The transverse flute: its worldwide distribution and organology

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1. Introduction

Although the transverse flute is almost an iconic instrument in Western classical music, it has a curiously patchy distribution in the world as a whole. Compared with the end-blown flute, which is found in almost all regions, it is unknown in many musical cultures. For this reason, it represents quite a good test of the idea that the same principle can be re-invented multiple times. This paper looks at the worldwide distribution of the transverse flute, and discusses whether the various occurrences are distinct or are somehow interconnected. This paper eschews its place in European music and omits discussion of modern developments in other regions of the world.

Quantz (2001:248) considered that King Midas invented the transverse flute, but many historical guides both in print and on the web, are hardly more accurate. Strangely, standard reference guides such as Grove (1984) or MGG or Garland, while containing a great deal of scattered information, do not consolidate it, either in a single article or in the indexes. Indeed, the only source that appears to take a global view of the *Querflöte* is Sachs (1927).

One problematic area in the history of the transverse flute is trying to detect early introductions of European fifes. Such instruments were common among sailors on the early exploratory voyages from the 15th century onwards and fifes were often seen as attractive by indigenous populations as they could be easily copied in local materials. Over time, these became adapted to local scales and melodic shapes and were thus were so far transformed that their morphology can seem idiosyncratic or indigenous. Sometimes the vernacular names can provide a clue, as they may be transparent or phonologised borrowings from a European language.

2. The organology of the transverse flute

2.1 General

The transverse flute has a conventional image and in many regions of the world its distinctive morphology marks it out from other instruments. However, some instruments are hard to characterise, for example, the nose-flute. Nose-flutes are not marked by a characteristic morphology but by the source of the egressive air. As a consequence, some nose-flutes are transversely-blown and others are end-blown, particularly in Polynesia. This paper tries to distinguish these, but often printed materials do not clearly describe the playing position. Another problem is vessel-flutes; a globular flute can be blown across the top, but this is treated here as a type of whistle. However, in the Sepik, vessel flutes have a central blowhole and a torpedo-shape which has a sufficient horizontal profile for it to be treated as a transverse flute. Borderline cases are inevitable, and the paper describes these as carefully as the literature allows.

Other aspects of flute morphology can be treated more systematically; for example the placing of the blowhole, the number and placing of the fingerholes, stopping of the distal end, the shape of the vessel, the presence of a mirliton membrane and whether the nose or mouth is used to produce the sound. The materials of which a flute is made can sometimes affect the morphology of the instrument, for example where it is made from a hollow vine or similar natural material. In the European tradition, there is strong tendency to swap materials as a reflection of the prestige of the instrument; cane and wooden flutes become silver and platinum. However, through much of the world, this is irrelevant and materials and construction are closely allied.

2.2 Placing of the blowhole

There are two main options for siting the blowhole in a transverse flute, either towards one end or centrally. A central blowhole flute can be open at both ends and can have fingerholes either side of the hole. Flutes with a blowhole at one end must have the proximal end closed or partly closed. Central blowhole flutes are relatively rare but are scattered widely across the world. Some of Sachs' (1927:98) information in this area is clearly wrong. For example, he attributes a *Mittlochflöte* to the Nupe people of Central Nigeria; having spent some two years researching their music, I can be clear that no such instrument ever existed. Without organological details, it is not always easy to determine the status of individual instruments. For example, some transverse flutes in Yunnan (Figure 19) have a long extension on the proximal end (i.e. the opposite

side of the blowhole to the fingerholes). It may be that the tube is sealed internally and that this extension is decorative. In the rare but intriguing 'double' transverse flutes, such as those in Vanuatu (§5.1.3), the blowholes are central to the tube as whole, but end-located in respect of the two sound-chambers.

2.3 Number and placing of the fingerholes

Globally, the most common transverse flute probably has no fingerholes, and depends on the player opening and closing the distal end as well as exploiting the overblown harmonics. Once the fingerhole is introduced, then a wide variety of flutes have 2-4 fingerholes, often combined with a closed lower end. Such flutes almost certainly reflect a worldwide prevalence of pentatonic scales. The next most common number of holes is six, used in older European flutes, some fifes and Indian instruments. These were carried around the world during the period of the voyages of discovery and have been adapted in many cultures using local materials. For this reason, flutes on this pattern can often be introductions several centuries old. However, there is archaeological evidence for six-holed flutes in the New World prior to Hispanic contact (Figure 56), so this rule is not infallible. Seven fingerholes (and in the case of South India, eight) are only found in classical traditions in Asia and Europe. Finally, keyed instruments can have potentially more holes, but such instruments are entirely confined to Europe.

Typically, flutes in the Eurasian tradition can have a thumbhole, on the opposite side of the flute to the aligned fingerholes, aiding the musician to overblow and thus produce a smooth scale. This is relatively uncommon in world terms, but flutes with fingerholes on opposite sides of the cylinder occur in many places, for example in Central Africa.

2.4 Stopping of the distal end

If the end of the flute sound-chamber is too close to the blowhole, the instrument will not normally sound. The proximal end of the tube is stopped, either naturally, for example by a bamboo internode, or with an artificial plug. However, if the blowhole is central then it is possible to have a transverse flute open at both ends. Eurasian transverse flutes are typically open at the distal end, but elsewhere in the world, closed distal ends are very common. It is also possible to have a partly closed distal end, for example, where the lower end is naturally closed by an internode. The functioning of an instrument cannot always be deduced from museum specimens; in the Highlands of New Guinea among the Gahuku-Gama, both ends are left open and the proximal end is stuffed with a handful of mud just before performance (Read 1952:5).

2.5 Shape of the vessel

Typically, transverse flutes have a straight cylindrical tube, usually determined by the basic material, a hollow reed. Transverse flutes that double back on themselves seem to be confined to the European classical tradition, although this is common in duct-flutes in many regions of the world. Transverse flutes made of natural materials, such as lobelia, can have a conical bore. More unusually, the sound-chamber can be a vessel, as in some Melanesian instruments, where a central blowhole is sited on top of a roughly biconical vessel. This is arguably a variety of vessel-flute rather than a transverse flute proper, but the elongated nature of the chamber qualifies it as transverse.

2.6 Mirliton membrane hole

A practice common in Asian flutes is the mirliton membrane. Apart from the fingerholes, the flute has another hole, often near the embouchure, which is covered by a thin, vibrating membrane, which gives a buzzing sound when played, creating a sound very far from the classical purity of the European stereotype.

2.7 Nose or mouth

Nose flutes have been recorded from Africa, Oceania and the New World, and they have a very strong association with spiritual ideas. Nose-breath is believed to connect more directly to the psyche and blowing a nose-flute is usually more than simply a quirky method of air production. However, there is generally no clear organological distinction between nose and mouth-blown flutes. Beaudet (1980:10) discussing the transverse flutes, *kuripeawa*, of the Waiãpi (=Wayapi) on the border of Brazil and Guyane notes that the groups on the Brazilian side treat them as mouth-blown, whereas the Guyanese Waiãpi sound them with the nose.

Morphologically, there are end-blown and transverse nose-flutes, in other words, the blowhole may be on the sidewall of the tube or cut across the end. Moyle (1989) makes a clear distinction between transverse and other nose flutes, and this paper will cover only transverse nose-flutes, as these easily move into the category of mouth-blown.

2.8 Materials

The most common material for transverse flutes worldwide is cane or bamboo, which is naturally hollow. Vernacular names may often reflect this, as in Arabic or Hindi. Often the length of the internodes determines the length of the flute, although flutes which incorporate several internodes are also recorded. Other naturally hollow plant stems, such as the lobelia, are recorded in Africa and Oceania. In West Africa, a dried vine stem is used. The main problem with bamboo is drying out and cracking and for a more permanent instrument, wood is the next choice. Wooden flutes are typical of cultures with a classical music, such as in Europe and East Asia. Metal transverse flutes are relatively uncommon globally, though they occur in East Asia and Europe. Some of these have a 'luxury' or royal aspect such as the medieval silver flutes in Europe, but in more recent times, industrial metal pipes have been adapted as more durable copies of bamboo flutes. Similarly, plastic pipes have been adopted in many parts of the world, and European manufacturers also produce hard thermoset plastic transverse flutes.

3. The transverse flute in Eurasia

3.1 Europe

3.1.1 The Classical World

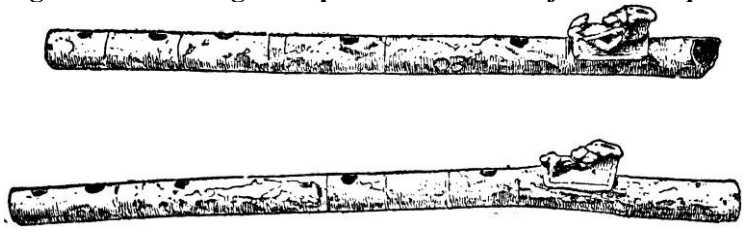
The Greek name of the transverse flute was *πλαγίαυλος* (< *πλάγιος* 'sideways'), and it is mentioned by Theocritus, who was born in Syracuse ca. 308 BC. A Sicilian by birth, he mentions the *plagiaulos* in Idyll xx.29. According to Pollux, the *plagiaulos* was of Lybian origin and made of lotus wood. It was characterised by a mirliton membrane that covered one hole[1], thus producing a sound similar to a normal *aulos*. The first representation of the transverse flute in the classical world (Figure 1) is in an Etruscan relief in the Ipogeo dei Volumni near Perugia (2nd and 1st centuries BC) shown in Fleischauer (1964) and on a Roman coin (169 BC) (Sachs 1940). A clear example of a transverse flute from 1st century BC Alexandria is pictured by Hickmann (1952) (Figure 2). The flute shows the distinctive tuning mechanism, the *bombyx*, characteristic of the more common *aulos.* The Roman name for the transverse flute was *fistula obliqua*, and in this case some specimens actually survive (Figure 3).

Figure 1. The Etruscan urn of the Volumni family, Perugia

Source: Fleischauer (1964: 45)

Figure 2. Transverse flute from Graeco-Roman Alexandria

Figure 3. Surviving examples of the Roman *fistula obliqua*



From this point onwards, the transverse flute disappears from both the literary and iconographic record. Whether this is evidence of absence or absence of evidence remains in doubt. However, the re-appearance of the flute in the 11th century might well be a re-introduction from further east.

[1] Thus linking it with similar practices in East Asia

3.1.2 Medieval Europe

Transverse flutes appear not to exist as archaic folk instruments anywhere in Europe. The first representations occur in Byzantine paintings from the 10th Century, often played to the left instead of to the right. An early 11th-century copy of the sermons of St Gregory of Nazanzius shows a goatherd who holds his instrument to the left. A wall painting at Hagia Sofia, Kiev, shows acrobats of the Imperial Byzantine Circus playing transverse flute, trumpets or shawms, lute, psaltery, and cymbals (Figure 5).

Figure 4. 11th century Byzantine painting of a goatherd

Figure 5. Wall painting at Hagia Sohia, Kiev

In the early medieval period, the transverse flute appears occasionally along with other instruments such as portative organ and hurdy-gurdy. It seems to have been known particularly in the Holy Roman Empire, or the lands loosely known as Germany. This is probably the source of the names such as *flûte d'Allemagne* and 'German flute' applied to the transverse instrument. A bronze aquamanile from Hildesheim dated 1220 AD is on display at the National Museum of Hungary in Budapest shows a transverse flute (Figure 6). Only two 13th-century illustrations of transverse flutes have been found. A transverse flute is shown in an ensemble with harp, fiddle, and rote in an illustration in Rudolf von Ems's *Weltchronik* (c. 1255-70). The same combination of instruments occurs in Ulrich von Türheim's *Der starke Rennewart* (c. 1300), so perhaps such an ensemble really existed in Austrian and Bavarian aristocratic circles in the 13th century. A French literary set-piece, *Cleomadés* (ca. 1285), by Adenet le Roi, lists the musical instruments owned by a famous minstrel. Adenet, himself the chief minstrel

Figure 6. A bronze water-vessel, ca. 1220, from Hildesheim

National Museum, Budapest

Figure 7. 13th c. German manuscript

Figure 8. Flutes in 12th century Germany

at the court of Gui de Damperre, Count of Flanders, gives the first unmistakable literary reference to transverse flutes, as *Flahutes d'argent traversaines* (silver transverse flutes). In a manuscript compendium of sermons (Figure 8) compiled by the 12th-century Benedictine Abbess Herrad von Landsberg of Hohenburg Sainte-Odile in Alsace, the effect of the sirens' music-making on the ship's crew is meant to remind us of the fate of those who fall prey to the seductions of the world. In the second picture the sirens have put down their instruments in order to attack the sailors and throw them overboard.

Figure 9. Paired flutes in 13th c. Spain

Illustrations in the *Cantigas de Santa María,* a Spanish collection of monophonic sacred songs in the Galician language made by King Alfonso X the Wise, King of Castile and Léon (1221-84), depict altogether more than 40 different instruments, including transverse flutes (Figure 9).

Fourteenth-century pictures and literary references in France and Germany compare the sound of the flute to the trombone and trumpet. An actual one-piece wooden flute some 2' long survives from c. 1320 AD. Pictures show transverse flutes being played outdoors by soldiers together with large bells, drums, bagpipes and trumpets and they appear in the hands of angels in illuminated manuscripts from Bourges and Paris around the turn of the 15th century. But they seem to have remained typical of Germany and France, but unknown in other countries such as Italy. The poet/composer Guillaume de Machaut distinguishes transverse flutes and recorders or other duct flutes, and Eustache Deschamps suggested that the flute led a double life, both as a soft, indoor instrument, and a loud one with military connotations. A miniature containing 54 songs by the Minnesinger Johannes Hadlaub shows a 4-stringed fiddler and a transverse flute player holding the instrument to his right, accompanying a singer seated between them. The music in the manuscript is monophonic, but perhaps the instruments doubled the vocal line, or played drones or improvised other parts.

Figure 10. German woodcut, 1555

Pictures and literary references involving transverse flutes become rare for about 70 years after the second decade of the 15th century. Most of the references might refer to duct flutes. At the end of the 15th century the military flute becomes common again, particularly in the hands of Swiss mercenary troops and in combination with side drums. The flute and drum combinations quickly spread to Italy, France, the German lands, Spain, and Sweden together with new Swiss infantry techniques. A woodcut from Leonhard Fronsperger's manual of military discipline, *Fünff Bücher. Von Kriegss Regiment und Ordnung* (Frankfurt, 1555), shows a military transverse flute player from behind, so that we can see his flute case slung over his shoulder to carry several different-sized instruments (Figure 10). Figure 11 shows a surviving keyless cylindrical flute, dated to ca. 1550.

Figure 11. Keyless cylindrical flute, ca. 1550

3.2 India

Indian transverse flutes divide between northern and southern types. The *bāṅsurī* (<Hindi *bāṅs* 'bamboo'), is originally a folk instrument with six finger holes and one blowhole, but has been adopted relatively recently into classical music and both increased in length and acquired a seventh fingerhole. It spreads as far west as

the Makran in southern Pakistan (ref). Indeed it was only introduced as a concert instrument in the 1950s (Miner 2000:340) and is used predominantly in Hindu music.

Figure 12. North Indian *bāṅsurī* folk flute

Source: Author's collection

The south Indian transverse flute, *kuḻal* or *vēṇu*, was typically small bamboo flute with seven fingerholes ca. 30 cm. long. An 8-holed flute with cross-fingering is now common among Carnatic flute-players was introduced by the flautist T. R. Mahalingam in the middle of the 20th Century (Figure 13). Unlike the small bamboo flutes this is made of a tropical hardwood. The *Pullanguzhal* has eight finger holes and is played predominantly in Carnatic music.

Figure 13. South Indian modernised *vēṇu* flute

Source: Author's collection

The transverse flute is no longer used in Burmese music, but Chinese records of the visit of Pyu musicians (ca. 800 AD) record that they played a six-holed flute of Indian type (Collaer 1979:68).

3.3 Central and Inner Asia

The transverse flute has a considerable antiquity in Central Asia, although it is currently uncommon. However, there are several representations on archaeological finds, shown in Karomatov *et al*. (1987). The flute is shown several times in Sogdian ceramics (Figure 15) and at Khotan in East Turkestan (Figure 14) (Huth 1928). A Bactrian silver dish from the 7th century shows a monkey playing a transverse flute (Figure 16). Table 1 shows a chronological list of representations in Central Asian iconography;

Figure 14. Khotanese flautist

Source: Karomatov et al. (1987)

Table 1. Central Asian iconography of transverse flutes

Location	Date	Page No.
Sogdia	1st century AD	97
Khotan	2-3rd centuries AD	145
Qizil	500 AD	152
Bactria	7th century AD	89

Karomatov et al. (1987)

Figure 15. Sogdian flautist

Source: Karomatov et al. (1987)

Representations of flutes in Central Asian archaeology are not common, but they reflect the presence of the instrument on the ancient silk-road. The images are not sufficiently detailed to be certain of their morphology, but in general they are likely to be six-holed flutes open at the distal end. There is no evidence for a mirliton membrane. They appear to be somewhat shorter and wider than the long narrow flutes of today. There are almost no representations after the 7th century and it seems possible the instrument died out together with the cultures who made use of it, as progressive aridity caused settlements to be abandoned. If so, then the modern presence of transverse flutes may be a reintroduction in a later period.

Figure 16. Bactrian flute-playing monkey

Source: Karomatov et al. (1987)

The transverse flute appears principally today among the Uzbek, Tajik and Kara-Kalpak, where it is known as the *ney* [=*nai*], commonly an Arab/Persian name for the more widespread end-blown flute (Vertkov et al. 1975: 157,166, 167 & Figs. 578, 579, 619, 627). At least among the Uzbek, there is some evidence for two distinct traditions. The *nai* is very Chinese with a mirliton membrane and distal soundholes. However, the *misnai* appears more archaic and lacks the soundholes and distinctive black banding reminiscent of Chinese-style instruments. The use of Arabic name is curious as it can hardly be traditional, suggesting that an older name has been replaced following the prestige of Arabic post-Islamisation.

There is no historical iconography of the transverse flute in Inner Asia, but instruments with a very Chinese appearance are played among the Mongols and Buryats. They have six fingerholes, two additional soundholes near the distal end and a mirliton membrane. These flutes are known as *limba* in Buryat and *limbe* in Mongol (Pegg 2001:82). The Mongols recognise two different types, 'male' and 'female' with the male type being thicker, shorter and blown more forcefully. The Tuva seem to have adopted this flute recently, as it is known as *limbi* and is made of metal (Silex 1995). This name is puzzling, as it is clearly not Chinese.

3.4 China

3.4.1 Classical flutes

Chinese transverse flutes are known as *chi* and *di* (Provine & Thrasher 1984). The earliest extant transverse flutes are two *chi* (篪) from the Tomb of Marquis Yi of Zeng at Suizhou, Hubei province (Figure 17). They date from 433 BC, i.e. the later Zhou Dynasty and are made of lacquered bamboo with both ends closed. They have five fingerholes at right angles to the blowhole (Guangsheng 2000: 88). *Chi* flutes are mentioned in *Zhou* texts from 122 BC onwards.

Figure 17. *Chi* flutes from the tomb of the Marquis of Zeng

Source: Guangsheng (2000: 88)

However, the construction of the flute has

varied over time, including a central blowhole version, closed at both ends with three fingerholes on either side of the blowhole. The association with court music has caused the virtual disappearance of the *chi* on the mainland, but it survives in Taiwan and Korea.

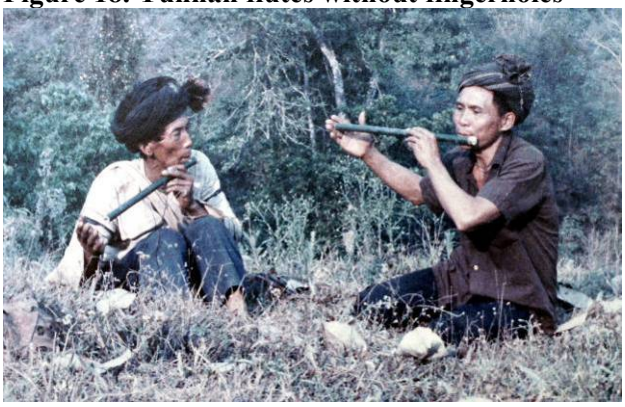
The *di* (also *dizi*, *hengdi, hengchui, qudi, longdi* and *bangdi*) is the other characteristic transverse flute of China (Thrasher 1978, 1984). It is thought to have been introduced in the Han period (from 206 BC onwards) and may have originated in Western China as a military instrument. At this period it had only six fingerholes, but developed seven during the Tang dynasty (from 618 AD). The *di* is one of the most popular wind instruments used in various Chinese music genres such as folk, traditional theatre (*xiqu*), and modern orchestral music. The *di* is made from bamboo and has twelve open holes. Along the upper surface, there is an embouchure hole, a membrane hole, six fingerholes (three for each hand) and two auxiliary tone holes. On the underside there are two tuning holes which may be decorated with a string or tassel. The membrane hole is covered by a piece of *dimo*, a thin membrane usually taken from the inner side of a reed. With a well-adjusted membrane the *di* can produce a specific buzzing or nasal timbre. Some scholars assert that the *di* was imported from Xiyu (which now encompasses the Xingjiang province and part of Central Asia) during the Han dynasty (206 BC-220 AD). During the Han dynasty, the *hengchui* was imported from Xiyu and played in outdoor military ensembles. From the sixth century, transverse flutes became more commonly known as *hengdi* and later were employed in Tang (618-907) court entertainment ensembles. The first transverse flute with a mirliton membrane, *qixingguan* (lit. 'seven stars tube'), is mentioned in the early twelfth-century treatise *Yueshu* (Thrasher 2005, 1978).

3.4.2 Chinese folk flutes

3.4.2.1 Single side blowhole

Figure 18 shows paired transverse flutes from Yunnan, South China. They have no fingerholes and the players control the pitch by partly covering the distal end. Figure 19 shows a remarkable transverse flute from Yunnan Province, south China. Instead of the proximal end to the blowhole being close, the flute extends something like a metre beyond it. There appear to be six fingerholes, but other details are not available. It would be interesting to know if the extended proximal end is decorative and the tube is internally blocked.

Figure 18. Yunnan flutes without fingerholes



Source: Yunnan Minorities Museum

Figure 19. Yunnan flute

Source: Yunnan Minorities Museum

3.4.2.2 Central blowhole flute

A central blowhole flute with no fingerholes open at both ends is found in Yunnan province (Figure 20), although no information is given about the playing technique or minority peoples who use it. This may be a copy of a small Chinese flute known as the *kou di*, since it occurs among the Kayah in Thailand (John Moore pers. comm.).

Figure 20. Yunnan central blowhole flute

Source: Yunnan Minorities Museum

3.5 Japan

The oldest representation of a transverse flute in Japan appears to be the performer painted on the old treasure house at Nara, built in 756 AD (Harich-Schneider 1973:54). A collection of four contemporary instruments also survives, two bamboo and one each of stone and ivory. The jade and ivory flutes are still playable. They 32-38 cm long and have seven fingerholes like more recent *gagaku* flutes. The names for these flutes are *yokobuye* or *ōteki*. A player of the *ōteki* flute is represented in the *Shinzei-kogaku-zu*, a chronicle of years 792-833 AD (Figure 22). The actual manuscript is later, but it is likely to represent musical practice of the period.

Figure 21. Flautist at Nara, Japan

Source: Harich-Schneider (1973)

Figure 22. Japanese *ōteki* player

Source: Harich-Schneider (1973)

There are three main varieties of transverse flute in Japan, the *shinobue* (=*fue*), the *nōkan* and the *ryūteki* (Hughes 1984a, b,c). The *shinobue* (< *shino* 'bamboo' + *takobue* 'flute'). Folk versions may have 5-6 fingerholes but the theatre version usually has seven. The part of the tube to the left of the blowhole is usually packed with wax. In a style known as *nagauta*, where the voice and *shamisen* provide the basic melody, the *shinobue* plays an obbligato. In folk contexts, such as the *bon* dance-songs, it is often known as the *fue*. The fingerholes and is made from *medake* bamboo *simonii*) and is intended to accompany *nagauta* well as some types of folk music. A distinctive *nōkan* has seven (*Nipponocalamus* and *geza* music, as feature of its construction is the *nodo* ('throat') a tube inserted in the bore between the blowhole and the first fingerhole, which has the effect of altering the intonation of the overblown octave. The third type of transverse flute is the *ryūteki* (< *ryū* 'dragon' + *teki* 'flute'), resembles the *nōkan* in construction, except that the segment between the blowhole and the proximal end is weighted with metal to balance the instrument. It is used to accompany various genres of *gagaku* court music. Similar transverse flutes used in these ensembles, but shorter and with only six fingerholes are know as *komabue* and *kagurabue* and *yamatobue*. The *ryūteki* is likely to have been imported from China, as the name is a calque of the Chinese *long di*, also meaning 'dragon flute'.

3.6 Korea

The *taegŭm* [= 'large flute'] (also *chŏ* and *chŏttae*) is the characteristic transverse flute of Korea (Provine 1984). It is very long (80+ cm.) and has six fingerholes, additional unstopped holes and a membrane-covered hole. It is first mentioned in the Unified Silla period (668-935 AD). In addition, a *chi* similar to the Chinese *chi* (q.v.) continues in use in Korea for the *aak* Confucian sacrifices held twice-yearly in Seoul.

Figure 23. Vietnamese *sáo* flute

Source: Vietnamese Institute of Musicology

3.7 SE Asian mainland

3.7.1 Việt Nam

The Vietnamese play a six-holed transverse flute without a mirliton membrane, *sáo* or *địch* (Figure 23), derived from the Chinese *di*. This is used in Vietnamese classical ensembles and has been extended to as man as ten fingerholes during the twentieth century. The Hmong are reported to play a 'side-blown flute' (*tra pùn tự*) but this may be an error for the transverse free reed instrument used in this area. Also of interest in Việt Nam is the transverse nose flute (Figure 24). This is the *pi tot*, played by the Khmu people, and it has a single fingerhole. The scale is made up from a variety of overblown notes.

3.7.2 Thailand

Figure 24. Khmu nose-flute, Vietnam

Source: Vietnamese Institute of Musicology

Figure 25. Lisu *pilu*, a central blowhole flute

Source: courtesy John Moore

Transverse flutes are well-established among the minorities of Northern Thailand[2]. There are both central blowhole types similar to Yunnan and more common six-hole flutes with a blocked proximal end. Figure 25 shows the *pilu,* a central blowhole flute without fingerholes played by the Lisu people. Apparently the blowhole must be slightly off-centre for the flute to sound well. The *pilu* was played by women and men to articulate a coded language to attract a partner; needless to say it has effectively gone out of use. Table 2 shows the vernacular names for the central blowhole flute so far recorded among the minorities in Thailand.

Table 2. Vernacular names of the central blowhole flute in Thailand

Language	Name
Lisu	*pilu*
Lahu	*lae tu*
Akha	*bau lau*
Kachin	*htu ren, nda tang*

The Khmu people have a flute closed at both ends with a single fingerhole placed identically to the blowhole (Figure 26).

Figure 26. Khmu *suul*, an overblown flute

Source: courtesy John Moore

Another unusual flute played by the Khmu is the *toot*, a transverse flute with two fingerholes, played by women (Figure 29). The performer simultaneously hums or whispers into the flute which acts partly to amplify the words. Traditionally it was played by women to answer a call made by a man on a jews' harp.

Apart from these less common types, the transverse flute with four or six fingerholes is widely played in northern Thailand and adjacent Myanmar. The Kachin, Kokang and Padaung play it to accompany dancing, other ethnic minorities use it for solo entertainment. Figure 28 shows the Lahu *ja dae*, a typical instrument in the region. Table 3 shows the vernacular names for the transverse flute so far recorded among the minorities in Thailand.

[2] I owe almost all the information in this section to a manuscript by John Moore, resident of Chiang Mai.

Figure 28. Lahu *ja dae*, transverse flute

Source: courtesy John Moore

Figure 27. Kayah man playing a Chinese central blowhole flute

Source: courtesy John Moore

Figure 27 shows Kayah man playing a Chinese central blowhole flute with four fingerholes, similar to the Yunnanese instrument shown in Figure 20

Figure 29. Khmu *toot*, a transverse flute

Source: courtesy John Moore

Table 3. Vernacular names of the transverse flute in Thailand

Language	Name
Lisu	*jyylae baka*
Lahu	*ja dae*
Akha	*meli*
Hmong	*dra jua*
Karen	*pi ou*
Kachin	*sum pyi* (6), *pyi htawt* (4), *w.psumpyi* (6), *larung sum pyi* (long,4)
Kokang	?
Padaung	?
Mien	?

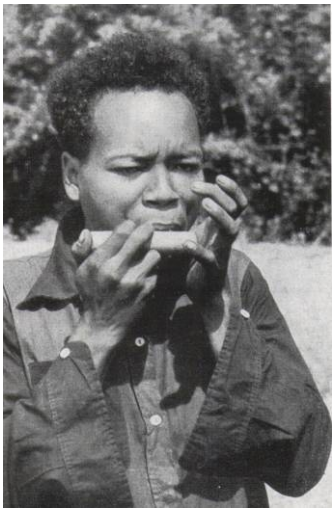
3.7.3 Malay Peninsula

The Orang Asli indigenous peoples of the Malay Peninsula strikingly play both mouth and nose-blown transverse flutes (Roseman 1998; photos in Collaer 1979:6-81). Among the Semang, the nose-flute, *salet* or *nabad*, (2-7 fingerholes) are used for magical invocations, whereas among the Senoi Temiar (where the flutes are called *pənsɔɔl* or *siʔɔɔy*) they are used in courtship (Figure 30). The mouth-blown transverse flute (Semang *pennig'n yog'n* [yau] but Senoi still *siʔɔɔy*) is used when walking in the bush. The Senoi also play a transverse bamboo whistle which is open and both ends must be hand stopped during performance (Figure 31).

Figure 30. Temiar flute-player

Source: Collaer (1979)

Figure 31. Senoi transverse whistle



Source: Collaer (1979)

3.8 Island SE Asia

The transverse flute is conspicuous by its absence in the traditional instrumentarium of most of island SE Asia. A six-hole fife is found in the Philippines (Figure 32) but this is likely to be a European introduction (Collaer 1979:160). Maceda (1998:179) plots transverse flutes on a map and ascribes them to the Buhid, Waray, Cuyunin, Cebuano, Batak and Tagbana peoples but gives no further information in the text, However, their vernacular names, *palawta* etc., suggest very strongly they are post-Hispanic. A six-holed transverse flute occurs on Ambon in Sulawesi (Figure 33), but this is probably also a European introduction (Collaer 1979:134).

Figure 32. Six-holed transverse flute, Philippines

Source: Music Department, University of Manila

Figure 33. Sulawesi six-holed transverse flute

Source: Collaer (1979)

On the island of Tanimbar in the Moluccas, large ensembles of transverse flutes have developed (Figure 34), apparently as a result of Christianisation (Collaer 1979:142). Kunst (1942) reports the transverse flute on Flores. A curious isolated occurrence is the *feko* side-blown flute in the Ende-Lio region of Flores (Basile & Hoskins 1998:794). The image shows it is a very short flute, but no further details are available. The name appears to be cognate with *feku*, the Atoni name for the wooden cruciform whistle on Timor.

Figure 34. Maluku flute ensemble

Source: Collaer (1979)

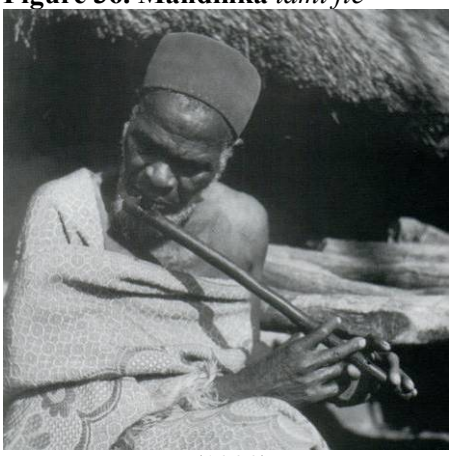
4. The transverse flute in Africa

4.1 North and West Africa

It appears that there are no transverse flutes currently played in North Africa at present, to judge by surveys such as Collaer & Elsner (1983). However, they do picture (p. 173) a remarkable transverse flute, *gaṣba* (Figure 35), from *Westsahara*, the former Spanish Sahara, now a disputed territory annexed by Morocco. No details are given in the text and the morphology of the flute is unclear from the photograph. However, its presence does raise the possibility that it is a survival of the old North African transverse flutes that made their way into Spain in the Moorish period.

Figure 35. Saharan gaṣba

Figure 36. Mandinka *tami fle*



Source: Rouget (1999)

Transverse flutes are clearly rare in West Africa, as none are illustrated in Kubik (1989). Flutes with 2-4 fingerholes and a stopped distal end are found in a region including Guinée, Mali and Burkina Faso and may be connected with the Mande expansion. Two such flutes are shown in Figure 37 and Figure 38. Duvelle (2003) illustrates the four-holed flute, *lontore*, in performance among the Bisa people of Burkina Faso and Rouget (1999) a similar flute, *tami fle* (Figure 36), among the Mandinka of Guinée. This latter flute has an unusual construction, being made of a naturally hollow vine which is heated to dry it out and make a rigid tube.

Figure 38. Bambara flute, Mali

Source: Author's collection

Figure 37. Samo flute, Mali

Source: Author's collection

4.2 Central Africa

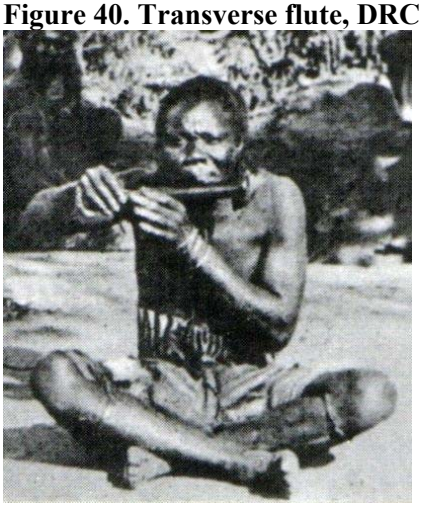
There is scattered evidence for transverse flutes in Central Africa. Soderberg (1956:202) observes that they are entirely absent from Congo-Brazzaville. However, for DRC, Gansemans (1980:74-76) describes the *dilele* or *umpindo* flute of the Luba (Figure 39). This has three fingerholes on the upside of the flute (i.e. in line with the blowhole) and two additional holes on the downside. Cyovo (1978:12) illustrates what is clearly a related instrument under the name *kashiba ka mulela*. This remarkable arrangement has not been reported elsewhere in Africa. Gansemans & Schmidt-Wenger (1986:154) review occurrences of the transverse flute in Central Africa and note examples from Kasai, Shaba, Sankuru and Bas-Zaire, as well as

Figure 39. Luba flute, *dilele*

Gansemans & Schmidt-Wenger (1986)

adjacent Cabinda and Northern Angola. Sachs (1927: Taf. 8) illustrates a transverse flute from the former Belgian Congo without the location being clear (Figure 40).

Figure 40. Transverse flute, DRC



Source: Sachs (1927: Taf. 8)

Figure 41. Ekonda *bolukuluku* nose-flute

Source: Knosp (1968)

Transverse nose-flutes are also reported from DRC. Knosp (1968, 1:27) describes a transverse nose-flute with two fingerholes, *bolukuluku*, from the Ekonda region, closed at the lower end and apparently about 50 cm. long (Figure 41). Tessmann (1913, II:329) mentions a women's flute from the Yaunde people in Cameroun with a single fingerhole. Gansemans & Schmidt-Wenger (1986: Abb. 201) picture a similar flute among the related Eton people with the name *odin* (Figure 42).

Figure 42. Eton single-fingerhole flute, Cameroun

Gansemans & Schmidt-Wenger (1986)

4.3 East Africa

Transverse flutes occur sporadically between East and South Africa (Table 4).

Table 4. Transverse flutes in Eastern Africa

Country	People	Name	Holes	Other features	Reference
Kenya	Digo	*chivoti*	6	open	Hyslop (1975)
	Rabai	*chivoti*	6	open	Senoga-Zake (2000)
	Duruma	*chivoti*	6	open	Senoga-Zake (2000)
	Kuria	*ibirongwe*	4	distal end stopped	Varnum (1970)
	Gusii	*?*		extinct	Varnum (1970)
Tanzania	Gogo	*mlanzi*		distal end stopped	Kubik (1982:139)
	Pogoro		2		Culwick (1935)
Uganda	Gisu	*ludaya, lusweje*	none	open	Cooke (1971)
Malawi	?	*?*	2	distal end stopped	
Mozambique	Thonga	*shitloti*	3	distal end stopped	Junod (1927)
South Africa	Venda	*shitiringo*	3	distal end stopped	Kirby (1934)
	Lubedu	*setodiko*	3	distal end stopped	Kirby (1934)
	Pedi	*naka ya lethlaka*	2	distal end stopped	Kirby (1934)
	Swazi	*umtshingosi*	3	distal end stopped	Kirby (1934)
	Zulu	*igemfe*	2-4	distal end stopped	Kirby (1934)

Many individual authors point out that the transverse flute is isolated their region, surrounded by end-blown flutes. It seems possible that some of these are recently introduced. For example, the coastal Kenyan *chivoti* might well have been introduced from India, as it closely resembles the *bansuri*. Hyslop (1975:40-41) notes that although the flute had six fingerholes, not all were used in performance, which does suggest the adoption of an external model. Kirby (1934:127) argued that the Southern African flutes may be introduced copies of European flutes. In favour of this is the fact that their construction and tuning is highly variable, and they always share a name with another, morphologically distinct, flute in each society, explaining why there is no common name, even though these languages are closely related. Against is that the fact that their morphology is quite different from any contemporaneous European flute, and resembles transverse flutes in other regions of Africa. The Gisu *ludaya* is so different in construction and playing from the other flutes, that it may well be an entirely local development.

4.4 African diaspora

The African diaspora associated with the slave trade carried traditional instruments to many parts of the New World and the Indian Ocean. The transverse flute is not usually considered part of this diaspora. However, Paul Oliver (1964) recorded the Napoleon Como band in the Southern US in the 1950s, consisting of a five-holed transverse cane flute and European-style snare drums. Figure 43 shows this type of cane flute, purchased in 2004 from Como's grand-daughter on a visit to London with the Rising Sun band, the direct descendant of the ensemble recorded by Oliver in the 1950s. Whatever the origin of the instrument, the music played by Como sounds wholly African, with short melodic fragments commenting on the insistent drumming, rather than a four-square European marching tune. It is not impossible that the fife played by Como has a mixed ancestry, deriving from an original African model, transformed by contact with the military fife.

Figure 43. Cane fife, Southern United states

Source: Author's collection

The Jamaican fife was traditionally made of bamboo and typically led village dance bands, but it has now been dropped or replaced by plastic piping or commercially manufactured piccolos (Lewin 1998:899).

5. The transverse flute in Oceania

5.1 Melanesia

5.1.1 Papua New Guinea

The most typical transverse flutes in Melanesia are the very large instruments played in pairs in initiation rituals or other 'men's house' ceremonies and often associated with the slit-gong and bullroarer (Graf 1947). They can be > 2 m. long and usually have a single blowhole, playing only a single harmonic series, like a natural trumpet. Shorter flutes also occur, for example in the Sepik region, where they are played in sets, producing a complex polyphony, strongly associated with individual clans (Spearitt 1982). These are spread across a wide area of the lowland region of North New Guinea. Moyle (1989:35) provides detailed dimensions of museum specimens.

There are two major reviews of musical instruments in New Guinea (Kunst 1967; Gourlay 1975) and none which cover island Melanesia. The types of transverse flutes reported from Melanesia are as follows (Table 5);

Table 5. Melanesian transverse flutes

Blowhole	Fingerholes	Distal end stopped	Location
Proximal	none	no	North New Guinea
Proximal	1	no	Hagan
Proximal	2	no	?
Central	none	open both ends	Sepik
Central	1		Sepik

Gourlay (1975:12) maps out the distribution of 'sacred flutes' in New Guinea and adjacent Melanesian islands. These are almost all transverse flutes. The high area of concentration is along the North Coast of New Guinea as far as southern Morobe, with a significant extension into the highlands. Apart from Manus, transverse flutes are rare on the other islands, though reported from East New Britain, New Ireland and Bougainville.

Ensembles of short transverse flutes with no fingerholes are reported from north and central New Guinea. The players partially uncover the distal end to produce different harmonic series (Figure 44).

Figure 44. Short transverse flutes with no fingerholes, central New Guinea

Source: Collaer (1965: 175)

Figure 45 shows a typologically unusual flute from the Sepik River, New Guinea. The central sound-chamber is biconical and there is a single fingerhole under the tail of the bird.

Figure 45. Central blowhole vessel-flute, Sepik, New Guinea

Parkinson (1907) records a transverse flute from New Britain.

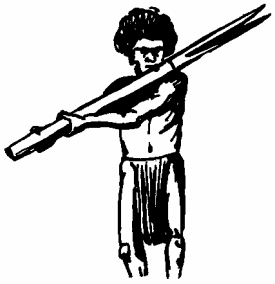
5.1.2 New Caledonia

Transverse flutes are generally absent from New Caledonia, but Dubois (1984:214) mentions a flute on Maré island called *wekon.* It has no fingerholes and is modulated by opening and closing the distal end. Such as flute may well also have been played on Ouvéa (Ammann 1997: 37).

5.1.3 Vanuatu

Speiser (1996 repub. from Speiser 1923) records a variety of transverse flutes from Vanuatu (formerly New Hebrides). His terminology leaves something to be desired, but essentially his 'shoulder flutes' are transversely blown. These are over 1m. in length and have a decorative extension left of the blowhole which rests on the player's shoulder (Figure 46). There are four fingerholes, two in line with the blowhole and two on the opposite side. These flutes are recorded from Aoba and Maevo islands. Moyle (1989:24) mentions transverse flutes from Vanuatu (island unspecified), including an instrument open at the lower end with six fingerholes (Figure 47). As elsewhere in the world, it is possible that this type of instrument is based on a European model, especially since the provenance is very imprecise.

Figure 46. Vanuatu flute-player



Source: Speiser (1923 pl. 108)

Figure 47. Vanuatu transverse flute with six fingerholes

Source: Moyle (1989)

Apart from this there is a double flute (Sachs' *Doppelquerflöte*) from Ambryn island which consists of two bamboo internodes which maintain separate air chambers. The blowholes are on either side of the unbroken central septum, so that the player can quickly transfer from one to another (Speiser 1996: Plate 108; Moyle 1989:24). There is a single fingerhole at the far end of both tubes (Figure 48). The flute illustrated was 123 cm. long and must thus be quite difficult to manipulate.

Figure 48. Ambryn island double transverse flute

Source: Collaer (1965: 178)

Figure 49. Vella Lavella flutes, Solomon Islands

Source: Collaer (1965)

5.1.4 Solomon islands

The Solomon Islands remain poorly known ethnomusicologically apart from the publications of Hugo Zemp on the 'Are'are people on Southern Malaita. The 'Are'are play a transverse flute, *'au porare*, for courting, which appears to have a single fingerhole and to be closed at the far end

(Coppet & Zemp 1978: fig. 17). Collaer (1965:171) pictures transverse flutes from Vella Lavella island in the New Georgia group of the Solomons (Figure 49). According to Moyle (1989:33) these flutes are closed at both ends and have two fingerholes, one close to the blowhole and one near the distal end.

5.2 Polynesia

5.2.1 Mouth-blown flutes

Sachs (1927:96) records transverse flutes from Fiji, Tonga and Samoa in Polynesia and it is possible to supplement his information with modern references. Moyle (1988:53) discusses textual references to flutes in Samoa, although these are no longer played. It seems there may have been a side-blown flute, but its morphology is unknown. Moyle concludes that it may well have been a relatively ephemeral copy of a European fife, apparently introduced to Samoa as early as 1848. Moyle (1989:19) describes the *rehu*, a Maori flute with three fingerholes that was apparently played by men to court women (Figure 50). The *rehu* went out of use before it could be recorded in performance, but its isolated presence in New Zealand is very striking.

Figure 50. Maori *rehu* transverse flute

Source: Moyle (1989)

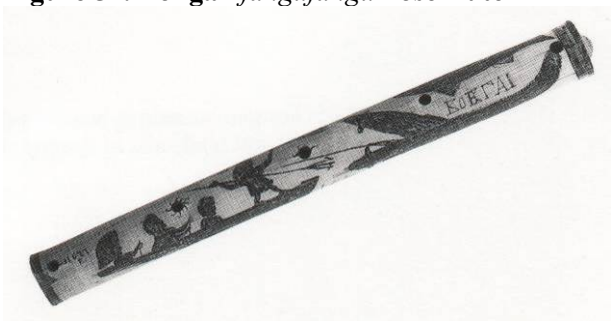
5.2.1 Nose-flutes

While the status of mouth-blown transverse flutes in Polynesia remains uncertain, the morphology of the nose-flute can legitimately be described as transverse. Regrettably, almost all the instruments described are no longer in use and some became extinct before performance details could be recorded. The Fijian *dulali* nose-flute (Figure 51) has a very striking arrangement of holes, with four distributed equally in a circle around the centre of the flute and two on either side of the central holes (Moyle 1989:21). Unfortunately, little is known of how and when the flute was played, as the curious arrangement of holes would seem to imply quite contorted fingering.

Figure 51. Fijian *dulali* nose-flute

Source: Moyle (1989)

Figure 52. Tongan *fangufangu* nose-flute



Source: Moyle (1989)

For Western Polynesia, the Tongan *fangufangu* is still played, in small ensembles (Moyle 1987). It has five fingerholes distributed almost equally along one side and a sixth hole opposite the centre-hole. As it is closed at both ends and there are both proximal and distal holes, it can be blown from either end.

Figure 53. Niuean *kofe* flute

Source: Moyle (1989)

Another quite different instrument is the Niuean *kofe* or *kilikihoa*, which can be made either of cane or heavy wood (Figure 53). The instrument has two fingerholes and is closed at the distal end. The illustration in Moyle (1988, 1989:7) makes it seem

that the blowhole is in the proximal end, so this might be regarded as end-blown, morphologically.

The more common pattern in Polynesia appears to be a relatively short transverse nose-flute, closed at the distal end with two fingerholes. Such a flute, *vivo*, is recorded from the Society Islands (Moyle 1989: 9). Figure 54 shows an example of the Hawaiian nose-flute, *che hano ihu*, which has an end-located blowhole and a partially opened septum at the proximal end. As can be seen in Figure 55, the playing technique involves expelling nasal air across the blowhole, while partially blocking the hole in the proximal end with the nostril.

Figure 54. Hawaiian nose-flute, *che hano ihu*

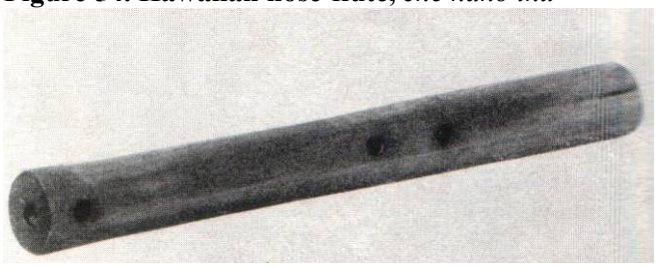
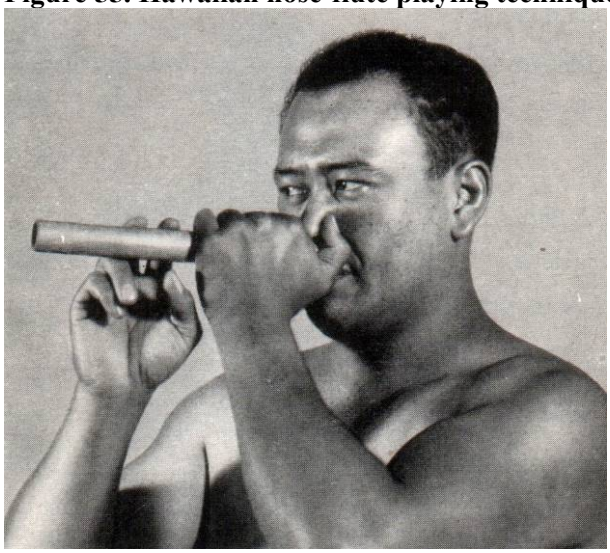


Figure 55. Hawaiian nose-flute playing technique

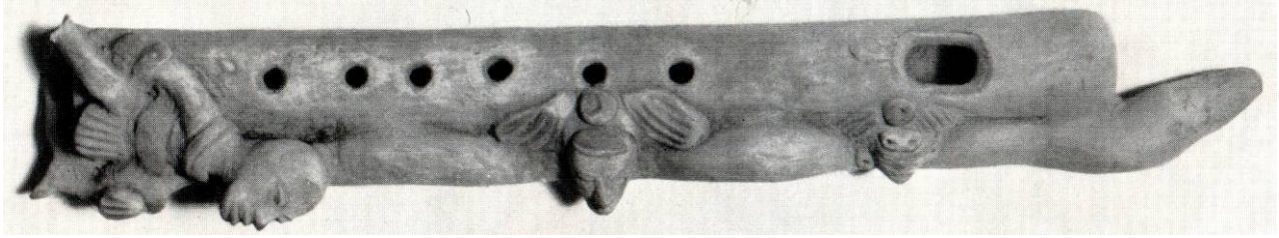


Source: Collaer (1965:191)

6. The transverse flute in the New World

Transverse flutes among the pre-Hispanic populations of the Americas are rather like those in Africa; distributions are scattered, morphology is highly variable and the introduction of European fifes has blurred the ethnographic record. However, there is at least some archaeology which confirms that transverse flutes were pre-Columbian. Martí (1970:77) illustrates a six-holed flute from Xochipala, Guerrero, Mexico dated to ca. 500 AD (Figure 56). The ceramic model of a Chimú flautist from the Mochica culture of Northern Peru, dated to the 13-15th centuries AD shown by Sachs (1927: Taf. 8) might show a central blowhole flute, or this might just be the style of representation (Figure 57). Olsen (1992: 78-79) records a transverse flute from the Mochica culture in coastal Peru with two fingerholes.

Figure 56. Six-holed pottery flute from Xochipala, Guerrero, Mexico



Source: Martí (1970:77)

The rare *xul* transverse flute is played by the Cakchiquel Maya in Atitlán, Guatemala (O'Brien-Rothe 1998:728-729). It has a mirliton of pig's bladder stretched across the proximal end, intensified by rattles from rattlesnakes inserted in the beeswax sphere that holds the mirliton. The instrument has six fingerholes, which makes it look borrowed, but its isolation in the region and unique morphology suggests this must be pre-Columbian. It is played together with a marimba (which *is* introduced) to accompany the deer dance. The Nicaraguan Sumu use 'a short fife (*una*)' for funerary celebrations (Scruggs 1998:750). Smith (1998:641) notes a transverse flute, *galabigbili*, of bone or wood among the Kuna of Panama with four fingerholes, but no further information is available.

Figure 57. Chimú transverse flute

Source: Sachs (1927)

Introduced Hispanic fifes have spread in many areas of South America. For example, one type of 'traditional' music of the Quechua-Aymara in Bolivia, Peru and Ecuador includes graded sizes of *pitus* or *falawatus*, six-holed transverse flutes whose names are almost certainly borrowings from a European language) (Turino 1998). The Q'ero in Peru play a similar flute under this name. The Guaraní in Paraguay play a six-holed transverse flute, *temimby ie piasá*, borrowed from the Chiriguano and probably ultimately of post-Hispanic origin (Boettner n.d.). Oficina de Música y Danza (1978: 483-487) provides a detailed listing of transverse flutes in Peru (Table 6).

Table 6. Peruvian transverse flutes

Ethnic group	Name	Distal end	Fingerholes
Agaruna	*pinkuy*	closed	2
Huambisa	*juam, tsabrak*	closed	2,3
Shuar	*pinkiui*	closed	2
Jibaro	*?*	closed	4
Jibaro	*pinkui*	closed	2[3]
Candoshi	*tirotzi*	closed	2
Candoshi	*puputsi*	?	5
Bora	*roxroko*	?	2
Amuesha	*penkoli*	semi-closed	2+1
Campa	*jonkamentotzi*	?	2+1
Amarakaeiri ?	*wa koinarika*	closed	2
Culina	*boborara*	closed	3
Shipibo	*?*	?	?
Sharanahua	*?*	closed	2
Cashinahua	*?*	?	4
Urarina	*auno*	?	3/4

Source: Oficina de Música y Danza (1978)

The following peoples are reported to have transverse flutes but no details are available of their morphology; Aguano, Cocama, Andoa, Secoya, Orejon, Chayahuita, Jebero. Morales (1991) lists all the transverse flutes known to occur in Colombia.

Figure 58. Inka transverse flute

Source (Collaer n.d.)

[3] Also nose-blown

Table 7. Colombian transverse flutes

Ethnic group	Vernacular name
Paez	kuvi
Embera	
Ingano =Inka	
Camsa	
Noanama	carisso
Guambiano	loos

Source: Morales (1991)

All the flutes appear to have six holes, which rather suggests they are introductions, but the vernacular names do not betray evidence of this. Figure 59 shows a Paez transverse flute ensemble in Colombia. The Inka also play such a flute, but its origin is unknown (Figure 58).

Figure 59. Paez transverse flute ensemble, Colombia

Source (Collaer n.d.)

7. Synthesis and conclusions

A few conclusions;

a) The transverse flute has large contiguous areas of distribution, reflecting recent spreads, especially in Eurasia
b) in Africa, Oceania and the Americas it has scattered distributions, suggesting local origins which may well arise from a re-orientation of the more common end-blown flutes
c) the worldwide phenomenon of the era of the voyages of discovery distributed copies of the European six-holed fife in many regions and these have been adapted with local designs, so that their origin is sometimes difficult to detect
d) distinctive but rare morphologies such as central blowhole flutes and double flutes and likely to be local evolutions rather than going back to some ancestral type
e) nose-blown flutes have no distinctive morphology

It is likely that the transverse flute evolved multiple times as follows;

Table 8. Evolution of the transverse flute

Continent	Possible evolution
Eurasia	once, all occurrences are related, including India
Africa	twice, in West and East Africa
Oceania	twice, in Melanesia and Polynesia
New World	several times

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