



LIUTERIA NARRATA n.2 - 10 Aprile 2025

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Face to face with the originals - Liuteria Narrata n.2

When building an instrument inspired by great examples of the past, meticulous study of the originals is one of the key elements. Liuteria Narrata tells the story of the construction, as we said in previous episodes, not of an exact copy of a guitar by Francisco Simplicio but of a guitar that mediates between two instruments by the great master from Barcelona. The very fact of not having to build a “calligraphic” copy requires direct knowledge of the originals, to understand more closely the reasons for certain construction choices and to decide more consciously how much to replicate them and how much to deviate from them. This Liuteria Narrata episode will talk about how we studied the original instruments of our interest, by virtue of their respective qualities and the material and emotional contact we were able to have with them.

We referred to two of Simplicio's guitars for different reasons. No. 288 from 1930 is our reference from a functional point of view: it is the guitar that we appreciated most for its sound emission, capable of effectively mediating between the quality and ductility of the timbre and the power that we seek.

No. 240 from 1929 is one of those that Simplicio made using satinwood (*Chloroxylon swietenia*) for the sides and back, that is, the essence that is closest as possible in terms of workability and physical characteristics to Rio rosewood (*Dalbergia Nigra*). Since we opted specifically to use satinwood, for reasons that we explained previously, no. 240/1929 is the reference that we will approach in terms of visual rendering and decorations.

We had to use different survey methodologies for the two instruments. The 288/1930 is part of the Lodi collection in Carpi: we were able to have direct access to it, physically touching the instrument and enjoying all the advantages of close observation. Different, as we will see, is the case of the 240/1929, listed in the catalogue of the Sheldon Urlik collection, which we were not able to study in person.

Francisco Simplicio's no. 240/1929 study

Guitar no. 240/1929 presented us with the need to imitate some of the characteristics of an instrument to which we did not have direct access. Studying an instrument from a distance implies having to rely almost exclusively on photographs of it, and this is the path we have taken.

The measurement data and photographs, mainly frontal, come from the catalogue of the aforementioned Urlik collection¹, which also provides a brief history.² Having perfectly frontal and sufficiently detailed photographs of the instrument: this way we avoided the deformations and aberrations induced by perspective. Furthermore, although we did not have a scale that indicated the relationship between the measurements in the photographs and the real ones, we knew the exact key measurements of the instrument: not only the vibrating length of the string (65 cm, net of the necessary compensations for intonation), but also the width of the lobes and waist, the spacing at the nut and bridge and the diameter of the soundhole. By proportion, we were thus able to obtain the other salient measurements from the photographs.

Of particular interest was the study of the headstock of the 240/1929, which appears as an elaborate floral motif in bas-relief on a corrugated background, probably worked with a burin. In this case, faithful, chalcographic reproduction was an absolute priority. To create the working base of the headstock, we chose to process the photograph of the original headstock in Rhinoceros 3D, a CAD program: we thus obtained a rough graphic relief on which to base the subsequent roughing.

The study of Francisco Simplicio no. 288/1930

Radically different is the case of F.S. no. 288/1930. Its placement in the private collection of Gabriele Lodi in Carpi (MO) made it possible to study the instrument and its functionality in

¹ Sheldon Urlik, *A collection of fine Spanish guitars from Torres to the present*, Commence, 1997¹, pag. 85.

² Op. cit., pag. 84 e *passim*, pag. 196.

close detail. In addition to being able to test it directly (the instrument is in perfect playable condition), we were able to make a series of fundamental observations to guide its construction.

The part that more than any other, in every guitar, is involved in the production of sound is the soundboard; each board, to balance its strength and vibrational capacity, is braced, that is, equipped with a series of reinforcements - usually made of wood - that allow the transmission of certain frequencies to be emphasized and the elasticity of the board itself to be influenced. The F.S. 288/1930 has a spruce top that reproduces, significantly modifying it, the seven struts fan bracing that was the trademark of Antonio Torres, the Stradivarius of the modern guitar.

To detect the positioning of the bracing, we exploited the natural transparency of the spruce to light. We inserted a small self-wired LED light source into the body and, by doing so, we were able to trace the arrangement of the struts on a sheet of paper. The remark and internal measurement obtained instead gave us the exact size of the bracing and struts and their positioning on the instrument.

Observing the bracing of the soundboard alone is not enough to understand its functioning. A more precise idea can be obtained by also analyzing the thicknesses and morphology of the top, which are of decisive importance in determining the vibratory function of the various points of the soundboard and, together with the bracing, the functioning of the soundboard as a whole. We therefore used a magnetic thickness gauge: we deduced that the thickness of the soundboard of the F.S. 288/1930 does not generally reach the low values typical, for example, of Torres guitars, but which nevertheless do not appear to be excessive and at the same time allow the soundboard to have a certain elasticity. Having seen the F.S. 288/1930 up close, having tested its qualities of readiness and of full-bodied timbre and having carefully studied the thicknesses of the soundboard has led us to identify, as a soundboard for the new guitar we are building, a soundboard with a fairly wide grain, such that, precisely because of its relative density, it allows us to use fairly generous wood thicknesses. Therefore, in our intentions, the advantages of sound retention typical of a thick soundboard are combined with the reactivity of a light soundboard.

The study from the inside of the other components of the instrument, such as the ribs, back and linings, was carried out using both a magnetic thickness gauge and observation with light sources

placed inside the soundboard (even though, we specify, the ribs and back in Brazilian rosewood do not have the transparency to light found in spruce). With the help of mirrors similar to those used by dentists and above all an endoscope, we captured images of elements such as the internal profile of the heel, the linings, the type and arrangement of the grain, the shape of the struts and the braces. The F.S. 288/1930 was also the instrument whose neck and heel we studied. After the playing test of the instrument highlighted its important qualities of manageability and playability, we decided to capture the profiles as much as possible. We used a particular instrument, the profilometer, made up of a series of plastic strips that can move in the direction of their length. By placing the instrument on the profile to be detected, it is possible to make a cast that can be easily transferred to paper, cardboard or similar supports. This is what we did at first; subsequently, the remarks on paper were scanned and imported into Rhinoceros 3D, so as to obtain cardboard templates via laser cutting. The measurements and remarks acquired using meters, a magnetic thickness gauge and a profilometer were then integrated with the acquisition of some images useful for rendering as much as possible the vivid impression in three dimensions, a necessary complement to the two-dimensional reliefs. Images of the inside of the guitar were acquired with an endoscope, while some external elements were taken with digital cameras equipped with macro lenses, capable of offering an even more precise rendering of the detail.

Other guitars studied

It is worth specifying that the observation of these two instruments was accompanied by a comparison, in addition to other guitars by Francisco Simplicio, with some instruments most likely attributable to the late maturity of Enrique Garcia, direct teacher of Francisco Simplicio, which present various aesthetic and structural characteristics in common with the constructions of the master from Barcelona.

Here is a list of the guitars we observed:

- Francisco Simplicio 12/1923 (construction most likely started by Enrique Garcia);
- Francisco Simplicio 113/1926 (formerly part of the collection of Luigi Attademo);
- Francisco Simplicio 209/1928 (from the collection of Marco Socias);

- Francisco Simplicio 254/1929.

It is also important to highlight once again the fact that all the measurements and surveys were carried out with the utmost precision not to build a precise copy of some of Simplicio's guitars, but to understand which characteristics could be integrated into the construction of a new guitar and which, instead, needed to be reinterpreted and modified in light of the woods and strings that we actually have. We will not arrive at casts of Simplicio's works, but rather at rigorously informed and adequately updated reinterpretations.