Musical aspects of Austronesian culture

presented at the:

European Association of Southeast Asian Archaeologists 10th International Conference, London 14–17 September 2004

Roger Blench
Kay Williamson Educational Foundation
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

'If no songs were sung, it would be as if not-one existed'

Yami song
(Quoted in Laade 1991)

1. Introduction

Austronesian is a linguistic concept that has gained considerable currency in archaeology and genetics. It is widely accepted that a large number of languages (ca. 1000), spreading 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 (e.g. Blust 1995). There has been considerable argument as to the extent to which the spread of Austronesian languages is demographic. Although this must be largely true in Polynesia, where seafarers spread to generally uninhabited islands, in Taiwan, the Philippines, Borneo and much of insular SE Asia where only Austronesian languages are now spoken, there were resident hunter-gatherers of 'Papuan' type, represented by the few remaining Negrito groups. These are presumably to be identified with the inhabitants of the many Pleistocene rock-shelters recorded throughout the region, for example at Niah and Tabon caves. Many linguists and some archaeologists think that these *in situ* populations were largely overwhelmed by the incoming Austronesians, for there are few traces of their underlying culture or their physical type remaining in these regions. When the migrants encountered substantial agricultural settlements in Melanesia the evidence for cultural interchange is much clearer.

Although the pattern of Austronesian languages and a broad relationship with the prehistory of the region is widely accepted, much of the detail remains disputed. A contributory element that has been little exploited in the quest to understand Austronesian expansion is found in comparative ethnography, common cultural features that do not survive in the archaeological record but whose distribution in the region also has significant commonalties with the languages. Anthropologists no longer are engaged by this type of ethnological research and no other discipline has reached out to catch the ball dropped by social anthropology. Many valuable references 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) (e.g. Pawley & Pawley 1998).

Insular SE Asia is extremely rich in musical instrument types and the tuned percussion ensembles of Indonesia and elsewhere are justly famous for their rich music. Similarly, East Asia, China, Korea and Japan are widely known for their varied instrumentarium, focussing above all on strings and wind. But

aboriginal Formosa[1] constitutes the exception, instruments are few and their music is usually solo, played for personal amusement rather than in ensembles or to accompany rituals. Most Formosan peoples do not use octave-based scales but only three or four pitches, suggesting that the Austronesians set out from Taiwan with only a very limited musical armoury. Complexity, such as it is, comes from the polyphonic vocal styles which most groups (with the exception of the Yami) have developed. Just as the remaining Formosan peoples have highly diverse social organisation, so their choral styles are also surprisingly varied.

Despite this, there are commonalties both across the range of Austronesian and with South China, whence many archaeologists and linguists suppose the Austronesians must originally have migrated (Tsang 2005). This paper[2] looks at musicological evidence for Austronesian culture history, particularly the leg-xylophone, polyphonic choral singing, stick-dances and the nose-flute and suggests how musical practice might illuminate subsets of a history of migration. The focus is on instruments and practices that occur on Taiwan and can be traced in the Austronesian area. Many other characteristic instruments in this region, such as the tube-zither, undoubtedly reflect later stages of Austronesian migration and I hope to deal with these in another paper. Within the more limited span of the Oceanic languages, Osmond & Ross (1998) have looked at the linguistic evidence for a number of instruments, including the slit-gong, conch, panpipe, hourglass drum and Jews' harp. Only the slit-gong and Jews' harp are characteristic of Taiwan, and the evidence for Oceanic reconstructions is still rather unsatisfactory. There is, moreover the problem that instruments attested in Oceanic may well be typically Papuan as would seem to be the case with the hourglass drum. Hence, the Austronesian attestations may be widespread loans and not true reconstructible forms. Moreover, some instruments, such as the Jews' harp lend themselves to ideophonic or whimsical names, thereby reconstructing culturally but not linguistically. The antiquity of the Jews' harp in Europe is attested by a variety of archaeological finds, yet all the recorded names appear to be recent constructs.

2. Polyphonic choral singing

Ensemble music in the whole East Asia-Pacific region tends to be based on the heterophonic principle, that is instruments playing broadly the same melody but introducing a wide variety of variations, punctuated by a great variety of rhythm instruments. True polyphony, in the sense of different melodies sounding simultaneously, is very uncharacteristic of the region, although the panpipe music of the Solomons does sometimes develop two-part polyphony (Coppet & Zemp 1978). However, highly developed choral polyphony exists both in Taiwan[3] (Hsu 2002: 525) and in Yunnan in South China (Fan Zuyin 1994; Shen Qia 2002: 489). In both areas, the vocal polyphony is highly diversified, with canonic, drone and parallel intervals all featuring. Indeed in China, Zhang Xingrong (1997, 2001) reports a remarkable type of eight-part polyphony among the Hani which is almost without parallel in worldwide terms. The two regions share another important feature, the use of very restricted ambits in melodies,

[1] 'Formosa' is used to refer to the indigenous languages and peoples of Taiwan and 'Taiwan' to refer to the modern political and geographical entity.

[2] This paper was stimulated by my attendance at the 17th IPPA in Taipei, Taiwan in September 2002. I was kindly sponsored to attend by the Indigenous Peoples' Organisation, but illness prevented me from being present at the Round Table on Austronesian origins, which I profoundly regret. However, I was subsequently able to visit various museums, and the displays contributed to the data underlying the arguments in this paper. I hope this goes some way towards making amends for my absence at the Round Table. Bob Blust has kindly given me a number of useful suggestions relating to linguistic and ethnographic materials which have been incorporated. It was presented at the European Association of Southeast Asian Archaeologists 10th International Conference, London 14–17 September 2004 and subsequently revised.

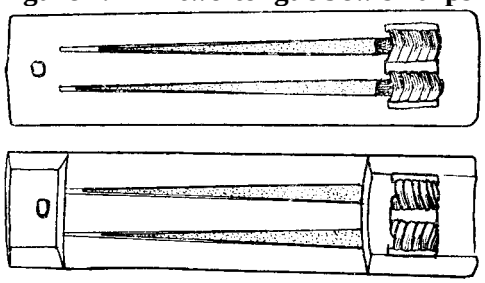
[3] These are all recorded on the remarkable 8 CD set *Music of the Aborigines on Taiwan island* recorded and annotated by Rung-Shun Wu in 1994 and issued on Wind Records (TCD 1501-8).

often not making use of the octave. Shen Qia (2002: 487) gives examples of 3,4 and 5-note ambits that are very similar to the restricted ranges found in Taiwan. Different mainland strategies might even be mapped against those of different Formosan groups, pointing to ethnically diverse migrations that brought these to Taiwan. It is of course possible that such vocal polyphony could have developed independently in both regions, but given its extreme rarity in the region as a whole, this is extremely unlikely. Linguistically there is presently no connection, since the minorities in South China speak a wide variety of non-Austronesian languages including those of the Daic, Miao-Yao, Sino-Tibetan and Austroasiatic phyla. If the original Austronesian homeland was in South China, then this highly unusual music was probably carried eastwards to Formosa at a very early period. Since such music is now unknown in the Philippines, it seems that it must have disappeared shortly after the arrival of the first migrants. Elsewhere, Schneider notes parallel part-singing in the Admiralties, the St. Matthias Group and among the Buin on Bougainville (transcribed in Collaer 1965: 32, 37) but these are probably local developments. Otherwise the nearest region where such music is known is probably Georgia at the edge of Europe.

Today there are no instrumental analogues of the polyphonic choral music in Taiwan itself, but on the mainland, there is a strong relationship between some types of vocal polyphony and the *shēng*, the multiple free-reed-pipe found amongst many groups. Indeed, Yuan Bingchang & Mao Jizeng (1986: 168 ff.) show a remarkable group of performers, combining two *shēng* with a series of very large one-note free-reed pipes that resemble Central African horn ensembles and mimic vocal polyphony.

3. Jews' harp

Figure 1. Ami two-tongue Jew's harps



The Jews' harp has a curious worldwide distribution; unknown in Africa and the New World, it is found across Eurasia from Siberia to Britain, only excluding Australia (Sachs 1917). It is characteristic of virtually the whole Austronesian region, excepting parts of remote Polynesia and is extremely widespread in New Guinea (Kunst 1967). It seems likely that it was already present when the expanding Austronesians encountered the Papuan-speakers. A number of distinct types co-exist, both of bamboo and metal and types that involved the jerking of an attached string and those depending solely on the vibration of a tongue in a frame. Worldwide, Jews' harps typically have a single tongue, but the Formosan peoples developed some unusual types with multiple tongues, which made possible various types of speech-imitation (Ling 1961; Lenherr 1967; Kurosawa 1973; Wu 1994; Hsu 2002). Figure 1 shows a typical two-tongue Jews' harp of the Ami people.

Figure 2. Multi-tongue Jews' harp, Yunnan

Such types are also widespread in South China (Yuan Bingchang & Mao Jizeng 1986: ill. following p. 240). It therefore seems likely that the multi-tongue Jews' harp was first developed in south China and spread across the straits to Taiwan. However, these instruments were then simplified after they left Taiwan since only single-tongue Jews' harps are known thenceforth. Li Hwei (1956:140) argues that there is a structural link with the *shēng*, the free-reed organ typical of Chinese music, but it is then difficult to explain the occurrence of Jews' harps outside the free-reed area.

There is another common feature to Taiwan and the mainland, the use of these Jews' harps in courtship rituals. The tonal nature of these languages makes possible 'talking', speech-imitation, where the

changing pitches of a melody mimic those of speech-tones. Musical instruments can produce comprehensible speech without articulating individual syllables, a practice also used to great effect in performing narratives with the mouth-organ, *shēng*. Among the Li of Hainan island, for example, girls speak to their lovers with a Jews' harp and the lover replies with a nose-flute (Hsu 2002: 492). The Jews' harp is also used in courting rituals among the Karen peoples; a man would play the arched harp to a girl and she would 'answer' with the Jews' harp. Similarly, the instrument was used in time of war to communicate between Karen hidden in the jungle (Marshall 1922:163). Austronesian languages are non-tonal and yet instruments are still used for courtship, for example among the Atayal (Wu 1994). The four-blade Jews' harps are used to produce the four notes of typical melodies rather than elaborated tunes based on overtones. The Atayal have adapted to the loss of speech-tones by retaining the Jews' harp but reproducing the melodies of courtship songs so that the social function of the instrument could be preserved.

In the case of the Jews' harp, there is linguistic evidence for reconstructing it to PAN. Blust (p.c. 2004) notes that internal Formosan evidence (from geographically non-contiguous languages belonging to different primary branches of AN) points to PAN **NubeR*. Table 1 shows names for the Jews' harp in different Formosan languages supporting a PAN reconstruction;

Table 1. Jews' harp terminology in Formosan languages

Pazeh	*libex*
Proto-Rukai	**lebere*
Paiwan	*La-Luver-an,*
Atayal	*lubuu*
PAN	**NibeR or *NubeR*

Source: Blust (p.c.)

Li Hwei (1956:94-95) has an extensive table of names for the Jew's harp in Formosan languages recorded in different communities, many of which are clearly ideophonic.

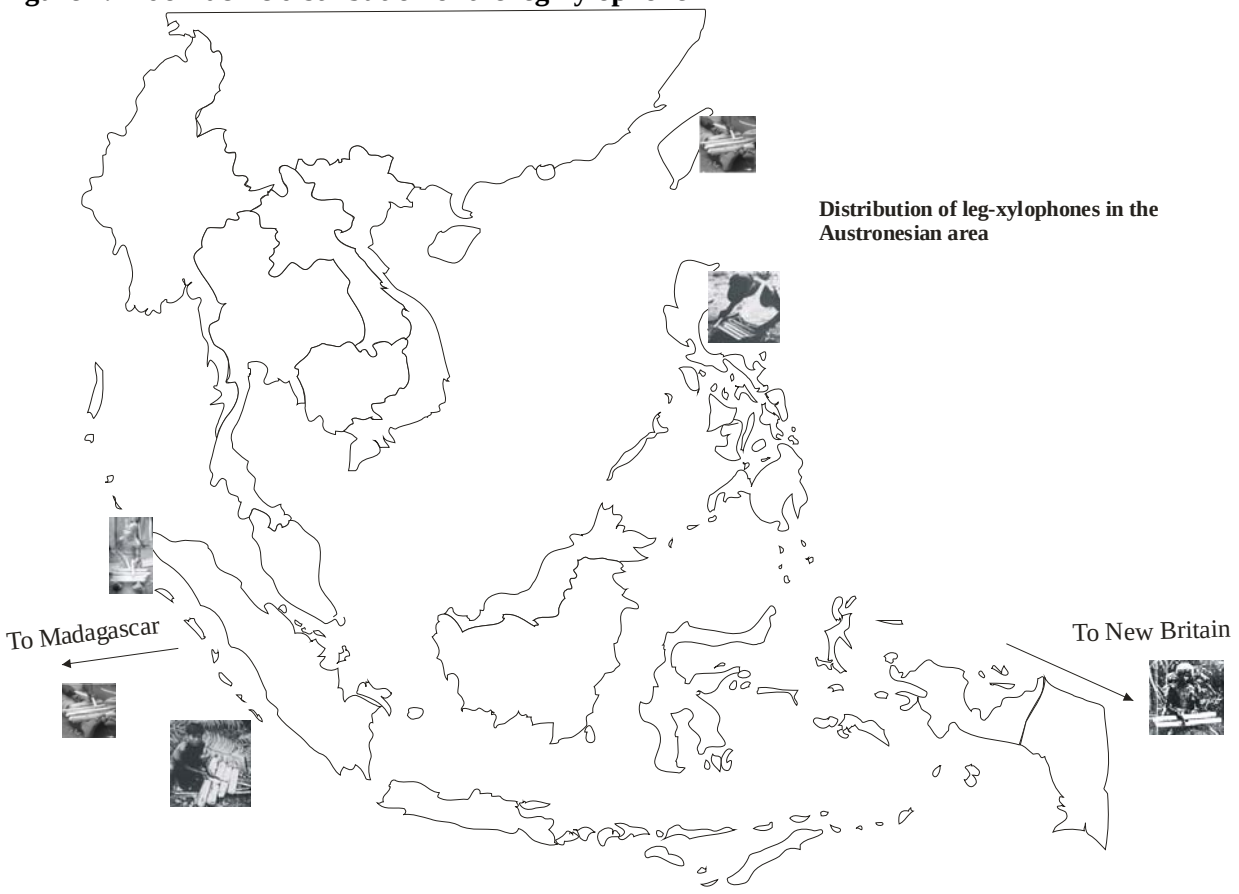
4. The 4/5 note leg-xylophone

Figure 3. Itneg leg-xylophone

One of the simplest forms of the xylophone is the leg-xylophone, where the player simply lays a number of bars across his or her legs and beats them with one or two sticks. The leg-xylophone is found in two regions of the world, Africa and the Austronesian region, occurrences that are probably unconnected. Under the name *muqin*, the leg-xylophone is known from the Atayal of Taiwan (Wu 1994; Hsu 2002: 527) and a photo and recording on display in the Shun Ye museum in Taipei shows that the keys are mounted on a small frame and supported between the player's legs. This name is suspiciously similar to the Chinese and Japanese terms for the larger xylophone (*mokkin*) and may not be the original Atayal term. The four keys presumably represent the tetrachord of Atayal music. In the Philippines, the Itneg people in the Northern Cordillera play a five-key leg-xylophone, *taloŋgatiŋ*, probably forming a pentatonic scale (Maceda 1998: 226 and image). The Yakan, much further south, play five-key xylophones supported on trough-resonators, presumably local developments of the same instrument. Kunst (1940) mapped the leg-xylophone (he calls it 'thigh-xylophone') in insular SE Asia as far as the information was available to him at the period, recording it in Nias, Mentawei, Borneo and south Sulawesi. Kaudern (1927: 60) describes two xylophones from Sulawesi, a 3-key leg-xylophone from Toala in South Sulawesi and a 5-

note xylophone on runners from Awool in the North. It is also found in New Britain, New Ireland, the Duke of York islands, Tami and Morobe province in Eastern Papua New Guinea, although there it is reduced to only two keys (Sachs 1928; Collaer 1965: 102; Fischer 1958: 12; Kunst 1967: 41; Anderson 2001: 626). Sachs (1938: Planche XIII) illustrates a leg-xylophone with seven keys from Madagascar, balanced on the legs of one woman but played by two others as well. The instrument was played almost throughout the island, but today it exists only in the southwest, principally among the Bara (Schmidhofer 1995). Indeed, Schmidhofer (op. cit.) argues that the playing techniques resemble those in Mozambique rather than Indonesia, although the disappearance of instruments elsewhere on the island will make it difficult to resolve this question definitively. There is no evidence for the xylophone in Polynesia, while in Java and elsewhere it gradually evolved into the large frame-mounted instruments used today, which subsequently spread westwards out of the Austronesian region towards Burma. Figure 4 shows the Indo-Pacific distribution of the leg-xylophone;

Figure 4. Indo-Pacific distribution of the leg-xylophone



From this we can probably conclude that the leg-xylophone was known to the earliest Austronesian groups and that they carried it with them at least as far as New Britain during their expansion. The current distribution suggests that the instrument only survives at the margins of the area, having been displaced by more complex instruments through the central region. Table 2 shows names recorded for the leg-xylophone in Austronesian languages;

Table 2. The leg-xylophone in the Austronesian-speaking area

Language	Location	Name	No. Keys	Comment
Atayal	Taiwan	*muqin*	5	< Chinese?
Amis	Taiwan	*kokan*	3	suspended frame xylophone
Amis	Taiwan	*tanax*	3	suspended frame xylophone
Itneg	Philippines	*talonggating*	7	
Nias	Nias	*doli-doli*	3,4	
Mentawei[4]	Mentawei	*tundukut*	2,3,4	
		tutukat	?	
		lelega	?	
Punan	Borneo	*?*	?	
Toala	Sulawesi	*?*	3	
Sakahara	Madagascar[5]	*antanatra*	6-12	
Ampanihi	Madagascar	*atragnatra*	?	
Beroroha	Madagascar	*atranatrana*	?	
Morombe	Madagascar	*bakilo*	?	
Betioky	Madagascar	*hatranatra*	?	
Morondova	Madagascar	*katiboke*	?	
Morondova	Madagascar	*valihambalo*	?	
Bara	Madagascar	*kilangay*	7	
Tolai	New Britain	*?*	2	
?	New Ireland	*?*	2	
?	Tami, Morobe, PNG	*?*	?	

None of these names seem to be cognate with one another, suggesting that the xylophone is largely given ideophonic names. The Austroasiatic-speaking Aslian peoples of the Malay peninsula also play the leg-xylophone, a borrowing from their Austronesian-speaking neighbours.

5. Nose-flute

Figure 5. Ami nose-flute

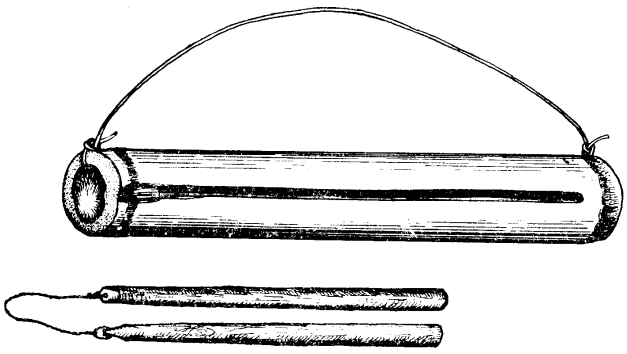
With the nose-flute we are on more difficult territory since the nose-flute has an extremely wide distribution in the world as whole. Nose-flutes are found on every continent (Sachs 1928) and it is only by looking at the morphology of individual instruments that it is possible to use them for culture-historical reconstruction. The nose-flute is found in Taiwan among the Paiwan and Rukai (Wu 1995) and is found throughout the Austronesian area, all the way to New Zealand. The Taiwanese instrument is a double-flute, with a drone-pipe and a melody-pipe with four fingerholes, which is extremely rare in world terms. However, similar nose-flutes are recorded in Yunnan in south China (Yuan Bingchang & Mao Jizeng 1986: 41). Beyond Taiwan, all nose-flutes seem to have had single pipes only (see for example the illustrations of Philippines types in Maceda 1998: 186). However, in many regions, Sulawesi for example, paired duct-flutes are morphologically identical to those in Taiwan although played through the mouth (Kaudern 1927). Morphologically similar flutes, now played only by mouth, are found extensively on smaller Indonesian islands, notably Flores (Kunst 1942: figs. 42-47). Roberts (1926) mapped the distribution of nose-flutes in the Pacific as a whole. In Polynesia they gradually evolved into a vessel-flutes rather like an ocarina (e.g. the Maori whale-tooth *nguru* which unfortunately died out before it could be recorded; McClean 1996). This suggests a specifically Austronesian instrument with a Taiwan to New Zealand distribution.

[4] The Mentawei distinguish 2,3 and 4-note leg-xylophones which may correspond to the three names.
[5] The Malagasy names represent dialects of Malagasy and the language names are regions where the term was recorded, except for Bara.

6. Bamboo slit-gong

The slit-gong is also an instrument found across the world, especially in tropical regions, where dense vegetation and large trees stimulates the development of instruments that can communicate over large distances. Essentially it is a hollowed tree-trunk, with one or more lengthways slits, beaten with sticks. It usually produces at least two tones, sometimes more. It has a smaller cousin made from a bamboo internode with a longitudinal slit, which is naturally hollow and makes a sharp clatter when beaten. Figure 6 shows a typical Ami bamboo slit-gong.

Figure 6. Ami bamboo slit-gong



Such instruments are often used as bird-scarers. They are recorded from South China (Yuan Bingchang & Mao Jizeng 1986: 290) where a series of tuned bamboo slit-gongs is mounted in a frame. In Taiwan, bamboo slit-gongs are used singly or mounted in a frame (Hsu 2002: 527) and indeed throughout much of the Austronesian area (Maceda 1998: 232 ff.) as well as Madagascar (Sachs 1938: 62). Kunst (1942: 114) noted an ensemble of four such slit-gongs in Flores, while Amman (1997: 23) reports their use in New Caledonia and notes that they are also recorded from the Bismarcks, the Solomons, Vanuatu, Futuna, Samoa and the Cooks (see also Fischer 1958: 13). Kunst (1967: map) shows the distribution of slit-gongs in New Guinea and they are surprisingly confined to the Northeast coast and all the adjacent offshore islands. This suggests rather strongly that even the slit-gong was spread by Austronesians into the region and may indeed be associated with the Oceanic subgroup of Austronesian. Blust (2000) has proposed *na rali as a likely proto-Oceanic form for slit-gong.

7. Stamping tubes

Stamping tubes are hollow cylinders made of bamboo or naturally hollowed wood, thumped against the ground and producing a pitch that reflects the resonant frequency of the tube. They can be made in tuned sets or simply left in graded sizes. Stamping tubes are found among the Thao of Sun-Moon Lake in Taiwan (Chen Chi-Lu 1968), as well as in South China and in the Philippines. Several groups in Taiwan use stamped pestles but only the Thao seem to use specially-made hollow bamboo tubes. Yuan Bingchang & Mao Jizeng (1986) show stamping-tubes from Yunnan and they are recorded throughout the Austronesian region as far as the Solomons. Maceda (1998) illustrates the various types of bamboo stamping tubes in the Philippines. Zemp (1971, 1972) describes the stamping-tube ensembles among the Are'are in the Solomons. The Aslian groups of the Malay peninsula also play sets of tuned stamping tubes, a practice they presumably acquired from their Austronesian-speaking neighbours as these are not otherwise recorded among Austroasiatic-speakers.

Figure 7. Thao stamping-tubes

8. The stick-jumping dance

Although not a specifically musical form, another aspect of Austronesian culture deserves comment, the stick-jumping dance. A series of bamboo poles are laid out on the ground either in parallel or in square patterns and the dancers then have to jump between the poles without knocking them out of place. In some versions those holding the poles also move them rhythmically, so the dancers have to be precisely in time in order not to dislodge the poles. This dance has the status of a 'national dance' in the Philippines, where it is know as *tiniklin*. It is also performed by Vietnamese communities in South China (Yuan Bingchang & Mao Jizeng 1986: 271), on Hainan island, Taiwan, and on Flores in the Indonesian archipelago (Kunst 1942: 10-11 & fig. 4), although it is strikingly absent from Sulawesi (Kaudern 1927). Kunst (op. cit.) also notes it among the Dayak in Borneo, on the Kai islands, on Buru and on Saparua, suggesting that this dance must have come across the Taiwan strait and then spread out into island SE Asia with the Austronesian expansion. It is also recorded among the Karen in Myanmar (Marshall 1922:200) which is more difficult to interpret, since this is quite remote from the other areas of distribution which are nearly geographically.

Figure 8. Stick-dance, Yunnan

9. Summary and conclusion

Musical instruments and musical practice occur rarely in archaeological excavations, but are strongly linked to the expansion, whether demographic or cultural, of individual language phyla. World-wide maps of musical instrument distributions show that independent invention appears to be very rare, that most occurrences of specific instruments can be linked to one another historically. This paper has reviewed some of the musical practices that occur among the indigenous peoples of Taiwan and shown that their broader distribution is linked with that of the Austronesian-speaking peoples. Moreover, the hypothesis that speakers of pre-Austronesian migrated from the Chinese mainland is strongly supported by musicological evidence. Table 3 shows the different musical practices discussed in paper and suggest how they might be interpreted in terms of likely Austronesian culture history.

Table 3. Significance of musical and dance elements for Austronesian culture history

Item	Distribution	Significance
Polyphonic choral singing	South China, Taiwan	Migration from mainland for Austronesians
Multi-tongue Jews' harp	South China, Taiwan	Migration from mainland for Austronesians
4/5 note leg-xylophone	Taiwan, Philippines, Madagascar, New Britain	Develops in Taiwan and spreads with Austronesian migration
Stick-jumping dance	South China, Taiwan to Indonesia, Myanmar	Initial Austronesian migration from mainland
Nose-flute	South China, Taiwan to Polynesia	Initial Austronesian migration from mainland. Double nose-flute confined to Taiwan.
Stamping tubes	South China, Taiwan to Melanesia	Initial Austronesian migration from mainland
Bamboo slit-gong	South China, Taiwan to Polynesia	Initial Austronesian migration from mainland

Material culture studies are never conclusive; their opponents always argue for independent invention. But the distribution of the various musical elements described here are at least suggestive. Certainly if we

have no difficulties concerning distinctive pottery types being carried by expanding seafarers then these relatively simple musical instruments may well have similar relationships. Music may be only one element in a broader reconstruction of Austronesian culture based on comparative material culture studies.

References

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

Amman, R. 1997. *Kanak music and dance*. Nouméa/London: ADCK/Kegan Paul International.

Anderson, L.A. 2001. Xylophone §4(iii). In *New Grove dictionary of Music and Musicians, Vol. 27*. London: Macmillan.

Blust, R. 1995. The prehistory of the Austronesian-speaking peoples: a view from language. *Journal of World Prehistory* 9(4): 453-510.

Blust, R. 2000. Review of Ross, M., Pawley, A. and M. Osmond, *The lexicon of Proto-Oceanic, vol. 1: Material culture*. *Diachronica* 13:182-191.

Chen Chi-Lu 1968. *Material culture of the Formosan Aborigines*. Taipei: Southern Materials Centre.

Collaer, P. 1965. *Ozeanien*. Musikgeschichte in Bildern, i/1. Leipzig: VEB.

Coppet, D. de and Zemp, H. 1978. *'Aré 'aré: un people mélanésien et sa musique*. Paris: Seuil.

Fan Zuyin 1994. *Zhongguo duoshengbu min'ge gailun*. [Survey of multipart folk-songs in China]. Beijing: Renmin Yinyue Chubanshe.

Fischer, H. 1958. *Schallgeräte in Ozeanien*. *Bau und Spieltechnik –Verbreitung und Funktion*. Strasbourg/Badenbaden: Heitz.

Hsu, Tsang-houei 2002. Taiwan: music of the Taiwan aborigines. In *East Asia: China, Japan and Korea*. Garland Encyclopaedia of World Music. Volume 7. London: Routledge. pp. 523-529.

Kaudern, W. 1927. *Ethnographical studies in the Celebes, IV*. *Games and dances*. Goteborg.

Kunst J. 1940. Music in Nias. *Internationales Archiv für Ethnographie*, XXXVIII: 1-92.

Kunst, J. 1942. Music in Flores. *Internationales Archiv für Ethnographie*, Supplement to Band XLII.

Kunst, J. 1967. *Music in New Guinea*. 'S-Gravenhage: Martinus Nijhoff.

Kurosawa, Takatomo 1973. *Taiwan takasagozoku no ongaku* [The music of Taiwan aborigines]. Tokyo: Oyamakaku.

Laade, Wolfgang 1991. *Taiwan –music of the aboriginal tribes*. [CD] Jecklin-Disco JD 653-2. Zurich: Jecklin & Co.

Lenherr, Joseph 1967. The musical instruments of the Taiwan aborigines. *Bulletin of the Institute of Ethnology, Academia Sinica* 23:109-125.

Li Hwei 1956. A comparative study of the jew's harps among the aborigines of Formosa and East Asia. *Bulletin of the Institute of Ethnology*, *Academia Sinica* 1:85-140.

Ling, Mary 1961. Musical instruments of the Ami tribe. *Bulletin of the Institute of Ethnology*, *Academia Sinica* 4:185-210 (Chinese with English summary: 217-220).

Maceda, J. 1998. *Gongs and bamboo: a panorama of Philippine musical instruments.* Manila: University of the Philippines Press.

Marshall, H.I. 1922. The Karen people of Burma: a study in Anthropology and Ethnology. *Ohio State University Bulletin*, 26(13). Columbus, Ohio: Ohio State University.

McClean, Mervyn 1996. *Maori music*. Auckland: University of Auckland Press.

Osmond, Meredith & Malcolm Ross 1998. Household artefacts. In *The lexicon of proto-Oceanic. 1. Material culture.* (eds. Malcolm Ross, Andrew Pawley and Meredith Osmond) Canberra: Pacific Linguistics, C-152. pp. 67-114.

Pawley, A. & M. Pawley 1998. Canoes and seafaring. In *The lexicon of proto-Oceanic. the culture and environment of ancestral Oceanic society. 1: Material culture*. (eds. Malcolm Ross, Andrew Pawley and Meredith Osmond) Pacific Linguistics C-152. Camberra: ANU. pp. 173-209.

Roberts, Helen Heffron 1926. *Ancient Hawaiian music*. Bernice P. Bishop Museum Bulletin 29. Honolulu: The Museum.

Sachs, C. 1917. Die Maultrommel: eine typologische Vorstudie. *Zeitschrift für Ethnologie* 4-6 : 185-200.
Sachs C. 1928. *Geist und Werden der Musikinstrumente*. Berlin.
Sachs C. 1938. *Les Instruments de Musique de Madagascar*. Paris: Institut d'Ethnologie.
Schmidhofer, August 1995. *Das Xylophonspiel der Mädchen Zum afrikanischen Erbe in der Musik Madagaskars*. Vergleichende Musikwissenschaft, Vol. 2. Frankfurt/M., Berlin, Bern, New York, Paris, Wien: Peter Lang.
Shen Qia 2002. National minorities in China's south and southwest: ethnic groups and musical styles. In *East Asia: China, Japan and Korea*. Garland Encyclopaedia of World Music. Volume 7. London: Routledge. pp. 485-493.
Tsang, C.H. 2005. Recent discoveries of the Tap'enkeng culture in Taiwan: Implications for the problem of Austronesian origins. In *Perspectives on the Phylogeny of East Asian Languages.* (eds. Sagart, L., Blench, R.M. and A. Sanchez-Mazas) London: Curzon Press. pp. 63-75.
Wu, Rung-Shun 1994. *The music of the aborigines on Taiwan island, Vol. 5. The Songs of the Atayal Tribe*. TCD 1505. Wind Records, Taipei.
Wu, Rung-Shun 1995. *The music of the aborigines on Taiwan island, Vol. 7. The Songs of the Paiwan Tribe.* TCD 1507. Wind Records, Taipei.
Yuan Bingchang & Mao Jizeng eds. 1986. *Zhongguo shaoshu minzu yueqi zhi*. [The musical instruments of ethnic minorities in China: a dictionary.] Beijing: Xinsjijie Chubanshe.
Zemp, Hugo 1971. Instruments de musique de Malaita (I). *Journal de la Société des Océanistes*, 30:31-53.
Zemp, Hugo 1972. Instruments de musique de Malaita (II). *Journal de la Société des Océanistes*, 34:7-48.
Zhang Xingrong 1997. A new discovery: traditional eight-part polyphonic singing of the Hani in Yunnan. [trans. Helen Rees] *CHIME*, 10-11: 145-152.
Zhang Xingrong 2001. *Alili: multi-part folksongs of Yunnan's ethnic minorities*. PAN 2038CD. Leiden: PAN Records.