

Mersenne's Clavichord

A CD review

Paul Rabin

Terence Charlston, "Mersenne's Clavichord," *Divine Art DDA 25134*, recorded August, 2014; released September, 2015

Terence Charlston's new CD of 16th and 17th century French keyboard music combines delight and illumination to an uncommon degree. Both the music and the instrument are "reconstructions" to greater or lesser extent, intended to fill a large gap in the historical record. Although there is ample documentary evidence of clavichords built or owned in France, no indisputably French clavichords have survived from this period.

A most important contemporary document was provided by the well-known polymath Marin Mersenne (1588-1648). In his "Harmonie Universelle" of 1636 (and Latin abridgement "Harmonicorum Libri XII"), Mersenne provides a lengthy description and a detailed drawing of a "manichordion": his instrument has a keyboard of four octaves, chromatic C-c", with strings parallel to the long side of the case, and five separate soundboard bridges at right angles to the strings, of different heights, decreasing from bass to treble. Other distinctive features include an angled bridge to the left of the tangents, and a deep case, resulting in unusually long tangents.

Mersenne's description was long considered by organologists to be untrustworthy as a record of an actual contemporary French clavichord. The consensus was that the instrument is more likely Italian than French, and more likely 16th than 17th century. Most importantly, the drawing was considered to be not to scale, hence useless for precise study or reconstruction, and possibly imaginary.

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Building a Clavichord

Mary Platt

Mary Platt is a professor of mathematics and is active in the Boston Clavichord Society.

The motivation for undertaking this project came from several sources. At the Boston Early Music Festival in 2013 I met Anne Acker, a representative of the Paris Workshop. She quizzed me about my woodworking skills and concluded that building a clavichord from a kit was not beyond my abilities. Later, she answered my email questions promptly. I also got encouragement from my family. My son loaned me his Dremel and showed me how to use it. Paul Monksy (a fellow mathematician and BCS Board member) kept asking me how the work was coming. That motivated me to make significant progress before I saw him again.

In fact, the talents needed to build a clavichord are not as great as might be imagined. The required tools were all available at the local hardware store. What is most important is to have a lot of patience and to pay close attention to details. It is also important to work at a comfortable pace and not to work when tired.

When I began this project I did not even know the names of the parts of a clavichord. I have learned a lot and would encourage anyone with reasonable woodworking skills, patience, and focus on details to build his or her own instrument. I am very glad that I made mine.

The Kit

The kit I used is made by the Paris Workshop (<http://theparisworkshop.com/en/index-en.html>) and was purchased at the 2013 Boston Early Music Festival. The model I bought is a double-fretted instrument inspired by one of Christian Gottlob Hubert's four originals from 1784.



Double fretted clavichord after C.G. Hubert, 1784. Kit by the Paris Workshop, built by Mary Platt

Tools Required

Almost all of the parts in this clavichord kit are precut and ready to assemble. Adjustments must be made to insure that the parts fit together properly. The tools required are all handheld. I used a variety of clamps, both a cordless and a hand drill, a hammer, screwdrivers of various sizes, a metal file (which also works on wood), a tri-square, a

block plane, a fine-toothed saw and miter box, sandpaper ranging from 60 grit to 600 grit with a Dremel or mouse sander (or elbow grease), a nail set, and an X-acto knife. An assortment of odds and ends were helpful when removing excess glue: old rags and a wood cuticle pusher with file. Cleaning up excess glue is essential, since glue oozes out

when parts are clamped together. The best method is to wait ten to fifteen minutes until the glue becomes tacky and can be pulled away from the wood.

General Working Principle

The parts were all flat when packed. I had no problem with the wood bending with changing humidity, but the soundboard was best worked on during the spring and fall when the humidity was closer to the ideal of 50%. The parts are assembled with glue (yellow aliphatic resin glue provided in the kit) so care must be taken to do a dry run of each step before applying the glue.

Assembling the Case

The case front, ends, and spine fit nicely together. They needed to be held at right angles, so the wrestplank was put in close to the right end, the bass hitch pin block close to the left end, and pieces of string were wound around the outside of the case.

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Update on Research pertaining to Five Clavichords Attributed to Johann Heinrich Silbermann

Beverly Woodward

In August 2015 Peter Bavington revised a page on his website pertaining to research on five unsigned clavichords that have been attributed to Johann Heinrich Silbermann. (These include two instruments in Berlin, one in Nuremberg, one in Paris, and one in Vienna.) Excerpts from Bavington's report are copied below. In these comments Bavington notes that with respect to the instrument in Paris "further examination of this instrument would be desirable." He also expresses doubt about the attribution of the instrument in Vienna to JHS. Since Bavington wrote his comments, Dietrich Hein has been able to examine the instrument in Paris, and has concluded that, like the ones in Berlin and Nuremberg, it too is almost certainly by JHS. He has also received further information about the instrument in Vienna that has led him to conclude that the Vienna instrument has a "strong connection to JHS' workshop." Hein intends to visit the instrument in Vienna and will write a detailed report about all five instruments in the future.

Excerpts from Peter Bavington's Comments regarding Five Clavichords Attributed to Johann Heinrich Silbermann

As long ago as March 2002, I published an article on my web-site about five surviving unsigned eighteenth-century clavichords that have traditionally been attributed to Johann Heinrich Silbermann (1727–1799) [hereafter JHS]. All have the compass FF–f³; for five-octave unfretted instruments, they are remarkably compact. They are as follows:

1. Boalch: JH 1775(A)(1)[1]. Nuremberg, Germanisches Nationalmuseum, No. MIR 1061. A drawing is published by the museum.
2. Boalch: JH 1775(A)(2). Berlin, Musikinstrumentenmuseum des Staatliches Instituts für Musikforschung Preußischer Kulturbesitz, No. 598.
3. Boalch: JH 1775(A)(3). Berlin, Musikinstrumentenmuseum des SIMPK, No. 914.

4. Boalch: JH 1775(A)(4). Vienna, Gesellschaft der Musikfreunde, No. I 521.

5. Boalch: JH 1775(A)(5). Paris, Musée de la Musique, No. 980.2.666.

In view of the fact that other stringed keyboard instruments by JHS bear his signature in the form of a very characteristic style of paper label, whereas these clavichords are all unsigned, I suggested that the time might have come to examine more closely the basis of the traditional attribution. Since the original webpage was published, more information about these instruments has come to light. The situation can now be summarised as follows:



Attributed to J. H. Silbermann, 1775?, FF-f³, unfretted. Musical Instrument Museum, Berlin, catalog # 598

*It is almost certain that Nos. 1, 2 and 3 in the list above (the instrument in Nuremberg and the two

in Berlin) are indeed the work of JHS, or originated in his workshop.

*The same may apply to No. 5 (the one in Paris), but further examination of this instrument would be desirable.

*The instrument in Vienna (No. 4) is probably not by JHS.

All five have been confidently attributed to JHS in various secondary sources. This attribution was confirmed in the second edition of the *New Grove Dictionary of Music and Musicians*, in the article 'Silbermann', the author of this being Philippe Fritsch, whose doctoral dissertation *Les Ateliers Alsacien et Saxon de la Dynastie Silbermann* was accepted by the University of Tours in 1996. Disappointingly, Fritsch merely accepted without further consideration what had become by then the traditional attribution. (Moreover, he accepted without query the attribution to JHS of two other clavichords which are much more doubtful candidates.)

Recently, the clavichord maker (<http://www.dietrich-hein.de/>) Dietrich Hein has examined the clavichord in Nuremberg and the two in Berlin (Nos. 1, 2 and 3). In his preliminary report, published in *Tangents*, the Bulletin of the (<http://www.boston-clavichord.org/>) Boston Clavichord Society (No. 37, Winter 2014), he has expressed

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the view that these three clavichords are 'undoubtedly from the same workshop', and comparisons by him with two spinets signed by JHS and with the fortepiano by JHS in Berlin 'reveal a number of common features' that lead to the conclusion that all these instruments are indeed the work of JHS. The most striking connection between them is in certain hidden details in the execution of the keyboards. Dietrich has promised to give more details in a future article.

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Exploring the Sykes Clavichord Collection

Christopher Grills

Christopher Grills is a Master of Music candidate in the Historical Performance program at Boston University. He is studying the clavichord and the harpsichord with Peter Sykes. This is part one of a two-part article.

When considering institutions for graduate studies, I knew that I wanted clavichord performance to play an integral role in my program. As an undergraduate I had acquired a Zuckermann IV clavichord, given performances and interviews on the instrument, and taken clavichord lessons in Europe with Richard Fuller and Bernard Brauchli. After visits to several schools in the United States and Canada, it became clear that no professor in North America other than Peter Sykes could grant access to a truly wide range of clavichords. Having access both to the magnificent collection of instruments in his Cambridge studio and his world-class instruction has been life-changing. In what follows—and in part 2 of this article—I give my impressions of the clavichords in his collection.

First, I must note some changes in Peter's clavichord collection that have taken place since his article about the collection appeared in *Tangents* (#29, Winter, 2010). Four clavichords listed in the article are no longer in Peter's possession:

Both the Zuckermann unfretted kit clavichord and the Carl Fudge kit clavichord were sold in the 1980s to fellow students of Peter. Their current whereabouts are unknown.

Peter's first Dolmetsch-Chickering clavichord (listed in the *Tangents* article as "in need of restoration") is now permanently on display in the Horniman Museum in London. Pictures of the instrument in its new home may be viewed on Peter's Facebook profile.

On a recent trip to San Francisco, Peter exchanged his fretted clavichord by Kevin Spindler for a pentagonal virginal belonging to Gilbert Martinez of Copenhagen. I had the opportunity to play the Spindler briefly prior to the exchange. The amount of pressure that needed to be applied to the keys was even throughout and intuitively apparent, which is not the case with many clavichords. This very secure, firm, responsive, reliable action is a characteristic I associate with all of Spindler's instruments. Peter also owns a French single harpsichord by Spindler that is very popular for continuo

gigs due to its portability. The evenness of the action in both the harpsichord and the clavichord is comparable to what one could expect from a very fine organ.

In addition, Peter has acquired a clavichord not listed in the *Tangents* article. In the summer of 2014, while Peter was on tour in Europe, he fell in love with a clavichord on which he gave a concert in the Netherlands. This was a large fretted instrument based on Hubert (but not a copy of any Hubert clavichord) built by Koen Vermeij,



Dolmetsch-Chickering clavichord (after Hoffman), 1908

who was present at Peter's concert. Peter approached Vermeij after the concert to ask if he could commission a similar instrument from him. Vermeij responded that he was retired and no longer building instruments, but that the clavichord on which Peter had just performed was for sale. The instrument is now in Peter's apartment and was Luc Beauséjour's instrument of choice for his BCS concert in September 2014.

Vermeij is known for his extensive studies on the instruments and building techniques of Hubert, and the craftsmanship in the instrument is unflagging. The instrument is at A415 with fretting in Kirnberger II. It has an unusually large compass of FF-f". This instrument is a sheer delight to play, and allows for more arm weight and extroverted touch than many smaller clavichords. In dryer weather there are some minor issues in the very lowest bass notes, with some strings clanging against other strings, but these problems are negligible in view of the beautiful tone and almost sultry, silvery touch of the instrument. The instrument is flexible enough for audible *Bebung* and *Tragen der Töne*, yet it holds tune and projects very well.

Peter's current collection includes two large unfretted clavichords: the famous Dolmetsch-Chickering No. 31, and a 1972

Goble clavichord. The Dolmetsch is certainly the best known of Peter's clavichords, and seems to be the most popular pick by BCS guest performers. Of the six BCS concerts I have attended in the 18 months I have lived in Boston, five of the performers elected to use the Dolmetsch-Chickering. Indeed, I myself used this instrument for the clavichord portion of my first Master's recital in May of this year, performing C.P.E. Bach's Sonata in G Major, Wq.55/6, and Haydn's Sonata in E-Flat Major, Hob. XVI:49. In an informal poll of those familiar with most of Peter's instruments I found that the Dolmetsch-Chickering is the favorite.

Like most hundred-year-old instruments, the Dolmetsch has inevitable signs of wear and age. The middle C octave, particularly e', has some mild clacking as the result of the bushing wearing out. In addition, the touch required is very different from one octave of the clavichord to the next. For example, the low C must be pressed especially firmly to sound true and released only with deliberation; if even the slightest pressure is inadvertently taken off the string, it will buzz. By contrast, the treble is so sensitive that intonation becomes a true performance concern. All of these issues, of course, pale in comparison to the many positive and desirable qualities of the instrument, particularly its sweet tone and full volume.

Without discounting the exceptional quality of the Dolmetsch, it must be said that it is only one fine clavichord among many in the collection. The Dolmetsch does have the most full-bodied sonority of all the clavichords. This feature, along with its compass and lack of frets, make it the ideal choice for most BCS guest performers—particularly those specializing in late 18th/early 19th century repertoire. However, in my opinion, these qualities do not necessarily qualify the instrument as superior to all the others.

Peter's Goble clavichord has been on semi-permanent loan to me since I moved to Boston. In fact, it is sitting five feet away from me in my bedroom as I type. The difference between the Goble and the Dolmetsch is like night and day. The Goble is the most stable clavichord I have ever encountered. In the eighteen months it has resided in my bedroom, it has only needed to be

(Continued on p. 7)

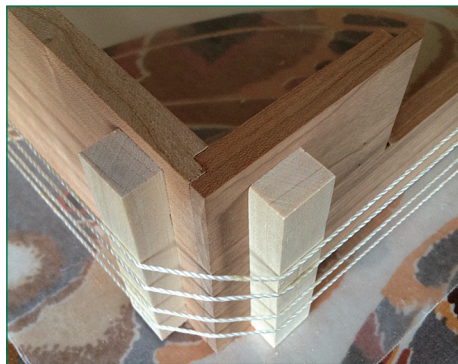
(Building, continued from p.1)

Two small wood blocks were placed in the middle of each side. The fit becomes tight when the blocks are pushed towards the ends of the case pieces. Once the dry run had been carried out, everything was taken apart, glue was applied, and the case was reassembled. The glue was thoroughly dry after about twelve hours.



Dry run without the wrestplank and hitchpin block.

The case bottom provided was intentionally made a little too wide. Therefore it had to be planed along the spine edge in



Corner detail of dry run

order to fit the case. Once that was done, the case fit over the bottom. The case and bottom were joined with both glue and old-fashioned square-cut nails. Because the nails were bending when hammered, I drilled pilot holes through the case all the way into the bottom at the center of each side. I also drilled pilot holes, in the case only, for the other nail positions. Once everything looked good, glue was applied to the case bottom, the case rim slipped over, and the center nails hammered in. The case was

repositioned with the spine side down, other pilot holes were drilled into the bottom, and the nails hammered in. Then I flipped the case to front side down and repeated the process to finish the task.

The rest of the internal case parts were clamped and glued in the following order: wrestplank (but not the dogleg), bass hitchpin block, treble hitchpin block, liners (to support the soundboard along the case front and spine), bellyrail, and wrestplank dogleg. After the glue was dry, the top surfaces of these needed to be checked to see that the entire surface was level—sanding, if necessary. Before moving on to the next phase, I needed to install one more piece. This was the bottom stiffener, which runs diagonally underneath the soundboard. The remaining case parts were then glued in, as follows:



Clamping the hitchpin block and hitchpin dogleg

cheeks, case front rail, hitchpin rail caps and toolbox. Finally, the bottom molding was sanded and cut. The miter box was used to get the cuts at 45 degrees. After gluing, the cut nails were hidden.

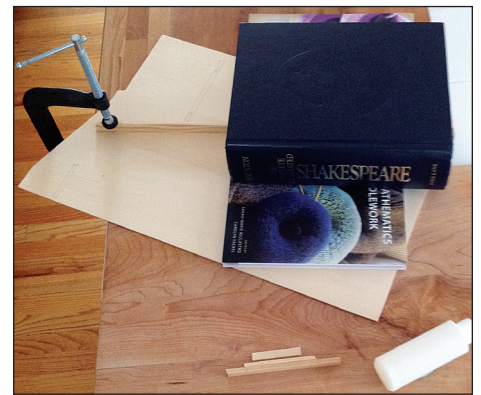
The Soundboard

The soundboard that was supplied was also intentionally a little oversized. It needed to be planed on the three sides other than the bellyrail side. Small deviations were acceptable, since the molding conceals any flaws. The top of the soundboard was sanded using a sanding block in the direction of the grain, starting with 220 grit sandpaper and stepping up to 600 grit. Similar sanding of the bridge was also carried out.

Before positioning the bridge, I traced a

copy of the soundboard from the blueprint, including the positioning of the bridge, the location of the bridge pins, the markings for the ribs that go on the underside of the bridge, and the markings for the tuning pins. A small dowel (included in the kit) with a hitchpin hammered into the end served as a marking tool. Small indentations were made into the bridge and on the soundboard for all the pin locations. To assist in locating the bridge pins, I attached the tracing at the top and bottom pin locations with push pins.

I made use of a trick in the instruction manual to position the bridge. On the underside of the bridge, I tapped in small finishing nails until they were just firm about



Clamping the soundboard. The ribs and the glue bottle are also visible.

three inches from each end of the bridge, and then used the cutter on needle-nosed pliers to clip the nails very short. After using the traced diagram to position the bridge, a little pressure made indentations in the soundboard to locate the bridge. The markings for the ribs were transferred to the underside of the soundboard.

The next step was to practice clamping the bridge to the soundboard and to do the installation with glue. My clamps would not reach the center of the soundboard, so I used a heavy book as an alternative (the *Complete Works of Shakespeare*) and a small spine book (*Mathematical Needlework*) to make the heavy book more level. It was important to wait at least a day before working further to allow the soundboard to stabilize.

The holes for the bridge pins were made using a hand drill with a tiny bit (supplied in the kit). To make sure that the holes were not too deep, a piece of scotch tape was put on the drill bit at the appropriate height. The bridge was crowned by hand using sandpaper (so that the strings would

cross the bridge properly). The kit included supplies to make a pushing tool to be used to push in both the bridge pins and the hitch pins. All of the bridge pins were installed with the use of this tool.

After that, the ribs and cut off bar were glued to the underside. My two kitchen cutting boards placed side by side, with a gap to accommodate the bridge, permitted the soundboard to be level when turned upside down.

At this point, I postponed installing the soundboard and worked on finishing the case. I applied tung oil to all of the parts where that was feasible: the case, nameboard, fallboard, molding that goes around the soundboard, and the accidentals. I oiled only the top of the lid, holding off on the underside until after the music ledge was positioned, since the glue only sticks to raw wood.

The kit provided some cauls to use along the sides of the soundboard. The instrument lid goes on top of the cauls and weights go on top of the lid. After gluing, the soundboard needs another day for stabilization. Holes for the tuning pins were drilled (with a piece of tape on the drill as a depth gauge). A final sanding of the soundboard finished this part of the project. After that, molding around the soundboard edges was installed.

Finishing the Casework

Next, the locations of the hitch pins needed to be marked. I again traced the blueprint to provide a guide for the locations and used the marking tool to make the spots, and a drill (with tape on the bit) to make the holes. (The hitchpins are installed just before stringing the instrument.)

The reproduction hinges for the fallboard and the lid needed to be cleaned. They came from the foundry with the spigot from the casting still on them. The Dremel was



A hinge

used to cut the spigots off and also to cut the brass rods to the appropriate sizes. I polished the hinges using sand paper, stepping up the grades from 220 grit to 600 grit. The lid and fall board were attached using the finished hinges.

The Keyboard

The first step in installing the keyboard was to number the keys from lowest to highest with the numbers 1-51. The keys were cut from a single piece of lime and roughly sawn apart. Any roughness needed to be removed. Sitting in my backyard on a nice sunny day, I used a mouse sander for that purpose. Mother Nature took care of the clean-up.

The balance and back rails were screwed into the bottom rather than glued. Two clearance holes were drilled into each rail about eight inches from each end of the rail. Then a countersink was made so that



Keys awaiting the accidentals.

the screws would be flush with the top of the rails. To get the positioning for these rails correctly, the balance pins and guide pins for the topmost and bottommost keys were put into the appropriate rail and the keys positioned. The rails were adjusted so that there was equal spacing between the keys and the cheeks before the screws were screwed into the case bottom. The holes for the balance rail pins were drilled through the keys before the keys were sawn apart. A guide for the balance pins was made using a block of wood the exact height that each pin should be. The pins remained straight as they were put through the block and into the pre-drilled location for the pin and then hammered into the hole. A similar procedure was used for the guide pins. Punchings went in over the balance pins and two layers of soft cloth were run along the back rail over the guide pins.

Spacing of the natural keys had to be checked. Adjustments were made to make the tops level and to maintain equal spacing between all keys. Spacing of the accidentals was carried out after dealing

with the natural keys. The key covers were finished (oiling the naturals and gluing on the accidentals) before balancing the keys. The keys were tight at first and were worked using a spare balance pin until they rotated nicely. A piece of dowel with a hole in it to accommodate the balance pin was handy to help with balancing the keys. Balancing involved putting a 5-cent euro at the finger end of the key and seeing if the key was level when placed on the dowel tool. (A small object weighing about 4 grams could have been used in place of the euro.) If not, sanding on the underside of the key (Dremel job here) and/or drilling small holes in the key side and inserting pieces of lead into the holes balanced the key. (The kit supplied two ropes of lead in different diameters.) Of course, repeating the process of leveling, spacing and balancing was necessary for each key.

Stringing and Action

Finally, it was time to install the hitch pins using the pushing tool and bending them slightly towards the left. I traced the blueprint of the keys that shows where the



Listing

holes for the tangents need to be drilled and approximately where the top of the tangent should be when tuning is complete. Then the holes for the tangent could be drilled with a hand drill and the tangents installed. I used a marked piece of scrap wood to make sure that the tangents were at the proper height.

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The Finnish Clavichord Society

Anna Maria MacElwain

The Finnish Clavichord Society was founded in 1999 with the purpose of promoting the clavichord and its music in Finland. The society also functions as a link between performers, instrument builders and lovers of the clavichord. Until 1809, Finland was a part of Sweden, where the clavichord was an important instrument and one of the latest safe-havens for the instrument. Pehr Lindholm et al developed the instrument so that it could compete as an equal with the fortepiano, resulting in gigantic clavichords up to six octaves in range, with high levels of sympathetic sound and volume. These instruments were well-suited to the clavichord repertoire of the first half of the 19th century. Many clavichords found their way to Finland during the era of co-existence. Unfortunately, many of these clavichords were destroyed in fires, such as the great fire of Turku. Only records remain of the instruments lost in that fire.

Many of the giant species of clavichords can be found in museums around the country. In the 1990's Pentti Pelto, a prominent Finnish clavichord builder, and his son Arno Pelto, restored the Lindholm clavichord of the Liuksiala Manor House to playing condition. Inger Grudin played a concert on it in Jyväskylä. Pekka Vapaavuori recorded Mozart's *Turkish March* for the Finnish National Broadcasting Company on one of the Lindholm clavichords at the Sibelius Museum in Turku as a part of a program about the instruments in their collection. However, in recent years the historical clavichords in Finland have not been used for performances, nor have they been restored with performance in mind.

Since the 1980's, the clavichord has received renewed attention in Finland. Pekka Vapaavuori, former head and founding member of the Finnish clavichord society, has done great work promoting the instrument here. Thanks to him, there are 100 or more instruments in the country (quite a large number considering that the population is only five million), and the number is growing.

Clavichord playing is taught at the Sibelius-Academy in both Helsinki and Kuopio, as well as at the conservatories of Kuopio, Jyväskylä and Oulu. In Kuopio clavichord instruction was started in the 1980's. Many people have excelled at clavichord exams, and two Master's degrees in clavichord performance have been completed at the Sibelius Academy, the first by Dóra Pétery from Hungary and the second

by me. Exams at the Bachelor of Arts level in clavichord performance have been passed by Mikko Korhonen, Eija Virtanen (Sibelius Academy) and Maritta Heliö (Savonia University of Applied Science in Kuopio).

Since 1985, Finnish musicians and enthusiasts of early music have been building their own instruments, first in the clavichord building courses of Marholmen, Sweden, and since 1992 in Kuopio and Tetrimäki, Finland. I own two instruments that were built at such courses.



The Finnish Clavichord society has functioned now for 16 years. I was elected its head last spring. The society has organized concerts as well as courses, both in building and maintaining the instrument and in playing it. For its 15th anniversary last year - and continuing into this year - the society organized a series of lectures and concerts in music schools and institutes all around Finland, starting from the most southern coast up to Rovaniemi at the Arctic Circle. The music school of Rovaniemi owns its own five-octave unfretted Specken-Svensson built by Stig Lundmark in 2010, identical to my own instrument. It may well be one of the most northern clavichords in the world. During the anniversary campaign concerts were presented, as well as lectures about the instrument and short courses in playing it. The tour was made possible by various grants that the FCS received, and several members of the society participated in playing and teaching.

The FCS has also been active in building a bridge between the past and the present and proving that the clavichord is not merely an instrument suitable for early music, but also a tool of composition for modern composers. The FCS commissioned a piece for its 10th anniversary from Finnish composer Lauri Kilpiö. The piece was dedicated to Pekka Vapaavuori, who also premiered it. *Poème de jeux acoustiques* is a piece written for a fretted clavichord with over-wound bass strings. It can also be played on an unfretted instrument, but the over-wound strings are a necessity. I performed the

piece just this autumn. It is rather challenging to learn it, as one needs to master a whole new kind of notation. The keys are not pressed down even once. One operates by rubbing and knocking the soundboard and the front edge of the instrument, scratching the strings in different ways in front of or behind the bridge, even using scissors. Another piece was commissioned for the 15th anniversary of the FCS, again premiered by Pekka Vapaavuori, this time in a duo with Silja Kallio, a player of the *kantele*, a plucked string instrument of the dulcimer family which is native to Finland. The work, *Hefaios' Dream*, was written by Herbert Lindholm. Both the score and a recording are downloadable on the website of the FCS (<http://klavikordiseura.fi/>) *Hefaios' Dream* was premiered in August 2014 at the 15th jubilaem concert in collaboration with the Nordic Historical Keyboard Festival. Members of the FCS have actively performed other contemporary pieces written for the instrument by composers such as Michael Parsons, Leonardo Coral, Jouni Kuronen, Eero Hämeenniemi, Adam Al-Sawad, Matti Puurtinen, and James Hewitt.

In September 2015, five members of the FCS attended the XII International Clavichord Symposium in Magnano, Italy. The FCS has been represented at many earlier symposia in Magnano, but this was a trip of larger magnitude with recitals presented by Heli Kantola, Eija Virtanen, Maritta Heliö and me, as well as a lecture by Pekka Vapaavuori.

The clavichord seems to be an instrument that with its subtle nature and intimate quality speaks to modern-day people whose lives are filled with a great deal of loud noise and a hectic schedule. The Finnish Clavichord Society has been able to achieve its mission to the extent that in many cities audiences now find their way to clavichord recitals. It is not unusual for as many as a hundred people to be at a clavichord performance. Yet, there is still a lot of educational work to be done in order to reduce the number of people who need to ask "what is a clavichord?" We, as a society and as individual clavichordists, will continue this mission by offering public recitals around the country, arranging courses, and visiting schools, kindergartens, hospitals, hospices and homes for the elderly. In this way we hope to give as many people as possible the opportunity to experience the exquisite beauty of the instrument and to fall in love with it. Ω

(Building, continued from p. 5)

Stringing required some organization and care. The strings should not be twisted when unraveling the coils and should not be twisted tightly when making the hitch pin loops. I avoided this by making a “brake” that wouldn’t move, namely a **bookcase**. I clamped to this (loosely at first) a scrap of wood over a piece of felt. The felt went on the bookcase, the string on the felt, and the wood scrap on top of that. The clamp held everything together loosely when the string was being measured, and tightly when the hitch pin loop was being made. To make sure that there was not too much twisting, the length of string used was the length of string needed plus six feet.

The final step before tuning was to weave in the listing cloth. I had to do this three times before getting something that looked good. (I may re-string the listing cloth in about six months when I have a better idea how to position it.)

Tuning

The first thing I did was to put markers on the tuning pins for the C’s, using pink knitting stitch markers, and on the F’s, using blue knitting stitch markers. I used the Piano Tuner app on my iPad set to A=415 for the tuning itself. The pad version has Kirnberger III tuning. Following the directions in the instruction manual, I tuned all of the C’s and then the A’s. After that, I followed the scale up from middle C and then down from middle C until all the strings were tuned. Ω

C.P.E. Bach at Juilliard

The opening concert of Juilliard Historical Performance’s 2015-2016 season was devoted entirely to the music of C.P.E. Bach. The program, performed on September 11, 2015, included the Trio Sonata in A Major, Wq. 146; Rondo in A Minor, Wq. 56/5; Trio Sonata in C Minor, Sanguineus und Melancholicus, Wq. 161/1; Fantasia for violin and clavichord in F-sharp Minor, Wq. 80; Sonata for flute and basso continuo in G Major, Wq. 133, “Hamburger Sonata”; and the Quartet for flute, viola and obbligato keyboard in D Major, Wq. 94. The performers played to a full house. They were Sandra Miller, flute; Cynthia Roberts, violin; Robert Mealy, violin and viola; Phoebe Carrai, cello; and Peter Sykes, clavichord and harpsichord. Ω

Kids and Keyboards

Christa Rakich

B CS members Ed Clark and Christa Rakich led the fifth annual Kids & Keyboards program in Hartford, Connecticut on October 17, 2015. In two hours on a Saturday morning, children from ages five to fifteen were introduced to clavichord, harpsichord, lautenwerk and organ. Christa and Ed explained the workings of each instrument, how sound is produced, and how to touch them. Then the children were invited to try an instrument, with brief guidance, before moving on to the next. Parents and guardians as well were fascinated by the variety of color, technical demands, and sound production manifested by the instruments.



Christa Rakich at the fifth annual Kids & Keyboards program. Photo by Algis Kaupas

The event followed a Friday evening concert in which various keyboard instruments were played, both solo and in combination with one another. The clavichord was featured with J.S. Bach’s *Capriccio on the Departure of a Beloved Brother*, BWV 992. Ω

(Sykes collection, continued from p.3)

tuned six or seven times. This stability is due in part to some modern alterations and reinforcements Goble made to the design of the instrument. These alterations give the instrument a nearly flawless, even action and touch across the entire keyboard. In particular, it has a very strong treble and bass. The clavichord is kept at A390 due to its unusual scaling, and as a result a string has never broken since Peter acquired it. The sheer size of this instrument requires me to use an L-shaped tuning hammer when tuning, rather than the standard T design (simply because my arms are not long enough!). The added f#” and g” in the treble allow virtually all repertoire through 1800 to be played on it. The instrument does leave something to be desired in terms of flexibility of pitch. Indeed, the instrument will not bend in pitch at all unless substantial force is applied. *Bebung* and *Tragen der Töne* must be executed with a great deal of deliberate pressure. (On the other hand, this can be considered an advantage uncommon among clavichords.) The touch of the instrument is quite demanding. One must be 100% secure and firm with every keystroke in order to produce a clear tone. This is especially true of the sharps in the treble register, where fingerings and fulcrum points must be chosen very carefully to avoid chocking. Ω

(Update on Research, continued from p.2)

Some other similarities between clavichords 1, 2, 3 and 5 had already been noticed, particularly the very distinctive and unusual moulding around the top edge of the case and the hinges and locks of a distinctive design. There are differences, too: No. 3, for example, is the only one of these four to have a toolbox to the left of the keys. This instrument and No. 1 (Nuremberg MIR 1061) are the only known clavichords to have the distinctive ‘Silbermann’ rose (based on a triangle inscribed within a circle), which is found in at least one spinet signed by JHS.[1] The roses found in Nos. 2 and 5 resemble each other, but are of a different design.

Nonetheless, despite these differences I am convinced by Dietrich Hein’s research that Nos. 1, 2 and 3 are almost certainly by JHS. This may be true, too, of No. 5, the clavichord in Paris, but that has not yet been examined in the same detail.

1. The following instruments have both the distinctive JHS paper label and the distinctive rose:

* Spinet, Germanisches Nationalmuseum, Nuremberg, No. MINE90

* Spinet, Grassi Museum, Leipzig, No. 61

* Fortepiano, Musikinstrumentenmuseum des SIMPK, Berlin, No. 12

* Fortepiano, private ownership, Lausanne, Switzerland Ω

(Mersenne, continued from p.1)

This last objection was decisively refuted by Maria Boxall in 2001; she showed that the drawing is indeed to scale, using a form of isometric projection, and that it therefore provides exact proportions.

Peter Bavington took up the challenge in 2010, and began construction of a clavichord according to Mersenne's description. The result was exhibited at the 10th International Clavichord Symposium in Magnano, Italy in September, 2011. Bavington's report describes his step by step deduction of dimensions and proportions, and provides original French and Latin text from Mersenne, with translations into English.

Bavington concluded that that the instrument described by Mersenne, although perhaps a late example of an earlier design (Mersenne makes note of more recent single bridge designs), and possibly showing some Italian influence, was nevertheless a real and satisfactory musical instrument directly known to Mersenne, and a suitable vehicle for a broad range of French keyboard music of the period.

The plausibility of this conclusion is decisively reinforced by Terence Charlston's new recording. Charlston presents a survey of music from the early 16th to the late 17th century, from dances to motet transcriptions, from preludes to complex polyphony. Charles Raquet's monumental *Fantasia* anchors

the selection, and provides a link to other examples from Flemish sources. The latest pieces are drawn from the organ and harpsichord repertoire.

In Charlston's capable hands, Mersenne's clavichord shows itself to be a versatile instrument, a fitting vehicle for the transmission of earlier lute repertoire and playing style to later French keyboard music. Charlston's playing is sure and vivacious throughout; the recorded sound is detailed and warm. The liner notes are unusually generous, including extensive essays by Charlston on the music and by Bavington on the instrument, each with copious references.

Highly recommended!

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