Iban the longhouse is called *rumah*, and the responsibility for safeguarding the normative order in each longhouse domain rests chiefly with the longhouse headman (*tuai rumah*) and family heads (*tuai bilik*) whose authority is established through the rites of house construction (Sather 1993). In Wanokaka of western Sumba, a social group is called *uma*, which is represented physically by a central titled ancestral house. The titles of the ancestral houses have strong political and ritual significance. For instance, the title *Uma Bakul* (great house) 'shows that it is the founder house and hence the most senior house in the clan-unit, and that the person holding the right to this house is of noble rank' (Gunawan 2000, 56). Similar social mechanisms associated with the house can also be found in Taiwan. For example, in Paiwan, the house is called *umaq*, which bears names and statuses inherited by the first-born child. The authority of the chief is inscribed in the special construction materials of the house and the decorated king post inside (Chiang and Li 1995). In Puyuma, social hierarchy is organised by the distribution of millet seeds from the original house to the branched-out houses (*ruma*), through which the leading house with its leader-priest (*rahan*) is responsible for looking after the ancestral ritual house (Chen 1999). While we do not know if **rumaq* played a similar role in early AN societies, we could assume that there were already elements in place for the operation of hereditary leadership.

Finally, land is another important factor that influences the interplay between hierarchy and egalitarianism. As noted by Huang (1986, 13-14), Type A societies tend to have large and centralised communities, with the noble class being the sole controller of land resources. On the other hand, in Type B societies, resources are divided by various organisations such as lineages, families, hunting groups or fishing groups. Paiwan is the quintessential example of the former type. The chief/nobility (*mamazangilan*) is usually the first-born descendant of the founder of the community who owns all the land. Commoners (*atitan*) are the descendants of the younger siblings who later branched out. They rely on the assistance of their elder siblings and provide service for them (Chiang and Li 1995, 206-208). The idea of controlling resources in a given territory soon gave rise to the PMP term **banua* as the AN speakers left Taiwan. Focusing on **banua* and four other PMP terms that at least partially have the meaning of some sort of house structure, Blust (1987) was interested in the semantic histories of these terms and how they came to acquire diverse but related senses. After identifying seven distinct definitions of **banua* (1. house, 2. village, 3. land, 4. place, 5. country, 6. weather and 7. night) by reviewing its reflexes in different daughter languages, he concluded that **banua* may have a single complex meaning that refers to 'an inhabited territory which included the village and its population together with everything that contributed to the life-support system of that community' (Blust 1987, 100). He also noted that this complex concept contrasts with uninhabited territories external to it (that is, the forest area). This implies that the early AN-speaking people likely emphasised localised communities in which stable leadership played an important role. For a contemporary example, the Manobo people in Mindanao have the word *banua* which denotes a kind of village or community government where three or more *datu* (chiefs) govern and specialise in different matters (Tan 2008, 38).

Austronesian and Non-Austronesian Speakers in the Pacific: Ethnographic Reports of Chiefs

Thus far, we have offered evidence that PAN-speaking societies probably had hereditary authority, or at the very least, social mechanisms to support its development, with connections to their descendants who settled in the Philippines and ISEA. After much local integration, the AN speakers with established hierarchical ideologies then encountered the NAN speakers in New Guinea, sparking another stage of complex interaction and interchanges. This interaction is the focus of the balance of this paper.

As we have already mentioned, Scaglion (1996) has investigated the correlation between AN language and ethnographic reports of 'chiefs' in the Pacific Islands. He used the 151 Pacific societies described in the *Encyclopedia of World Cultures* Oceania volume (Hays 1991) as a sample. Linguistic affiliation is fairly clear and was easily operationalised: Wurm and Hattori (1981) and Grimes (1992) were used as authorities. Operationalising the concept 'chief' presented more of a problem. In order to sidestep the complex problem of defining the many dimensions of the term 'chief', Scaglion used the authors of the ethnographic sketches in the *Encyclopedia of World Cultures, Vol. 2: Oceania* volume (who in most cases are also the ethnographers) as authorities. If they employed the word 'chiefs' in their ethnographic

description, chiefs were counted as present, if not, they were counted as absent. This method produced Table 1.

	AN	NAN	Row totals
"Chiefs" reported	52	3	55
"Chiefs" not reported	21	75	96
Column totals	73	78	151

df=1
χ^2= 73.94506
$p< 0.00001$
φ= 0.69979
φ^2 = 0.48970
95% confidence interval $0.60698 \leq$ phi ≤ 0.77376

Table 1. Cross-tabulation of ethnographic reports of 'chiefs' by language affiliation

The correlation in Table 1 is quite strong, extremely unlikely to be due to chance, and supportive of the hypothesis of a strong association between language affiliation and leadership type in the Pacific. Of the 78 NAN-speaking societies in the sample, only three (Mafulu, Namau and Orokolo) were reported as having chiefs. The ethnographic summaries of these three societies were based on old ethnographic reports (primary ethnographies were Williamson 1912; Holmes 1924 and Williams 1924; and Williams 1940 respectively), and the original ethnographers probably did not use the term 'chief' in as precise a manner as contemporary ethnographers would. While there are other ethnographic reports of chiefs in NAN-speaking areas of the Pacific, particularly in the Papuan Gulf and in the Moluccas (most notably Ternate and Tidore), Table 1 suggests that such associations are actually quite rare. A related observation based on this table is that, if we do accept a 'chiefly' base for AN-speaking societies and an 'egalitarian' base for NAN-speaking societies, the influences seem to be moving primarily in one direction. That is, some AN-speaking societies seem to have 'lost' (or never developed) strong elements of ascriptive leadership, whereas NAN-speaking societies seem only rarely to have 'adopted' chiefly models.

Melanesian Big-man and Polynesian Chief Revisited

We believe that several of the current debates in Melanesian studies in particular, and in Pacific Studies more generally, have arisen mainly because scholars do not pay sufficient attention to the differences between AN- and NAN-speaking groups. In this article we are confining ourselves to discussion about hereditary leadership, but similar arguments could be made about many other social practices. Here we explore a difference of opinion between Marshall Sahlins and Christophe Sand that we believe can be largely reconciled by considering AN-NAN

distinctions. In a 2002 article entitled, 'Melanesian Tribes vs. Polynesian Chiefdoms: Recent Archaeological Assessment of a Classic Model of Sociopolitical Types in Oceania', Sand concluded that Sahlins's classic (1963) division between Melanesian big-man and Polynesian chief was too sharply drawn. Summarising Sand's argument,

> The late prehistoric period is crucial to the study of anthropology, as the area of Island Melanesia has provided the world with one of its great anthropological stereotypes, the 'Big Man' society. This was developed by Sahlins (1963) on the basis of Oliver's (1955) ethnography of the Siwai of southern Bougainville as observed during the late 1930s. It has led to a gross ethnographic oversimplification of Melanesia as having big-man societies, contrasted with Polynesia having chiefly societies. Where chiefs were found in Melanesia, their presence has often been interpreted as a cultural borrowing under Polynesian influence (Spriggs 1993, 198). (Sand 2002, 295-296)

However, we think that Sahlins was talking about NAN-speaking Melanesia, whereas Sand was talking about AN-speaking Melanesia, and they are both largely correct. Sand's article actually provides powerful evidence for the hypothesis we have proposed here, although he came to a different conclusion. First we consider Sahlins's 'big-man' model. We disagree with Sand that Sahlins developed his model, 'on the basis of Oliver's (1955) ethnography of the Siwai of southern Bougainville'. Although the NAN-speaking Siwai were certainly the most important case in building his argument, Sahlins drew upon literature for eight (footnoted) ethnographic cases, all but one of which (Northern Malaita) were NAN-speaking. Furthermore, Sahlins was was aware that hierarchy was present in Island Melanesia. He wrote,

> In New Guinea and nearby areas of western Melanesia, small and loosely ordered political groupings are numerous, but in eastern Melanesia, New Caledonia and Fiji, for example, political approximations of the Polynesian condition become common. (Sahlins 1963, 286)

However, he did not construct his model using these Melanesian societies, focusing instead on the much more numerous NAN speakers of Western Melanesia ('Near' Oceania). Neither was Sand ignorant of the northwestern/southeastern Melanesian divide. He stated:

> Green (1991) has accurately pointed out the problems of using the generic term 'Melanesia' as a significant cultural category, as it encompasses both Northern Melanesia (or what Green calls Near Oceania), settled more than 30,000 years ago, and Southern Melanesia (Vanuatu, the Loyalty Islands, New Caledonia, and Fiji), which as part of Remote Oceania was settled only 3000 years ago by AN speakers. (Sand 2002, 286)

Nevertheless, Sand chose to ignore this division:

> In this paper, I nevertheless use the term 'Island Melanesia' in its broadest sense, as examples are drawn from the different archipelagoes of this geographical region which spans the Bismarck Archipelago to New Caledonia and Fiji. (Sand 2002, 286)

While it is true that Sand drew examples from throughout the region, it is notable that the examples he cited as evidence for Melanesian complexity derive from AN-speaking contexts.

Of course, we cannot know what languages were spoken by prehistoric populations in the Pacific Islands. However, as was noted by Sand, there is no evidence that any peoples other than AN speakers first inhabited Remote Oceania, so we have classified these contexts as AN. Where there is more considerable doubt, in contexts where NAN speakers might have settled islands like the Trobriand Islands or (probably) Manus island in Papua New Guinea before the contemporary inhabitants, we have classified the prehistoric populations according to the language affiliation of the ethnographic era populations, which we believe are the archaeological groups most likely to have been studied (although this assumption may be incorrect).

These problems notwithstanding, it is clear that Sahlins built his 'Melanesian big-man' model largely with reference to NAN speakers, while Sand built his 'Melanesian chief' model with reference to AN speakers (see Table 2).

	AN	NAN	Row totals
Sahlins's "Melanesian big-man"	1	7	8
Sand's "Melanesian chief"	23	0	23
Column totals	24	7	31

Fisher exact test = 0.000003
p<. 00001
Phi= +0.92

Table 2: Crosstabulation of sources of ethnographic support for models

Archaeological Evidence for Social Hierarchy in Early Austronesian Societies in Island Melanesia

Now that we have established that Sand was really writing about AN-speaking contexts, his findings are useful for establishing that 'hierarchy' characterised early AN-speaking groups in Melanesia. Sand examined five separate lines of evidence suggestive of hierarchical patterns in early prehistory of the AN speakers in Island Melanesia. With reference to *habitation sites*

and settlement patterns, he noted that in New Caledonia, large platforms were organised 'to reproduce a rigid social hierarchy' (Sand 2000, 286) with a central alleyway surrounded by parallel rows of habitation mounds that culminated in a very large mound presumably occupied by the highest status individual. The constructions 'would seem to imply a large building force and an effort to visibly indicate social differentiation and prestige' (Sand 2002, 286, see also Boulay 1990; Sand 1995, 1997). Similarly, in northern Vanuatu, high stone faced house platforms constructed using massive boulders were found (Coiffier 1988), and in the Loyalty Islands and Ile des Pins, houses of presumably high-status individuals were palisaded (Guiart 1963, Lambert 1900). Within these palisades, sacred objects were arrayed in strategic localities, suggestive of complex symbolic divisions.

Sand then considered evidence for complex *religious sites*, which he likened to *marae* in Eastern Polynesia. These included composite shrines with large stone-faced platforms in the Western Solomons (Sheppard et al. 2000), truly monumental platforms with the use of monoliths weighing several tons and the burial of presumably high status individuals in large burial platforms in Vanuatu (Burenhult 1994) and similar monumental ritual constructions in Fiji (the *naga* ceremonial sites) (Parke 1987, 143-146).

Turning to evidence for *horticultural intensification*, Sand argued that the labor force needed to build and maintain the irrigated fields and terracing and mounding river flat systems found in many places in AN-speaking Melanesia could not have been assembled in small-scale, autonomous and rival tribal systems. Sources and citations can be deduced from Table 3, but one example is the large-scale taro pondfield terraces of the Grande Terre of New Caledonia where stone-faced hillslope terraces cover hundreds of hectares. Terraces are up to 3 m high, there are many irrigation channels, and in places the slopes are up to 70 degrees, all suggestive of considerable coordinated effort.

A fourth line of evidence is constituted by the fortifications that are found in various AN-speaking contexts in Island Melanesia, including the 'archipelago of forts' that constitute Fiji, a ridge-top fort in Roviana lagoon, and a monumental fort on Maré with walls 500-metre long, up to 10-metre wide and 4-metre high, built in part with coral blocks sometimes over 2.5-metre long, which, again, Sand argued 'could not have been constructed with small groups of people in an autonomous tribal polity' (Sand 2002, 288).

Finally, Sand took inter-island exchanges in *interaction spheres* as evidence of hierarchy, citing Malinowski's kula ring; an exchange system as linking the Grande Terre, Loyalty Islands and southern Vanuatu; and a regional network of exchanges controlled by the Roviana chiefdom as examples. He concluded that, 'These different interaction processes were not made at a "clan" or "tribe" level, but involved complex chiefdom redistribution strategies, allowing the hereditary chiefs to maintain their prestige and control' (Sand 2002, 290).

Conclusion

With an awareness of regional complexities, we have provided linguistic and archaeological evidence for positing that the AN speakers who entered Melanesia already had ideologies of hereditary leadership, the development of which could potentially be traced back to the early

Austronesian societies in Taiwan. This form of social hierarchy is a marked contrast to the social organisations of the NAN speakers residing in New Guinea, who 'lack totally any concept of genealogically-based ranking, whether of persons or descent groups' (Bellwood 1996, 22). Often characterised as being 'aggressively or fiercely egalitarian', it is important to note that these NAN-speaking societies are not uniform and have diverse and sophisticated systems to support their operations (McDowell 1990). Scholars have argued that they do not have, or even actively resist, the concepts of society as a bounded unit, and their social lives are essentially founded on equality as a paramount value and competitive exchange activities that generate multiple fluid relationships (Robbins 1994). This logic is fundamentally different from the emphasis on genealogical principles as a mechanism to control symbolic and natural resources by the AN speakers, which is best manifested in the institution of hereditary leadership.

Following this central argument, we have given an example of scholars whose analyses have not highlighted these distinctions. In our opinion, this has clouded an understanding of the real nature of leadership (and other behavioral practices) in Oceania. Studies like Lilley (1985) and Lutkehaus (1990) provide rich ethnographic materials to demonstrate local complexity within the 'egalitarian Melanesian sphere' using AN-speaking cases to refute a model built on NAN-speaking data. Viewing such contributions through the lens of our work highlights the broader linguistic and historical-cultural patterns apparent in such studies, allowing us to make further progress in understanding the development of Pacific social organisations.

Acknowledgements

This article stems from a discussion between the authors in a spring 2009 Pacific Ethnology seminar at the Department of Anthropology, University of Pittsburgh. The authors would like to thank the anonymous reviewers for their careful readings and valuable suggestions, and Kun-Hui Ku and Thomas Gibson for organizing this special issue.

References

Bellwood, P. 1996. Hierarchy, Founder Ideology and Austronesian expansion. In *Origins, Ancestry and Alliance: Explorations in Austronesian Ethnography*. Edited by J. J. Fox and C. Sather. 18-40. Canberra: Research School of Pacific Studies, Australian National University.

Bellwood, P. 1998. The Archaeology of Papuan and Austronesian Prehistory in the Northern Moluccas, Eastern Indonesia. In *Archaeology and Language II: Correlating Archaeological and Linguistic Hypotheses*. Edited by R. Blench and M. J. Y. Spriggs. 128-140. New York: Routledge.

Bellwood, P. 2005. Examining the Farming/Language Dispersal Hypothesis in the East Asian Context. In *The Peopling of East Asia: Putting Together Archaeology, Linguistics and Genetics*. Edited by L. Sagart, R. Blench and A. Sanchez-Mazas. 17-30. New York: Routledge.

Bellwood, P. 2011. The Checkered Prehistory of Rice Movement Southwards as a Domesticated Cereal: from the Yangzi to the Equator. *Rice* 4(3-4): 93-103.

Bellwood, P. 2012. How and Why Did Agriculture Spread? In *Biodiversity in Agriculture: Domestication, Evolution and Sustainability*. Edited by P. Gepts et al. 160-189. Cambridge: Cambridge University Press.

Bellwood, P. and G. Chambers, M. Ross, H. Hung 2011. Are 'Cultures' Inherited? Multidisciplinary Perspectives on the Origins and Migrations of Austronesian-Speaking Peoples Prior to 1000 BC. In *Investigating Archaeological Cultures: Material Culture, Variability, and Transmission*. Edited by B. W. Roberts and M. Vander Linden. 321-354. New York: Springer.

Blust, R. 1980. Early Austronesian Social Organization: The Evidence of Language. *Current Anthropology* 21(2): 205-226.

Blust, R. 1987. Lexical Reconstruction and Semantic Reconstruction: The Case of Austronesian 'House' Words. *Diachronica* 4(1-2): 79-106.

Blust, R. 1995. The Prehistory of the Austronesian-speaking Peoples: A View from Language. *Journal of World Prehistory* 9(4): 453-510.

Blust, R. 1996. Austronesian Culture History: The Window of Language. *Transactions of the American Philosophical Society* 86(5): 28-35.

Blust, R. 2008. Remote Melanesia: One History or Two? An Addendum to Donohue and Denham. *Oceanic Linguistics* 47(2): 445-459.

Blust, R. 2010. On Datus, Ancient and Modern. In *Piakandatu Ami: Dr. Howard P. McKaughan*. Edited by L. Billings and N. Goudswaard. 36-51. Manila: Linguistic Society of the Philippines and SIL Philippines.

Blust, R. 2019. The Austronesian Homeland and Dispersal. *Annual Review of Linguistics* 5: 417-34.

Blust, R. and S. Trussel. 2019. *The Austronesian Comparative Dictionary*. Ongoing from 2010. Last updated 2 February, 2019. http://www.trussel2.com/ACD, accessed 9 February, 2019.

Boulay, R. 1990. *La Maison Kanak. Collection Architectures Traditionnelles*. Marseille: Editions Parenthèses.

Burenhult, G. 1994. Les monuments de Pierre du Pacifique du Sud. In *Le Nouveau Monde et le Pacifique*. 165-183.

Carson, M. T. and H. Hung. 2014. Semiconductor Theory in Migration: Population Receivers, Homelands and Gateways in Taiwan and Island Southeast Asia. *World Archaeology* 46(4): 502-515.

Carson, M. T. and H. Hung. 2018. Learning from Paleo-Landscapes: Defining the Land-Use Systems of the Ancient Malayo-Polynesian Homeland. *Current Anthropology* 59(6): 790-813.

Chen, W. 1999. What Is 'Kinship' All About? – A Case Study of a Puyuma Settlement, Eastern Taiwan. *Bulletin of the Institute of Ethnology* 87: 1-39. (In Chinese)

Chiang, B. and C. Li. 1995. The Spatial Structure and Meaning of the Northern Paiwan House. In *Space, Power, and Society*. Edited by Y. Huang. 167-212. Taipei: Institute of Ethnology, Academia Sinica. (In Chinese)

Coiffier, C. 1988. *Traditional Architecture in Vanuatu*. Suva: University of the South Pacific.

Cox, M.P. 2008. The Genetic Environment of Melanesia: Cline, Clusters and Contact. In *Population Genetics Research Progress*. Edited by V. T. Koven. 45-83. New York: Nova Science Publishers.

Dempwolff, O. 1938. *Vergleichende Lautlehre des Austronesischen Wortschatzes III*. Zeitschrift für Eingeborenen-prachen. Beihelf 19. Berlin.

Deng, Z. and H. Hung, M. T. Carson, P. Bellwood, S. Yang, H. Lu 2018. The First Discovery of Neolithic Rice Remains in Eastern Taiwan: Phytolith Evidence from the Chaolaiqiao Site. *Archaeological and Anthropological Sciences* 10(6): 1477-1484.

Denham, T. 2018. The 'Austronesian' Dispersal in Island Southeast Asia: Steps Toward an Integrated Archaeological Perspective. In *The Oxford Handbook of Prehistoric Oceania*. Edited by T. Hunt and E. E. Cochrane. 48-68. Oxford: Oxford University Press.

Donohue, M. and T. Denham. 2010. Farming and Language in Island Southeast Asia: Reframing Austronesian History. *Current Anthropology* 51(2): 223-256.

Donohue, M. and T. Denham. In Press. Becoming Austronesian: Mechanisms of Language Dispersal across Indo-Malaysia. In D. Gil and J. McWhorter (eds) *Austronesian Undressed, How and Why Languages Become Isolating*. Berlin: DeGruyter.

Douglas, B. 1979. Rank, Power and Authority: A Reassessment of Traditional Leadership in South Pacific Societies. *Journal of Pacific History* 14(1): 2-27.

Fox, J. J. 1984. Possible Models of Early Austronesian Social Organization. *Asian Perspectives* 26(1): 35-43.

Fox, J. J. 1995. Austronesian Societies and their Transformations. In *The Austronesians: Historical and Comparative Perspectives*. Edited by P. Bellwood, J. J. Fox, and D. Tryon. 214-228. Canberra: Research School of Pacific Studies, Australian National University.

Fox, J. J. 2009. The Discourse and Practice of Precedence. In *Precedence: Social Differentiation in the Austronesian World*. Canberra: Edited by M. P. Vischer. 91-110. ANU E Press.

Gallego, M. K. S. 2015. Philippine Kinship and Social Organization from the Perspective of Historical Linguistics. *Philippine Studies: Historical and Ethnographic Viewpoints* 63(4): 477-506.

Goldman, I. 1970. *Ancient Polynesian Society*. Chicago: University of Chicago Press.

Gray, R. D., A. J. Drummond and S. J. Greenhill. 2009. Language Phylogenies Reveal Expansion Pulses and Pauses in Pacific Settlement. *Science* 323(5913): 479-483.

Green, R. C. 1991. Near and Remote Oceania – Disestablishing 'Melanesia' in Culture History. In *Man and a Half: Essays in Pacific Anthropology and Ethnobiology in Honour of Ralph Bulmer*. Edited by A. Pawley. 491-502. Auckland: Polynesian Society.

Grimes, B. (ed.) 1992. *Ethnologue: Languages of the World* (12th edition). Dallas: Summer Institute of Linguistics.

Guiart, J. 1963. *La Chefferie en Mélanésie du Sud*. Vol. 1. Paris: Institut d'ethnologie, Musée de l'Homme.

Gunawan, I. 2000. *Hierarchy and Balance: A Study of Wanokaka Social Organization*. Canberra: Research School of Pacific Studies, Australian National University.

Hage, P. 1999. Reconstructing Ancestral Oceanic Society. *Asian Perspectives* 38(2): 200-228.

Hays, T. E. (ed.) 1991. *Encyclopedia of World Cultures*, *Vol. 2: Oceania*. Boston: G.K. Hall & Co.

Holmes, J. H. 1924. *In Primitive New Guinea*. London: Seeley Service.

Huang, Y. 1986. Two Types of Social Systems among Taiwan Aborigines and Its Implications. In *Essays of Taiwanese Aboriginal Social and Cultural Studies*. Edited by Y. Huang. 1-43. Taipei: Linking. (In Chinese)

Huang, Y. 1995. The 'Great Men' Model among the Bunun of Taiwan. In *Austronesian Studies Relating to Taiwan*. Edited by P. Li. 59-107. Symposium Series of the Institute of History and Philology no. 3. Taipei: Academia Sinica.

Hung, H. and K. D. Nguyen, P. Bellwood, M. T. Carson 2013. Coastal Connectivity: Long-term Trading Networks across the South China Sea. *The Journal of Island and Coastal Archaeology* 8(3): 384-404.

Keesing, R. 1985. Killers, Big Men, and Priests on Malaita: Reflections on a Melanesian Troika System. *Ethnology* 24(4): 237-252.

Kirch, P. V. 1984. *The Evolution of the Polynesian Chiefdoms*. Cambridge: Cambridge University Press.

Kirch, P. V. and R. C. Green. 1987. History, Phylogeny, and Evolution in Polynesia. *Current Anthropology* 28(4): 431-456.

Kirch, P. V. and R. C. Green. 2001. *Hawaiki, Ancestral Polynesia: An Essay in Historical Anthropology*. Cambridge: Cambridge University Press.

Lambert, P. 1900. *Moeurs et Superstitions des Néo-calédoniens*. Nouvelle Imprimerie Nouméenne.

Lansing, S. and M. P. Cox, T. A.de Vet, S. S. Downey, B. Hallmark, H. Sudoyo. 2011. An Ongoing Austronesian Expansion in Island Southeast Asia. *Journal of Anthropological Archaeology* 30(3): 262-272.

Lapian, A. B. 1994. Bacan and the Early History of North Maluku. In *Halmahera and Beyond*. Edited by L. E. Visser. 11-12. Leiden: KITLV Press.

Li, P. 2015. Linguistic and archaeological evidence for rice and millet in Taiwan. *Taiwan Journal of Indigenous Studies* 8(4): 1-9.

Lichtenberk, F. 1986. Leadership in Proto-Oceanic Society: Linguistic Evidence. *The Journal of the Polynesian Society* 95(3): 341-356.

Lilley, I. 1985. Chiefs without Chiefdoms? Comments on Prehistoric Sociopolitical Organization in Western Melanesia. *Archaeology in Oceania* 20(2): 60-65.

Lipson, M. and P. Loh, N. Patterson, P. Moorjani, Y. Ko, M. Stoneking, B. Berger, D. Reich 2014. Reconstructing Austronesian Population History in Island Southeast Asia. *Nature Communications* 5: 4689.

Lipson, M. and P. Skoglund, M. Spriggs, F. Valentin, S. Bedford, R. Shing, H. Buckley, I. Phillip, G. K. Ward, S. Mallick, N. Rohland, N. Broomandkhoshbacht, O. Cheronet, M. Ferry, T. K. Harper, M. Michel, J. Oppenheimer, K. Sirak, K. Stewardson, K. Acukland, A. V. S. Hill, K. Maitland, S. Oppenheimer, T. Parks, K. Robson, T. N. Williams, D. J. Kennett, A. J. Mentzer, R. Pinhasi, D. Reich 2018. Population Turnover in Remote Oceania Shortly After Initial Settlement. *Current Biology* 28(7): 1157-65.

Lutkehaus, N. 1990. Hierarchy and 'Heroic Society': Manam Variations in Sepik Social Structure. *Oceania* 60(3): 179-197.

Martin, K. 2013. *The Death of the Big Men and the Rise of the Big Shots: Custom and Conflict in East New Britain*. New York/Oxford: Berghahn.

McDowell, N. 1990. Competitive Equality in Melanesia: An Exploratory Essay. *The Journal of the Polynesian Society* 99(2): 179-204.

Mosko, M. 1992. Motherless Sons: 'Divine Kings' and 'Partible Persons' in Melanesia and Polynesia. *Man* 27: 697-717.

Oliver, D. L. 1955. *A Solomon Island Society: Kinship and Leadership among the Siuai of Bougainville*. Cambridge: Harvard University Press.

Parke, A. L. 1987. Fijian Ranked Societies. Traditional Accounts and Archaeological Correlates. Unpublished B.A. thesis, Australian National University, Canberra.

Pawley, A. 1982. Rubbish-man, Commoner, Big-man, Chief? Linguistic Evidence for Hereditary Chieftainship in Proto-Oceanic Society. *Oceanic Studies: Essays in Honour of Aarne A. Koskinen*. Edited by J. Siikala. 33-53. Transactions of the Finnish Anthropological Society 11. Helsinki: Finnish Anthropological Society.

Pawley, A. 1999. Chasing Rainbows: Implications of the Rapid Dispersal of Austronesian Languages for Subgrouping and Reconstruction. In *Selected Papers from the Eight International Conference on Austronesian Linguistics*. Edited by E. Zeitoun and P. Li. 95-138. Symposium Series of the Institute of Linguistics, Academia Sinica. Taipei: Academia Sinica.

Posth, C. and K. Nägele, H. Colleran, F. Valentin, S. Bedford, K. W. Kami, R. Shing, H. Buckley, R. Kinaston, M. Walworth, G. R. Clark, C. Reepmeyer, J. Flexner, T. Maric, J. Moser, J. Gresky, L. Kiko, K. J. Robson, K. Auckland, S. J. Oppenheimer, A. V. S. Hill, A. J. Mentzer, J. Zech, F. Petchey, P. Roberts, C. Jeong, R. D. Gray, J. Krause, A. Powell 2018. Language Continuity despite Population Replacement in Remote Oceania. *Nature Ecology & Evolution* 2(4): 731-40.

Reid, L. 2013. Who Are the Philippine Negritos? Evidence from Language. *Human Biology* 85(1-3): 329-358.

Robbins, J. 1994. Equality as a Value: Ideology in Dumont, Melanesia and the West. *Social Analysis: The International Journal of Social and Cultural Practice* 36: 21-70.

Sagart, L. 2003. The Vocabulary of Cereal Cultivation and the Phylogeny of East Asian Languages. *Bulletin of the Indo-Pacific Prehistory Association, Indo-Pacific Prehistory Association* 23 (1): 127-136.

Sahlins, M. 1958. *Social Stratification in Polynesia*. American Ethnological Society Monograph 29. Seattle: University of Washington Press.

Sahlins, M. 1963. Poor Man, Rich Man, Big-Man, Chief: Political Types in Melanesia and Polynesia. *Comparative Studies in Society and History* 5: 285-303.

Sand, C. 1995. *'Le temps d'avant': Préhistoire de la Nouvelle-Calédonie*. Contribution à l'étude des modalités d'adaptation et d'évolution des sociétiés océaniennes dans un archipel du Sud de la Mélanésie. Paris: Editions L'Haramattan.

Sand, C. 1997. Variété de l'habitat Ancien en Nouvelle-Calédonie: Étude de Cas sur des Vestiges Archéologiques du Centre-Nord de la Grande Terre. *Journal de la Société des Océanistes* 104(1): 39-66.

Sand, C. 2000. Reconstructing 'Traditional' Kanak Society in New Caledonia: The Role of Archaeology in the Study of Human Contact. In *The Archaeology of Difference: Negotiating Cross-Cultural Engagements in Oceania.* Edited by R. Torrence and A. Clarke. 51-78. New York: Routledge.

Sand, C. 2002. Melanesian Tribes vs. Polynesian Chiefdoms: Recent Archaeological Assessment of a Classic Model of Sociopolitical Types in Oceania. *Asian Perspectives* 41(2): 284-296.

Sather, C. 1993. Posts, Hearths and Thresholds: The Iban Longhouse as a Ritual Structure. In *Inside Austronesian Houses: Perspectives on Domestic Designs for Living*. Edited by

J. J. Fox, 67-119. Canberra: Research School of Pacific Studies, Australian National University.

Scaglion, R. 1996. Chiefly Models in Papua New Guinea. *The Contemporary Pacific* 8(1): 1-31.

Sheppard, P., R. Walter, and N. Nagaoka. 2000. The Archaeology of Head-hunting in Roviana Lagoon. *Journal of the Polynesian Society* 109(1): 9-37.

Soares, P. A. and J. A. Trejaut, T. Rito, B. Cavadas, C. Hill, K. K. Eng, M. Mormina, A. Brandão, R. M. Fraser, T. Wang, J. Loo, C. Snell, T. Ko, A. Amorim, M. Pala, V. Macaulay, D. Bulbeck, J. F. Wilson, L. Gusmão, L. Pereira, S. Oppenheimer, M. Lin, M. B. Richards 2016. Resolving the Ancestry of Austronesian-speaking Populations. *Human Genetics* 135(3): 309-326.

Spriggs, M. J. T. 1993. Island Melanesia. The last 10,000 years. In *A Community of Culture. The People and Prehistory of the Pacific*. Edited by M. J. T. Spriggs et al. 187-217. Occasional Papers in Prehistory 21. Canberra: ANU Press.

Spriggs, M. J. T. 2000. Out of Asia: The Spread of Southeast Asian Pleistocene and Neolithic Maritime Cultures in Island Southeast Asia and the Western Pacific. *Modern Quaternary Research in South East Asia* 16: 51-75.

Tan, S. K. 2008. *A History of the Philippines*. Quezon City: University of the Philippines Press.

Tsang, C. and K. Li, T. Hsu,Y. Tsai, P. Fang, Y. C. Hsing 2017. Broomcorn and Foxtail Millet were Cultivated in Taiwan about 5000 Years Ago. *Botanical Studies* 58(3): 1-10.

Villiers, J. 1990. The Cash-crop Economy and State Formation in the Spice Islands in the Fifteenth and Sixteenth Centuries. In *The Southeast Asian Port and Polity: Rise and Demise*. Edited by J. Kathirithamby-Wells and J. Villiers. 83-105. Singapore: Singapore University Press.

Williams, F. E. 1924. *Natives of the Purari Delta*. Territory of Papua Anthropology Report no. 5. Port Moresby: Government Printer.

Williams, F. E. 1940. *Drama of Orokolo: The Social and Ceremonial Life of the Elema*. Territory of Papua Anthropology Report no. 18. Oxford: Clarendon Press.

Williamson, R. W. 1912. *The Mafulu: Mountain People of British New Guinea*. London: MacMillan.

Wurm, S. A. and S. Hattori (gen. eds.) 1981. *Language Atlas of the Pacific Area. Part I. New Guinea Area, Oceania, Australia*. Pacific Linguistics C66. Canberra: Australian National University.

Yang, S. 2005. Political Systems of Highland Taiwan: Preliminary Analysis of the Bunun Case. *Taiwan Journal of Anthropology* 3(1): 185-219. (In Chinese)