

The Wire Connection

By Andrew Hartig

A Brief Survey of Plucked Wire-Strung Instruments, 15th-18th Centuries

Part One

Introduction

Wire-strung instruments have had a long history of use in music-making, even if not quite as long as their gut-strung counterparts. They have been valued over the centuries for providing a timbre unattainable with gut and were frequently included as a vital component in mixed consorts. However, while the lute has been graced by greater recognition and understanding, today many wire-strung instruments of the past still remain in relative obscurity.

The following is a very brief overview of some of the more commonly used wire-strung instruments from the 15th through the 18th centuries. This list is far from comprehensive. While a few wire-strung instruments saw limited use or were restricted in use to one or two particular regions (the English *stump* and *polyphant* come to mind), many of these instruments enjoyed long periods of use in multiple countries. It is my hope that this list might entice today's lutenists to keep these instruments in mind when arranging music for ensembles or (dare I suggest?) as possible alternatives to the lute.

As this is meant to be a very brief survey, descriptions of each instrument will be necessarily incomplete. Part one of this series will address instruments of the 15th century, while parts two, three, and four will address the instruments of the 16th, 17th, and 18th centuries, respectively. For more detailed information, the interested reader is referred to the "Sources and Additional Reading" section below.

Wire-Strung Instruments in the 15th Century

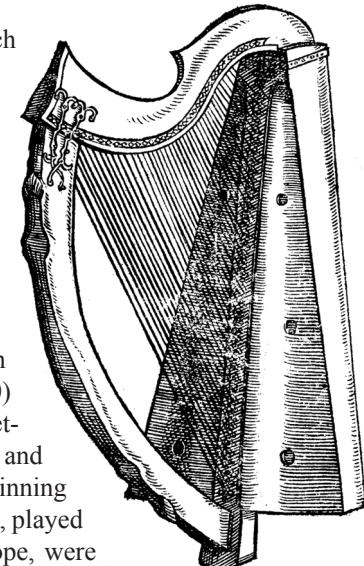
The ability to draw metal into wire was a technological innovation far advanced from cleaning, splitting, and twisting of animals' intestines. It was an innovation that also took time to develop. Archaeological digs show that the Vikings may have been making metal wire over a thousand years ago, but evidence of the use of wire in musical instruments comes from about the 12th century onward. For several centuries afterward, the use of wire for strings seems to have been used primarily in non-fretted instruments, possibly because the technology for making the strings true enough for use in fretted instruments had not yet been perfected.

By the 15th century, the wire-strung instruments that are in use represent the prototypes of the wire-strung instruments that come to be popular for the next several centuries. They are divisible into two types: Non-fretted instruments with individual strings for each note, and fretted instruments. Of the first type, most are commonly recognized today, such as the *harp*, *psaltery*, *dulcimer*, and keyboards instruments. Of the second type, we have

the less well known *cetra*, which becomes the basis of the proliferation of fretted instruments of the 16th century.

Harp

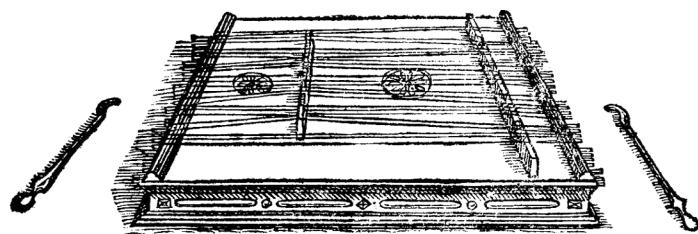
Who is unfamiliar with the harp? While harps persist to this day, historical harps, especially in Ireland, were sometimes strung with wire. Gerald of Wales (c.1180) gives the first evidence that metal strings were used in Ireland,¹ and this trend persisted into the beginning of the 18th century. These harps, played in Ireland, Scotland, and Europe, were strung with brass strings and were often played with the fingernail.



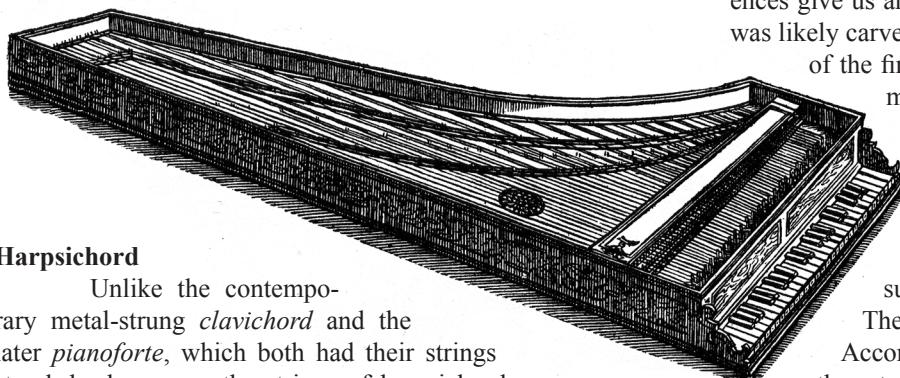
Psaltery and Dulcimer

The psaltery—a raised plank of wood or box with between 8 and 20 strings running over it—is an instrument with a history that goes back to at least the 9th century and possibly quite earlier. Documented evidence tells us that it was often strung in metal from the 13th and 14th centuries onward. The psaltery had a number of possible shapes, including rectangular, triangular, and trapezoidal, but by the 15th century the "pig's head" or "pig's snout" shape (trapezoidal with incurved sides) became common.

The name itself, derived from the Greek word *psallein* ("to pluck with the fingers"), indicates the manner of playing, though iconographical evidence shows that quill plectra were also used. An alternative method of playing involved striking the strings with sticks or small "hammers." Instruments designed to be played in this manner were known by the names of *dulcimer* or the Germanic *hackbrett* ("chopping board"). Whether plucked or hammered, the tuning of the strings was likely diatonic, and



instruments could be used to play alongside lutes and gitterns or to accompany oneself while singing.



Harpsichord

Unlike the contemporary metal-strung *clavichord* and the later *pianoforte*, which both had their strings struck by hammers, the strings of harpsichords were plucked with quill plectra. The term “harpsichord” is used here as the generic term for a wire-strung, plucked keyboard instrument, which includes a number of differently shaped and sized instruments including the *clavicytherium* (upright harpsichord), *spinet*, and *virginal*. The earliest extant reference to the harpsichord comes from the very end of the 14th century, but the earliest iconographical evidence is from the mid 15th.

The harpsichord and its relatives were used in Italy, Northern Europe, and Spain, and would be used for playing all or multiple parts of vocal polyphony or for accompanying other instruments.

Cetra

Iconographical evidence for the cetra shows that it may have existed as far back as the 12th century, but better documentation and clearer depictions come from the 15th century. The *cetra*

appears to be the first fretted instrument to use metal strings and seems to have been of Italian provenance. There are no surviving instruments, but several iconographic sources and literary references give us an idea of what it might have been like.² The cetra was likely carved from a single piece of wood, with the exception of the fingerboard and soundboard. Instead of using inset metal frets as are found on later fretted instruments, the cetra used raised blocks of wood either affixed to or partially embedded into the neck. The shape of the blocks may have created a buzzing sound which was desirable and similar to that obtained by the brays on early harps or as suggested by Vidal in the Capirola lute manuscript.

The fret blocks were arranged in a diatonic pattern. According to iconography and contemporary sources, the cetra may have had anywhere between 4 and 9 courses made up of one, two or three strings per course, and was usually played with a quill plectrum.

It is the cetra that eventually sets the stage for the proliferation of fretted wire-strung instruments of the 16th century—to be addressed in part two.

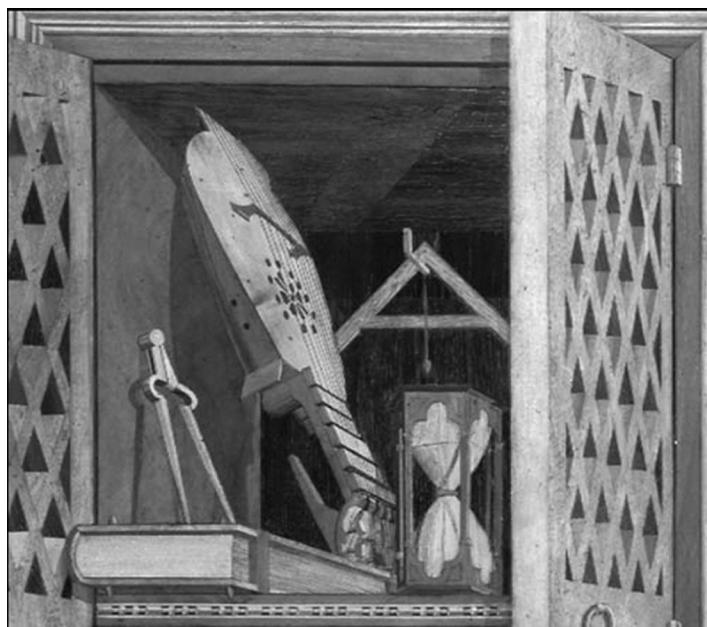
Sources and Additional Reading

- Grove Dictionary of Music and Musicians [Available online: <http://www.oxfordmusiconline.com>]
- The Renaissance Cittern Site: <http://www.cittern.theaterofmusic.com>
- Segerman, Ephraim. *The Development of Western European Stringed Instruments*. [Available for purchase online: <http://www.lulu.com>]

Footnotes

¹ Ephraim Segerman. *The Development of Western European Stringed Instruments*. p.46

² An early reference to a *cetra* in Dante’s *Paradiso*, Canto XX (22-27), may refer to the same instrument: “E come suono al collo de la cetra / prende sua forma, e si com’al pertugio / de la sampogna vento che penètra, / così, rimosso d’aspettare indugio, / quel mormorar de l’aguglia salissi / su per lo collo, come fosse bugio.” Translation: “And as the sound upon the cetra’s neck / Takes its form, and as upon the vent / Of rustic pipe the wind that enters it, / Even thus, relieved from the delay of waiting, / That murmuring of the eagle mounted up / Along its neck, as if it had been hollow.” Two sets of intarsia also give fairly good record: one (below) is the Studiolo from the Ducal Palace in Gubbio, <http://cittern.theaterofmusic.com/art/studiolo.html>; and others are by Fra Giovanni da Verona, c. 1500, in the Abbazia di Monte Oliveto Maggiore.



Studiolo from the Ducal Palace in Gubbio, 15th century (ca. 1479–82). Designed by Francesco di Giorgio Martini (1439–1502); Executed by Giuliano da Majano (1432–1490).

Pictures of the harp, psaltery and harpsichord are from Michael Praetorius, *Syntagma Musicum*.