

Musical instruments and musical practice as markers of the Austronesian expansion post-Taiwan

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Roger Blench
Mallam Dendo
8, Guest Road
Cambridge CB1 2AL
United Kingdom
Voice/ Fax. 0044-(0)1223-560687
Mobile worldwide (00-44)-(0)7967-696804
E-mail R.Blench@odi.org.uk
<http://www.rogerblench.info/RBOP.htm>

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ABSTRACT

Musical instruments constitute an effective marker of the Austronesian expansion across the Pacific. A previous paper has considered instruments originating in Taiwan; the present paper explores instruments apparently developed following movement out of Taiwan. These are most typically the idiochord tube-zither, drums, vertical duct-flutes and struck hanging bamboo tubes. The paper uses current distributions to interpret past population movements. It also considers issues such as the chronology of the spread of gongs in the Austronesian region and musical innovations marking the Polynesian expansion.

1. Introduction

The study of material culture and cultural institutions in a comparative frame can contribute to the study of prehistory in the same way as genetics and linguistics. These disciplines are gradually being admitted into archaeological space but comparative material culture is still the subject that dare not speak its name. Because archaeologists dig up physical objects such as pots, when considering material culture in its ethnographic setting they tend to concentrate on comparable items which can be excavated. But many types of material culture inevitably have a very limited presence in the archaeological record; nonetheless there is every reason to consider they were integral to the societies whose lifeways we are trying to reconstruct. Musical instruments represent a particularly interesting case, because their marked morphology can be unambiguously identified and thus effectively compared. Moreover, the findings of ethno-organology suggest that human beings are relatively uninventive in terms of instruments (all the lutes in the world can be traced back to a single source) and convergence is thus not a major problem. If we apply this to the expansion of a particular language phylum which has a strong archaeological correlates, such as Austronesian, it should be possible to piece together the relations between the expansion of the phylum and its changing musical culture.

Two previous papers (Blench in press a, b) have considered the way musical instruments can be used as markers for the reconstruction of prehistory in the Indo-Pacific region. In particular, Blench (in press b) explored the reconstruction of musical practices in the Austronesian region that could be traced back to Taiwan. The present paper¹ follows up this theme, describing instruments that appear to be typical of the Austronesian region but which are not attested in Taiwan. The paper considers a sample of instruments to establish the types of evidence that can be used and the conclusions that can be drawn; there are many more instrument types that can be potentially investigated. Some instruments can be clearly identified as developing within the Austronesian region and track its expansion routes. Some instruments share distributions with South China and these may reflect the early interaction sphere with the Philippines which is also mirrored in the transfer of rice technology. Some striking discontinuous distributions seem to be related to the very rapid expansion of Austronesian post-Taiwan. Instruments such as the gong and the duct-flute, while highly marked in synchronic ethnography, are later introductions that have spread in the region in a direction contrary to the presumed thrust of Austronesian expansion.

Typical sources for Austronesian lexical reconstruction such as Blust (1995) do not provide much evidence for names of musical instruments. In part, this is because lexicographers have not shown much interest in musical instruments and they are often poorly described. I have not appended all the linguistic data collated during the course of this research as this would be lengthy; however, there are a few clear cases where instrument names can be reconstructed and this data is given in Appendix 1.

Documentation for the information in this paper is extremely scattered. Major syntheses include Sachs (1928), Kaudern (1927) (for Sulawesi), Kunst (1973) (for Java) and Maceda (1998) for the Philippines. Much information can be gathered from the sleeves of LPs and CDs and from individual papers referred to in the text. Needless to say, it is not easy to access regional publications in all of the countries covered in this paper, nor is it always possible to obtain out-of-print LPs and CDs. Nonetheless, there are major gaps in our knowledge of the region, notably on Sumatra, Borneo and many of the smaller islands off New Guinea. So I fully expect some of the distributional data to change as our knowledge develops.

¹ This paper is a revised version of a paper presented in Session 5I at the 18th IPPA, held in Manila, the Philippines, March 20-26, 2006. I am grateful to the audience for comments made within the conference. I am particularly grateful to the Department of Music, UP Diliman, for an opportunity to photograph the musical instruments in the Jose Maceda archive, following the conference. I am also grateful to the staff at the Yunnan Museum of Nationalities in Kunming, especially to Yang Xiao, who assisted me to photograph the musical instruments in their collection.

2. Something on methods

Material culture studies tend to be synchronic in nature; more attention is given to the use of tin cans in society than to the historical process where such cans came to be diffused worldwide in a short period of time. In more recent times, the spread of material culture has been completely delinked from demographic movement through the operations of multi-national businesses. The internet is the last stage in a process which makes everything available everywhere all the time. But in the recent past, the establishment of the great language phyla of the world was in part associated with movement of populations and in turn the spread of languages and associated cultural elements.

The assumption that this was the case was hot news in 1900 and up to the 1930s, the pages of such journals as *American Anthropologist* were replete with arguments concerning diffusion versus independent invention. At the same time, the German and Swedish schools of material culture studies, *Kulturkreislehre* et al., actively trawled ethnographic and museum material to produce distribution maps. Within the Anglo-American tradition such studies began to die during the 1930s, assassinated by an effective campaign by social anthropology to claim that they was all about the Egyptians transporting pyramids to worldwide destinations. Although work continued in northern Europe up to the 1970s, it had already lost heart and none of the authors seemed any longer to know why they were collating this data².

Part of the reason was that no effective explanatory models underlay these vast assemblages of data. Musicologists like Kurt Sachs (1928) were quite happy to posit improbable cultural layers such ‘proto-Polynesian-Californian’ without regard as to whether this was historically probable. But from the 1990s, the alliance of archaeology, genetics and linguistics has provided just such a frame. If it is the case that Austronesian or Indo-European or Uto-Aztecan can be modelled as a historical expansion of people and culture as well as language then it is possible that the distribution of material culture will be correlated with these other elements. At any rate, there is now a vast wealth of literature to be mined.

It is important not to confuse this with conventional diffusionism, which is typically concerned with ‘high-culture’ elements that are most likely to have spread (or not) well after the establishment of the major language phyla. For example, it can be reasonably discussed whether lutes and harps reached sub-Saharan Africa from Ancient Egypt, but no-one considers that the spread of these instruments is associated with the Afroasiatic language phylum. Blow-pipes in SE Asia and Amazonia might be connected via ancient sea-routes but a Pleistocene trip via the Bering Strait is not generally envisaged by either side. The argument is that there are certain items of material culture that are of sufficient antiquity that they were carried, literally, by the movement of speakers as the phylum evolved. In certain cases, for example, the movement of Polynesians to uninhabited islands, this meets with little resistance. The argument here is to simply read back this process further in time.

The objection conventionally urged against such models is that it is impossible to control for independent invention. While a language cannot be duplicated, it is quite imaginable that two basket weavers in different parts of the world would reach the same solution when constructing a fish-trap. The remarkable parallels between urban cultures in the pre-Hispanic New and Old Worlds suggest that rather complex technologies (weaving etc.) can arise at least twice. In understanding the likelihood of independent invention, negative evidence is a key tool. Ethnographers may claim that such a culture trait ‘could’ be reinvented over and over again; but is this typically the case? Negative evidence suggests strongly that the worldwide distribution of many traits is so skewed that even apparently simple technologies are *not* invented over and over again. With a dramatic increase in ethnographic data during the twentieth century it is now possible to make much more effective use of negative evidence.

A good example of this is the duct-flute, a flute operating on the principle of the recorder of Western art music. It occurs in many forms all across the world, with the sole exception of Africa and Australia. Despite the fact that almost every one of Africa’s two thousand or more ethnic groups plays some sort of flute, an

² An extreme case might be the great Swedish ethnographer, Sture Lagercrantz, who towards the end of his career produced a study of the early use of the gramophone in Africa.

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unambiguous example of the duct-flute has yet to be recorded. This strongly suggests that such concepts, no matter how apparently simple, are *not* reinvented over and over again. An inverse example is the *mbira*, *sansa* or thumb-piano, a distinctive African invention known from Senegambia to South Africa but found nowhere outside Africa. Of non-musical examples, the blow-pipe and the spear-thrower occur in both Eurasia and the Americas, but nowhere in Africa.

In other words, there is a low index of reinvention. Once a trait is lost at a key point, it is not magically reinvented and an entire landmass can be without it. In principle, this ought to be testable mathematically; indeed early twentieth century ethnographers gave some thought to this issue (e.g. Clements et al. 1926; Steward 1929; Hobhouse et al. 1930; Rands & Riley 1958). It can be foreseen that the arguments might well get bogged down in discussions over the uniqueness or otherwise of individual traits. But in terms of methodology, the interest is that these absences from the ethnographic record are parallel to bottlenecks, genetic and linguistic. A genetic bottleneck is when the reduction and re-invigoration of a population eliminates certain genes because they were absent in the founder population and allows others to spread at high frequencies through the population. Bottlenecks can be anything lacking the potential for reverse or further flows of information. This example underlines the limits of human creativity and the importance of bottlenecks in accounting for distributions; the paper provides a number of examples where the loss of a musical instrument in the Oceanic languages has meant its disappearance from the Pacific ethnography.

3. The Austronesian expansion

Austronesian is essentially a linguistic concept that has gained considerable currency in archaeology and genetics. It is widely accepted that a large number of languages (ca. 1000), spread from Taiwan to Easter Island via Madagascar are closely related, and that their likely homeland is Taiwan, where much the greatest diversity is found, linguistically speaking. There has been considerable argument as to the extent to which the spread of Austronesian languages is demographic as opposed to cultural. This must be largely true in Polynesia, where seafarers sailed to generally uninhabited islands. However, in Taiwan, the Philippines, Borneo and much of insular SE Asia where only Austronesian languages are now spoken, there were resident hunter-gatherers of presumably 'Papuan' type, represented by the few remaining Negrito groups. The many Pleistocene rock-shelters recorded throughout the region are presumably associated with the Negrito populations. A great many linguists and some archaeologists think that these populations were largely overwhelmed, for there seem to be few traces of their underlying culture or their physical type remaining, at least until the expanding Austronesians encountered more numerous agricultural peoples in Melanesia.

Comparative ethnography has been less exploited in the quest to understand Austronesian expansion. There are widespread cultural features in the region that hardly survive in the archaeological record but whose distribution also shows significant commonalities with the languages. Anthropologists are no longer engaged in this type of ethnological research and no other discipline has reached out to catch the ball dropped by social anthropology. Many of the most valuable references therefore date from the 1920s and 1930s and were published in currently little-read German and Dutch journals. The only real exception has been boat-forms; these at least have been subjected to an intensive comparative analysis (e.g. and ethnographic data has been combined with archaeology to generate hypotheses about the techniques and pattern of Austronesian seafaring).

Insular SE Asia is extremely rich in musical instrument types and the tuned percussion ensembles of Indonesia and elsewhere are justly famous. But the homeland of Austronesian, aboriginal Formosa³, constitutes an exception, instruments are very few and their music is usually solo, played for personal amusement rather than in ensembles or to accompany rituals. This has had the effect of creating a bottleneck in terms of their instrumentarium. Once diverse and complex societies re-evolved in the Philippines and beyond, the exiguous nature of these musical practices was an open niche waiting to be

³ I use 'Formosa(n)' to refer to the indigenous languages and peoples of Taiwan and 'Taiwan' to refer to the modern political and geographical entity.

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filled. Although many new instruments were invented and adopted there, it was the influence of mainland SE Asia that created the truly elaborated musics of Java and Sumatra. The encounter with agricultural Melanesia represents another major wave of influence; some instruments were lost in this encounter and others adopted. Further along the chain, the Polynesians too represent a curiously stripped-down version of Austronesian musical culture which has yet to be explained.

4. Musical legacy of Taiwan

There are a variety of musical instruments, practices and dances that are highly characteristic of the Austronesian area, especially the region Taiwan to Indonesia. Some of these are spread all the way from Taiwan to Polynesia, creating an exceptional correlation with the hypothesis of Austronesian expansion. At the same time, they are also found on the mainland in South China and occasionally further afield. These have been described in Blench (in press) and are summarised in Table 1;

Table 1. Austronesian musical instruments and dance attested in Taiwan

Instrument or form	SE Asian mainland distribution	Extra-Formosan distribution
Polyphonic choral singing	South China	No
Multi-tongue Jews' harp	South China	No
4/5 note leg-xylophone	Taiwan	Philippines, Sumatra, Madagascar, New Britain
Stick-jumping dance	South China, Myanmar	Philippines, Indonesia
Double nose-flute	South China	No
Board-zither	South China	Indonesia
Stamping tubes	South China	Indonesia, Melanesia
Bamboo slit-gong	South China	Pan-Austronesian

Adapted from Blench (in press)

However, there are many highly characteristic Austronesian musical instruments that do not occur in Taiwan but which are still strongly correlated with the area of Austronesian expansion. The main argument of this paper develops a series of hypotheses concerning these instruments.

5. Post-Taiwan expansion

5.1 General

This is not the place to discuss the Austronesian expansion in detail, but the key elements are a movement out of Taiwan by around 3800 BP to the Northern Philippines. An apparently very rapid settlement of the Philippines, an excursion eastwards in Micronesia to settle the Marianas, further movement south into the Malay peninsula, into Borneo and the Indonesian islands, and thence, apparently rapidly to the Bismarcks, where the Oceanic languages begin their expansion. By 3200 BP, the Austronesian speakers reach Fiji and Rotuman and from there Polynesia is settled. However, it seems there was a significant halt in the Tonga/Samoa area, for further expansion is only documented a thousand years later, which accounts for the numerous lexical innovations in Polynesian. It appears that the first settlement of New Caledonia was 3000 BP, which bespeaks an astonishingly rapid movement. Speakers of Austronesian languages also returned to the mainland, in what is now Việt Nam, earlier than 2000 BP, leading to the development of the Chamic languages as well as the Champa kingdom. By at least the 7th century AD, Austronesian voyagers, apparently as a result of the Śrīvijaya Malay, crossed the Indian Ocean and settled Madagascar. There is strong indirect evidence for the presence of Austronesians on the East African coast prior to this date, perhaps by 0 AD.

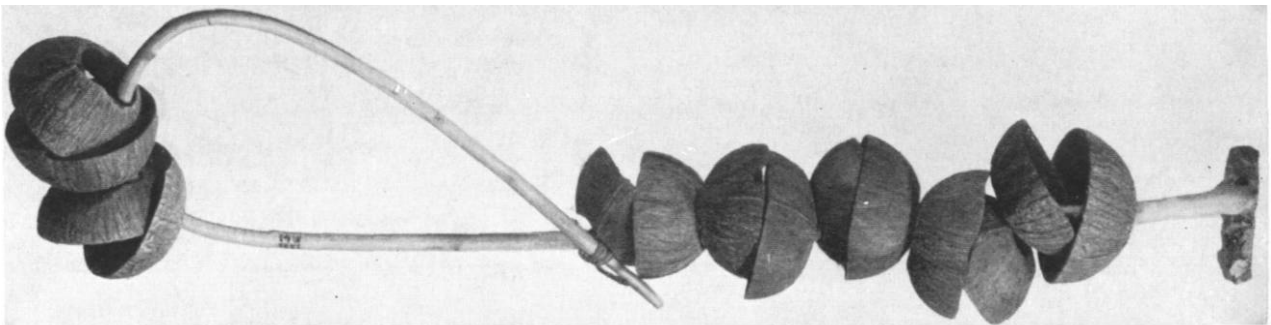
5.2 Instruments

5.2.1 Idiophones

5.2.1.1 Shark-sistrum

A highly distinctive feature of much of the Oceanian culture area is shark-calling. Individuals or groups are deemed to have particular relations with sharks and to be able to call them by means of the shark-sistrum (Photo 1). These are cane-loops with rattling materials threaded on the loop and are held in the hand and rattled (underwater?). These are recorded from the Sulu region, Biak, New Britain, New Ireland and Samoa and probably exist in intermediate areas (Sachs 1928; Collaer 1965:78; Kunst 1967).

Photo 1. Samoan shark-sistrum



5.2.1.2 Concussion-buzzer

The concussion-buzzer is made from an internode of split bamboo, with part of the side-wall cut away so that two long project tongues emerge from a cylindrical base. At the point where the tongues joined the entire cylinder, the bamboo wall is split so that when the tongues vibrate a buzzing noise is created. When the instrument is struck against the palm of the hand a prolonged buzzing results with a discernible pitch and these instruments are sometimes played in graded ensembles (Photo 2). This instrument is unique to this region and is found nowhere else in the world. The buzzer has recently become a favourite of tourist souvenir shops and they are now made in great numbers in the Philippines. However, older ones are richly decorated and were obviously held in great esteem. The distribution of the concussion-buzzer is very intriguing as it occurs in Luzon, Nias, Sulawesi and among the Orang Asli in the Malay Peninsula (Maceda 1998; Kaudern 1927; Sachs 1928). Although this is typical of the Austronesian region, it seems difficult to explain why it should have disappeared from so much of the central area of the Philippines and somehow bypassed Borneo.

Photo 2. Ensemble of concussion-buzzers in the Philippines



5.2.1.3 Gong

The gong is a circular bronze percussion instrument with indefinite pitch, usually with a deep rim and a boss (Simbriger 1939). The earliest gong, *luo*, that has been excavated is from the Luobuwan site in Guangxi Province in southwestern China (Wu 2002:111) dating from the early Han Dynasty (i.e. after 202 BC).

Typically in Java and related area, gongs are arranged in tuned sets and mounted in a frame as part of the well-known gamelan ensemble. The gamelan itself is probably likely to be quite a recent construct (Blench in press a). In the Philippines, Borneo, Sulawesi and some other Indonesian islands collections of gongs owned by individuals are brought together in ensembles (Kaudern 1927; Maceda 1998). These are not tuned as such, but simply represent a range of graded pitches. In the southern Philippines and Kalimantan they are arranged in a single row of tuned gongs known as *kulingtangan* (Frame 1982; Maceda 1998). This seems to have spread northwards from Java as it resembles the *bonang* gong-frames typical of Indonesia.

Photo 3. Old gongs, Palawan



Despite their distribution, gongs are almost certainly not present in the first wave of Austronesian expansion. On chronological grounds, the type of bronze technology required to make them had not been developed by the putative period of early expansion (3800 BP). It seems likely that they were developed and spread on the mainland and made their way gradually eastwards to the islands in a series of trade flows. The development of tuned sets of gongs may be a typical Javanese development that spread back the mainland (when they are used by the Mon and illustrated on wall-carvings in Angkor Wat) as well as underlying the *kulingtangan*.

5.2.2 Membranophones

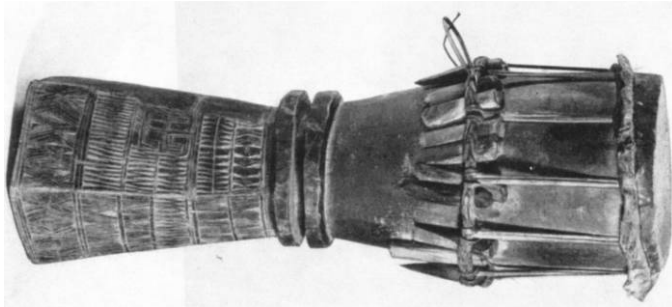
5.2.2.1 The wedge-laced drum

Drums were unknown in Taiwan so they seem to have been innovated in the post-Formosan region. Although drums are very common and clearly ancient in mainland cultures, a particular type of drum evolved in the Austronesian region, the wedge-laced drum (Photo 4). A skin or cane network is attached to the head and a series of wedges are inserted between the network and the wall of the drum. The deeper the wedges are inserted, the tighter the head of

Photo 4. Wedge-laced drum, Palawan



Photo 5. Wedge-laced drum, Birds Head Peninsula



the drum. In world terms, this system of fixing drum-heads is extremely rare, and only otherwise occurs in West Africa and related diaspora regions. Drums with similar systems of tensioning the head occur in the Philippines, Sulawesi, Borneo, and much of Indonesia. The furthest extent seems to be the Bird's Head Peninsula in West Papua (Collaer 1965: ill. 80 and Photo 5). They are unknown in the heartlands of Melanesia and Polynesia, where systems of glueing and lacing are the norm. Linguistic evidence for drum names is sometimes hard to interpret, Spanish terms seems to have spread widely through this region, probably originally applied to double-headed barrel drums of military origin. Thus we find terms such as *tambul* (tambor) and *bombo* also applied to Austronesian drums. Nonetheless, the term *kimbal* in Ibaloi in Luzon is clearly cognate with *gimbal* (Batak in Palawan) and Mamanwa *gimbar* in Mindanao. Both the drum and the name can be reconstructed with some confidence to proto-Philippines.

5.2.3 Chordophones

5.2.3.1 Musical bow with resonator

The musical bow consists of plucking a hunting bow while using the mouth as a resonant cavity to selectively emphasise different harmonics. The Dumagat people in Luzon still use this type of mouth-bow, which is also found in Africa and the New World. A primary development of this form is the gourd-resonated musical bow, where a dried gourd, coconut-shell or tin can is attached to the bow and the string struck with sticks. The resonator is open at the base and placed against the chest, thus muffling or amplifying the sound. This instrument is recorded from Luzon in the Northern Philippines (Maceda 1998 and Photo 6) and nowhere else in the Austronesian region except on the island of Guam in the Marianas (Collaer 1965 and Photo 7). It is now

Photo 6. Musical bow with resonator, Northern Philippines



recognised that the Marianas were settled very early from the Northern Philippines, for which there is now both archaeological and linguistic evidence (Craib 1993; Blust 2000a). The unique distribution of this type of musical bow argues strongly that it was carried to Guam at the period of first settlement.

Photo 7. Gourd-resonated bow, Guam



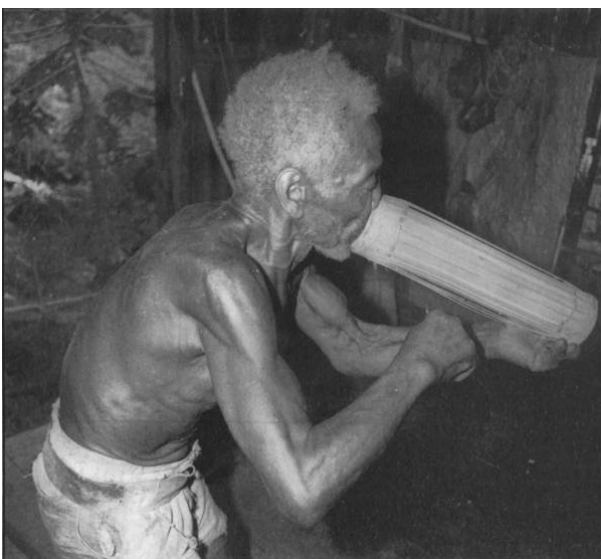
5.2.3.2 The idiochord tube-zither

The idiochord tube-zither is a bamboo internode with strings raised up from the epidermis (hence the term idiochord) between two internodes. Small wooden bridges are inserted under the strings both to lift them from the surface of the bamboo and to tune them. Tube-zithers can have 6-20 strings and are usually played with two hands. In Madagascar, the tube-zither has something of the status of a national instrument and the bamboo strings have been replaced with piano-wire. Many elaborated types have been developed, including a box-zither based on the tube-zither, chromatic zithers and zithers with

Photo 8. Malagasy tube-zither, *valiha*



Photo 9. Seychellois blown tube-zither



tuning-pegs. Curiously, the Malagasy name of the instrument, *valiha*, derives from Sanskrit *vāḍiḍya*, 'musical instrument', and is not related to the Austronesian names. All these developments are relatively recent and the basic type is still widely played in the Philippines and Indonesia.

The broader distribution of the tube-zither is Philippines, Indonesia, Madagascar, South China and Việt Nam. The Aslian groups of the Malay peninsula also play the tube-zither, although not the surrounding Malay. Maceda (1998:200-201) has plotted the distribution of the tube-zither in the Philippines as well as providing a large number of vernacular names. Within this region there are some fascinating

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discontinuities. For example, the tube-zither is played in Luzon, Palawan and Mindanao, but appears to be entirely absent throughout the central islands of the Philippines. Its presence in Madagascar is presumably due to the migrations of the Maanyan, one of the Barito groups now thought to have been the main source of the peopling of the Great Isle. Tube-zithers are entirely absent in Melanesia and Polynesia, and Oceanic speakers had probably already lost this instrument when they began their expansion.

The Seychelles are not usually considered part of the Austronesian zone, but a curious piece of evidence suggests a link, probably with Madagascar, perhaps through the slave trade. Photo 9 shows a remarkable Seychellois tube-zither, one of the disappearing *anciens instruments*, which is now used as a type of end-blown horn. The instrument retains the organological properties of the Austronesian tube-zither but these are no longer understood by the players.

5.2.3.3 The struck idiochord tube-zither

This unusual instrument is made in a similar fashion to the polychordal tube-zither, but it has only one or two strings, supported by a common bridge, and is not intended to be tuned. The noise is typically an indeterminate buzzing sound. The strings are either plucked with the fingers or beaten with two light sticks, rather like a slit-gong. In the Philippines at least, these instruments are used to scare birds away from the corn (Maceda 1998:208). They occur through most of Indonesia including Sumatra, Nias and Sulawesi, but are only recorded in Melanesia from Biak (the Schouten islands) in a monochord form (Kunst 1967: ill. 17). Photo 10 shows an ensemble among the Karo which includes two struck zither, flute and clappers. In Java they have been organised in tuned sets, probably on the model of gongs or xylophones and are known as *gamelan bumbung* (Kunst 1973, II: ill. 116-118).

Photo 10. Karo struck zither ensemble, Sumatra

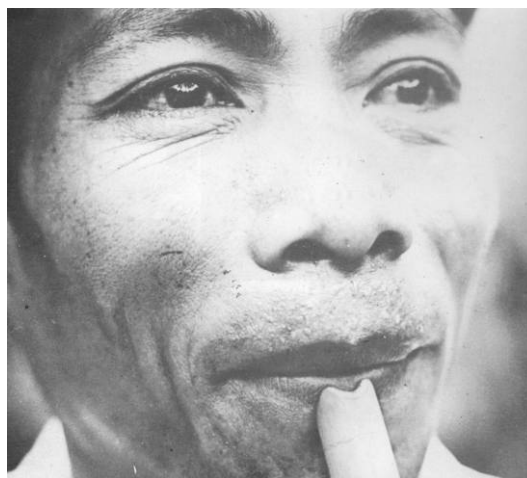


5.2.4 Aerophones

5.2.4.1 The notch-flute

The notch-flute is a hollow, cylindrical flute made from a reed with a V-shaped notch cut in the end which acts as an embouchure. Notch-flutes are found virtually throughout the Philippines, in Indonesia. It seems to be absent in New Guinea. The notch-flute is one of the few instruments where a linguistic reconstruction is possible; from Isneg in Luzon to Mamanwa in Mindanao, the name is *p-l-n-d-g, suggesting that the instrument was carried throughout the region (Maceda 1998: 178).

Photo 11. Notch-flute, Philippines



5.2.4.2 The panpipe

Panpipes are single-note tubes, closed at the base, bound together in sets. Typically in this region, there are four or five tubes and they are relatively short. The distribution of panpipes is very intriguing, since they are

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found in the Cordillera or Northern Luzon, both as bound sets and as distributed pipes, i.e. ensembles where each player holds a single pipe and the melody is composed by individual performers playing single notes in sequence (Maceda 1998:194). Panpipes are apparently absent in the rest of the Philippines and in Sulawesi although they are recorded in Java (Kunst 1973: ill. 141), but common in parts of New Guinea and the Solomons. In New Guinea, panpipes occur in the Sepik river area and on New Ireland (Kunst 1967:51). The panpipes of the Are'are of the Solomons have been extensively recorded and described by Hugo Zemp (1978). For Polynesia it seems that only museum specimens exist for Samoa (Moyle 1988:51) and Tonga (Moyle 1987). The Samoan instrument is known as *fa'a'aili*, the name for the more standard flute, making it difficult to pick up any clues from the vernacular names.

This gap in distribution leads to the question as to whether these occurrences of panpipes are connected. Between the Cordillera and the Sepik is a long distance for panpipes to be completely eliminated. Moreover, the Melanesian region has a whole spectrum of panpipe types. However, panpipes were recorded both in Fiji and in most of the Polynesian islands even as far as New Zealand, although they are moribund throughout this region. It may thus be that the early Austronesian panpipes are connected with South China (and the culture of rice-terraces) and that the panpipes of Melanesia are part of the ancient Papuan culture. Oceanic speakers would then have picked them up in the encounter with Papuans and they would have spread in turn to Fiji and Polynesia.

7. Conclusions

The Austronesians expanded rapidly across lightly inhabited territory and largely carried with them a repertoire of material culture. Following their departure from Taiwan they seem to have undergone a cultural explosion, for many new instruments were developed and were carried as the Austronesian people themselves moved south and began the peopling of Indonesia. Table 2 shows the instruments considered in this paper and their known distribution as well as my hypothesis as to whether they do in fact reflect the Austronesian expansion or are later introductions.

Table 2. Austronesian musical instruments attested outside Taiwan

Instrument	Distribution	Hypothesis
Shark-sistrum	Sulu, Biak, New Britain, New Ireland and Samoa	Innovated in Sulu and spread with Oceanic
Concussion-buzzer	Luzon, Nias, Sulawesi, Orang Asli	Innovated in the Philippines and spread through much of Indonesia, but lost in many regions
Gong	Philippines, Borneo, Java and most Indonesian islands, also extensive on mainland.	Not an Austronesian innovation but traded from the mainland and continually re-introduced
Wedge-laced drum	Philippines to West Papua	Innovated in the Philippines and spread through much of Indonesia to West Papua
Musical bow with resonator	Philippines Cordillera, Guam	Evolved from mouth-bow of Taiwan but rapidly died out. Unconnected to Papuan mouth-bows
Idiochord tube-zither	Philippines, Madagascar, Indonesia, Malay peninsula	Innovated in the Philippines and spread through much of Indonesia, but lost in Oceanic
Struck idiochord tube-zither	Philippines, Indonesia, Malay peninsula	Innovated in the Philippines and spread through much of Indonesia, but lost in Oceanic
Stick-zither	Sulawesi, Madagascar, East Africa	Innovated in Sulawesi? and spread through much of Indonesia, and to Việt Nam and East Africa, but lost in Oceanic
Notch-flute	Philippines, Indonesia, Malay peninsula, Melanesia	Innovated in the Philippines and spread through Indonesia and Melanesia
Panpipe	Luzon, Java, Melanesia, Polynesia	Although recorded in Luzon, absent from much of the Austronesian region and probably re-adopted after encounter with Papuan-speakers and then spread to Polynesia

The intention of this paper has been to give a flavour of what is possible with the plotting of material culture and its potential correlations with archaeology and linguistics. Much remains to be done.

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[N.B. CDs and their accompanying documentation are integrated into this bibliography]

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