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# The conservation of acoustical specifications : a long ignorance in public collections of ancient instruments

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The Heritage concerning ancient musical instrument is very reduce. Even less if we consider public collections. France was a leading country in that field. In 1793, the Conservatoire of Paris had already the project of a public "Cabinet of instruments" able to "serve as models thanks to their perfection". Many countries followed that example. But the collections were mainly preserved with few respect.

Since two generations, with care for education and revival of ancient music, a lot of historical instruments were put back in playing order, while many interventions let often sources of knowledge lost for the future. Today the policy is more respectful, less operative, caring for a scientific knowledge of materials, structures, but also accessories having an essential effect on the sound production : i.e. strings, fittings, linings, or surface treatments, all elements usually destroyed are today studied, referenced, even reproduced identical in partial or whole facsimile. After giving a kind of assessments, the burning question is : how many specimens, with "authentic" acoustical specifications, shall we let to future generations ? And what are studying acousticians when they compare without critical organological analysis a so called « Stradivarius violin » with a modern one ?

## AN AMBIGUOUS HERITAGE

At the time when Chanot and Savart submitted to the Académie des Beaux-Arts experimental violins, bringing to the fore several fundamental parameters contributing to their specification, Paris cancelled the project of a public Cabinet of instruments, able to "serve as models thanks to their perfection". Among four hundred instruments, collected for the Nation with educational aims one generation earlier, only few samples set free from dispersion or even fire. Intensively used in the teaching activities of the Conservatoire, those remaining suffered unavoidable changes caused by their use, the development of instrument making and the evolution of musical taste. The care for an exemplary documentation collected for future generations went out. The registers of reparations written by the instrument makers of the Conservatoire, attest the modification and alteration (new necks of violins) of physical -i.e. acoustical- components of these rare survivors.

In 1864, the French government acquired Clapisson's collection in order to open finally a public instrumental museum into the Conservatoire. But it was more the "envelop" that attracted this collector, fond of decorative and picturesque instruments; he had no sensibility in the organology and sound specification of his finds. Otherwise this lack of interest save them from restorers. Only their visible and superficial aspect was improved. On the other hand, when the Conservatoire entrusted the care of this collection - always increasing - to his "official" instrument makers (between 1872 and 1950), new

transformations, too often drastic (modifying bores, soundboards, bracings, fittings), altered definitively their acoustical specifications.

In 1942 a genuine and unique kit (small violin for dance masters) preserved in Paris, signed by Antonio Stradivari, having its original neck, mounting and bass bar, was unreversibly transformed for a broadcast demonstration. During the same period, in the Metropolitan Museum in New York, the soundboard of a very rare Cristofori pianoforte of 1720 endured a quite similar decision<sup>1</sup>. The soundboard, which was said to have been horribly warped, was removed and replaced. Even if Wolfgang Staub, a piano maker employed as a restorer at the Metropolitan Museum testified at the end of the 1970<sup>th</sup> that "they were very careful about making accurate replicas of anything they replaced", what is remaining today from the original acoustical specifications of this valuable instrument ?

## REVIVAL OF ANCIENT MUSIC AND FIRST STEPS IN SCIENTIFIC RESEARCH IN THE FIELD OF ORGANOLGY

In 1947, the foundation in England of the Galpin Society established really the field of organology at the time when many public collections were

<sup>1</sup> S. Pollens, "Curt Sachs and musical instrument restoration", *The Musical Times*, oct 1989, p. 591.

beginning to put back some items in playing order. At that time more restorers were specially employed by museums and were sometimes by chance also scholars (like Frank Hubbard from Boston, who published a master work on the history of harpsichord making and opened few later a workshop for the restoration of these instruments in the Parisian museum). If these professionals begun to take in account the inner structure of instruments, the individual history of each item, taking precise measurements, considering technical details having an effect on the sounding result, many interventions were carried with a lot of approximations (like the stringing or fitting). Original plectrums in "peau de buffle" were for ex. replaced and destroyed on an harpsichord by Louis Dumont and Pascal Taskin, part of the Parisian collection, avoiding any further analysis to understand the specific sound quality of this very special stop of late French harpsichords. During these decades, we can also give the example of a lute by Seelos (1699) from which a bracing from his late period of use (18<sup>th</sup> century) was totally removed and replaced by a non historical one. What can we know from its sound and characterization in such conditions ? Very often, during the same period, woodwind instruments presenting important damages from wood worms, were "restored" with epoxy glue, despite the fact that it is irreversible and that it is quite impossible to control the penetration of this product into the galleries. Nobody can be sure that they will be totally filled up and how this action affects the surface of the bore. A unique bass cornetto was treated in that way at the end of the 1970<sup>th</sup>. It never sounded as expected to allow eventual acoustical measurements and it is definitively lost for the research as reliable source.

In 1974, a precious harpsichord made by Jean-Henry Hemsch (Paris, 1761) and preserved in the state of his last period of continuous use, was purchased by the Conservatoire in Paris for his collection. The 8' stop of the lower manual was mounted with "peau de buffle". And the instrument being in very good condition, the decision consisted in putting it back in playing order. But because musicians wished to have a "classical" use for such a French harpsichord (i.e. with quill plectrums), the historical "peau de buffle" stop was removed. No recording was made before. It means that a great amount of knowledge concerning a very specific sound taste of the late 18<sup>th</sup> century, at the time of the early pianoforte concurrence, will stay ignored because of this decision.

## AN OBLIGATION TO PRESERVE<sup>2</sup>

Since one generation, professionals acting for public collections are first "conservators" and sometimes restorers. They proposed many different

methods to preserve the instruments as an historical source of knowledge in the field not only of technology but also of sound producing and musical practice.

Instruments are preserved in the state they are collected and the decision to put them in playing order is more and more exceptional (the recent museum policy encourages more to maintain in playin order instruments already restored). Some examples are quite characteristic : in the Musée de la Musique, some unique instruments, never "rebuilt", nore restored, but sometimes in "poor" state, are exhibited or preserved as "archeological pieces" to avoid any intervention that could obliterate original details and traces specific of a maker, a school of making and a period. A harpsichord by Vincent Tibaut (Toulouse, 1691), despite his poor aspect, is an exceptional case. Several facsimile of it were built recently, allowing scholars in early building of harpsichord, to emprove in an experimental procedure, the very specific qualities of it, for ex. the acoustical effect of the partly hollox wrestplank.

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