

# Heterochord Board and Strip-Zithers in the Cordillera, Northern Philippines

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## INTRODUCTION

Plucked and struck board and trough zithers are rare in Southeast Asia; their main area of distribution is Central Africa.<sup>1</sup> Box-zithers, with strings stretched over a board but with an integral resonator are common in the Eurasian tradition, the most striking examples of which are psaltery, hammer dulcimer and piano. There are box-zithers in Madagascar, but these seem to be very recent developments from the tube zither.<sup>2</sup> Large box-zithers are found in the Javanese classical tradition, but these probably develop from the Islamic psaltery tradition. Heterochord and idiochord tube-zithers are widespread in Island Southeast Asia (ISEA) and on parts of the mainland. Half-tube zithers are probably the source for the large zithers of East Asia, the *koto*, *qín*, and similar instruments.

Fieldwork in 2010<sup>3</sup> in the Cordillera of northern Luzon among the Ifugao and related peoples revealed an undocumented tradition of board-zithers, as well as an organologically unusual development, a zither based on rigid metal strips. These seem to have no parallel in the Philippines, or indeed elsewhere in ISEA, so the question arises as to their origin and evolution. Maceda<sup>4</sup> presented an otherwise comprehensive overview of the musical instruments of the Philippines, but does not mention these two forms of zithers apart from a preliminary listing

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<sup>1</sup> Jean-Sébastien Laurenty, *Les cordophones du Congo Belge et du Ruanda-Urundi*. Vol. 2. Tervuren:

<sup>2</sup> Roger Blench, "The morphology and distribution of sub-Saharan musical instruments of North African, Middle Eastern, and Asian origin," *Musica Asiatica*. Ed. Laurence Picken. Vol. 4. Cambridge: Cambridge University Press, 1984, pp. 155-91.

<sup>3</sup> Fieldwork was conducted through a grant from the World Oral Literature Project (WOLP) and was focused on documentation of the *hudhud*, a largely vocal epic genre. A double DVD with an accompanying booklet, containing numerous examples of musical performance was published locally; Roger Blench and Fredeliza Campos, *Documenting the Music of the Ifugao: A Video and Audio Recording of Recent Materials*. For non-commercial public distribution: WOLP, 2011.

<sup>4</sup> José Maceda, *Gongs and Bamboo: A Panorama of Philippine Music Instruments*. Diliman, Quezon City: University of the Philippines Press, 1998.

published in 1966.<sup>5</sup> This singular entry of *kaltsang*, a board zither made by the Ibaloi, a large cultural group inhabiting Benguet province, and photographs of musical instruments from Ifugao show that he clearly documented their existence (Figure 1).



Figure 1. Collection of Ifugao musical instruments photographed by Maceda in 1967. Courtesy of the University of the Philippines Centre for Ethnomusicology (UPCE).

## IFUGAO AND THE CORDILLERA REGION

Luzon is the northernmost large island in the Philippine archipelago and its interior is dominated by a high mountain range, the Cordillera (Figures 2 and 3). The peoples of this region are known under the rather loose label of ‘Igorot’ in older literature, but they actually comprise a variety of major cultural groups such as the Tingguian, Isneg, Kalinga, Kankanaey, Ibaloi, and Ifugao.<sup>6</sup> Between these groups are smaller subgroups determined not only by locales but also by

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<sup>5</sup> José Maceda, “Classification and distribution of musical instruments in the Philippines, a preliminary report.” *The Musics of Asia: Papers Read at an International Music Symposium, April 12-16, 1966*. Ed. José Maceda. Manila: 1971, pp. 24-37. In this list, there is only one board zither that was recorded, the Ibaloi *kaltsang* though fieldwork by Maceda showed a few photographs in Ifugao dated 1967 containing a good number of heterochord board zithers.

<sup>6</sup> There is no accurate account of the diversity and number of indigenous groups in the Philippines. Major groups enumerated here were based on government census as reported by Arthur Alipio. *A report on the People and Environment in the Central Cordillera Region of the Philippines*. La Trinidad, Benguet: Cordillera Conservation Trust, 2006; and the International Workgroup for Indigenous Affairs, reports 2010-2011, as well as ethnographic accounts such as by Patricia Afable. *Ethnic Units in the Cordillera of Northern Luzon, Philippines*. New Haven, 1967.

variations in dialects.<sup>7</sup> Although the Spanish conquest of the Philippines dates from the sixteenth century, the highlands were only incorporated much later due to the difficulties of movement in the mountainous terrain and the headhunting culture of the highlanders. As a consequence, the culture of the Cordillera was much less subject to outside influence until the American era, when the Spanish occupation finally ended in 1898.<sup>8</sup> Eventually, interaction between the foreign and local inhabitants prospered, and Ifugao became the largest group represented in the Cordillera at the turn of the twentieth century.<sup>9 10</sup>



Figure 2. Philippine map and the provinces under the Cordillera Administrative Region.

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<sup>7</sup> For instance, Ifugao is represented by three large groups, the Ayangan, Tuwali and the Kalanguya but also subdivided into at least 10 dialects (Blench and Campos, 2011).

<sup>8</sup> William Henry Scott. *History on the Cordillera: Collected Writings on Mountain Province History*. Cordillera World Project, Vol. 2. Baguio City, Philippines: Baguio Printing & Pub. Co., Inc., 1975, pp. 115-149.

<sup>9</sup> Howard Tyrell Fry. *A History of the Mountain Province*. Quezon City, Philippines: New Day Publishers, 1983.

<sup>10</sup> Frank Lawrence Jenista. *The White Apos: American Governors on the Cordillera*. Quezon City, Philippines: New Day Publishers, 1987.

All the populations of this region are Austronesian-speaking, and indeed from the Cordilleran language subgroup.<sup>11</sup> There is considerable evidence for pre-Austronesian populations in the shape of Negrito foragers, the Agta and similar groups, but today these all speak Austronesian languages, and what contribution they may have made to the musical culture of the region is now hard to determine.

Generally speaking, the musical culture of the Ifugao resembles other Austronesian groups in Luzon in placing considerable emphasis on text and vocal music, rather than instruments. It is generally monophonic, and instrumental

accompaniment is fairly rudimentary. The complex ensembles of tuned gongs, xylophones and large lutes found elsewhere in the Philippines are absent. The broader pattern of Ifugao music is responsorial. A cantor sings a line and the chorus responds, either repeating the first line or articulating a standard choral response. Musical instruments used for personal entertainment, such as the zithers and duct-flutes are the exception. However, great emphasis seems to have been placed on musical instruments as speech-surrogates, and we know that Jew's harps, duct flutes and paired idioglot clarinets were used for this purpose. Speakers were able to form syllables, which could be interpreted by skilled hearers and understood as speech and were usually played expecting a response from another performer.<sup>12</sup> This practice was strongly associated with courting, as in Taiwan, but the modernisation of marital customs has meant that it has largely been discontinued. The growth of Christianity has also played a large role in the erosion of traditional musical practice, only for it to be replaced by a 'cultural heritage' version of the same, which

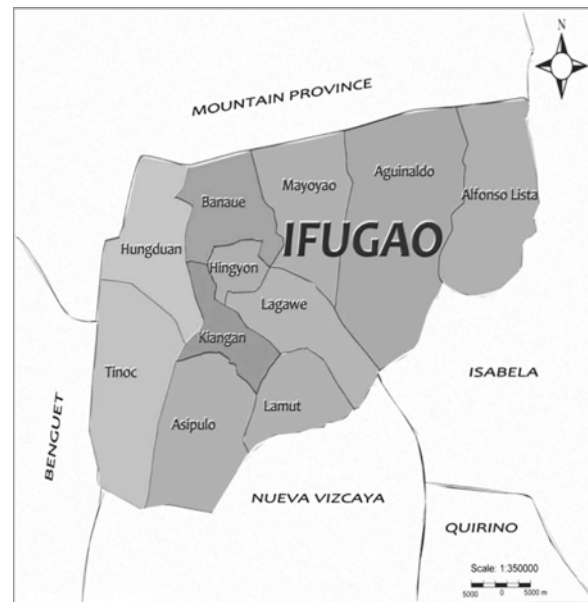


Figure 3. Landlocked provinces of the Cordillera, including Ifugao which comprises of 11 municipalities. Apart from analysing materials from museum collections, Hungduan, Asipulo, Banaue, Kiangang, Hingyon, Lagawe, Mayoyao and parts of Benguet were surveyed in the summer of 2010. Map drawn by F. Campos.

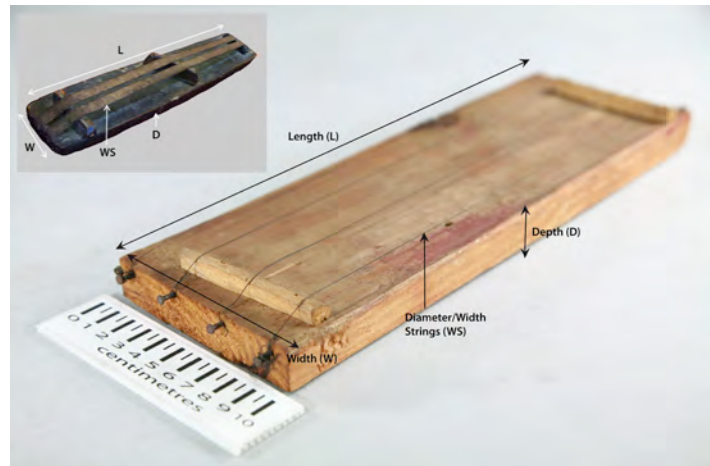
<sup>11</sup> Lawrence A. Reid, "North Philippines Languages." *Encyclopedia of Language and Linguistics*. Ed. K. Brown. 2<sup>nd</sup> ed. Vol 8. Oxford: Elsevier, 2005, pp. 707-09.

<sup>12</sup> The contrast with the European notion of the Jew's harp as a solo instrument, embodied in the Italian name *scacciapensieri*, 'while away thoughts', could not be more striking.

bears only a limited resemblance to traditional practice and is principally for consumption by outsiders.<sup>13</sup>

## DATA AND METHODOLOGY

A total of 240 musical instruments from the area were examined for this study, dating from the early 20<sup>th</sup> century up to the present<sup>15</sup>. Out of these, eight were identified as heterochord zithers and are thus discussed in this paper (Table 1). The earliest dated examples are kept in the Field Museum of Natural History (FMNH) in Chicago, U.S.A.<sup>16</sup> and were mostly collected by William Jones and S. Chapman Simms between 1906 and 1909.<sup>17</sup> Several museums in the Philippines and in the Cordillera were visited, including the large collection of ethnomusicologist Jose Maceda archived at the University of the Philippines Center for Ethnomusicology. Most of the musical instruments held in the Philippines date from the late 1940s to the 1990s, largely due to damage to the national museum of the Philippines in Manila during the Japanese occupation. Government buildings and other structures were burnt down during the Second World War, resulting in a



**Figure 4. Measurements of the Ibaloi zither (courtesy of UPCE) and strip-zither from Banaue courtesy of Banaue Museum and the Beyer family (inset). Illustration by F. Campos.**

<sup>13</sup> Roger Blench and Fredeliza Campos. "Recording oral literature in a literate society: a case study from northern Philippines." *Language Documentation and Description*. Eds. I. Gunn and M. Turin. Vol. 8, Special Issue: Oral Literature and Language Endangerment. London: ELAP, Has Rausing Endangered Languages Project, School of Oriental and African Studies, 2010.

<sup>15</sup> Fredeliza Campos, *A Study of the Musical Instruments of Ifugao in the Cordillera Region, Northern Philippines*. Hong Kong: Music Department, University of Hong Kong, 2012, contains the complete list of museums and provenance of musical instruments.

<sup>16</sup> F. Campos analysed Ifugao musical instruments at FMNH in 2011 and a second visit was made in 2012 to analyse the rest of the museum's collection of Philippine musical instrument. For FMNH alone, a total of 346 musical instruments were measured and analysed, none of which is a board zither.

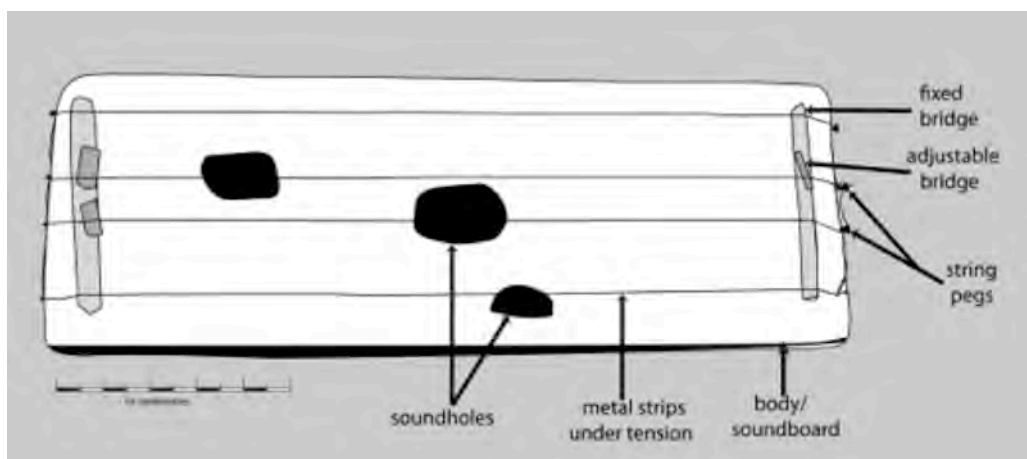
<sup>17</sup> Bennet Bronson. "Field Museum and the Philippines." *Field Museum of Natural History Bulletin*, 53:7, 1982, pp. 4-10.

massive loss of archives and ethnographic materials.<sup>18</sup> Fieldwork conducted by the authors in 2010 resulted in new inventories of small municipal museums and musical instruments kept by the local members of the community, two of which are board zithers. Figure 4 shows the basic measurements made on the zithers.

## ORGANOLOGY OF THE ZITHERS

### *Board Zithers*

A typical heterochord board zither has a rectangular resonating board and often has a number of holes pierced in the soundboard to increase the volume (Figure 5). Nails are hammered into either end to hold the strings. Wooden sticks are placed under the strings that vary the tension and thus double the number of potential pitches. This can be seen rather more clearly in the better-made instrument in Figure 6. The player holds the zither at right angles to the stomach and plucks the strings with the thumbs in much the same fashion as the African *mbira*. To increase the volume, the player puts a resonator, such as a tin cup or a coconut husk, underneath the instrument although these are not attached to it (Figure 7), unlike the resonators common in African board-zithers.



**Figure 5. Heterochord zither from the municipality of Asipulo, Ifugao Province, This zither was made by the owner himself. Courtesy of D. Dulnuan. Drawn by F. Campos.**

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<sup>18</sup> Eric B. Zerrudo. "Making museums: the development of Philippines museums from 1901-1998." Manila, 2011. National Commission for Culture and the Arts, online access May 24, 2013. [www.ncca.gov.ph](http://www.ncca.gov.ph).



The strings are presently made of industrial wire and the question arises as to what would have been used prior to such wire becoming available. It is simply not possible to fix and tension a heterochord zither with vegetable fibres in this way. This suggests that the whole instrument underwent an organological transformation, if it developed from the idiochord zithers.



**Figure 6. Heterochord zither with 4 strings made from industrial wires. Courtesy of V. Annannayo.**

The board zithers recorded during fieldwork seem to be significantly different from those in some on the institutional collections in the Philippines. Figure 8 shows a three-string board zither that shows virtually no structural difference with the other zithers. There are no resonator holes, no supplementary bridges and no attachment for an external resonator. Figure 9 shows a high-waisted heterochord board zither without any trace of supplementary bridges and it is not clear that it could be tuned except by tightening the strings themselves. There is no evidence for a resonator. Both the decoration and the waisted shape suggest European influence, from a dulcimer or other table-zither. It is difficult to imagine these instruments were tuned, and were probably strummed or plucked during performance.



**Figure 7. The use of a cup placed underneath the board, to serve as a resonator. Courtesy of D. Dulnuan.**

### *Strip-zither*

‘Strip-zither’ is not a standard organological term, but no existing term seems to be appropriate. The basic form of the instrument consists of stretched metal strips over a long rectangular resonating board. Figures 4 and 10 are typical examples of this instrument. Like the production of metal Jew’s harps, where the community used empty bullet shells as raw materials,<sup>19</sup> the change from a string to a wider strip of metal must have been propelled by manufacturing and commercial progress in the area, since the metal strips are probably taken from industrial packing-chests. They are pinned to either end of the resonating board and pass over wooden bridges on either end, but cannot otherwise be tensioned. The bridges however can either be carved from the original block of wood, or be separate pieces.



**Figure 8. The use of resonators. Courtesy of D. Dulnuan. Zither collected from Ifugao. Photo courtesy of UPCE.**

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<sup>19</sup> Blench and Campos, 2011. There is no accessible record of metal Jew’s harps in Ifugao before the 1940s. After the war, local musicians who usually are producers of their own musical instruments themselves collected used, empty bullet shells and had them made into metal Jew’s harps.



A highly unusual example of this zither has a resonating board carved in a human figure, similar to the *bulul*, the Ifugao rice god (Figure 9). No similar instruments have been recorded in any institutional collections, but the carving

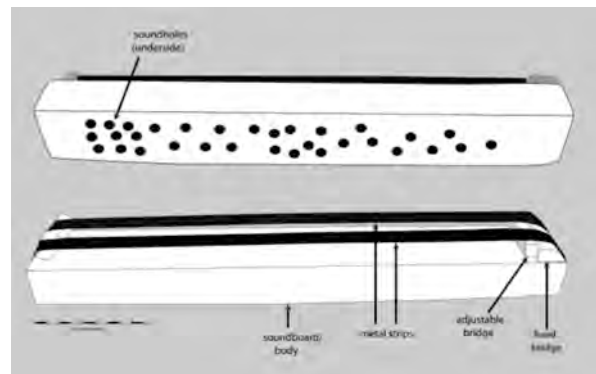
of the figure strongly suggests an Ifugao origin. Moreover, the widths of the metal strips are of the same measurements as the other Ifugao board strip-zithers. Some Swedish *hummel* zithers type also have a sculpted head and torso,<sup>20</sup> which could suggest that this specimen is European-influenced, though other Philippine musical instruments with zoomorphic features such as the *kudyapi* boat-lute may well be its

inspiration. The zithers cannot be plucked with fingers but must be struck with sticks, as is common for some types of idiochord tube-zithers. Unfortunately, no players were encountered during fieldwork, so we have no reliable indication of performance methods.



**Figure 9. Board strip-zither with an anthropomorphic figure, collected by R. Blench from Ifugao. After Campos, 2012a.**

Organologically, the strip-zither has become something quite distinct, since the wide bands no longer behave like vibrating strings, but like lamellae, similar to the Jew's harp. However, they are fixed at both ends and thus cannot have the same resonating properties. They can only be tensioned by moving the bridges, but the pitch must derive from the width and tensile strength of the metallic band, and putting it under greater tension is not likely to alter the pitch. The heterochord strip-zither has no distinct category in von Hornbostel and Sachs' classification and certainly warrants further organological investigation.



**Figure 10. A strip-zither from Banaue, Ifugao. Courtesy of Banaue Museum and Beyer family. Illustration by F. Campos.**

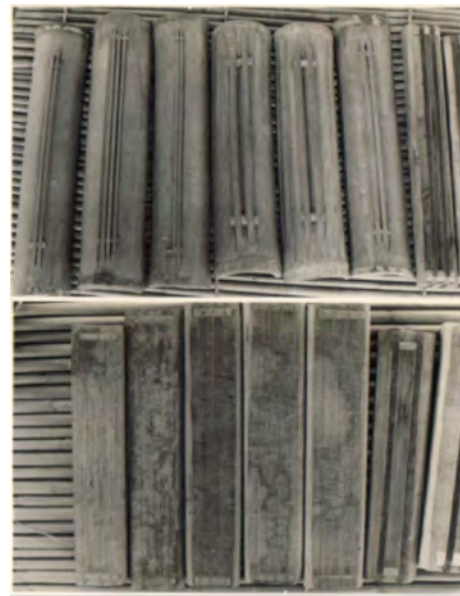
<sup>20</sup> Lucie Rault. *Musical Instruments: Craftsmanship and Traditions from Prehistory to the Present*. Ed. J. Brenton. New York, NY: Harry N. Abrams, 2000.



**Figure 11. A strip-zither collected by Maceda. Courtesy of UPCE.**

## IDIOCHORD ZITHERS AND THE PROBABLE ORIGINS OF BOARD ZITHERS

Whole and half idiochord tube zithers are part of the Austronesian instrument repertoire, stretching from the Northern Philippines to Borneo, Sumatra and Madagascar. Instruments can be plucked or struck with sticks; rare examples of bowed and even blown instruments (in the Seychelles) are recorded. They are made of a single bamboo internode, since this allows the epidermis between internodes to be lifted up with bridges. There are still played in much of the Cordillera. In the Philippines, instruments have 1-4 strings, but more elaborate instruments are played in Sulawesi for example. Low emphasis is placed on tuning, which is why more precise tuning devices have not developed. Figure 12 shows a group of half-tube idiochord struck zithers photographed among the Ifugao in 1967. Some of the ‘strings’ have become wide and flat, suggesting the robustness when being struck was a desired quality.



**Figure 12. A group of Ifugao idiochord tube zithers and board zithers photographed by Maceda in 1967. Courtesy of UPCE.**

Instruments of this type are the clear ancestors of the strip-zither, with a wooden board

substituting for the bamboo tube. Notably, the average length of tube zithers, particularly those produced from the early 20<sup>th</sup> century, which range between 32 cm and 45 cm<sup>21</sup> indeed suggests close affinity and most likely precursors of the board zithers in question.

Idiochord tube zithers are extremely abundant in museum collections and many older specimens have elaborate pyrogravure and a rich patina. Like the board zithers, they are usually played in small gatherings and for personal entertainment. Figure 13 shows a sample of the many specimens in FMNH. The tube zithers are either plucked or at times struck by small soft sticks, often as a way to “rehearse” or imitate gong-playing patterns. The great majority of these tube zithers have two or three strings, though variations have been observed, such as only a single string.<sup>22</sup> Instruments collected more recently are usually undecorated and more roughly made as they are now usually produced for the purpose of public performances. The loss of the resonant cavity of the bamboo would require the addition of a resonator to amplify the sound.



**Figure 13.. Early idiochord tube zithers from Ifugao. Courtesy of FMNH.**

## CONCLUSION: ORIGIN AND EVOLUTION OF THE BOARD ZITHER

Both the instruments described in this paper probably originated with different types of idiochord tube zither commonly found in Southeast Asia, but there is some evidence of cross-

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<sup>21</sup> Fredeliza Campos, unpublished data.

<sup>22</sup> Fredeliza Campos. “Traditional chordophones of the Ifugao: a look into the potentials of archaeomusicological studies in the Philippines.” *Musika Jurnal* 8, 2012, pp. 167-84.

fertilisation with the dulcimers or European table zithers. The idiochord board zithers cannot date from before the 1920s, as the type of piano-wire and nails required to make it would not have been available in the Ifugao area. The long instruments with three strings resemble plucked idiochord tube zithers quite closely and probably developed from them to increase durability. The squarer four-string instruments found in Ifugao are more of a puzzle, as they do not resemble tube zithers. It is possible they represent a fusion of the adapted board zither and a sight of a missionary instrument such as an auto-harp. Waisted instruments with four strings also look like their shape was influenced by a Euro-American dulcimer.

Another line of investigation is the musical similarities between cultural groups within the country and within Southeast Asia. So far, no other board zithers in central and southern Philippines have been documented. However, existence of a similar board zither in Myanmar is striking and a possible musical exchange with groups from the Cordillera is a provocative concept. Figure 14 shows a drawing of a Kachin instrument in the National Museum of Myanmar in Yangon.

The strip-zither is almost certainly a modern descendant of the two-string, struck, idiochord half-tube zither. It is likely this developed after the Second World War, when the type of strip metal used in packing chests would have been available.

The board-zither is only still played in Asipulo, as far as we could determine in our fieldwork. However, there are less accessible regions of the Cordillera where living traditions still exist and a clear research priority would be to visit these areas to try and find performers. Digitisation of the Jose Maceda field recordings is currently under way and it may be that it will soon be possible to listen to the sound of performers in the 1960s, when all these instruments were regularly played.

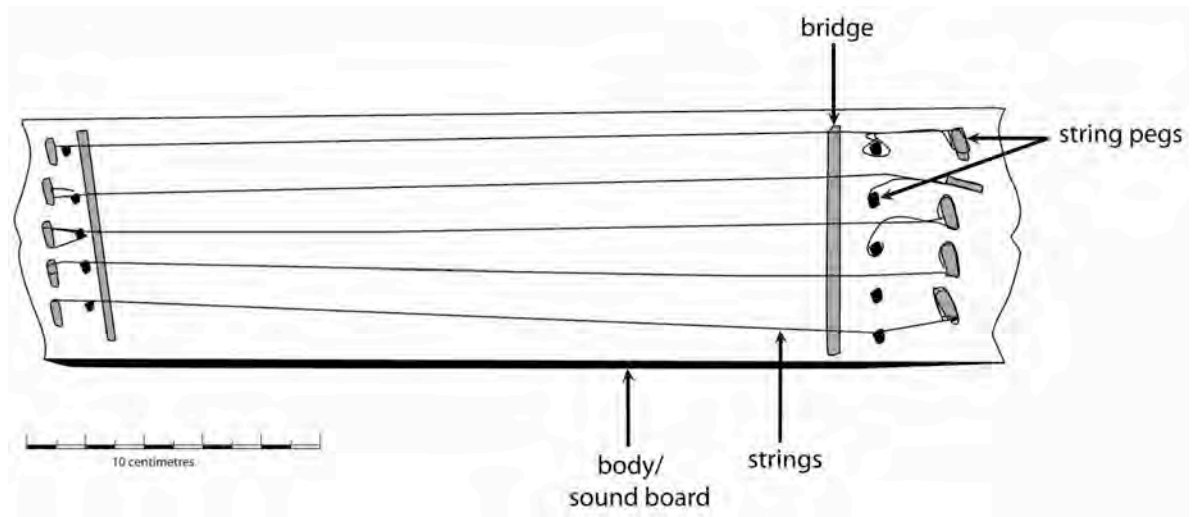


Figure 14. Board zither from Myanmar. Illustration by F. Campos.