

UNSTABLE PITCH IN THE RAINFOREST AND THE MIMESIS OF MUSIC

The articulation of audio technology and musical techniques in the
bamboo panpipes of 'Are'are, Solomon Islands

[Received 27th February 2017; accepted 25th July 2017 – DOI: 10.21463/shima.10.1.10]

Hidenori Samoto

University of Tsukuba, Ibaraki, Japan <samohide@yahoo.co.jp>

ABSTRACT: The aim of this paper is to demonstrate how musicians in the Solomon Islands accepted an audio technology — the electronic tuner — and how it influenced their musical activities. Through an ethnographic case study of how indigenous musicians thought and managed the materiality of their musical instruments, I show that they regarded the audio technology as a symbol of a global standard of music in contrast to the elastic materiality of their bamboo instruments. While the process may be understood as a standardisation of indigenous music that involved the musicians adopting a rationalistic or modernistic way of thinking, I argue that we also can interpret the phenomenon as reflecting a continuity between the audio technology and the magical significance they assigned to their indigenous instrumental music. In the conclusion, I discuss how we might describe and analyse the hybridisation of indigenous musical technique and audio technology.

KEYWORDS: Musical techniques, Audio technology, Solomon Islands, Bamboo panpipes

Introduction

This paper focuses on musical instruments played in 'Are'are, the southern region of Malaita Island in the Solomon Islands. The bamboo panpipes of 'Are'are are called *'au*, a word that also means bamboo in their language. The music of *'au* has previously been the subject of detailed study by ethnomusicologist, Hugo Zemp (1978, 1979, 1981). Traditionally the *'au* was played by men for enjoyment during feasts after customary rituals. The players usually received some wealth such as shell money, pigs or food as payment from listeners or the “big men” who organised the feasts (Zemp, 1978: 49; de Coppet, 1994: 46).¹ *'Au* was regarded as a tool for receiving wealth. The sounds of *'au* could strike the hearts of listeners, fill them with pleasure, and make the listeners give their money, pigs, and food to the *'au* players. The sound of *'au* was understood to have a quality, called *'marutana*.²

¹ De Coppet and Zemp (1978) provided more details about payments for musicians. I have compared this information with my own data and discussed payment practices and the social context of *'au* in another article (Samoto, forthcoming).

² Originally, the word means a kind of magical charm from the bark of a tree to get the affection of women (Geerts, 1970: 64). About the magical charm of *'au*, see Zemp (1978: 49).

Samoto: Unstable Pitch in the Rainforest

However, since the 1970s, customary occasions for playing 'au have decreased and 'Au has come to be played on occasions like Christian rituals or public ceremonies. In the 1980s and 1990s, some commercial 'au bands were established. These bands played mainly in shows for tourists in the capital (Tai, 1998: 156). Furthermore, in that decade, some of these bands signed contracts with foreign producers or productions. They came to play the 'au at world music festivals overseas and released CDs for the global market (Feld and Crowdy, 2000: 66).

In this process, they created new types of instruments, modified their style of performance, and adapted sound organisations from different types of music, such as western musical scales and the rhythmic patterns of western popular music. In today's Solomon Islands, the music neither looked nor sounded like the material recorded by Zemp works. However, the old types of 'au have not completely vanished and been replaced by new ones, even though the music of the 'au is seemingly different from before. During my fieldwork from 2009-2014, I observed that local musicians still use some old types of instrument together with new ones, and play some pieces for the old 'au alongside new ones. They also believe that the sound of the 'au can still enchant listeners, even if the context of performance and the backgrounds of listeners are different. In my informants' viewpoint, today's 'au is regarded as a hybrid of foreign and indigenous elements.

During my fieldwork, I stayed in a small village of almost 100 inhabitants named Komunimakae (Figure 1).³ The village was the base of a band established in 1991 called Poiarato.⁴ One of the founders of the group, a villager named Manu, was famous there as a virtuoso 'au performer. Members of the group were mostly his male relatives in the village. In the 1990s, the band was based in the capital, and they performed 'au for tourist shows and released an audio cassette album for the domestic market in 1991. In the 2000s they moved their base back to their village. The band then had a chance encounter with Peter Keelan, an Australian producer who was visiting the Solomon Islands in 2006, and they signed a contract in 2004, after which the band performed 'au at music events and released some CDs in Australia and other countries, including *Cry of the Ancestors* (2008). Since 2010, the group has been contracted Jason Mayall, an English producer working for a subsidiary of the Japanese company Smash Corporation. While still being based in the village, and focused on Japan, their area of activities has also expanded to Europe and East Asia. These changes caused transformations in various aspects of their performance, the attitude of the musicians and the constitution of the bamboo instruments. The technological changes were the most striking. Audio technologies such as microphones, loudspeakers, and sound mixing consoles have become important parts of their studio recording and live performance activities. In this article, I draw on ethnographic fieldwork to pose and answer two main questions:

- How does the use of audio technology affect indigenous musical techniques and the attitudes of the 'Are'are musicians?
- How can 'Are'are musicians articulate different technological elements without contradictions in their point of view?

³ I conducted fieldwork periodically from 2009-2014.

⁴ I use pseudonyms for the personal names of individuals, places, and groups mentioned in this paper whenever possible protect their privacy.

Samoto: Unstable Pitch in the Rainforest

The music of the Solomon Islands has been an interface between the local music of the Pacific Islands and the world music industry since it became a subject of ethnomusicology and audio recording. One notable incident occurred when a French band, Deep Forest, used unauthorised samples from one of Zemp's recordings in their material, provoking discussions about the exploitation of the local communities and musicians caused by the globalisation of the music industry (Zemp, 1996; Feld, 2000). Although the local communities and musicians themselves were largely left out of such discussions, Pacific Islanders have directly and indirectly faced the globalisation of music, and have created an "intercultural musical synthesis" (Kartiomi, 1981: 232) in their daily lives through the mediation of audio technologies such as radio, cassettes, video, and recording studios (Wilson and Derby, 1998; Hayward, 1998b and 2012).

In a study of the music industry in the Solomon Islands, Crowdy (2007) focused on the musicians' perspectives on the role of recording technology.⁵ He reported that small recording studios in the capital of the Solomon Islands played a role in providing ways for local musicians to manage their careers and lives in the fragile environment of the islands' economy. Interestingly, he reported the activities of musicians around small recording studios as being a part of their daily lives, and pointed out that the concept of resilience, developed by daily concerns such as weak infrastructures and fragile economies, was useful for understanding the operation of a vibrant and active popular music scene in the Solomon Islands.⁶ He argued that:

this frame of resilience highlights the creativity, energy and determination of musicians, engineers and others involved in the popular music scene in the Solomon Islands. They have to face on-going challenges to access equipment, transport, expertise and other essential resources. (2007: 145)

My fieldwork supports Crowdy's argument, and I will adapt his frame to another part of the music scene in the Solomon Islands: a band based in a village site, surrounded by rainforest and directly connected with the world music industry, whose musical performance and technological constitution are hybrids of indigenous and popular music.

However, in contrast to Crowdy's ethnography, I will focus on the technological constitution of musical instruments and the detailed process of making and managing their materiality. Through this ethnographic case study, I will deal not only with the resilience of their economic and technological practices, but also the resilience of their creativity in their musical practices. For this purpose, I will focus on mimetic practices. As described below, the technical agenda for the production and maintenance of bamboo panpipes is to imitate predecessors, to create individuality and to maintain the pitch that indicated the identity of instruments in an unstable environment. At the same time, musicians also strive to imitate western music through the technical act of making and tuning instruments. I use the word "mimesis" to consider the fabrication, identification, and modification process of bamboo panpipes. Here, I define mimesis as the ability to create and recreate cultural identity by imitating others. This definition is based on Taussig's discussion of the relationship between colonialism and mimesis, referring to concepts of mimesis offered by

⁵ This article was written for an issue of *The World Music* titled 'Indigenous Peoples' Engagement with Recording Technology and Techniques, the Recording Industry and Researchers'. There are several more recent studies on the topic of technology and indigenous music in Oceania such as Scales (2012).

⁶ Crowdy (2007: 153) developed this concept from the results of his observations on lives in Port Moresby, Papua New Guinea.

Samoto: Unstable Pitch in the Rainforest

Benjamin and Adorno that may be summarised as the “ability to mime, and mime well, in other words, is the capacity to Other” (Taussig, 1993: 19).

In the following sections, I will describe (1) the general setting of social life in 'Are'are, (2) the fabrication process of bamboo instruments, (3) 'au as mimesis of ancestral instruments, and (4) the thoughts and attitudes of musicians about audio technology provided through interactions with the world music industry. In the conclusion, I will discuss the property of articulation between indigenous instruments and foreign music in 'Are'are by considering the concept of mimesis.

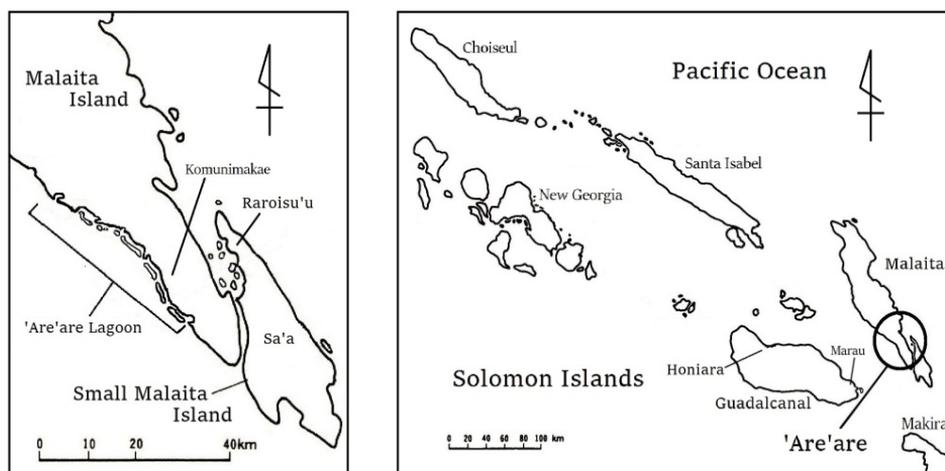


Figure 1 - 'Are'are lagoon of Malaita Island and its location in The Solomon Islands
(Map by Hidenori Samoto)

The General Setting of the Social Life in 'Are'are

The Solomon Islands is a country that became independent in 1978 after being colonised by Great Britain in 1893. It consists of six major islands and other smaller islands lying to the east of Papua New Guinea. The population is 515,870, according to the Census of 2009 (Statistics Office 2012). The Solomon Islands is a (so-called) developing country in the South Pacific and one of the most marginalised regions of the globalised world. 'Are'are is the southern region of Malaita Island in the Solomon Islands.⁷ A language group living there is also known as 'Are'are. The population of 'Are'are is almost 15,700.⁸ Their usual subsistence activities are centered on the slash-and-burn agriculture of tuber crops such as yams, taros, and sweet potatoes. The community also has cash income from commercial crops like copra and betel nut, and some residents are supported by family members and relatives who have jobs in the capital. Historically, 'Are'are is known as one of the

⁷ The Population of Malaita Island was 137,596 in 2009 (Solomon Islands Statistics Office 2014).

⁸ The customary region of 'Are'are contains four administrative districts and three constituencies. The population of each district is as follows: Areare - 3,525, Raroisu'u - 4,988, Mareho - 2,550, and Tai - 4,650 (Statistics Office 2014: 6).

Samoto: Unstable Pitch in the Rainforest

originating places of the Maasina Rule movement,⁹ the anti-colonialist initiative that was organised by indigenous leaders called *araha*, who advocated self-determination after World War II. The movement formed the predecessors of today's villages in 'Are'are (see de Coppet, 1985: 79; Akin, 2013). The community's traditional religion was ancestor worship, but Christianity gradually spread after colonisation. Today, most of the residents in 'Are'are are Christians but their ancestors are still revered. The social and cultural life in the village of contemporary 'Are'are is totally mixed. Villagers conceptualise their life as *mauriha e paitora no'o*, meaning "the life that is amalgamated".

The Solomon Islands have a humid tropical climate, with little seasonal variation. Monthly rainfall in the islands is around 200-350 mm, and annual rainfall amounts to about 3,500 mm. Tropical rainforests cover 'Are'are and Mailaita in general. During my field research, I stayed in a village located on a small flat area almost one kilometre from the 'Are'are lagoon. Residents of the village have built settlements on the sides of a stream and live between coastal mangroves and mountainside forests. Various tropical plants grow in the in the Solomon Islands rainforest and many of them are used for daily life (Henderson and Hancock, 1988). On the mountainside near the village, there are gardens of yam, taro, sweet potato and cassava. The villages are surrounded by planted areas of coconuts, bananas, papayas, betel nuts, sago palm and other crops. In addition to cultivated plants, the community also use various wild plants for housing material, canoes, cooking bowls, baskets and bags, loops, and other daily items. Without these plant materials, life in the village of 'Are'are would be severely affected. One of the important uses of plants in the village is to provide materials for the constitution of houses. The roofs and walls of houses are made of knitted leafs of sago, the pillars of the houses are wood from felled shrubs and mangroves cut from the forest around the village, and the floors are made of the divided trunks of the betel nuts trees or bamboo. These houses provide inhabitants with comfortable living environments with good ventilation in the hot and humid climate, but they also continuously deteriorate in the harsh rainforest conditions. For example, a sago leaf roof is usable for five years, requiring residents of the houses to have to continually repair them along with other parts of the houses, such as walls and floors, because of the long-term deterioration of the plant materials used there. It requires a long time and much effort to make a sago leaf roof because one must wait until the sago plants grow, then cut them down, and, finally, knit the leaves together. The instability of the plant material under the effects of wind, rain, and sunshine requires never-ending repair work and the use of techniques to maintain the stability of the materials.

Although plants are still indispensable for social life in 'Are'are, they are being gradually replaced by industrial materials. While many houses still have roofs made with sago leaves, there are situations in which it is desirable for villagers to buy more durable steel boards in the capital and use them for roofing. Only a few of the villagers, such as the teachers of local schools, are able to buy these steel boards. For the villagers who do not have a sufficient cash income to, these rich individuals are the target of envy. The desire for the steel boards highlights the difficulty of making things and living in the village in the tropical environment and the marginal economy. I emphasise the general instability of materials used in the rainforest environment because this aspect is important in fabrication of bamboo panpipes in 'Are'are and the trajectory of their transformation.

⁹ In 'Are'are, the movement was called Masina Ruru. The words *masina ruru*, mean 'brothers and sisters together,' or *La Fraternité*. (de Coppet and Zemp, 1978: 112).

Making 'Au

In the forest around the village, there are bamboo plants called 'au rapa and 'au hau¹⁰ that are used in various areas of daily life: as cooking tools, wall materials, and as sticks to knock down fruits. However, the bamboo panpipes are one of their main uses. In the vicinity of Komunimakae, Manu was known as a master of the bamboo panpipes and Roho, a young member of Poirato, learned to make and play them from him. During my stay in Komunimakae, Roho taught me to play the bamboo panpipes. One day I asked Roho to make the 'au with me, and we began making them. Below is a summary of Roho's five-step process for making the bamboo panpipes which I observed: (1) cutting and collecting bamboo plants, (2) pretreatment, (3) processing, (4) post processing, and (5) adjustment.¹¹

(1) Cutting and collecting bamboo plants

On January 18, 2013, I accompanied Roho and two young boys to the forest to cut bamboo. We climbed the mountain up the river, about 30 minutes from Komunimakae, until we reached a place where the bamboo grew. We cut the bamboo plants at the base with bush knives. While cutting the bamboo plants, Roho and the boys were careful to avoid the dead (*e mae*) ones, which were withered and brown, and take only the live (*e mauri*) ones, which were green in color. The withered ones break easily and are not suitable for making the 'au. After cutting the bamboo plants and removing branches and leaves, we bundled them and brought them back to Komunimakae.

(2) Pretreatment: Drying bamboo materials

After returning to the village, Roho took the bamboo bundles and laid them on the roof of a house. He explained to me that the bamboo is not suitable for use until the color has turned from green to light brown or, in other words, the bamboo plants have died (*e mae*). If the green bamboo materials are processed, the pitch of the instruments can change markedly. To prevent such change, Roho said it is necessary to expose the bamboo to sunlight, wind, and rain for about a month. About two months later, we took the bamboo down from the roof. Roho cut them with a small saw, discarding the broken or thick ones. After cutting them, Roho put the bamboo tubes in an empty wheat bag and placed it on a beam of his house. He said that we had to leave it for a while to dry and suppress the change of the sound after processing. In total, pretreatment took about three months.

(3) Processing: Cutting out and binding bamboo tubes

On June 19, 2013, Roho processed the bamboo tubes into bamboo panpipes. When cutting out 'au from bamboo tubes, the existing 'au that had already been produced and used were referenced. Roho brought 'au that had been made several years before as references for 'au used by Poirato, and started making a new one. He picked out tubes of the appropriate length and thickness from the bag, nicked corresponding bamboo tubes of the old 'au, and cut along the mark on the surface with a knife. After that, he cut out the bamboo tubes roughly matching the length. Using a broken bamboo piece as a spatula, he scraped out scum and soil from the inside of the bamboo tubes. Then he placed a thin branch in the

¹⁰ 'Au rapa is *Schizostachyum tessellatum*, 'au hau is *Nastus obtusus*. See Henderson and Hancock (1988: 199-203).

¹¹ Also see Zemp (1995: 75-77).

Samoto: Unstable Pitch in the Rainforest

bamboo tubes of the model 'au, broke the branch with the mouth of the tube, and put it in the corresponding tube of the new one. By doing so, he could scrape the hole to have the same length. Finally, he blew and compared the old and new corresponding bamboo panpipes sounds and shaved them to make them sound the same (*e noro onana*). After that, these tubes were tied to each other with a string. They also rinsed the interior of the tubes in the river.

(4) Post processing: Smoking bamboos tubes

The process of processing continues even after the fabrication of the instrument. If the bamboo tubes of the instrument have not dried enough, the 'au tends to frequently change in pitch depending on the weather. To prevent such changes, Roho put the new 'au over the stone furnace in the cooking house and smoked it to dry it. After a while, soot adhered to the inside and outside surfaces of the bamboo tubes, and the 'au gradually became brownish or black. He told me that if the soot covers the surface of 'au, it becomes hard (*e ato*), and it becomes resistant to pitch changes.

(5) Adjustment: Shaving and replacing bamboo tubes

Despite the above, the pitch will change regardless when a panpipe is used for a long time, even if it is sufficiently covered with soot. Since 'au performances involve ensembles of large numbers of instruments, it is always necessary to adjust the pitch of individual instruments according to changes in the sounds of other instruments in the same ensemble. Therefore, the pitches of panpipes are frequently adjusted before, after, and during a performance. The players identify a bamboo tube that seems to be inconsistent with the sound of other instruments, and scrape the blowing mouth with a knife or file, raising the pitch. Also, when a pipe's pitch is higher than the surrounding instruments, it is necessary to cut out a new bamboo tube and replace it. Furthermore, the bamboo tubes can become clogged with saliva, tobacco or betel nut residues, or ants and small insects. For this reason, sometimes, the pitch can become lower, and the sound becomes muffled. Thus, the players have to scrape the foreign matter out of the tubes. In severe cases, they rinse the inside of the tubes with water and wipe them with fern leaves. When the bamboo tube cracks, they reinforce it with string or torn cloth. If the cracks are severe, they scrape out a new bamboo tube and replace it.

From my observations of the 'au fabrication process, I want to focus on the various techniques used to suppress the instability of the bamboo materials. After the manufacturing process, adjustments are continuously made to keep a constant pitch. In this way, the focus of the fabrication techniques for 'au is to deal with its unstable materiality. It is not easy to suppress the elasticity of plant materials, cope with age deterioration, and keep the pitch constant in the humid tropical rainforest. This tendency in the fabrication of 'au shows the same characteristics as the general ways in which plants are used. That is, the technique for manufacturing 'au is to suppress and respond to the instability of the plant material.

Usually, members of Poirato spend ordinary days doing work such as tending to gardens, feeding pigs and fishing. However, when the band received requests to perform, they prepared by rehearsing and repairing their instruments in the village. After receiving requests, they carried instruments to a member's house. They gathered almost every day before going out to gardens in the morning or after dinner in the evening. They set up instruments in front of the house, practicing the performance and repairing the

instruments. According to my observations, instrument repair was as important as rehearsing, and the main issue of repairing instruments was tuning each bamboo pipe. Matching the pitch of the instruments to each other was necessary for a good sound because 'au is played by one integrated ensemble. Given that in the rainforest, bamboo expands and contracts with the weather, and the pitch of the instruments changes frequently, players had to adjust them by shaving or replacing pipes almost every time they played them. We can say that the main issue of making, playing and managing 'au is how to deal with their elastic materiality.

Mimesis of the Ancestral 'Au and the Practice of Identification

In Komunimakae, there were two types of 'au ensembles: 'au rerepi and 'au takairori.¹² Poiarato also used contemporary bamboo panpipes ('au siri'ini), which were tuned to a western scale.¹³ One day, when I was at Manu's house, I heard the sound of 'au, but I could not identify what kind of 'au it was. I asked Manu about the type of 'au. He listened carefully for a while and said, "It is not any proper 'au, it is just a children's 'au ('au ni mera)." After that, I witnessed a child playing the 'au that he had made. This episode suggests that if the pitch is not consistent with the scale of other types of 'au and does not follow the right scale, it would not be recognised as a proper 'au.

In the process of making 'au, the maker refers to another set of 'au already made.¹⁴ When Roho made a new set of 'au rerepi, he imitated (*hahoia*) Poiarato's 'au.¹⁵ In various versions of the myth about the origin of 'au, ancestors also imitated the bamboo panpipes of another.¹⁶ This point is also apparent in the folklore about the origin of customary bamboo panpipes in Komunimakae and the vicinity:

One of the male ancestors escaped from the war with other relatives and went to Marau, the area located in the southwest of Guadalcanal Island. One morning when he was living there, he heard a brilliant sound coming from somewhere. He looked for the source of the sound and reached a cave. He witnessed that a giant was blowing bamboo panpipes in the cave. He memorised the sound. When he got back home, he made a set of bamboo panpipes to imitate the sound he heard in the cave. That was the origin of the bamboo panpipes which is a type of 'au takaiori. The 'au made by the ancestor

¹² Zemp described that there are four types of customary bamboo panpipes that performed in groups (1978: 41-48). I concur with this statement. In Komunimakae, there were two of them, 'au rerepi and 'au takairori.

¹³ I use the term "western scale" tentatively. As described below, the pitch of 'au siri'ini was based on the guitars used in Christian songs or popular music in the Solomon Islands. As a result, in contemporary bamboo panpipe playing, the major diatonic scale is generally used. From a musicological point of view, it is necessary to discuss in detail what the scale of 'au siri'ini is and what it is derived from.

¹⁴ Zemp described that generally "the instrument-maker uses an old instrument as a model for taking measurements" (1979: 7). He also stated that one of his informants could use corporeal measurements with fingers. However, as he also pointed out, it is very rare.

¹⁵ The word *hahoia*, means "to imitate, follow, pursue" (Geerts, 1970: 24). It is used to express a persons' or places' namesake being modeled after something.

¹⁶ See Zemp's description of the derivation of four types of 'au ensembles (1978: 50-51). We can find the same point in the origination myth of bamboo panpipes in Lau, in the northern region of Malaita Island (Ivens, 1930: 214-215).

Samoto: Unstable Pitch in the Rainforest

was named Urunaipolo.¹⁷ It is still used by his descendants in the present day.¹⁸

Practically and mythically, 'au are made to imitate the prototype of the 'au. The indicator of mimesis is the coherence of the pitch of each 'au. Therefore, the pitch of another 'au has to be carefully imitated and kept stable. After making a set of 'au, the makers must repair the instruments continuously. When they tune the pitch of bamboo panpipes, a player refers to the pitch of instruments in one ensemble to each other, and determines the pitch relatively. As a result, the pitch of 'au in one ensemble necessarily becomes a unique one. So, a set of 'au with this particular pitch was never played together with another set of bamboo panpipes, even they were of the same type of 'au. The internal suitability of the pitch in one integrated ensemble is an indicator of its identity, individuality, and efficacy. In contrast, the mismatch of pitch that is recognised between instruments in a set of 'au is an indication of the crisis of its identity, individuality, and efficacy. The technique of making 'au, which focuses on confronting the materiality in the rainforest environment, as I pointed out in the preceding section, is a way to counteract the uncertainty of its material properties in order to to maintain consistency in the integral ensemble of instruments.

The mythical account detailed above also suggests that individualisation is an important process for making 'au. The identification among 'au is the necessary condition of their efficacy. In this sense, the process of making 'au is not limited to its material aspects. Frequently, a set of 'au is named like a person is.¹⁹ Such 'au are treated as sacred ('au maea), and are associated with taboos, such not being touched by women (Zemp, 1978: 48-49). One of the inhabitants of Komunimakae, an elder brother of Manu, told me that their customary bamboo panpipes, Urunaiporo, are a gift from their ancestors. They believe that they have inherited blood and talent for making and playing 'au from the ancestors. In other words, ancestral property is manifested as (and in) a specific set of instruments.

The contemporary 'au also have a particular name even though they are not associated with taboos like the sacred 'au. Specifically, Poiarato, the name of the band, is originally the name of a set of instruments. The reason for the name dates back to when Manu made the set in his childhood. According to him, he learned how to make and play old types of 'au from his father who was known as a master of 'au takairori. When he was a student at a local primary school he also learned about the contemporary 'au which is tuned to the western scale. He made a set of contemporary 'au and gathered children to play it in the village. Their village was in a very muddy place, and the residents were annoyed by the frequent rain. The ground in the village was often in a terrible condition because of the heavy rains. According to Manu, one rainy day, he and friends played his panpipes in a house. As soon as they started playing 'au, miraculously, the rain stopped, and the sky suddenly cleared up. After that incident, someone started to call his panpipes words meaning "cry for the sun".²⁰

Interestingly, the 'au with a particular name continue to be called by the same name even if the materials have deteriorated, been replaced or repeatedly reproduced. Today, the 'au

¹⁷ This name is not a pseudonym because it is necessary for the argument of this paper.

¹⁸ This folklore draws from accounts mainly provided by Manu and his brothers that have been translated and collated by the author.

¹⁹ Zemp has stated, "I must only mention here that instrumental ensembles -like human beings, pigs and canoes- are given personal names" (1978: 52 – see also 64 n8).

²⁰ The name of the band has almost the same meaning.

Samoto: Unstable Pitch in the Rainforest

takairori named Urunaiporo is stored in the house of a relative of Manu in the neighbouring village of Komunimakae. Physically, it is a different 'au made of different materials from the Urunaiporo in the myth because it is relatively new one that was remade after a long time by Manu's grandfather and his relatives. However, today, they regard and treat that 'au *takairori* as Urunaiporo itself. In the same way as Urunaiporo, the set of instruments of Poirato are different in materials, but they are still regarded as the 'au named Poirato. The set is continuously kept as the particular 'au by repairing, tuning, and naming it. It is a practice of mimesis of particular past 'au.²¹

As previously mentioned, the word 'au also means bamboo in local language (Geerts, 1970: 15). Zemp described a further complexity of the meaning, connected to all bamboo instruments and music ensembles:

Among the 'Are'are people the lexeme 'au signifies "bamboo" at the most general level, and contrasts with other categories of plants, such as 'ai "tree." At the level of the utilization of the plant material by man, 'au means "musical instrument(s)" [of bamboo] and contrasts with nahe "bamboo used for cooking," for example. All musical instruments which can produce a melody are made of bamboo, and it is with the term 'au that the 'Are'are people designate European musical instruments and the objects which transmit western music, such as radio, record player and tape recorder. At the most specific level - that of instruments played at ritual feasts - 'au signifies "panpipe ensemble," contrasting with 'o'o "slit drum." By extension of meaning [sound producer - sound product], 'au means "instrumental music" [made by baniboo instrument(s)] or, more specifically, "music of panpipe ensemble(s)". (1978: 37)

However, focusing on the fabrication and identification process of 'au, the semantic ambiguity of the word 'au could be understood in another way. The makers processed 'au and tuned them based on a specific scale. The 'au is named, sometimes subjected to sacrifice and subject to taboo, so that it is completed as unique instruments. Interestingly, the instruments are thought to be "crying" by breathing in. Considering this fabrication and identification process of 'au, the ambiguity of the word suggests the elastic and transformative materiality of the instruments that transform from material into tools and from tools into sacred objects while being called the same word, 'au.

Mimesis of Music and the Continuity between Magic and the Technology

The contemporary bamboo panpipes, 'au *siri'ini*, are tuned to the the major diatonic western scale. Some informants told me the pitch was based on that of the guitars that are used in Christian songs or popular music. Indeed, when the members of Poirato tuned their instruments, I observed that they used a guitar to check the pitch of the scale. In 'Are'are terms, they shaved the bamboo by imitating (*husi 'au hahoia*) the guitar. Manu and some leading 'au players mentioned in conversations with me that this type of 'au was invented in the mid-1970s by a man from S'a, an area of South Malaita Island. After that, it

²¹ There is another aspect of imitation about 'au. Zemp described that one type of solo bamboo instrument was invented by imitating a bird's cry (1978: 50). Also, the repertoires of some 'au ensembles have each title derived from the sound pattern the piece imitates: the cry of birds, the weeping of persons, the action of animals, etc.

started to be accompanied by percussive panpipes, wooden drums, and songs.²² Some of the percussive panpipes bundled four or three bamboo tubes tuned to several chords by following a guitar.



Figure 2 – A part of the bamboo panpipes of Poirato (Photo by Hidenori Samoto, 2013)²³

On September 9, 2009, I encountered a show of contemporary bamboo panpipes for the first time in a village located almost seven kilometers from Komunimakae. At first, Poirato performed with *'au siri'ini*. After playing for a while, they switched to playing *'au takairori*. A mature man who lived in the village told me that *'au takairori* was the customary bamboo panpipes: in *'Are'are* terms, the bamboo panpipes of the land (*'au hanua*). He continued to explain that the performance with *'au siri'ini* only resembled music: he used the English word “music”. This episode suggests that the performance with *'au siri'ini* is regarded as the mimesis of music. In addition, the bamboo panpipes that are used today are characterised by the hybridity of different scales. In the instruments of Poirato (Figure 2), *'au siri'ini* were mounted together on the same crossbar with *'au takairori* or *'au rerepi*. The *'au siri'ini* was originally made by Manu himself around 1990. Manu told me that he purchased the *'au rerepi* from his in-laws in a village on the eastside of *'Are'are*. He received the *'au takairori* from relatives in the vicinity of Komunimakae. According to Manu's explanation, he re-tuned these customary bamboo panpipes with the *'au siri'ini* he made by

²² It is presumed that the style of *'au siri'ini* was established by the fusion of *'au* and the bamboo band which was popular in the Western Solomon Islands or the string band, which is a major style of Melanesian popular music. In *'Are'are*, it is said that one leading *'au* player in *Raroisu'u*, an area of South Malaita Island where *'Are'are* people reside, invented several types of new instruments and developed the style of *'au siri'ini*.

²³ A part of *'au takairori* (left), *'au rerepi* (middle), *'au siri'ini* (right) are attached.

himself. Taking an instrument which Manu used, for example, an *'au siri'ini* which contains some tubes taken from the *'au takairori*, the re-tuned one was mounted on one side and the re-tuned *'au rerepi* was mounted on the other side. Manu told me that *'au rerepi* and *'au takairori* are included in *'au siri'ini*. In other words, Manu considered that the scale of *'au siri'ini* contained both the pitches in the scale of *'au takairori* and *'au rerepi*. However, he also recognised in practice the difference between the scales of customary *'au* and the contemporary one. Because the scales of customary bamboo panpipes depend on a non-diatonic scale, some pitches, in a strict sense, deviate from the scale of contemporary *'au*.²⁴ So, these customary bamboo panpipes are still used to play pieces created for them rather than the contemporary *'au*. In fact, the *'au siri'ini* side of Manu's hybrid instrument has an extra tube which provides the deviating tone necessary to play a piece for *'au takairori*. Also, he had attached *'au* to the other side because it is easier to play as the number of tubes is smaller than *'au siri'ini*. The instruments can be mediating among several scales. By using the pitches while recognising the differences between customary instruments and western music, they imitated music on the one hand and extended the variations of bamboo panpipes on the other.

The extensibility of the *'au* also plays a role in the articulation of the instruments and audio technology in the commercialisation of the bamboo panpipes. In recent years, the bamboo panpipes have strengthened the connection between the local and the global markets of popular music. In general, the performers gain cash income through performance and recording. In that process, the *'au* emphasises not only the western scale, which is easily accepted by the public and overseas audiences, but also the flashy garments and gestures that come with show business. Furthermore, technologies for music activity, such as microphones, speakers, and sound mixers are used in performances and are becoming indispensable to bamboo panpipes. Poiarato also purchased or received devices such as mixers, mics, and loudspeakers. They used them with frustration because of the instability of their operation in the harsh rainforest environment and the difficulty of repairing them in the Solomon Islands' economic and industrial environment. However, there was a machine that was received by Poiarato in a different way: a tuner.

In September 2013, when I was in the village, the band members were repairing their instruments. One day, as I observed them doing repairs, a young member said that there was a machine that would allow him to know the correct pitch quickly. I asked him what the machine was. He told me that the band had an electronic tuner from the Australian who was their producer in 2005. He added that they did not know where it was. After that, I visited Manu and asked him about the tuner. Manu told me that the producer argued with them that the band had to use the machine to tune the pitch correctly to be accepted by listeners overseas. When he tuned with the machine, he said, the sounds of *'au* wonderfully lined up, and then he realized that old instruments, which were tuned by ear, were not, in reality, "lined up". He said when they played for local people, there was no problem with tuning instruments roughly, but they had to tune instruments correctly when they play for overseas listeners. Lastly, Manu told me that the tuner was broken and he had already thrown it away. When I heard this, I thought that they imagined the tuner to be a global standard in contrast with the elastic materiality of bamboo instruments and the unstable rainforest environment. In other words, the tuner was imagined as a symbol of a world standard, even after it had broken and failed.

²⁴ According to Zemp's analysis, the scale of *'au takairori* and *'au rerepi* depends on the equiheptaphonic second and its variant (1979: 6-10). However my observations suggest that the equiheptaphonic scale may be gradually approaching the diatonic one..



Figure 3 – The Korg electronic tuner owned by Poirato (Photo by Hidenori Samoto, 2013)

But the discussion detailed above was not so simple from the ensemble's point of view. The young member who talked to me about the tuner confessed to me that he suspected Manu had actually hidden the tuner and was using it secretly. Later, it turned out that his suspicion was correct. In fact, Manu had lied to me. The tuner was truly broken, but he had concealed it and tried to repair it in the capital. He did not tell me this fact to avoid revealing it to other members of the band. One of the senior members of the band explained Manu's behaviour from an unexpected perspective. He said they had been suspicious not only of the machine. They thought that Manu secretly knew the way to use the pipes' magical charm, or that his father put the elements of magical charm into his instruments. His father was also known as a virtuoso of 'au when he was alive. So they suspect that Manu uses the magical charm like his father to enchant the listeners (but only for him). The senior member continued by contending that, similarly, Manu was trying to monopolise the machine that the producer gave to the ensemble to get wealth from overseas. This episode suggests that the performers recognised a continuity between the tuner and the magic at the level of the ability to enchant listeners, even though they distinguished these elements at the level of the source and range of efficacy. From the ensemble members' point of view, the tuner provided by the producer was needed as a technology to articulate the charm of their sound in the global market.

Finally, the senior member shared another interesting opinion. He said the Australian producer who gave them the tuner had been too strict for them. He said that, though they appreciated him, some of them felt bad because the producer had tried to control their musical expression and, further, their personal behavior through technical acts such as the method of tuning. That was one of the reasons why they stopped working with that producer and signed a contract with another one. He continued by saying they had no problem stopping the activities with their original producer. Because they have *marutana*, they might be able to find other enchanted mediators such as the new producer. Another member who was there told me that they do not trust these mediators completely but

accept them; so, they can eliminate a producer if they perceive them as untrustworthy, as they perceive the former producer to have been.²⁵

Conclusion

As detailed in the last section of this article, the makers and players of the bamboo panpipes regarded one of the audio technologies, the tuner, as a symbol of the global standard of music. It seems that they recognised the difference between the indigenous musical technique and the foreign audio technology through an instrumental rationality. In this sense, it appeared as if the indigenous techniques in the bamboo panpipes were standardised, and the makers and players were approaching a rationalistic or modernistic way of thinking about music. However, this example also suggests a continuity between the audio technology and the indigenous techniques of *'au* from their point of view. The tuner provided by producers was desired as a technology to expand the charm of their instruments into the global market. This is similar to how the magical charm of the virtuosos of *'au* was envied as an ancestral way to enchant listeners and gain wealth. The audio technology was recognised as a similar strategy to enchant listeners, even if the contexts were different. This event cannot be grasped through the framework of the rationalisation and standardisation of indigenous music as a result of globalisation. In contrast, it is a manifestation of a more complex and reflective process concerning the differences and continuities between audio technologies and indigenous instruments. What I would like to highlight here is the fact that the technical focus for bamboo panpipes was to imitate predecessors, to create individuality and to maintain the pitch, which indicated the identity of the *'au* in an unstable environment. In the same way, the ensemble imitated western music through the technical act of making and tuning instruments.

In research on popular music including world music, mimesis tends to be discussed negatively. The creative faculty of mimesis is taken to have already been lost, and the institutions and desires of the global music industry are considered to divide indigenous music into pieces and distribute them as commodities through empty mimesis.²⁶ However, such a statement catches only half of the mimesis that can occur at the interface between music and indigenous instruments. We must focus on another aspect of mimesis, i.e. of interaction as a resilience strategy of indigenous performers. In this sense, the mimesis of music with bamboo panpipes is a manifestation of the strategy to maintain and expand the efficacy of their indigenous instruments into the edge of the global music industry. However, considering this phenomenon as opposing mimesis, as resistance to the exploitation by the production of commodities by the music industry, also captures only a part of the situation. On the one hand, the use of bamboo instruments looks like an analog process mimetically reproduced as a commodity under the same process as the production of other music commodities. On the other hand, the things surrounding music are seen as analogs of *'au* from the *'Are'are* point of view, so that the production of copies as the mimesis of music is carried out through the same process as the manufacture of instruments. In this way, a "reversed anthropology" is expressed here, as in Wagner's interpretation of cargo cults (1981: 31-34). These mimetic interactions of music and *'au* cannot be reduced to simple adaptation or resistance to the globalisation of music. Rather,

²⁵ He added that they also accepted me with the same suspicion.

²⁶ See Feld (1996).

Samoto: Unstable Pitch in the Rainforest

it can be understood as the process of “translative adaptation” to “incorporate cultural elements of external dominant society by interpreting them in their own ways” (Maegawa 2014: 28).²⁷ In other words, in this process, nonconventional elements and activities of music are objectified, and they are articulated with or translated into the conventional elements and activities of 'au. This process ultimately recreates and enriches 'au as a mimetic amalgam.

Acknowledgement

This study was funded by the Resona Foundation for Asia and Oceania, and the Shibusawa Foundation for Ethnological Studies. I would like to thank Dr. Sophie Chave-Darton for her comments and encouragement at a poster presentation of some of the materials in this paper at Tsukuba Global Science Week, September 29, 2014. I also want to thank the members of the panel session at the Inter-Congress 2016 of the International Union of Anthropological and Ethnological Sciences. In particular, Mr. Edouard Degay Delpuech gave helpful advice after reviewing the manuscript of the first version of this paper. This paper is a developed version of the manuscript presented at the 12th International Small Island Cultures Conference, held in Okinawa on June 18, 2016. I am grateful to the participants at the conference who gave me constructive comments. I am also grateful to Dr. Grant Jun Otsuki and my supervisor Prof. Hisao Sekine for giving me valuable advice. Finally, I wish to express my gratitude to all my friends in the Solomon Islands who kindly aided and supported my research.

BIBLIOGRAPHY

- Akin, D.W (2013) *Colonialism, Maasina Rule, and the Origins of Malaitan Kastom*, Honolulu: University of Hawai'i Press
- Crowdy, D (2007) 'Studios at Home in the Solomon Islands', *The World of Music* v49 n1: 143-154
- de Coppet, D (1985) 'Land Owns People', in Barnes, R.H, de Coppet, D and Parkin, R.J (eds) *Contexts and Levels: Anthropological Essays on Hierarchy*, Oxford: JASO: 78-90
- (1994) 'Are'are', in Barraud, C, de Coppet, D, Iteanu, A and Jamous, R (eds) [translated by Suffern, J] (1994) *Of Relations and the Dead: Four Societies Viewed from the Angle of Their Exchanges*, Oxford: Berg Publishers Limited: 40-65
- de Coppet, D and Zemp, H (1978) *'Aré'aré: un peuple mélanésien et sa musique*, Paris: Seuil
- Feld, S (1996) 'pygmy POP: A Genealogy of Schizophonic Mimesis', *Yearbook for Traditional music* v28: 36-56
- (2000) 'Sweet Lullaby for World Music', *Public Culture* v12 n1: 145-71

²⁷ On the topic of the reinterpretation of external elements in Oceania, the anthropological literature is very rich. See Sahlins (1985) and Thomas (1991). O'Hanlon's article on the change of shields' design in New Guinea Highlands is closely related to this paper (O'Hanlon 1995).

Samoto: Unstable Pitch in the Rainforest

Feld, S and Crowley, D (2000) 'Melanesia: bamboo boogie-woogie', in Broughton, S and Ellingham, M (eds), *The Rough Guide to World Music, Volume 2: Latin and North America, Caribbean, India, Asia and Pacific*, London: Rough Guides: 64-68

Geerts, P (1970) *'Are'are Dictionary*, Canberra: Linguistics Circle of Canberra, Australian National University

Hayward, P (1998a) 'Introduction: Beyond the Axis', in Hayward, P (ed), *Sound Alliances: Indigenous Peoples, Cultural Politics and Popular Music in the Pacific*, London and New York: Cassell: 1-7

---- (1998b) 'A New Tradition: Titus Tilly and the Development of Music Video in Papua New Guinea', in Hayward, P (ed), *Sound Alliances: Indigenous Peoples, Cultural Politics and Popular Music in the Pacific*, London and New York: Cassell: 142-157

---- (2012) 'A Place in the World', in White, B.W (ed) *Music and Globalization: Critical Encounters*, Bloomington: Indian University Press: 52-74

Henderson, C.R and Hancock, I.R (1988) *A Guide to the Useful Plants of Solomon Islands*, Honiara: Ministry of Agriculture and Lands, Solomon Islands Government

Katomi, M (1981) 'The Processes and Results of Musical Culture Contact: a Discussion of Terminology and Concepts', *Ethnomusicology* v25 n2: 227-249

Maegawa, K (1999) 'From Articulation to Translative Adaptation: Methodological Inquiries into the Localization Process of Western Culture', *Journal of Asian Pacific Communication* v9 n1-2: 131-144

---- (2014) 'Dynamics of Culture in Interface: Theoretical Consideration', In Wong, H.W and Maegawa, K (eds), *Revisiting Colonial and Postcolonial: Anthropological Studies of the Cultural Interface*, Los Angeles: Bridge Publications: 21-40

O'Hanlon, M (1995) 'Modernity and the 'Graphicalization' of Meaning: New Guinea Highland Shield Design in Historical Perspective', *The Journal of the Royal Anthropological Institute* v1 n3: 469-493

Samoto, H (forthcoming) 'Bamboo Panpipes and the Good Fortune: Expectation on Wealth and Development in 'Are'are, Solomon Islands', *Journal of Cultural Anthropology* v18 (in Japanese)

Sahlins, M (1985) *Islands of History*, Chicago: The University of Chicago Press

Scales, C (2012) *Recording Culture: Powwow Music and the Aboriginal Recording Industry on the Northern Plains*, Durham: Duke University Press

Statistics Office, Solomon Islands Government (2012) *Solomon Islands Population and Housing Census 2009, Basic Table and Census Description*, Honiara: Solomon Islands Government

---- (2014) *Provincial Profile of the 2009 Population and Housing Census: Malaita*, Honiara: Solomon Islands Government

Samoto: Unstable Pitch in the Rainforest

Tai, R (1998) 'Solomon Islands' in Love, J.W and Kaeppler, A (eds), *The Garland Encyclopedia of World Music Volume 9: Australia and the Pacific Islands*, London: Routledge: 155-158

Taussig, M (1995) *Mimesis and Alterity: A Particular History of the Senses*, New York: Routledge

Thomas, N (1991) *Entangled Objects: Exchange, Material Culture, and Colonialism in the Pacific*. Cambridge: Harvard University Press

Wagner, R (1981) *The Invention of Culture*, Chicago: The University of Chicago Press

Wilson, H and Derby, M (1998) 'Te Wa Whakapaoho i te Reo Irirangi: Some Directions in Maori Radio' in Hayward, P (ed) *Sound Alliances: Indigenous Peoples, Cultural Politics and Popular Music in the Pacific*, London and New York: Cassell: 127-141

Zemp, H (1978) 'Are'are Classification of Musical Types and Instruments', *Ethnomusicology* v22 n1: 37-67

---- (1979) 'Aspects of 'Are'are Musical Theory' *Ethnomusicology*, v23 n1: 5-48

---- (1981) 'Melanesian Solo Polyphonic Panpipe Music', *Ethnomusicology* v25 n3: 383-418

---- (1995) *Écoute le bambou qui pleure: Récits de quatre musiciens mélanésiens ('Aré'aré, Îles Salomon)*, Paris: Gallimard

---- (1996) 'The/An Ethnomusicologist and the Record Business', *Yearbook for Traditional music* v28: 36-56