

# Preserving Sound – Musical instruments and their ephemeral feature: Possibilities to deal with it

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## Abstract

Sound is an integral part of musical instruments and is of essential importance concerning the readability of these objects. Preserving this aesthetical aspect is a special challenge. Some possibilities are described in the following: from keeping the originals 'alive' to high quality recordings.

## 1. Introduction

Sound is an integral part of our inherited musical instruments. These are functional objects, which belong to our cultural heritage not only because of their artistic design. They are complex constructions and their acoustical properties are an absolute essential part of their aesthetics. Restricted capability of sounding necessarily leads to a restricted readability and so reduces the cultural, social and scientific value of our objects. What are our means for conserving this aspect of musical instruments and how do we conserve sound?

The look at some musical instruments - keyboard and woodwind instruments of different types - and their historic and actual use in museums and collections, instrument copies and their associated concepts as well as recordings of different ages will create a representative cross section of our efforts to preserve sound since the founding of the great musical instrument collections.

## 2. Methods

In attempt to find a solution, to enable also following generations to experience the ephemeral sound of music and musical instruments we have developed some methods during the last century:

- preserving the instruments as tools in playable condition
- manufacturing reliable and true copies of the tools
- sound recording and distributing (hopefully including conserving the recordings)

## 3. Examples

Following there are a few examples of projects we realised during the last decades.

### 3.1. Playing Musical Instruments

Traditionally the first way to preserve sound is to obtain the playability of musical instruments. Conservators try to find a balance between conservation and using suitable objects. Even as this might not be the *ultima ratio* in any case – as the condition of our objects, the wear and tear in use or the acoustic quality make playing historic instruments highly questionable – it may deliver satisfying results in some cases: For example the *Mighty Wurlitzer* Theatre Organ of the Musikinstrumenten-Museum PK, Berlin, which is regularly played during guided tours, concerts and cinema events.

There is a lively scene of theatre organ enthusiasts and many of the still existing originals are still in playable condition. For this purpose nearly every wearing part is in production in good quality today. And from a technical and aesthetical view these parts are very close to the originals. Even better, these organs were made for heavy use and therefore they show reasonable wear and tear.



Figure 1: The Mighty Wurlitzer, Kat.-Nr.: 5369. ©Musikinstrumenten-Museum PK, Berlin / Photo: Jürgen Liepe

### 3.2. Copies and Originals

There are many conservational and technical reasons for originals not to be held in playable condition. An alternative solution is the production and use of copies of some musical instruments of special interest, just as well as the use of copies of functional parts.

To the collection of the Musikinstrumenten-Museum PK, Berlin, belongs a famous harpsichord, which assumedly has belonged to Johann Sebastian Bach: The Bach-Cembalo, Kat.-Nr. 316, made by the Harraß-workshop, Großbreitenbach (Thüringen), around 1700. After having suffered from WWII and of many years of use, it was in no playing condition anymore. A restoration to a playable state would have demanded heavy intrusion into the original substance. Also there are several traces in the construction of the harpsichord, which document very early and fundamental alterations by the maker: two different stages of development caused through musical requirements and use. In the 1990s as a consequence it was decided to conserve the original harpsichord in its impaired state and build two copies: each one representing one state of construction. Both of these copies are made to be played and enable the musicians as well as the audience to experience the sound of the Bach-Cembalo as it must have been during the times of its use.



Figure 3: Bach-Cembalo, Kat.-Nr.: 316 and Copy, Kat.-Nr.: 5614. ©Musikinstrumenten-Museum PK, Berlin / Photos: Jürgen Liepe

### 3.3. Sound Recordings

In 1890 the parish of St. Wenzel, Naumburg, sold 37 historic wind instruments to the "Sammlung alter Musikinstrumente bei der Königlichen akademischen Hochschule für Musik", which is now the Musikinstrumenten-Museum PK, Berlin. Among them were 13 recorders, three of them still exist and two are still in a limited playable condition. These recorders, signed "HD" (Kat.-Nr.:659 & 660), have some special features, which draw interest in their acoustical qualities: they appear to be built as a pair of recorders. One labium is placed on the back side and both instruments have different bore profiles. It seems that one recorder



Figure 4: CD-Cover and Recorder Kat.-Nr.: 659 & 660. ©Musikinstrumenten-Museum PK, Berlin.

was designed as the leading and the other as the accompanying instrument. Therefore it was decided to produce a high quality recording with musicians, who had ample experience with historic instruments and a solid reputation for performing contemporary music. The recorders were examined and over a period of several weeks meticulously prepared to avoid any damage as far as possible. These recordings were combined with a concert to make the best use of this singular event. In 1999 a selection of recordings were published together with similar records of other Naumburg instruments and now the second edition of this CD is on sale since 2014.

### 3.4. Conserving the Recordings

Of course there are not only audio recordings made to be sold on CD. In fact, documenting sound with various media is pretty old. So we have to handle and preserve various formats. The conservation of data media is relatively young and has grown to an own specialised field in the science of conservation.

Even during the production of the above mentioned CD *Die Blasinstrumente aus der St. Wenzelskirche in Naumburg*, which took place during a period of about ten years, multiple media formats got used. Over the decades, starting in 1930, the following media were in use and are to be stored in our institute:

- recorded disc
  - o shellac
  - o vinyl
- magnetic tapes (analogous)
  - o from ¼" to 2"
- magnetic tapes (digital):
  - o U-matic
  - o Betamax
  - o DAT
- optical discs
  - o CD
  - o DVD
- HD

Not only need these different media to be stored and preserved. But we also require the reproducing devices which have to be kept in working condition. Due to the fact that audio recording got dominated by powerful data processing during the last decades, we additionally have to care for the appropriate IT Hardware and the associated software.

### References

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