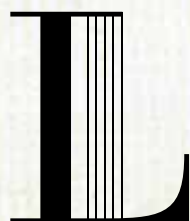




Reflecting on Hornbostel-Sachs's *Versuch* a century later

Proceedings of the international meeting
Venice, 3-4 July 2015



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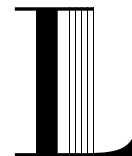
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Livre de prières de Croy
with illuminations by Simon Bening
and Gérard Horenbout, ca. 1510, f. 27
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a Febo Guizzi

So far as I know, most free-reed instruments with fingerholes are of bamboo and have a cylindrical bore; the only free reeds with an expanding bore that I know of, are the Burmese and Thai mythan horns, with, as is usual for all of the free reeds with a fingerhole, the reed set or cut in the side of the body. These horns use the open narrow end of the horn as a fingerhole. And all the dilating-reed instruments that I have ever seen have been cylindrical in bore, but that does not mean that we can rule out the possibility of ever meeting one with an expanding bore. Dare we take so radical a step?

As an individual, I did not have the courage to suggest it, when I produced my revised version of Hornbostel and Sachs. Many of my proposed revisions were adopted for the new MIMO revised version, but I did not dare then to suggest so major a step as this, to change the numbers for every reed instrument in the system.

If you are prepared also to recognise this problem, and with so many of us present here who are interested in classification, are we prepared, as a group, to present this change?

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Roger Blench

Issues in the classification of multiple-feature musical instruments

Introduction: what's the issue?

Hornbostel-Sachs's *Versuch* is now over a century old and remains in current use, testifying to the durability of its ideas. The *Versuch* is a referential classification, in that it enables scholars from different traditions and cultural backgrounds to discuss musical instruments and sound-producers using a common terminology. By definition, the basis of the classification is based on a single descriptive feature, morphology. In this area it has been remarkably successful, the proof of which is that it is still being developed a century after first publication. Other proposals [Schaeffner, 1952; Kartomi 1990] have come and gone. However, the disadvantage of using only morphology is that it cannot encompass the multiple different aspects of total performance, such as playing technique, multiple sound production systems, multi-player instruments etc. This paper¹ focuses on some of the issues that arise from a morphology-based classification in classifying total performance, through the presentation of some perplexing organological examples drawn from different regions of the world, and makes some proposals for a more complete descriptive model.

Morphology-based classification. General

This section considers five issues for instrument classification. These are:

- a) How can instruments that produce sound in two or more different ways simultaneously be classified? Can one technique of sound production be described as 'primary'?
- b) Where instruments are classified only by morphology, significant differences in performance techniques are lost in the classification.
- c) Where multiple instruments of distinct organological types are played simultaneously and in some cases 'with' one another.

1. This paper summarises a great deal of fieldwork and collecting in many parts of the world, particularly in Sub-Saharan Africa and Northeast India, and I would like to thank the many people who have assisted me over the years. The paper has been revised subsequent to presentation in Venice in July 2015.

d) Where performance depends on an ensemble of single-note instruments and a group of performers with must come together to create a melody.

e) Where two or more players play a single instrument with the same or different sound production techniques.

Instruments with multiple sound production techniques

The scraped mouth-bow. Probably the most common example of instruments with multiple sound production techniques is the use of rattles attached to drums, flutes or other instruments. Especially where the rattling elements are optional, the primary sound production method is likely to be used to classify the instrument. However, two or more types of sound production are more integrated in some instruments. Some mouth-bows in Southern Africa incorporate a scraped idiophone and sometimes a vessel-rattle (figure 1). These were probably first described by Kirby [1934], with more detail in Wegner [1984]. The bow is a small arc and the string a flat section of palm-leaf held between the lips. Different harmonics can be emphasized by placing the thumb of the right hand against the string. The lower part of the bow is cut with transverse notches, and the performer scrapes the notches with a stick. Among the San and in Angola, the scraping stick is plain, but towards Mozambique, among the Tsonga, the playing stick is threaded with small hollow rattling fruit-shells. The scraped bow potentially produces three distinct sounds, the chordophone element of the plucked string (which also has an aerophonic component), the scraped notches and the noise of the vessel rattles.

It seems very likely that this instrument was first developed by the Khoisan, and subsequently spread to Bantu speakers both east and west of the Kalahari.

Whirled rattling aerophone. Among the Buginese of Sulawesi, an unusual whirled rattling aerophone is played only by a professional class of transvestites who must be present at all major celebrations, characteristically the *bissu* dance (figure 2). The instrument, *lalosu*, consists of a long woven rattan tube closed at one end with a carving of a hornbill, and open at the other end. Pieces of glass are embedded in small palm-leaf projections from the tube, which rattle as the tube is waved from side to side. The main sound is a whistling produced by air passing over the mouth of the tube. Typical instruments are over a metre long (figure 3).

Instruments with alternate playing techniques. The problem of morphology without performance information is exemplified by the nose-flutes of the Northern Philippines and elsewhere in South-East Asia. The same instruments are played with the nose in some communities and with the mouth in others and no structural feature of the instrument allows the organologist to decide

Figure 1.
Scraped mouth-bow, Tsonga

AUTHOR COLLECTION



Figure 2.
Lalosu in performance

ARCHIVE PHOTO COURTESY MUZIUM NASIONAL, JAKARTA

Figure 3.
Lalosu from Makassar.
Museum La Galico, Makassar

AUTHOR PHOTO

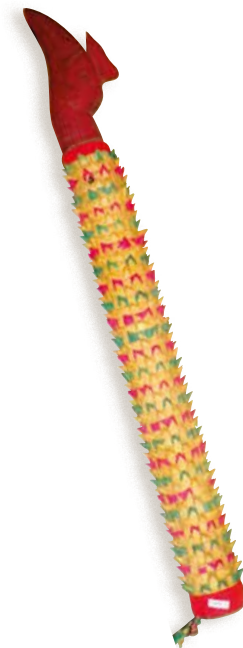




Figure 4.
Embouchure of Isneg nose-flute,
Ayala Museum, Vigan

AUTHOR PHOTO

Figure 5.
Isneg nose-flute in performance

ARCHIVE PHOTO, COURTESY AYALA MUSEUM, VIGAN

Figure 6.
Garo ensemble with *olongma*
mouth-blown flute

PHOTO COURTESY DON BOSCO MUSEUM, SHILLONG

Figure 7.
Garo performance on the *olongma*
nose-blown flute

PHOTO COURTESY DON BOSCO MUSEUM, SHILLONG

which technique is used. In Northern Luzon, the Isneg and other peoples play long flutes with a small circular blowhole in the proximal end of a bamboo tube, otherwise sealed (figure 4). Such flutes can be played both with the nose and the mouth and figure 5 shows an archive photo of performance with the nose. Among the Garo people in North-East India, the *olongma* transverse flute can be played both with the nose and the mouth (figures 6 and 7).

Multiple instruments played together by a single performer. The use of multiple instruments by a single performer is exemplified by any percussion ensemble such as a drumkit. However, each component instrument is usually organologically of a single type, so this could be treated as an array of individual instruments. A less-known example is among the Jorai people of central Việt Nam, where two stringed instruments, the two-string tubular stick-zither, *ddong*, and the monochord stick fiddle, *köni* (figure 8), are played against one another [Zemp 1997]. Performers also use the strings of the tube-zither to play the monochord fiddle (figure 9), producing an unusual set of resonances. To describe the total performance would have to include a composite of the two instruments.

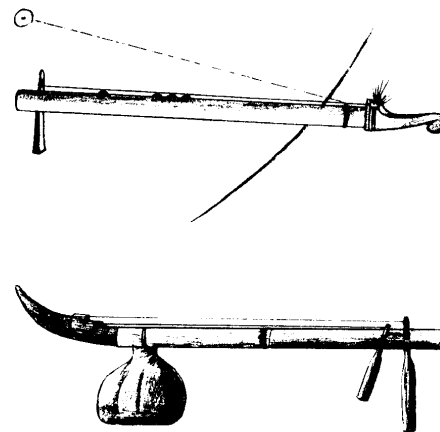


Figure 8.
Jorai string instruments, fiddle and zither
REDRAWN FROM ZEMP [1997]



Figure 9.
Jorai man playing a fiddle with a tube-zither
FROM ZEMP [1997]

Multi-player composite instruments. A performance type which has a near-global distribution is the use of wind ensembles consisting of multiple one-note instruments. Most typically, each of a set of performers has a single-note aerophone, usually composing an octave, and to construct a melody the instruments must be played in sequence. Obviously musical structures are more complex than that and in Sub-Saharan Africa typically, each performer is assigned a small rhythmic cell which is repeated ad infinitum and which overlaps the cells played by other players, creating both a melody and a rich polyphony [Arom 1986]. This is often described as ‘hocket’ in the literature, although it is not entirely comparable to medieval European practice. The composition *In C* by the American minimalist Terry Riley uses much the same constructional technique. In North-East India, the instruments produce block chords, thus imitating the sound of the free-reed mouth-organs common in this area.

Describing the morphology of individual instruments is not really helpful in understanding what is essentially a single instrument played by multiple players. Each player contributes a single note and the melody can only sound when the entire ensemble performs together. In terms of morphology, these are most commonly single-note whistles, but can also be trumpets, horns or clarinets. The concept of interlocking instruments is most highly developed in Sub-Saharan Africa, where groups of up to twenty-one instruments, representing a compass of three octaves have been recorded (e.g. the Ngas of Central Nigeria). The first musical study of such ensembles is probably that of Kirby [1953] who transcribed the Venda ensembles of the Transvaal. In more recent times, Simha Arom [1991] has been active in pioneering transcription techniques for Central African polyphony. Blench [2013] maps the African distribution of these ensembles and points to Saharan rock art which suggests they have an extremely deep history in the continent (figure 10). The probable origin is an instrumental contrafact of multi-part vocal music, and in Ethiopia, a fluid boundary between vocal and instrumental groupings can be observed.

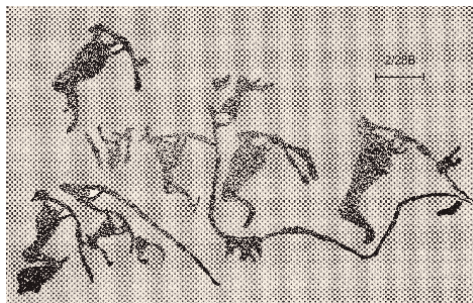


Figure 10.
End-blown horn ensemble,
rock-art, Libya
REDRAWN FROM ZIEGERT [1967]

Intermediate cases exist, for example the four fingerhole notch-flute ensembles of Central Nigeria, which are played in the same ‘hocket’ fashion as single-note ensembles. Central Nigeria is also the home of ‘mixed’ ensembles, where the upper octave is played on whistles while to bass is supported by one or more end-blown trumpets.

Table 1. Distribution of ensembles of one-note instruments

Continent	Country	Ethnic group	Instrument category
Africa	Sub-Saharan Africa	Numerous	End-blown whistles, end-blown trumpets, transverse horns, clarinets
Asia	Viet Nam	? Jorai	Notch-flute
Asia	Nagaland	Naga	Flutes with bevel embouchure
Caribbean	Haiti	Haitian	End-blown trumpets
Europe	Lithuania	Lithuanian	End-blown whistles, end-blown trumpets
Meso-America	Guyana	Wayapi	Clarinets
Pacific	Solomons	ʻAréʻaré [and others]	End-blown whistles, stamping tubes

The following photo gallery illustrates examples of performance in different continents. Figure 11, p. 152 shows a single-note flute ensemble among the Boze people of Central Nigeria. The flutes are reeds closed at the base with a circular embouchure like a panpipe.

Not far from the Boze, the Mwaghavul play what appears to be a globally unique ensemble of transverse clarinets known as *velañ* (figure 12, p. 152). These clarinets are well-known from the African savanna, where they are played to celebrate harvest or for amusement by hunters. However, the idea of having very long instruments in tuned ensembles seems to be confined to this region.

A not dissimilar group, with very long pipes, is performed by the Jorai of Central Viet Nam [Sandahl 2003]. In this case the flutes have a notched embouchure (figure 13, p. 152).

A quite different ensemble is found among the Naga of North-East India – Naga is a cover term for a wide variety of ethnolinguistic groups which share many common cultural elements and are found in Nagaland, Manipur, Bangla Desh and Myanmar. This ensemble has been recorded from Nagaland, but its extension is presently unknown. The one-note flutes are cut obliquely across the top and are sounded in chords, rather than using a hocket structure. Figure 14, p. 152 shows the performance as a whole and figure 15 a close-up of the embouchure.

12.



11.

Figure 11.
Single-note flute ensemble,
Boze, Central Nigeria
AUTHOR PHOTO, 2007

Figure 12.
Single-note clarinet ensemble,
Mangu, Central Nigeria
AUTHOR PHOTO, 2008

Figure 13.
Single-note flute ensemble,
Jorai, Việt Nam
FROM SANDAHL [2003]



13.

Figure 14-15.
Single-note flute ensemble,
pheipit, Naga, North-East India
Embouchure, pheipit, Naga,
North-East India
PHOTO COURTESY DON BOSCO MUSEUM, SHILLONG



14-15.



16.

Figure 16.
Single-note horn ensemble, Haiti
FROM FLEMING [2010]



17.

Figure 17.
Single-note clarinet ensemble,
Wayapi, Guyane
FROM BEAUDET [1980]

Figure 18.
Are'are tuned stamping tubes,
Solomon Islands
FROM ZEMP [1995]



18.

Lithuania is highly unusual within Europe for this type of ensemble. They go under the general name *sutartines*, although this can also apply to vocal music. Two instruments can be used, single-note flutes and end-blown horns. This music was almost moribund, but has undergone a significant revival in recent times. A little-known form of the one-note wind ensemble is found in the Caribbean [Fleming 2010]. In Haiti, there is a particular form of street music called *rara*, which is played for certain types of festivals, which consists of single-note end-blown metal trumpets (figure 16, p. 155). The inspiration for this is evidently similar African trumpet ensembles, such as those of the Banda of Central Africa.

Unusually for the New World, one of these ensembles is found in Guyane, among the Wayapi Indians [Beaudet 1980]. As can be seen in figure 17, p. 155, the clarinets are very long and some rest on the ground during performance.

Melanesia is known for a variety of polyphonic vocal and instrumental performance types. In the Solomon Islands these have been translated into instrumental groups, including panpipes, transverse flutes and tuned stamping tubes (figure 18, p. 155).

Multi-player interlocking wind ensembles are thus a near worldwide phenomenon, taking a variety of forms in different continents. Whether these are all interconnected and represent a very ancient human practice which spread out over the world, or is simply re-invented from vocal polyphony, remains a subject for debate. The map in figure 19 synthesises known records of this type of wind polyphony.



Figure 19.
Worldwide distribution of multiple-player wind ensembles

Multiple players on one instrument. The simplest example consists of the practice of striking the body of a string, wind or membrane instrument by a second player, producing an idiophonic effect in addition to the main sound. The percussive aerophones of Sub-Saharan Africa can be played in this way, with a second player striking the body of the instrument while the primary player creates the aerophonic component. However, also in Sub-Saharan Africa, tuned percussion instruments can be designed for multi-player performance. Figure 20 shows a multi-player xylophone ensemble in the kingdom of Bafut, in the Grassfields of Cameroun. The three performers play interlocking motifs which have considerable structural similarities to the single-note wind ensembles.



Figure 20.
Multi-player xylophone ensemble, Bafut
AUTHOR PHOTO [2014]

Conclusions

Nothing in this presentation argues against morphological classification. But many individual instruments can only be understood in their performance context. Just because we can describe the ‘museum’ morphology of an instrument (i.e. the morphology we can observe without context) this does not necessarily tell us its most interesting features. Classifying them in a richer way will require considerable elaboration. We need to consider:

- a) Allowing multiple codes for individual instruments or ensembles;
- b) Methods of sound initiation (mouth versus nose, for example);
- c) To code instruments that create their melody through ‘interlocking’ performers.

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Vincenzo La Vena

Some reflections on the use of the Hornbostel-Sachs classification in studying children's instruments

Children are particularly attracted to sound-making devices and are, therefore, known to be partial to instruments that include numerous vibration modes. My experience as a music teacher in middle school has given me great insight into the breadth of a child's creativity when playing the recorder: it can go from blowing out the most diverse syllabic sequences, to blowing air through their noses, to sucking air through the opposite end of the flute, to making the instrument a transverse flute, double flute, flute with piston, water flute, or even a trumpet, a mirliton or any other sort of thing. Of course, in Conservatories these things do not happen, and in middle school not all music teachers allow the students to improvise; the classifier could very well behave in the same way, and conclude brusquely that these ways of playing represent an improper use of the instrument and that the flute in question does not become something else just because it is played differently by an imaginative, capricious child. But let's say the objective was to study how the child makes use of the instrument, then these experiments could not simply be attributed to an improper use of the instrument and would, alternatively, be studied attentively and classified accordingly. Obviously, this would only be the case if the instruments which have been 'transformed' or modified in the way they are played (in an unconventional way, that is), are observed while being played, since the object in itself has not been transformed, and even if the transformations were visible, they would often be reversible and easily removable. On the other hand, unconventional playing techniques that stray from the intention of the instrument-maker are not in the least uncommon, since they can also be found, as in the above mentioned cases with children, in folk music revival and in world music, even in classical music, like in the 1940s with John Cage's 'prepared piano'. In all of these cases, but mostly in that of the respected musician, John Cage, the functions of the instrument, which were anticipated by the builder, and, even before that, were regularly supported by common practice, are served an astounding denial, and are reassessed on the basis of criteria that are totally new compared to the original project. I do not believe, therefore, that the classifier can continue to uphold the idea that the instrument is fixed and unchangeable, an idea that was established by the constructor beforehand. In fact, transformations that

La nuova collana *Quaderni di etnomusicologia* della Fondazione Ugo e Olga Levi di Venezia promuove studi etnomusicologici o di musicologia transculturale, privilegiando l'edizione di primi risultati di ricerche innovative, rassegne sistematiche della letteratura specialistica, atti di convegni e traduzioni di studi di interesse etnomusicologico editi in lingue non comunemente accessibili. I volumi sono sottoposti a revisione tra pari.

The conference *Reflecting on Hornbostel-Sachs's Versuch a century later* was the last international conference organized by Febo Guizzi before his untimely death. It was hosted by the Fondazione Ugo e Olga Levi in Venezia on 3-4 July 2015. The conference intended to celebrate the 100 years of the Hornbostel-Sachs classification, and for the occasion Febo Guizzi had invited international researchers whose noteworthy achievements had been published in recent years, and those who, although they did not work specifically on the Hornbostel-Sachs classification, could help with the historical background that led to the 1914 *Versuch*, and shed light on the relationship between the systematics of Hornbostel-Sachs, Victor Mahillon, and André Schaeffner.

The conference was also an occasion to listen to some critical voices on the usefulness of the taxonomical approach in today's digital era; and, in particular, on questions regarding the hierarchical structure and the problems posed by the class of electrophones, which Hornbostel and Sachs never developed.

Just a few days before the conference began, Febo Guizzi had achieved the final version of his Italian translation, which along with the results of his emendations, were shared with the participants. This version, both in Italian and in English, is now published at the end of these proceedings.

ESSAYS BY: Margaret Birley, Roger Blench, Ignace De Keyser, Florence Gétreau, Cristina Ghirardini, Febo Guizzi, Erich M. Von Hornbostel, Lars Christian Koch, Vincenzo La Vena, Marie-Barbara Le Gonidec, Renato Meucci, Arnold Myers, Jeremy Montagu, Maarten Quanten, Curt Sachs, Rupert Shepherd, Gian Nicola Spanu, Nico Staiti, Stéphanie Weisser.

