

THE RESTORATION OF ANTIQUE INSTRUMENTS: Deontologies and techniques.

The restoration of an antique instrument whether historic and/or belonging to the patrimony is a complex and difficult issue requiring various techniques and knowledge. First of all, we need to distinguish between the different families of musical instruments, each with its own specificity, materials; therefore requiring particular restoration techniques. According to the Sachs/Hornbostel classification still in use in the museums, the main families of instruments are :

- Idiophones, which sound is produced by the material composing the object when it vibrates : for example bells, Jew's harp
- membranophones, which sound is produced by the vibration of a membrane, for example drums
- cordophones, which sound is produced by strings in tension between two points, for example violins, guitars
- Aerophones, which sound is produced by vibrations transmitted by air, for example flutes, trumpets

We propose a less scientific way of classification :

- Stringed and/or plucked instruments (violin, cello, double bass, viols, guitar, mandolin, cister, mandore and other theorb, etc.
- bows
- Keyboard instruments (harpsichord, piano, pianoforte, spinet, etc)
- Free reed instruments : accordion, concertina, cecilium, bagpipe, etc.
- wind instruments : wood and brass
- percussions
- 20th century instruments, electric and electro-acoustic
- Instruments from extra- European countries.

Here, we would like to deal only with our own specialty : stringed instruments, bowed or plucked, made in Europe between the 16th and the beginning of the 20th centuries.

Before beginning any type of restoration, it is necessary to examine the object, identify it precisely and establish a report of its actual conditions, that is, an expertise. The following points need to be determined :

- the exact period when it was made
- the origin: country, region and when possible the town (Paris, Venice, etc.)
- the author and/or eventually the workshop, the style (workshop of, pupil of, according to, in the style of..)
- and most important of all, make a list of the original parts, modified or not, and those not original.

Then, it is necessary to analyze the reasons why this instrument was brought for restoration and the motivation :

- does the actual state of the instrument really call for restoration? Simple repairs, maintenance ?
- is this restoration absolutely necessary? Why? (the instrument will be played, exhibited, it needs consolidation, for aesthetics purposes, etc.)
- could a restoration create risks for a durable conservation of the instrument ? (tension, deforming, ungluing, mildew, worms, etc)

the final step is to establish a diagnostic and define an "ideal" strategy of restoration.

Once the instrument is identified, its state and damage analyzed, once all the details have been noted – if there were modifications when and why – an evaluation of what can be repaired has to be done, photographs of all particulars of the construction, taking measurements, make imprints. Some research has to be done (museums, collections, libraries, luthiers, etc.) to look for an instrument by the same author, the same period or else an instrument by a similar workshop that could serve as a reference.

After analyzing these results, we need to decide on a restoration strategy that will take into account several factors: respect of the author, remissibility, and traceability. As a matter of fact, each operation done by the restorer must have the possibility of being undone. What was glued must have the possibility of being unglued by a successive restorer, colours and patina cleaned, etc. A report will accompany the restoration stipulating the various interventions, the material used and the solvents (glue, varnish, wood, etc.) and how they were used and, generally, similar to a health carnet, it will group all the information possible about the instrument, its past and actual state and give advice for its conservation.

The problem we face when restoring is to remain within norms that are difficult to establish. We should not redo everything “from scratch”, nor leave too many incoherent apocrypha elements, but establish the point where “coherence” stops and the “abuse of restoration” starts. Therefore, we would leave a non original bridge – but very coherent on the stylistic aspect, - after noting it on the restoration report -, so that for example a guitar top would not risk additional ungluing, or purflings made of a synthetic material but well inserted would not be replaced by tortoise shell or ivory purflings when the general looks of the instrument are good; but we would replace a Spanish bridge on an Italian guitar, or violin pegs fitted by mistake on a guitar.

The notion of remissibility dear to the curators of the public collections is a wise principle of safety measures but remains a utopia and a vague question because opting for one restoration automatically means eliminating others, which by definition is not remissible.

We are well aware of polemics about visible or invisible restorations that have been going on amongst curators in the French museums, but we consider these polemics to be of other times; nowadays, with all the investigations means that are available, plus all the “high tech” that will develop in the coming years, it will be easier to “read” previous or more recent restorations on instruments. Moreover, restorers are always glad to talk about their work and produce numerous photos, drawings and files explaining in detail the various stages of the different interventions. The restoration must be as discreet as possible and hide behind the instrument itself. The total invisibility of a restoration is a technical prowess difficult to reach and often remains (let us be modest) in the reign of fantasy.

The problematic opposing curators of public collections to restoration technicians concerns the pertinence or not of a complete restoration: should we restore an instrument that was made to play music – its first function, its goal - or simply to exhibit it in a showcase as a mute testimony?

Is this really restoration?

In giving more consideration to the question, we add: should we restore paper books that won't be read anymore? Porcelain or crystal dishes that won't be used anymore? Clocks that will not give the time anymore? Furniture that won't be used anymore?...Of course! We have to restore objects and works of art that evidence our past and our cultural differences so that they can be transmitted to the future generations. It is the restoration technician, the professional who is used to examine,

compare, evaluate, and judge the state of the objects he knows well (usually he knows only one type of objects: guitars, clocks, bows, firearms, violins, etc.) who should decide case after case whether it is pertinent to restore it and in what measure, and submit to the instrument's owner an "estimate", a list of the restoration to be done, describing the various steps. Once restored, the owner would be advised to keep the instrument in the best conditions possible. Only technical, mechanic and physic experience gained through years spent at the work bench allows to decide – without risks for the object to be restored – on the appropriate restoration needed.

Ethics and regulations followed by museums stipulate that an instrument should be kept "as is", inert, in a showcase, keeping visible all signs and modifications that have marked its life, in this way testifying of the evolution of musical practice. In its collections, the Museum in Mirecourt prefers showing a nice guitar made by Nicolas Ainé - the first luthier in Mirecourt to participate in the National Exhibition in 1802 and who won a prize in 1806 -, with a horrible and completely apocrypha Spanish bridge. This deontology is applied also on restorations, as an example, a beautiful guitar of the 17th century kept in the Nice Museum (Palais Lascaris), on which the "pistagnes"* were missing, have been replaced by a piece of light maple during the restoration. The contrast between the original parts – a rhythm of black & white made of alternated ebony and ivory – and the remodelled part: a long uniform light beige 'ribbon' – allows the neophyte visitor to easily "read" the restoration, even if it is disfiguring the instrument.

**pistagne: typical inlays around the top and rosette of instruments of the 17th and 18th centuries in France, made of alternated pieces of ivory and ebony.*

This ethic of keeping the instrument "as is" practiced nowadays is a rather recent fact in the history of public collections. Until the 1980s, in order to valorise the national collections and in order to play certain instruments like luths and harpsichords, curators requested restorers to make "heavy" changes and modifications, often irreversible, on certain historic instruments, without considering the dangers and implications of such modifications. This type of "restoration", very discussed nowadays, has completely "frozen" some restoration projects, or maintenance of instruments in the public collections and encouraged new curators to keep instruments in the collections "in their actual state".

*(Read: "La conservation des instruments de musique" par R L. Barclay
Museum International, Les Instruments de musique
No 189 - Vol XLVIII, n° 1, 1996
And "Habilitation restaurateurs des musées.com", both in french).*

If this deontology does not exist in private collections, however, there is a difficulty to which the restorer must resist, that is, the desire - often excessive on behalf of musicians or collectors- to modify the sound or the power of the instrument by adding options or inadequate modern accessories. A new rigid bracing, stronger strings, harder varnish, etc. for which the instrument was not conceived. Like playing on a baroque violin with a chin rest and fine tuners.

There are three main types of restoration :

- 1) restorations required by the evolution of musical practice. Any musical instrument goes through changes, evolution, progress, and violin makers have always changed or transformed instruments of the past to please musicians that request it. The restoration could then concern :
 - the maintenance or restoration of the instrument in its original state, if the instrument is genuine and has not been modified,

- the maintenance or restoration in its state of “modern playability”, in the various phases of neck elevation and step;
 - in certain cases, it could give back its original “playability” to an instrument that was modified;
- 2) restorations due to abandon of the instrument and/or lack of maintenance: excess of humidity or dryness, mildew of the glue and/or varnish, presence of worms, burnt varnish, unglued or missing parts, distorted necks or strings that were left in tension for decades, cracks, ungluing, loss, etc.
- 3) those due to intervention of another person. The “do-it-yourself fixing” - dear to ethnologist Claude Levi-Strauss - have led instrument owners to practice “fantasy” interventions, modifications or “markings” to affirm the instrument’s ownership by an individual, a family, or a tribe.

For example, the instruments in the Musée de la Couture-Boussay (winds) – a measure taken probably to discourage robbers – were marked with a hot brand in an indelible way when they arrived in the museum collection.

Thousands of instruments have been painted by their owners, covered with adhesives, drawings, or carvings made with a pocketknife.

The restoration of historic instruments has two particularities: one deals with the instrument itself, as an object (its history, its aesthetics, its place in society, its cultural role – since music has always accompanied major and/or minor events in our lives.

The second, its function: the music it produces, its mechanics, culture, repertoire; these two aspects are worth considering a restoration.

Therefore, the restorer’s intervention is to give back to the instrument – when possible – its original aspect but also its function, its “playability”, without interfering on the author’s work. That is to say, the restoration should hide completely behind the author’s conception. The luthier and the musician – by collaborating together -can give instruments the best of longevity. With his careful listening, the musician is able to perceive the slightest alteration, the tiniest parasite sound, or unwelcome vibrations, to which the luthier, thanks to his specific knowledge is able to remedy.

It is thanks to this collaboration between instrument owners and technicians of restoration that it is possible to keep collections alive and offer exhibitions, recordings, concerts, publications. We can also be proud of owning and keeping antique and historic instruments that testify with modesty of the know how, culture and repertoire covering – as regards our specialty – the whole of Europe from the 16th century to present days.

Some of the restorations that illustrate this lecture :

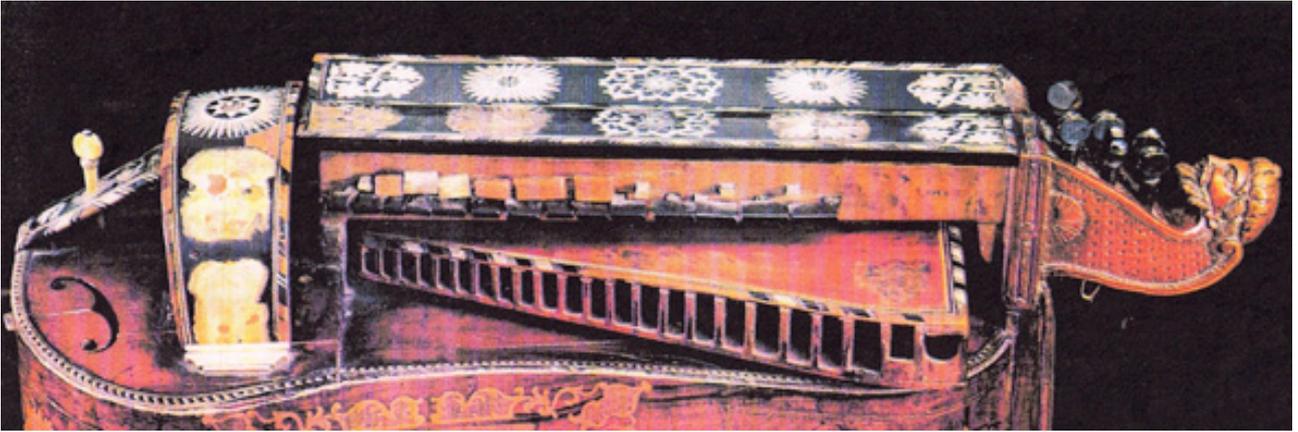
A guitar by Pratter, made in Prague in 1676 :

This rare and beautiful instrument was left in an attic for around 150 years; the damage was ungluing, mildew of the glue, but all parts were original, even a thin piece of wood remaining on the top gave us an indication of the essence of wood necessary for a new bridge. The instrument had never been modified, it was still in its original conditions, thus a very rare testimony of a early baroque complete guitar.





Parts of the wheel cover and pegbox covers of the “organ hurdy gurdy” branded “Brun”, collection Palais Lascaris, Nice. The curator asked that we make “in copy” the parts in curved mother of pearl missing on the wheel cover and pegbox cover of this rare instrument, but that we must leave “as is” the apocrypha (beige) boxwood parts that can be seen next to the original ebony (black) because “they are part of the instrument’s history” (dixit). Even though it is evident that these rough and not well positioned parts are apocrypha, and in spite of the fact that parts in boxwood on classical “pistagnes” ebony/mother of pearl or ebony/ivory were never found on instruments in the 18th century, we nevertheless kept them to comply with the curator’s request.



5 missing pieces of mother-of-pearl on the cover-heel and the cover peg-boxes.



New parts made of engraved mother-of-pearl after restorations.





apocryphal pieces of boxwood held after restorations.

A viola d'Amore by Nicolas Bertrand, made in Paris in 1685 :

This instrument only suffered damage of time passing by, without any bad treatments, and we could restore it very easily; therefore, it allows us to examine the careful and elegant work done on the inside and its nice label.

