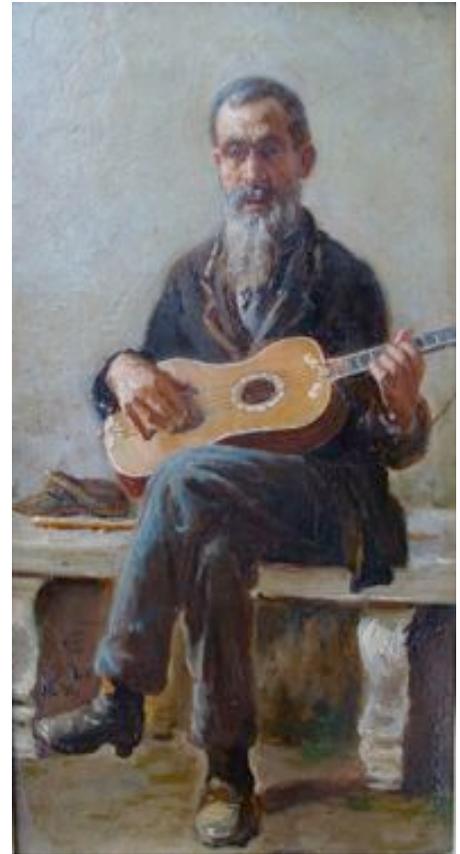
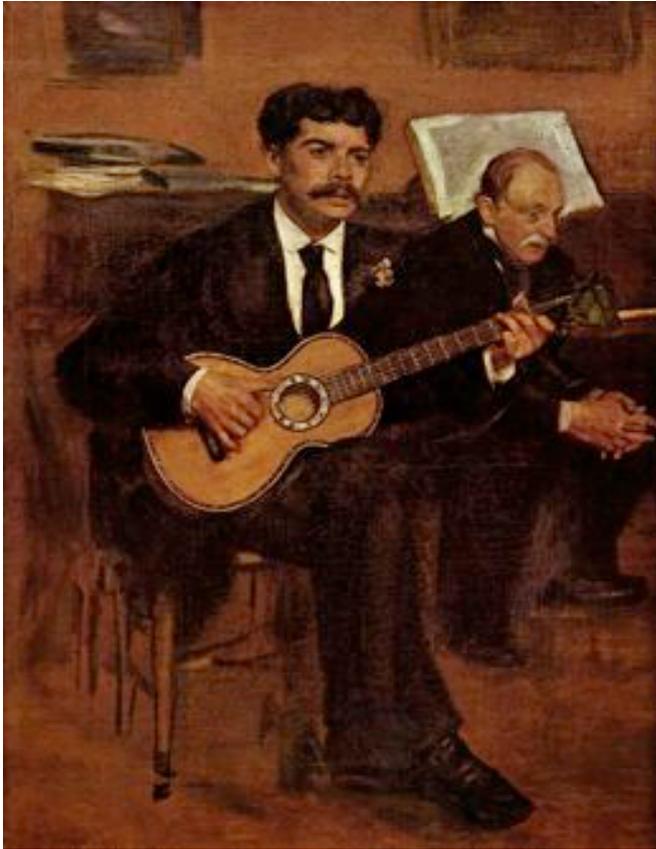


## The guitar: transition to 6 strings



The guitar has always been a popular instrument with musicians, composers, and music lovers/admirers. Its proportions have varied all along the years, sometimes with important differences that have witnessed its evolution, but the characteristics defining it and making it identifiable at first sight remained constant: an ovoid body with a neck and a head equipped with strings called “choeurs” when doubled, and a fretted fingerboard to play the notes. Tablaturas, around the 1500s, much earlier than the “classic” score notation, have allowed groups of musicians to play together the same composition and favoured teaching and transmission. Between the Renaissance and the first half of the 18<sup>th</sup> century, few changes influenced the guitar construction.

The guitar, similarly to the violin or the lute, is often made of a flat body, sometimes with a vaulted back, a neck adjusted to it. This operation of gluing was sometimes reinforced by one or more nails, except in Spain, generally remaining true to the so-called “archaic” set up – the ribs being set in the neck’s block and a flat top with a bracing closing the whole instrument. A glued bridge determined the diapason and the position of the mobile frets.

In Europe, in the 18<sup>th</sup> century, two principal types of guitars were played :

- . guitars set with gut strings – played everywhere in Europe,
- . guitars set with metal strings, very appreciated in Italy, with the same characteristics as mandolins: bended tops, mobile bridge and strings attached to the decorative external piece on the instrument’s lower block.

This type of guitar was a specialty in Italy but other European countries did not take the risk, preferring to play their zithers with metal strings. On the other hand, In England, musicians played so-called “English guitars”, a sort of zither either arched or with a flat back, also set up with metal strings.

In Spain, in the 18<sup>th</sup> century, musicians played magnificent guitars, with 6 double gut strings; due to political reasons, these strings remained in Spain or were only exported in America and England.

Around the 1765s, the making of strings went through a capital evolution that revolutionised the world of guitars. The Neapolitan Savarezze, recently settled in Lyons and Nevers, offered musicians silk-core metal strings. This new revolutionary string, first used by quartet musicians, mostly cellists, and by viol players, all of them playing on instruments with long non fretted fingerboards with an important angle, giving more steadiness to the string, thus more tension and a more powerful sound; this allowed the use of additional theorb basses.

Very quickly, guitarists adopted those new strings. As a matter of fact, gut strings were very expensive, fragile, and rather capricious as the calibre was often irregular, and very sensitive to hygrometric variations. Guitarists, for economic reasons, took the habit of using only one chanterelle, leaving the 10<sup>th</sup> string with no string.

It is interesting to note that almost all luthiers, in particular in Paris starting in the 18<sup>th</sup> century, specified on the labels affixed on their instruments that they were selling “strings from Naples”. Following the example of Savarezze -- who soon became very famous for the quality of his strings (in the 19<sup>th</sup> century, he “French-ised” his name in “Savaresse” and then, in the 20<sup>th</sup> century, made it Spanish-sounding as “Savarez”) many Neapolitans decided to establish themselves in France, often near slaughter houses or other quartering warehouses. They produced the now famous “strings from Naples”, and it was with these immigrated Neapolitans that luthiers from large cities bought their strings. The making of these gut strings was a horrible work, done in miserable conditions in unhealthy places, and today, we are glad to pay a tribute to so many of those exiled Neapolitans who equipped our instruments..

France and Italy – on a friendly basis – disputed the first 6 string guitars, the change that affected most the guitar structure in its long and diverse history. Of course, this change did not take place all of a sudden, as by magic, and numerous trials were done to achieve results giving the guitar a new power and a new sound.

Now, let’s go back to some history. Between the 1600 and 1770s, there were few changes in guitar lutherie, of course some differences can be noted between one author and another, from one region to another, but these changes are more stylistic and aesthetic than structural. In the 18<sup>th</sup> century, the court of the Kings of France was where – in Europe – any musical career was launched, where musicians had to prove their talent and conquer the public – this latter being sometimes rather ‘blasé’. Numerous Italian musicians established in Paris, bringing their instruments and musical habits, visited luthiers’ workshops and their desiderata made things evolve. Italy, let’s not forget, is the country where a written and universal language of music was born, and the omnipresence of Italian composers and artists in Paris – as well as in London and Vienna – made habits evolve. To their contact, luthiers who, until around the 1750s, were constructing on order viols, violins, guitars, zithers or mandolins, divided themselves in two camps and (specially in France) did not speak to one another: those with an exclusive passion for the violin and those with an exclusive passion for the guitar.

Those two instruments – once constructed on the same bench – now took two separate ways.

Luthiers-violins discovered with enthusiasm “antique” Italian instruments, particularly those made in Cremona. They tried to understand those magnificent instruments, copied them, expertised them, restored them and dealt them. The trend of the “antique violin”, persisting nowadays, was born!

Luthiers-guitars also developed enthusiasm for Italian instruments, but with an opposite result! They quickly forgot makers of the past and their 5 string guitars, difficult to play, with an elegant but timid sound, and rather developed a passion for “modern” Italian guitars made in Turin or Naples, new, efficient and with a powerful sound.

The violin developed a taste for ‘patrimony’ over creativity, and the guitar did the opposite: it completely ignored its rich patrimony to valorise its creativity.

Let us return to the 18<sup>th</sup> century: in France, guitarists played on guitars set with gut strings; Lambert is a typical example. Italian musicians played guitars equipped with metal strings, generally made in Naples or its area. THE country of guitar, Spain, was somewhat not present in the European life, and the country’s exports were usually directed towards Great Britain and the Americas. Panormo, although of Italian origins, Sicilian actually, after having lived in Paris for a while, settled in London and started making guitars, claiming on his labels “Spanish guitars”, with fan bracings and gut strings, so the British players would not mistake them for “English guitars” with metal strings.

In the beginning of the 19<sup>th</sup> century, before adopting 6 strings, luthiers and guitarists desperately tried to increase the guitar’s power and at the same time develop the tessitura. Luthiers then offered guitars set up with 5 simple and distinct strings. For example, Lambert & Ory, in Paris, but mostly Fabricatore and Guadagnini in Italy. Neapolitan luthiers created a magnificent 8-shaped profile for the headstock, in which the 5 pegs find their position naturally, while in France luthiers pierced 6 holes for tuners in the heads, even though they only used 5, the last peg serving as decorative symmetry. This 8-shaped design for the head, also called “palette”, will be used by all luthiers, Pons perhaps being the first around 1810, with this guitar already set with “butterfly” blocking pegs, which Lacote adopted after the 1820s.

These 5 string guitars offered an alternative to the 5 ‘choeurs’ and announced the 6<sup>th</sup> string, the low E. After 1775, in Paris, most of the music scores were published for 5 single strings. Some luthiers, Deleplanque, Saunier, Collin –amongst others – around 1779 and 1803, offered a guitar model with 8 strings: 1/A, 2 /D, 2 G, 2/B, 1/E, a timid variation of the simple 5 string instrument.

The lyra-guitar, very fashionable in the 1790/1820s, with 5 or 6 strings, was, - according to us – a fashion, a touch of modernity : a ‘young’ and reassuring tribute to a past bearing all virtues, far from the Revolution that cruelly overwhelmed France and the rest of Europe. Apart from “neo antique” aesthetics, that we can also observe in painting - announcing ‘Romanticism’ - there were no real innovations. Whether it had 5 or 6 strings, it followed the modifications brought to classical guitars.

So, everyone tried to change things, to improve them, and strings were the first steps...

**The first notable consequence** of the use of these more powerful new strings were the frets. They consumed the fret gut too quickly and luthiers had to find another stronger material. In a first period, they used bone for the frets, then silver and lastly – in the years 1830/35, ‘mallechort’ invented in France in 1829. Most of all, **frets became steady, embedded in the fingerboard, not mobile anymore**, the guitarist could not modify the set up by changing the fret position.

In 1784, Lambert in Paris constructed the first 6 string guitar, signed and dated, that we have been able to examine. The Italian influence is visible mostly on the bridge and its “very Italian” design. The head pattern remains typically Parisian, with decorated sides.

Bridges on 5 choeur instruments were still thin and glued on the soundboard, like on lutes, but already around the 1800s, French luthiers started piercing tops and small pegs solidly held the string to the soundboard, allowing for a stronger tension.

**It was the second important modification to the guitar: the soundboard was pierced** to allow a safer grip of the strings and a stronger tension.

To resist to the stronger tension and vibrate without any risks, the **soundboard bracing had to be adapted, and it was the third important modification.** Baroque guitars had a bar above the sound hole and another below; in the 18<sup>th</sup> century, guitars usually had two bars above the sound hole and one below. Sometimes two small bars on either parts of the sound hole, or two oblique bars, reminiscence of lute bracings, can be found on the lower part of the soundboard. With this new tension, a bar was applied above the bridge, sometimes on the bias to better balance the strings and an additional bar added underneath the bridge, on the lower part of the soundboard. Like the one modified by Lacote, giving it its particular 2 point profile. Around 1810, Pons added small acute bars under the fingerboard between the upper two bracings; all along his career, he made numerous trials of X or Y bracings.

**The fourth important modification** during the transition to 6 strings was the **neck graft.** Until that time, necks were simply glued on the rib crown, like on the violin. In France, luthiers started to carve the upper block and graft the neck/heel in that space, allowing to adjust the angle and the strings. In the same period, and for the same reasons, that is, strings and tension, luthiers/violin modified the neck’s angle by accentuating it, therefore affecting the rest area and the tension.

**The fifth modification was the playing area that became considerably larger,** in the beginning of the 6<sup>th</sup> string. This larger area was rather uncomfortable and quickly luthiers adopted a more modest size, around 45mm on the upper nut.

**The sixth important guitar modification was the mobile saddle to the bridge** allowing to regulate the strings’ height in relationship to the soundboard and the fingerboard. After 1825, it was almost systematically included in the bridge.

In more or less 20 years, the guitar, after almost two centuries of success and relative stability, evolved from “antique” to “modern” by deeply modifying its structure. Other modifications that can be observed are generally of aesthetics, sometimes practical such as the ‘mechanics’ – a useful invention – a progress and additional comfort for the musician, but this modification did not affect the functioning of the string which remained anchored to the head’s bridge. Nor the long fingerboard can be considered as a major modification, the playing area remaining almost the same; the soundboard could be varnished or not, decorated with notable purflings or not ... all these details did not interfere on the structure giving birth to the “classical” guitar..

Therefore :

- fixed frets,
- bracings,
- piercing the soundboard for the bridge’s pegs,
- widening of the fingerboard,
- grafting the neck in the upper block,

- and lastly the lower nut regulated in height, are the major modifications transforming the “antique baroque” guitar in “classical modern” guitar, (since it was not yet called “romantic”), in France, Austria, in England and elsewhere in Europe.

This guitar pattern will not survive the arrival and the enormous success of Spanish instruments, after Torrès (and other luthiers with him) which conquered all guitarists, around 1860.

The Spanish guitar also evolved with adjustments and modifications but it always kept its particular set up and own embedment. The soundboard is wide and thin and the light fan bracing, with large glued bridges for knotted strings, not piercing the soundboard. In the United States, it was modified and transformed to give birth to their own models, even though the European influence remained present in the American lutherie, for example Christian Frederick Martin, the former Stauffer worker who went to America to “try his luck” and created one of the largest guitar industries; but that’s another story...

After the 1870s, and the world success of Spanish instruments, musicians played the rich and abundant “classical” repertoire on instruments which format and specific qualities were unknown at the time the works were composed... Numerous “baroque” or “romantic” guitars were then modified as they were in the 1800s to evolve to six strings. Guitars were modified to support a large “Spanish” bridge, and often fan bracings replaced those “ladder-type”.

Luthiers-guitars (particularly French) self-censored themselves by making only one type of guitar “Spanish style guitar, after Torrès”, and a majority of musicians in our present days play on guitars which did not exist at the time of the composition they are interpreting, giving thus a “globalization” uniformity to their interpretation!

In recent years, following their violinist colleagues, guitarists have realized that antique guitars – or facsimiles – offer a large diversity of sonorities, and now numerous guitars by Panormo, Stauffer, Fabricatore, Pagès, Lacote and other luthiers of those nice European schools are being played, for the greatest pleasure of their owners and.. our ears. We must add to that list guitars of the 18<sup>th</sup> century that allow to play music the way it was written, for 5 “choeurs”, offering musicians a rich and intact sonority. We have seen a Voboam from 1660 and a Sellas of the same period, perfectly restored and maintained, played on ‘YouTube’ by a guitarist..

The guitar remains a lively and popular instrument, offering since the 1660s an incredible diversity of models and sizes, still evolving and trying all sorts of new materials, techniques and patterns even though keeping its specific characteristics.

Sinier de Ridder

Conference in Basel – January MMXI