

International meeting: Reflecting on Hornbostel-Sachs' *Versuch* a century later

Giornata di Studio Internazionale a un secolo dal *Versuch* di Hornbostel-Sachs

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Margaret Birley

A revision of the Hornbostel Sachs classification in 2011

The revision of the Hornbostel Sachs classification of musical instruments by a consortium of European musical instrument museums in 2011 was made possible through funding by the European Union. This work was carried out under the aegis of the MIMO (Musical Instrument Museums Online) project, which has created the world's largest freely accessible database of information on musical instruments held in public collections, and contains the records of 54076 instruments. The revision of the Hornbostel Sachs classification by the MIMO consortium is available online among the 'Resources' of the website of CIMCIM, the International Committee for Musical instrument Museums and Collections of the International Council of Museums.

Like the 'Systematik der Musikinstrumente' published in 1914 by Erich M. von Hornbostel and Curt Sachs, the revision of the classification by the MIMO consortium was 'an attempt', in this case to address the classification of a large number of the instruments invented since the publication of the original. It also considered the work of later scholars whose research into the acoustic behaviour of musical instruments or their performance techniques had led them to question the appropriateness of some of the classes to which instruments had been allocated in the 'Systematik'. The revisions, and their underlying rationales, will be explored in my paper.

Roger Blench

Issues in the classification of multiple-feature instruments

Hornbostel-Sachs' *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 language. By definition it focuses on a single descriptive feature, morphology, and thus it cannot encompass multiple different aspects of a given instrument. In this area it has been remarkably successful, the proof of which is that it is still being developed a century after first publication.

The paper will focus on some of the issues that arise from a morphology-based classification;

- a) How instruments that produce sound in two or more ways simultaneously can be classified
- b) Where instruments are classified only by morphology, significant differences in performance techniques are ignored
- c) Where multiple instruments are played together and in some cases with one another

- d) Where a group of performers with single-note instruments must come together to create a melody

The presentation will focus on particular examples of these problems. In the case of instruments with multiple sound production elements, the examples discussed are:

- the friction-bows of Southern Africa, which combine a scraped idiophone with a mouthbow
- the whirled rattling aerophones of Sulawesi

The problem of morphology without performance is exemplified by the nose-flutes of the Northern Philippines, which are played with the nose in some communities and with the mouth in others. No feature of the instrument allows the organologist to decide which technique is used.

The use of multiple instruments by a single performer is exemplified by any percussion ensemble. However, a less-known example is from Việt Nam, where two stringed instruments are played against one another.

Multiple-note wind ensembles are recorded in Lithuania, Sub-Saharan Africa, Nagaland and Việt Nam. Each player contributes with a single note and the melody can only be played when the entire ensemble performs together.

Ignace De Keyser

von Hornbostel - Sachs and Mahillon: The Unanswered Question

My paper concerns the relationship between organologist Curt Sachs and ethnomusicologist Eric von Hornbostel, on the one hand, and Victor Mahillon (and Ernest Closson) on the other. The starting point is the lack of reaction by Mahillon on the publication of the classification system of von Hornbostel and Sachs. In fact, in the fourth version of his own classification system published in 1922, Mahillon does not make any comment on the von Hornbostel-Sachs classification system, even if von Hornbostel and Sachs had made many remarks on his own system in their *Versuch*, published in 1914. Furthermore, in their correspondence with each other, von Hornbostel and Sachs, on the one hand, and Mahillon on the other, remain silent on their respective classification systems. Why?

Moreover, a comparison of the two classification systems shows that both parties have different starting points. Victor Mahillon deals with questions relating musical instruments both as a maker and as an acoustician, on a concrete, a schematic and an abstract level. von Hornbostel and Sachs do so from the point of view of their construction. As a consequence, there are still unanswered questions on the premises used, and especially in the definition of wind instruments. An exchange of ideas between von Hornbostel and Sachs and Mahillon could have been very helpful. What could/should they have told each other?

Florence Gétreau (Paris – CNRS)

Hornbostel-Sachs universal classification and André Schaeffner: a discordant voice?

During the summer of 1932, André Schaeffner submitted to Curt Sachs a new classification of musical instruments that he had already published in the first issue of the *Bulletin du Musée d'Ethnographie du Trocadéro* in January 1931. The correspondence between the two scholars, preserved at the archives of the Musée de l'Homme in Paris, shows that Sachs endorsed his system and that he sought to submit Schaeffner's work to Hornbostel. Schaeffner's proposal was then published in the *Revue Musicale* and

later developed as *Appendix* to his seminal monograph *Origine des instruments de musique* (1936).

This communication will present the genetic and characteristics of this classification, evaluate its influence on French ethnomusicologists working on organology, its heritage and impact in public collections – their storage and indexing systems –, in academic training and publications.

Cristina Ghirardini

How to create the Hornbostel-Sachs codes for polyorganic instruments and other marginal subdivisions

In the introduction to their Classification of musical instruments Hornbostel and Sachs give instructions on how to create a proper code for polyorganic instruments, using suffixes and a special punctuation. Although suffixes, points, colons and square brackets are indispensable for a correct use of the system and to properly describe instruments that cross the four classes, these instructions have often been overlooked because they are considered not easily applicable.

My experience at the Museo Guatelli in Ozzano Taro (Parma), the Associazione Italiana Musica Meccanica and Museo Musicalia (Cesena) and the Civico Museo del Paesaggio Sonoro (Riva presso Chieri, Torino) have lead me to consider some interesting examples of polyorganic instruments, especially among Italian bagpipes and mechanical instruments.

I will try to illustrate how I created some Hornbostel-Sachs codes for polyorganic instruments following the authors' instructions, in order to expand the classification according to the needs of special collections. I will try to make a few remarks on how these procedures are indebted to the revision process of Mahillon's classification.

Febo Guizzi

Reflecting on Hornbostel-Sachs' Versuch a century later

As an ethnomusicologist studying the 1914 Systematik by Hornbostel Sachs, I am able to observe characteristics of great cultural value in this working tool: in fact, it is useful because it serves the primary purpose of enabling museums all over the world a classification for their highly taxonomic collections; but beyond this, thanks to its conceptual framework, it provides strong stimuli to the development of a knowledge of different instruments, objects of all shapes and forms, from different cultures and from all walks of life. This occurs both by enabling the greatest understanding of what is empirically observable in the objects, and by greatly encouraging the development of the idea of "sound device" in itself, as well as by comparing possible solutions and, simultaneously, proposing various hypotheses on the genesis and the transformative dynamics of all objects created by man to produce sound.

This is made possible by the deductive model and the sagacious interpretive adherence of some fundamental sound-poietic gestures, as well as by the rigorous commitment to consider the forms applied to the matter as a specific creative field, in itself the generator of a second class creative process, which is that of the functionality deployed by the instruments, namely the sound/music they produce. If music is "humanly organized sound", much of this organization, created by man, works through the instruments: the organization is both mental process, and pragmatic behavior; both of these activities must be tracked by "reading" each instrument according to the original principle for which it was invented and the specific forms it subsequently assumes. This is what the System offers as an interpretational apparatus.

In fact in the past one hundred years, the H/S Classification has undergone several attempts of revision, integration, development and expansion. Most of these attempts have not put the *Systematik* in a negative light? but, on the contrary, have made some of its intrinsic qualities, which were not immediately assessable with just a quick read, more obvious: determining merits have emerged, such as - by way of example - the ductility, the ability to accommodate various proposals for change without these affecting the logic of those relations on which the H/Ss is based, the aptitude to extend its effectiveness to entire unexplored fields.

This makes the critical process - which is undertaken when considering the limits, deficiencies and inaccuracies inevitably present in the original draft, "Versuch" (an attempt) - a very constructive one as well. The very process of revision and amendment is made possible by the intrinsically logical structure and its simple but effective hierarchical system which rotates around fundamental binary forms. Of this, the author intends, therefore, to give a brief account both per exempla, and in terms of the general layout.

Lars-Christian Koch

The Hornbostel-Sachs-Classification System – Its origin and relevance for contemporary research

Music instruments play an important role in music-cultures as tools to generate sound. In fact most cultures or ethnic groups have a classification system for sound producing devices. The Hornbostel Sachs classification is based on such a system from South Asia. The modifications and extensions made by them show a distinctive perspective reflecting the *Zeitgeist* at the beginning of the 20th century as this peculiar classification was aiming for a cross-cultural perspective, which allows for classification without deeper knowledge of the respective cultural setting. This lecture discusses the structure and origin of the system, its application by the authors during their research and in their publications, as well as its relevance for contemporary research and exhibition practice.

Vincenzo La Vena

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

Children are particularly drawn to the activation systems of sound devices and are thus prone to prefer those devices that include (or can be adjusted to) a larger number of vibration modes. My work as a teacher of music education in middle school has shown me how far children's creativity can go when using a recorder: from articulating the most varied syllabic series when they insufflate, to blowing through the nostrils, to transforming the instrument into a transverse flute, double flute, slide whistle, hydraulophone, or also into a trumpet, mirliton or else.

In the folk traditions I studied, there are also sound devices built with the specific purpose of feeding children's curiosity in experimenting multiple activation systems. In my research on these topics I have already used Hornbostel Sachs classification, considering the activation modes and not the objects, and I have come to assign even five typological categories to one single device. I do not think this to raise any particular issue, on the contrary the adherence to sound production criterion turns out to be improved. A further step could be to combine it with another classifying system to account for those morphological characteristics related to the sense sound takes on within its context, and that are the cornerstone of classifications in small cultural areas.

Marie-Barbara Le Gonidec

Improving and developing Hornbostel-Sachs classification: the case of flutes and bagpipes

Within the framework of my university studies and then of my research, I had the chance to study several instrumental corpora held at the Musée de l'Homme, the Musée national des Arts et Traditions populaires and the Musée de Montluçon, between 1985 and 2005.

I would like to show in my paper how the close examination of certain flute specimens that the two German scholars did not seem to know has allowed me to refine their classification criteria and expand this particularly diversified instrumental family. This classification, published in French on issue 33 of *Pastel* magazine under the title *Essai de classification "universelle" des flûtes* (1997 : 24-37), allows to show how HS classification for this family was initially built on the most pertinent criterion (the bevel rather than the mouthpiece), and on the way air reaches this bevel.

For the bagpipes family, it seems that the criterion chosen was mainly justified by caution – an indication nonetheless of a scientific approach. Hornbostel and Sachs classify the instruments that, like flutes, exist in very different forms, based on one criterion alone : the presence of a flexible reservoir. If this is paramount because it avoids separating instruments which can be also paired, according to the type of reed in the melody pipe, with a oboe or a clarinet, it was not developed by the two organologists. I would therefore like to show how I had the chance to introduce in 1996 an outline of bagpipe classification (*Typologie des cornemuses à trois voix*, pp. 36-38, published in French and English in the exhibition catalogue *Les cornemuses de George Sand, autour de Jean Sautivet / 1796-1867*, édition des Musées de Montluçon), an outline which was then reconsidered and developed by a Sorbonne student whose dissertation I supervised (Cassandre Balosso-Bardin, *La classification des cornemuses*, Master 1 de musicologie, Université Paris IV-Sorbonne, 2008).

In conclusion, taking the case of two families of aerophones, I intend to show how Hornbostel and Sachs' rigour has inspired me in my organological studies and how through observation I have tried to expand their classification, which still is a very useful tool today, a century after its finalisation.

Renato Meucci

Curt Sachs and the Foundations of Musical Organology

The manifold, overwhelming scientific production of Curt Sachs (1881-1959) leaves a present-day student nearly stunned, especially given the limited bibliographic and technological resources available in his time. Examined in chronological order, his output reveals a step-by-step program for founding the science of musical instruments (or organology), beginning with the publication of a dictionary of musical instruments, then a study of classification, a history, and eventually a catalog of musical instruments in the collection of the Berlin Hochschule für Musik. Later, Sachs opened his perspective to the latest developments in anthropology, in particular the theory of cultural circles and their diffusion (*Kulturkreislehre*). This allowed him to propose an ingenious chronology of appearance of various types of musical instruments. During his last years in Germany, Sachs oversaw a pioneering series of early-music recordings on period instruments and wrote a global study of dance (1933). Sachs then took refuge in Paris, where he published a major paper on the role and tasks of musical instrument museums. At the same time, he oversaw a French equivalent of the German recording series.

In 1937 Sachs moved with his family to New York City, where within three years he published his *History of Musical Instruments*, the last and most famous of his books. With this publication, the foundation of our discipline was manifestly accomplished. From that point on, Sachs devoted his attention to the music of antiquity; the history of tonality, rhythm and tempo; music history; ethnomusicology and,

above all, to a fascinating new thesis about the kinship (or commonwealth, as he termed it) of all arts.

Jeremy Montagu

How Far Do We Dare to Revise Hornbostel and Sachs?

A problematic idea is what we can do about their one major error in classifying the reed woodwind by their reed type, rather than by their bore shape. The bore shape has a fundamental effect on how the instrument plays (contrasting cylindrical bore with expanding), whereas some instruments (e.g. oboes and bassoons) work equally well with either double or single reeds, and some members of the shawm family (in Sumatra for example) use a single reed for the treble and a double for the tenor of the same type. But the main problem in this area for the non-expert museum curators is that instruments often arrive without a reed and they do not know which type it had and therefore cannot classify it, whereas they could see at a glance which bore-type it was.

Maarten Quanten

On the Systematic Classification of Electric, Electronic and Experimental Instruments using the Sachs & Hornbostel Taxonomy

Several attempts have been made to outline a fifth category of the Sachs and Hornbostel classification of musical instruments, one of which by the author within the context of the MIMO project. The research process gave rise to some fundamental questions concerning the level of congruence between the formal criteria of the classificatory system (hierarchical, top-down structure) and the nature of the objects (modular). A first critique, however, concerns the incompatibility of electronic sound production and the basic principle of S-H subdivision, the highest level of tracing: the initial vibratory object/mechanism. Relations of similarity and difference between electronic/electric instruments might have to be looked for somewhere else, as the electronic sound signal physically behaves in a totally different way than an integrally acoustic vibration/wave.

In this paper, I will question the validity of the S-H taxonomy for classifying electric, electronic and experimental instruments and by extension the relevance of the system in the era of online databases. I will also propose an alternative use of the S-H codes, which might offer a (temporary) solution to the problems mentioned above.

Gian Nicola Spanu

The early reception of Mahillon's taxonomy and of Hornbostel-Sachs classification system in Italy

1894 saw the light of the *Rivista Musicale Italiana*, the oldest and most prestigious Italian magazine on musicological studies, which, in that year's first issue, reported, in a concise review, the publication of the first volume of the *Catalogue descriptif et analytique du Musée Instrumental du Conservatoire Royal de Musique de Bruxelles* by Victor-Charles Mahillon, republished the previous year and «preceduto – the reviewer noted – da un tentativo di classificazione metodica»; an *attempt* that, as is known, laid the foundations of the following *Versuch* by Eric M. Hornbostel and Curt Sachs in 1914. Between the 19th and 20th century, therefore, Italian scholars too started to familiarise, mainly in the musicological-comparativist field, with the four classes the universe of music instruments can be traced back to.

This paper intends to shed light on the dynamic and problematic stages connected to the early *reception*, in Italy, of Mahillon's taxonomy, the Hornbostel–Sachs couple later drew on and developed,

with a special reference to Giulio Fara's production, who studied Sardinia traditional instruments on the pages of the *Rivista Musicale Italiana* (main reference point for developing "ethnomusicology") and in many other monographs and scientific papers.

Nico Staiti

For a revision of the reeds taxonomy (also in light of some new discoveries)

The reeds for the system are "autophonic interruptive aerophones" ("selbsklingende" able to play on their own: see GUIZZI 2002: 479-480n): air is set into vibration by the oscillation of an elastic solid body, in turn set into vibration by the pressure of air. In other words, incoming air causes the periodic vibration of the elastic solid body, which, periodically interrupting the flow, impresses in its turn a perceptible acoustic vibration of outgoing air. The word "autophonic" could seem to refer to the actual "autophonic" part of the device, since also a solid body vibrates in it, though the only perceptible vibration is the one of air. But it refers to a specific type of solid-body instruments: idiophones (which, by the way, in the system first version – Mahillon's one – were called "autophones"). Reeds are then divided into beating, free and ribbon ones. While the first two denominations are about the device behaviour (depending if its oscillation is free or limited by the support the elastic part comes into contact with), the third one is about its shape. Although ribbon reeds are indeed "free", their vibration stops against a rigid wall. Then the recent discovery of some instruments, whose solid body exciting air is not a blade nor a pair of blades (as it happens with beating reeds) nor a flexible ribbon but a membrane, has led us to rethink reed classification in different terms, thus calling for a revision of the entire order of interruptive aerophones.

412 Interruptive free aerophones

412.1 Idiophonic interruptive aerophones or reeds

412.11 Flexible beating reeds

412.111 Concussion reeds

412.111.1 Idioglot concussion reeds

412.111.11 Blade concussion reeds

412.111.12 Flattened concussion reeds

412.111.121 End-blown idioglot concussion reeds

412.111.122 Side-blown idioglot concussion reeds

412.111.2 Eteroglot concussion reeds

412.111.21 Tied concussion reeds

412.111.22 Concussion reeds with stable

412.112 Percussion reeds

412.112.1 Idioglot percussion reeds

412.112.11 Upper cut idioglot percussion reeds

412.112.12 Lower cut idioglot perc. reeds

412.112.2 Eteroglot percussion reeds

412.12 Flexible free reeds

412.13 Stretched reeds

412.131 Ribbon reeds

412.131.1 Ribbon reeds without frame

412.131.1 Ribbon reeds with frame

412.132	Membrane reeds
412.132	Percussion membrane reeds (complete membrane reeds)
412.132	Free membrane reeds (cropped membrane reeds)

Stephanie Weisser

The Hornbostel-Sachs system: a model for the 21st century?

Since 1914 and up to the present, the classificatory scheme mostly used for musical instruments is a hierarchical downward taxonomy. Initiated by the first curator of the Brussels' Musical Instruments Museum, V.-C. Mahillon, and further developed by Erich von Hornbostel and Curt Sachs, this system was generated in a museum environment, mainly for practical reasons such as the organisation of the objects in depositories. Museums and musical instruments collections gathering objects belonging to different historical, geographical and cultural contexts, a 'universalist' classification system (for instruments of all times and places) was needed. Inspired from Linné's plant nomenclature (for Mahillon's) and from Dewey Decimal System (Hornbostel-Sachs'), such organisational schemes were meant to be systematic, objective and scientific. Based on a taxonomic representation of reality, the systems were constructed from the general to the particular (downward classification), separating objects step by step according to one criterion at a time – mostly morphologic. However, even if the Hornbostel-Sachs (H-S) system has shown impressive longevity and has undoubtedly proven its utility and its strength as a model, several researchers have noticed that the morphologic criterion on which it is largely based is unsatisfactory in many cases. Numerous attempts have been made to solve the inadequacies of the H-S system –or at least to compensate for its most striking issues. One of the main issues of the H-S system lies indeed in the reducing effect of the classificatory procedure. A musical instrument, understood here as a material interface used by humans to produce sounds in a musical context, is much more than an object with specific morphological characteristics. Being, first of all, a sonorous device, played with specific technique(s), used in specific social context and musical system and embedded with symbolical and aesthetical values, a music instrument is therefore not one, but many. Similar difficulties have been experienced in dealing with taxonomies based on the supremacy of morphologic characteristics (phenotypic systems), leading to the dismissal of this approach in many (non musicological) disciplines, including biology. It is therefore time to address a fundamental question: in the 21st century, in a knowledge-based and globalised society, in which tremendous amounts of complex data can, technically and conceptually, be processed and analysed, does the H-S framework allow a truly holistic, non-reducing approach for organising musical instruments?