Harpsichords in the City of Music

An account of a recent visit to the Hamamatsu Museum of Musical Instruments and in Part 2, a brief examination of one of the more interesting exhibits.

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Situated on the southern coastal plain of central Honshu, the main island of Japan and some 260km to the southwest of Tokyo lies the city of Hamatmatsu. As one of the principal cities of the Prefecture of Shizuoka, Hamamatsu is a medium sized industrial conurbation of some 750,000 inhabitants and appears very similar to many similar sized coastal cities throughout Japan. Densely packed and generally low buildings, overhead power cables and the occasional exquisite historic wooden temples spread out from a city centre of starkly modern concrete offices and other commercial buildings. Larger industrial sites are to be found towards the outer edges of the city that in turn borders on an agricultural hinterland of typically small rice paddies and other relatively small scale agricultural enterprise.
But it is the nature of the major industries that may be a source of some surprise. For the City of Hamamatsu is home to Yamaha, Kawai and Roland, probably the three largest musical instrument manufacturers in Japan and companies of worldwide importance. This in turn has lead to the city styling itself as 'City of Music'. So it is probably less surprising to learn that the city is also the site of the Hamamatsu Museum of Musical Instrument, the largest public museum of musical instruments in Japan.

I had the privilege of visiting this fine museum in July of this year for the first time in the company of my wife (and current *Sounding Board* guest editor) Naomi Okuda. Travel to Hamamatsu was by the incomparable N700 *Hikari* Shinkansen (Bullet train) service from Tokyo, a journey of around 1 hour. Alighting at Hamamatsu station one was struck by rather uniform appearance of the new concrete buildings around the station, all relatively recently constructed and slightly reminiscent of some recent Middle Eastern city developments. The Museum itself, a modern concrete block structure though with some small architectural flourishes, lies but a few hundred metres from the railway station.

The N700 Hikari Shinkansen service to Hamamatsu, the Bullet train, providing a fast service of exceptional punctuality and reliability. Used by many professional musicians to get to a concert in good time.

On arrival we were greeted most warmly by Mr Kazuhiko Shima, the Museum Director and given a brief introduction to the Museum. The Museum houses some 72 historical keyboard instruments, a large number of which were on public display at the time of my visit. Of most interest to *Sounding Board* readers will probably be the 3 Italian virginals, 2 English bentside spinets, six harpsichords and one large Swedish clavichord. It is far beyond the scope of this article to describe each of these instruments, but a few are worthy of particular mention.

A visitor's view of the fabulous two manual harpsichord of 1765 by F.E.Blanchet. It is maintained in full working order and used for public recitals, in one of which Naomi Okuda has performed.

In popular terms the undoubted 'star' exhibit is the magnificent Francois Etienne Blanchet harpsichord of 1765. (*Boalch 3 listed : BLANCHET, F. E. 1765)* This opulently decorated instrument, mounted on a carved and gilded cabriole stand was formerly in the collection of Dr Rosenbaum. It is a fairly typical late French harpsichord with five octave FF-f3 range, 2 x8' and 1x 4' registers and buff. A drawing by R. K. Lee, detailed but disappointingly at a reduced scale of 1:4, was published some years ago and it highlights a very interesting feature: It appears that the entire instrument was built with some deliberate distortion of the case, presumably to suggest a older harpsichord that was being carefully re-worked by the master builder Blanchet (at this time *Factur de Roi)*. This was during the period in Paris when skillfully enlarged, rebuilt, or in the case of at least one harpsichord (the 1749 Jean-Claude Goujon, signed '*Hans Ruckers 1590'*) entirely faked harpsichords commanded higher prices than the signed new work of the leading contemporary builders.

Although due to time constraints I was unable to thoroughly inspect or play this magnificent French harpsichord, I was assured that it is maintained in full working order. Information concerning the recent history of the harpsichord and in particular any restoration work carried out was difficult to obtain, but quick observation suggested that all was indeed in very good order. This harpsichord is periodically used for public recitals and Naomi has played in concerts in the Museum within the last few years accompanied by the Blanchet.

Other slightly less glamorous but nonetheless noteworthy and interesting instruments include an Italian polygonal virginals by Ferrante Dei Rossi 1597 *(probably Boalch 3, Rossi, F.D. 1597, due to its former inclusion in the Rosenbaum Collection);* an early 18c English bentside spinet by Stephen Keene; a Florentine harpsichord, Anon. 1640 and very fine single manual J & A Kirkman of 1791. A very brief summary of all the plucked keyboard instruments in the collection, taken from the well presented but very slender Museum catalogue of historic keyboard instruments, is given at the end of this article.

A general view of the handsome 1640, Firenze Anon. harpsichord.

The remainder of the museum contains a large and very broad collection of musical instruments of all types, as befits a major nationally recognized collection. Within the museum there is much imaginative interactive presentation of a very high standard and the museum operates a wide ranging educational programme. Indeed on the day of our visit there were several boisterous school parties in attendance.

All in all a very worthwhile and extremely well presented collection, and museum staff who were very welcoming and helpful. But my experience was that hard information is difficult to come by. Despite an appointment made in advance it was not possible to see any written records or background material on the instrument in which I had a special interest *(see part 2 below)* nor indeed was it possible to gain much idea of how some of the most interesting early keyboard instruments reached the Museum. No technical drawings or detailed photographs were available, neither does there appear to be any plans to prepare such material in the future. And I could gain no sense of what information and background information actually existed and was held at the museum, even if unavailable for me to inspect.

This is not to particularly intended as a negative criticism of an otherwise fascinating collection; simply an observation of a rather frustrating state of affairs that exists in many museums. And this is to a considerable extent offset in Hamamtsu by the very easy and full access granted to the artefacts themselves. In this respect of course it offers far more than our own V&A museum collection, where excellent 1:1 scale technical drawings (supplemented in most cases by a few miserably inadequate photographs) of a few important keyboard instruments are

sporadically available, but the instruments themselves are often not on public display being kept in store and so not easily accessible for close inspection.

The Hamamatsu Museum of Musical Instruments has much of interest to the harpsichord enthusiast. Whether it justifies a specific visit from the UK is a moot point and any visitor would undoubtedly gain more from the experience when in the company of a fluent Japanese speaker. Whilst some labelling is in English, this is limited and very much aimed at the casual visitor. I would very much hope that in time the Museum will develop readily accessible English language checklists and detail photographs of the early keyboard collection and possibly high quality technical drawing of the most important exhibits.

'Sounding Board' guest editor Naomi Okuda (right) with Museum Director Mr Kazuhiko Shima and assistant Miss Keiko Matsuo.

I would like to record my thanks once again to Mr Kazuhiko Shima, Museum Director, Mr Toru Umeda, Museum Educator and Miss Keiko Matsuo for their warm welcome and kind assistance during our visit.

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Checklist of plucked keyboard instruments in the Hamamatsu Museum of Musical Instruments. ***(extract from the Museum Catalog III, 2004)***

Virginal	Brescia,	c1800	
Virginal	Firenze,	early 17c	
Virginal	Milano,	1597	Ferrante Rossi
Spinet	London,	1760	John Harris
Spinet,	London	early 18c	Stephan[sic] Keene
Harpsichord	Firenze,	1640	
Harpsichord	Firenze	1646	Francesco Marchioni
Harpsichord	Firenze	1672	Johannes de Partics
Harpsichord	Paris	1765	F E Blanchet
Harpsichord	London	1750	Jacob Kirkman
Harpsichord	London	1791	J & A Kirkman

The remaining keyboard instruments in the collection consist of one large Swedish unfretted clavichord, a tangent piano, a reproduction Cristofori fortepiano and around 60 pianos ranging from a 18c English square to a two manual Waber grand of 1926.

Continued over…….

… a closer look at the 1646 Italian Harpsichord

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My first introduction to the Hamamatsu Museum was a gift some years ago of the aforementioned Catalog III, European Keyboard Instruments, really more of a checklist booklet featuring a photograph of each instrument stating simply the makers name, length, compass and disposition. Nicely produced and containing text in Japanese and English, this slim volume offers much to intrigue but relatively little to inform the reader.

But whilst making preparations for my visit one instrument in particular aroused my interest, a small single manual Italian harpsichord by Francesco Marchioni, 1646. This relatively modest and elegant little instrument interested me particularly because of its attributed date and provenance, but preliminary enquiries failed to uncover any additional information. Boalch III lists a *Franciscus Marchionus* in Florence and it is likely that this could be the same maker. But the only recorded instrument is a similarly small single manual in the Yale University Collection of Musical instruments, dated 1666.

So it was with some interest and anticipation that a request was sent to Mr Shima to examine the Marchioni harpsichord in greater detail. On arrival at the museum we were not only made most welcome but learned that the harpsichord had been placed in a large well lit store room, well provisioned with tables and ready for our inspection. Having been offered the inevitable (and most welcome) green tea we were shown to the store room and simply left to our own devices. Museums seem to have widely differing policies towards instrument makers and serious researchers and often one encounters fairly stringent questioning, supervision or restriction when requesting to examine and handle valuable and fragile musical instruments. To be left entirely unsupervised and with no discussion of methods and approach was just a little surprising. So this trust was acknowledged and respected by our employment of what is generally considered 'best practice' in such situations: The use of plastic measuring tools rather than metal, careful handling and recording, inert barrier film used when taking moulding imprints and a minimum of dismantling etc.

A general view of the Marchioni harpsichord, removed from its outer case for inspection

'Sounding Board' Guest Editor Naomi Okuda assists with measuring the Marchioni harpsichord

So what follows here is a brief description and summary of the important measurements. In the 5 hours we had available to inspect this harpsichord it was not possible to measure and examine everything. But with a carefully planned approach we were able to record sufficient measurements to allow the preparation of a reasonable working drawing, supplemented with a number of reasonable imprints of moulding profiles and over 100 good quality photographs, a few of which accompany this article. Of course this does not represent in any way a fully detailed and scholarly examination, a process that would occupy many hours spread over a much longer timescale.

The Francesco Marchioni harpsichord of 1646 is of 'true inner/outer' construction, the light cypress cased harpsichord sitting in a separate outer case of painted deal.

A general view of the instrument, also giving an impression of the fine storage facilities at the Hamamatsu Museum

The outer case, showing 'iron 'butterfly' main hinges and iron staple flap hinges.

The harpsichord is quite small, having an overall case length (excluding mouldings) of only 1694mm. All casesides, mouldings, jackrail, and jackrail supports are of cypress and the heavily repaired bottom boards appear to be poplar. Internal inspection was not possible but nailheads in the baseboards indicate that in addition to a fairly conventional belly rail there may be two further full braces running across the baseboard at an angle to the spine. These are probably modern additions fitted to reinforce the extensive repairs to the baseboard. If these braces serve to support the liner at their extremities it must be presumed that there are further supports or 'knees' to support the liner around the perimeter of the case in the normal Italian style. It was not possible to gain any insight into the shape, location or the number of such knees.

View of baseboard showing extensive repairs with new material. Also visible are two lines of nails, suggesting position of internal bracing, probably modern and fitted to support the repaired baseboard. The positioning of these braces is not typical of Italian construction

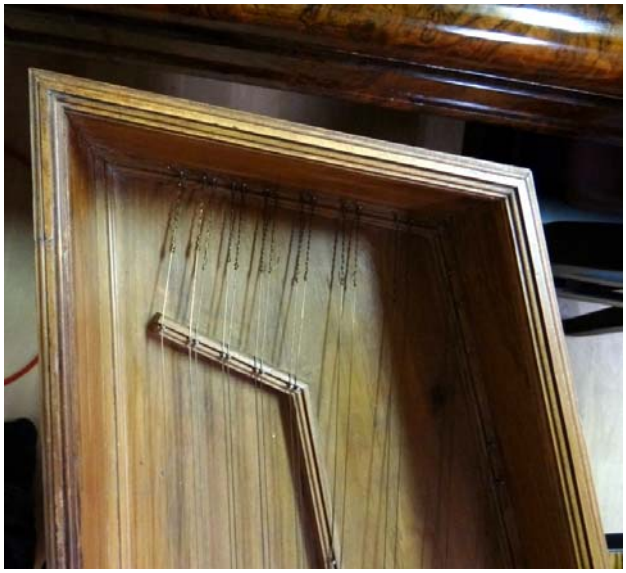
Conventional and well executed bottom, top and cap mouldings surround the case and a pair of elegantly scrolled blocks support the jackrail.

A rather brutal close up of the front of the cheek, showing a clear section of the upper case mouldings

Bass end of the guides and jackrail support

The soundboard and bridge are of cypress, slab-sawn and there is no discernable disturbance to the bridge position. The elaborate parchment and veneer rose appears to be a modern replacement.

The bridge with a mitred tail section supporting the lowest four pairs of strings is of typically Italian section, bent rather than carved and with a deeply moulded top surface. A nut of matching profile sits on the walnut wrestplank, tapering to give an increase in width of some 35mm in the bass and consequently giving deeper plucking points towards the bass.



The mitre bass end of the bridge, also showing some examples of rather poor string winding!

The beech keylevers are mounted on a very roughly constructed pine keyframe and balance rail, supported by deep blocks glued to the baseboards. Natural key coverings are of boxwood, the sharps having ebony cappings over stained bodies (possibly chestnut?) It was not possible to remove all keys to examine the keyframe for indications of compass change or other modification.

Overview of the keyboard, lowest and highest keylevers removed

Keyfronts are punched paper over a red lacquer ground, roughly formed and almost certainly modern. The box slides appear original, but a gap has been cut in the treble cheek to allow operation of the front (right plucking) register by means of a small leather tab. A corresponding small hinged flap has been cut in the outer case, to allow access to the registers. Jacks are modern copies, fairly crudely formed but of a convincing pattern and fitted with brass shim springs.

Close up of keyboard showing the worm damage and repairs to the natural keyplate

The Marchioni Harpsichord. With acknowledgment to the Hamamatsu Museum of Musical Instruments

The harpsichord is presently in reasonably good working order, voiced rather lightly in quill and strung in yellow brass. Pitch at the time of our visit was very close to A415hz. The tone of the harpsichord was somewhat subdued (due I'm sure to the light voicing) but surprisingly balanced and even throughout the range. The impression was very much of an instrument with a fine tone that was simply under-voiced.

The deal outer case and attractive stand are in good condition and with apparently original iron hinges. The brown finish appears to be a kind of faux rosewood graining effect, disguised under layers of heavily oxidized varnish. But surrounded by gilded lines, the effect is nonetheless rather pleasing.

The harpsichord has been extensively restored quite recently but I was unable to gain any information about the identity or provenance of the restorer, or the exact extent of the work carried out. The modern workmanship is clearly visible and of varying quality. The extensive baseboard repairs (to correct damage woodworm infestation) have been neatly executed but work on the keyboard exhibits rather less finesse.

The overall impression is of a very attractive small harpsichord, showing little signs if any of alteration and in very good condition. The restoration work is not of the highest standard but is adequate and doesn't appear to have compromised the surviving original material to any great extent.

This is clearly little more than a 'rough sketch' description of the instrument as inspected on a specific day. (*See the following 2 pages for the dimensions as recorded*) I have had no access thus far to documentary or other background information about the history of this harpsichord. But it has certainly aroused in me the determination to explore further. I would welcome more information about this harpsichord and or the maker from readers.❇

Andrew Wooderson
December 2013

Andrew Wooderson is a maker, technician and restorer. He specialises in making individually designed and handbuilt harpsichords to order. See http://www.woodersonharpsichords.co.uk/

Principle recorded dimensions of the Francesco Marchioni 1646 single manual harpsichord.

Estimated deviation on principle case measurements +/- 2mm, estimated deviation for thicknesses and diameters measured with callipers +/- 0.5mm. String gauges estimated accurate to within 0.01mm. Severe case distortion not apparent and no corrections for distortion given. Materials subject to visual identification only. Case dimensions measured externally, omitting mouldings

All dimensions in millimetres.

Case.

	Length	Height/width	Thickness	Material
Spine	1694	189 - 187	4.8	Cypress
Cheek	418	189	4.8	Cypress
Tail	172	187	4.8	Cypress
Bentside		189 - 187	4.8	Cypress
Nameboard	124	682	4.8	Cypress
Baseboard			16 (est)	Poplar
Scantlings	Not Observed			Poplar (Conj.)
Wrestplank	682	150 (bass) 115 (treble)	40	Walnut
Gap			41	
Front rail	682	30	5	Cypress
Jackrail		42	23	Cypress

Angles	Tail/spine	74 degrees,
	Tail/bentside	111 degrees
	Bentside/cheek	125 degrees

Soundboard

Thickness not observed — Slab sawn cypress

Height/width	C	c1	c3	
Bridge	14.7 / 8.8	12 / 8	10.8 / 8	Cypress
Nut	14 /9.2	13.2 / 9.2	12 /8.6	Cypress
Bars	Not observed			
Rose	Two layer. Parchment/veneer. Hole dia. 72, Outer parchment ring 94, outer top ring 88.			

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Keyboard Compass C/E – c3

	Overall	Balance point from front
Natural keylever (C)	291	130
Natural keylever (c3)	258	114
Accidental keylever (C)	255	106
Accidental keylever (c3)	226	92

Octave span, average 164. Natural keyheads 34.5, 2 scribed lines 4.2 apart
Accidentals average 12.5 wide, 10.5 high, side not tapered.

Keylevers	Beech
Natural keyplates	Box
Accidentals	Ebony plates over stained Chestnut
Keyframe, including balance rail	Pine
Balance rail	40 wide, 18 high.

Action

	Length	Height/width	Thickness	Material
Guides		40	20	Walnut?
Jacks	90 average	11.2	4.2	Service?
Tongues	30	4.1	2.5	Holly
Spring				Brass

Front 8′ register > Rear 8′ register <

Stringing and scaling

Note	Overall length	Plucking point
	measured on rear (long) 8′ strings	
C	1461	145
F	1453	143
c	1100	133
f	807	125
c1	544	115
f1	417	100
c2	287	96
f2	220	86
c3	142	71

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Shizuoka-prefecture. 430-7790 JAPAN
http://www.gakkihaku.jp

Andrew Wooderson *December 2013*

Restoring older harpsichords using a 3-D printer

Modern technology and a little ingenuity once again come to the aid of a professional oboist needing a readily available accompanist.

Some may remember how a couple of years ago I *automated* a harpsichord by building a device which used a large number of solenoids and some circuit boards to decode MIDI data, which I usually stream from an iPhone or iPad.
(To see the Mk. 2 in action, click here: http://youtu.be/UbwfAc0AKhk)

I wrote a little article then describing the creation of this device, which appeared in this very publication. See '*Sounding Board*'*No. 4 May 2011.*

That harpsichord, made by Robert Goble in 1970, is still working splendidly, and the automatic machine has been in use nearly every day for over two years. It's been terrific.

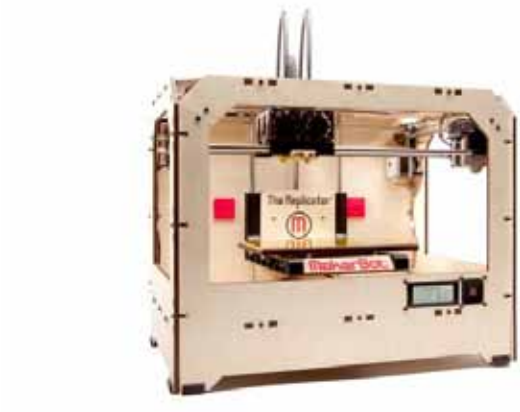
But it was nearly short-lived. I will explain:

Restoration number one: the Goble harpsichord.

As is the case with many harpsichords made in the 20th century, the jacks were made of plastic. Many plastics degrade with age and exposure to U.V. light. In the case of this particular Goble, the plastic jacks were over 40 years old and were becoming brittle. Many of them had acquired worrying cracks. I knew I would have to replace them all, eventually, somehow.

I searched for suitable replacement jacks. I was alarmed to find that they are simply not made any more. Irreplaceable! After some more research and a number of telephone calls, I did discover several companies offering to make me new jacks out of wood. That was certainly a possible solution to the problem – but *extremely* expensive.

That's when I decided to experiment with a 3-D printer. The cost of one 3-D printer plus the necessary plastic turned out to be significantly lower than the cost of having replacement jacks custom made out of wood, even for only one harpsichord.



A MakerBot Replicator

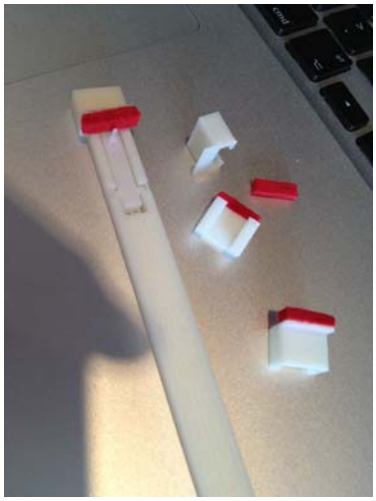
But nobody had any idea whether the results would be satisfactory. Not even those who sold me the 3-D printer were brave enough to predict success.

I decided to risk it anyway.

I bought a 3-D printer from a company called 'MakeBot.' The device is called a Replicator. It uses ABS plastic and can create almost any small thing that you might be able to imagine and design. ABS plastic is the same plastic that is used in Lego bricks. Almost everyone has stepped barefoot onto an unexpected Lego brick. It hurts, but it never breaks. It's tough stuff.

Although, as I say, it is not possible to buy new jacks for this Goble harpsichord, it *is* possible to buy plectra and tongues that can be used (even though they are Although, as I say, it is not possible to buy new jacks for this Goble harpsichord, it *is* possible to buy plectra and tongues that can be used (even though different from the originals) available from a company in Massachusetts called Hubbard Harpsichords.

Using some free 3-D design computer software called Google ***SketchUp***, I designed what I hoped would be a satisfactory shape for a jack that would accommodate these tongues and plectra. After quite some fiddling about, I got the thing to print one. (To print, the 3-D printer extrudes melted plastic onto a *table* to "print" one layer approximately 1/5 of a millimetre thick. Then the table *descends* about 1/5 of a millimetre, and then it prints the next layer on top of the first, and so on… and so on.. until it has finished the entire object. It is not terribly fast.)



A printed jack and some dampers

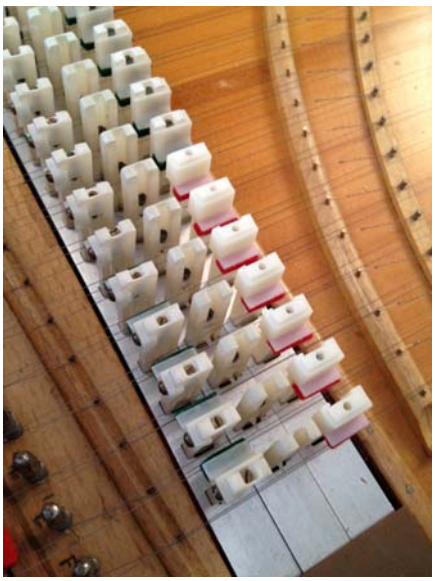
I tried this very first printed jack in the harpsichord. It seemed promising, but it did not have really *quite* the right dimensions. So I returned to the computer design program and modified it very slightly before printing a second prototype to try.

This cycle of testing and modifying the design had to be repeated about six times before I had the design exactly right. I threw away the early prototypes.

When finally the design was perfect, I reconfigured the software to produce five jacks at a time, in parallel. The machine took about two hours to produce each batch of five jacks. I found this an ideal interval because it meant I needed to check on the machine and reset it only once every two hours.

Of course I had to make slightly different designs for the 4-foot stop, and the back eight stop, and I had to design and print little clip things, and glue the red felt dampers to them.

When the designs were all perfect, the 3-D printing machine settled into a routine which it was obliged to maintain for a week or so, day and night. It had to produce 183 jacks, each with its own little damper.



A few new jacks are in place

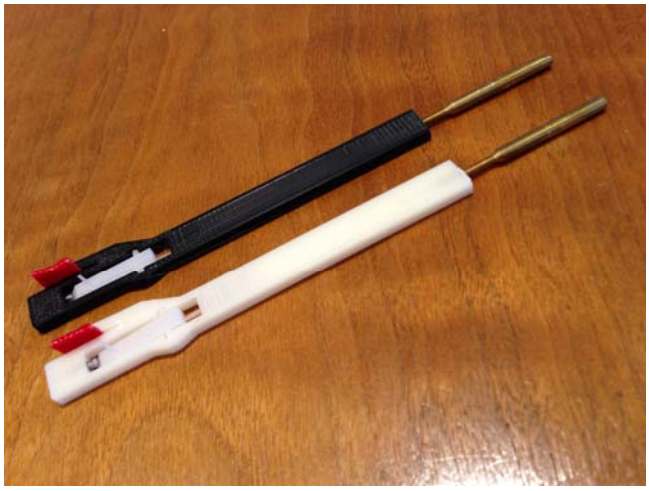
The fact that the printer is not particularly quick was not an issue. It takes quite a while to fit each jack with a tongue, a plectrum, (nicely voiced!), two adjustment screws and a damper. So as soon as at least 5 or 10 jacks had been made, the process of installing them with their various bits and pieces into the harpsichord could begin immediately, while the 3-D printer continued to produce the remaining jacks.
All this happened about one year ago as I write these words. I am delighted to report that the 3-D printed ABS plastic jacks have now done a year's service inside the harpsichord, and they are perfect, still. The experiment has been an unqualified success. Not only are the replacement jacks absolutely fine, but also I am no longer concerned about their being irreplaceable, because I can at any stage simply make more.

Restoration number two: the EMS harpsichord

In February of this year, I saw an advertisement, here, on the BHS website, for another harpsichord. The instrument in question was being offered free of charge, because it was in a completely unplayable condition. I responded immediately to the advertisement, and a week or so later the instrument was in my house!

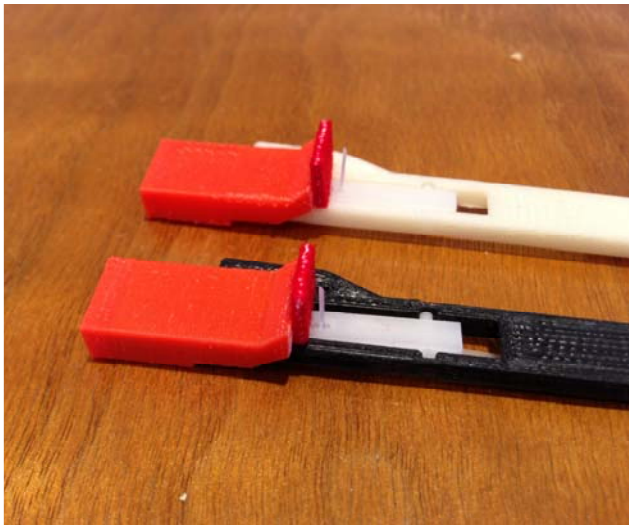
Thank you Frances Mortlock!

It turned out to have been very nicely made by her father from a kit supplied by the Early Music Shop in London in 1976. All of the jacks were made of wood. But after so many years, most were now sticking, too often.



My jacks made for the EMS harpsichord

What is more, none of them had an adjustment screw for the plectrum.



Special dampers for the 4-foot

You may by now not be surprised to read that I decided immediately I would replace all the jacks, using my rather experienced 3-D printer. I also decided to extend the height of the jacks sufficiently to allow the inclusion of an adjustment screw for the plectra. This meant raising the jack rail by about 6 mm. But that was not difficult to achieve.

The design of the jacks for this EMS harpsichord was of course a little different from those required in the Goble, but that is no problem for a 3-D printer! I simply had to design, test and adjust things to get the right shape, as I had done with the Goble.

I decided, with this second harpsichord, to make the jacks for all the naturals out of *white* plastic, and the jacks for all the sharps and flats out of *black* plastic. There is not really any purpose to this other than amusement. Perhaps it helps to know that when you need to find the jack for C#, it will be a black one!

Confusingly perhaps, on this particular harpsichord all of the *white* notes are in fact *black* … and all of the *black* notes are of course *white*!

Many of the strings were broken. So as part of the restoration process, I had to replace a dozen or so strings too. After about two months' work, the harpsichord was once again playable. And I was delighted to discover that it sounds *very* lovely! Indeed, we (in The Barnet Chamber Music Club) have used it in several concerts already.

The EMS harpsichord completed and ready to play

All jacks are in place

To hear the sound of this restored EMS harpsichord, click here:

https://dl.dropboxusercontent.com/u/3703861/EMS_harpsichord.mp3

From a website called www.thingyverse.com you can if you wish download my designs for these two different types of harpsichord jacks

- For the Goble jacks: http://www.thingiverse.com/thing:28139
- And for the EMS Harpsichord: http://www.thingiverse.com/thing:104143

It occurs to me that across the world there may very well be many more harpsichords just gathering dust because the jacks are not easily replaced, yet need to be.

The plastic sufficient for one entire harpsichord's worth of jacks costs about £25.00.
A 3-D printer costs a few hundreds of pounds of course, but is useful for other things too.

I very enthusiastically recommend using the 3-D printer harpsichord restoration method.

It works perfectly, and costs very little! ✤

Malcolm Messiter ***August 2013***

Malcolm Messiter is an oboe soloist, a musicologist and an inventor with many interests. We thank him for his generosity in sharing these interesting ideas with the harpsichord world. ***http://www.messiter.com***

Dear Editor…

Re THE HARPSICHORD/PIANO BALANCE ON RADIO 3
I enjoyed, and felt considerable sympathy with, the contributions to your last issue on this matter from Anthony Fox and Colin Booth. I wonder however whether it's really fair to blame the situation simply on blind prejudice on the part of Radio 3 (Radio 3, let's not forget, not so long ago chose Mahan Esfahani as one of its New Generation Artists).

Observe first that, if there is a problem, it appears to be largely confined to the solo keyboard (including concerto) repertoire. Period-instrument performances are now commonplace on the radio – arguably even the norm – for chamber and orchestral music, and for opera, up to the late eighteenth century. And there's normally a harpsichord (of sorts) providing the continuo even in an otherwise modern-instrument rendition. It would be a mighty odd 'prejudice', then, which focussed on the solo harpsichord to the exclusion of other original instruments.

Consider next Roger Wright's statement that the current policy on solo keyboard music reflects 'listener preference.' He is, let's face it, in a better position to know what listeners say to the BBC than we are. Rather than dismissing his explanation out of hand, perhaps we should ask ourselves why the average listener – as opposed to the harpsichord buff – appears to think this way. One perfectly good reason occurs to me. Even to this enthusiast, many solo harpsichord recordings – not excluding some I've encountered which use Colin's own superb instruments – sound unremittingly close-up and aggressive, causing the ear to tire with distressing speed. This may well be an over-reaction by sound engineers to the equal and opposite problem that conventional concert halls often reduce the sound of early keyboard instruments – particularly but by no means solely in the concerto repertoire - to a distant mushy tinkle. In a more appropriate venue, the sound of a decent harpsichord can certainly, as in Colin's experience, surprise and delight an audience as it should, but sadly the microphones often aren't to hand or, if they are to hand, may not be managed with the necessary understanding and expertise, to capture this. Can anyone think of a forum where harpsichordists and sound engineers could usefully get together to discuss the problem?

'Listener preference' may of course reflect perceptions of interpretation as well as of sound. I think it would be unwise of us to assume that these are necessarily, and always, wholly misguided, despite all the horror stories we can legitimately tell each other about particular modern pianists' manglings of particular Baroque and earlier works. The community of pianists is enormous by comparison with the harpsichordists, and also hugely competitive. It would be astonishing if it did not throw up from time to time musicians of such quality as to be able to deliver something special, and different from

what we can do, in some of 'our' repertoire and on the 'wrong' instrument (Horowitz, say, in Scarlatti, Gould in the Goldbergs and the virginalists, Perahia in the Bach suites.) Equally (no names, no pack-drill), there are some pretty duff harpsichord interpretations around on record that altogether fail to get at the music behind the notes.

Like Colin, I agree that there are chunks of our repertoire that are never likely to sound remotely right on the modern piano, but even here I think we should keep our ears open (at the severe risk of being drummed out of the Brownies, I must confess to rather liking what I have heard of Alexandre Tharaud's Rameau). And let's recognise that the particular sonorities and mechanics of the harpsichord were more crucial for some composers, or parts of their output, than for others (say, Bach's 48), and in some cases may have presented frustrations as much as opportunities.

Don't get me wrong: I, too, would like to hear more (really good and really well recorded) harpsichord performances on Radio 3. But should we perhaps focus our efforts on getting the product quality as good as we can, rather than just advancing on Broadcasting House in a procession of our *grande Mxnxstrxndxsx* (complete, of course, with bears and monkeys)?

Yours sincerely,
Michael Faulkner

and a letter from William Mitchell, the Harpsichord Builder

Dear Editor…

I should like to contribute to the discussion about BBC Radio 3's inappropriate use of the piano, on occasion.

As I live on the coast, I begin most mornings by listening to the shipping forecast on Radio 4 at 5.20am. Following this and the compact news briefing, I swiftly re-tune to Radio 3 and stay with them right up until 9.00am during shaving, dressing and breakfast. It is strange, however, how listening to music at an early hour can have a definite impact on one's mood well into the rest of the day. For one thing, the type of music being played while the brain is slowly engaging with the gentle sensation of awaking and when the eyes are not fully open can either serve to make this experience a warm and tender one or install a feeling of shock and terror from the very start. A little flute and harp music or some agreeable trio sonatas are fine and suitable for the former condition, while something like the Berlin Philharmonic, blasting out a really powerful and noisy score, will guarantee the latter. Radio 3 producers and/or presenters seem to follow no logical pattern in this regard and it may not have even crossed their minds given that they would have arisen much earlier and be fully awake by that time.

Another mood-setting phenomenon is when the music is performed on an instrument that is clearly inappropriate. Using the piano instead of the harpsichord is a good example of how my own mood can become, well, not distressed, but certainly discomfited. Once or twice during 3 Breakfast, as the show is called, is bearable, but three or more times it becomes irritating – severely so when they extend the use of the piano for such gems as the Brandenburg number 5.

Something rather unusual happened on 3 Breakfast on the morning of Sunday, 6th October. This particular show was hosted by Adam Tomlinson and he achieved something that would blow Roger Wright's and Michael Faulkner's comments about 'listener preference' clean out of the water. I had listened to the shipping forecast, as usual, then somehow dozed off until just after 8.00am when I perceived 'My Lady Carey's Dompe' being played on a rather pleasing harpsichord. It brought me to rapt attention since I had been playing it only the night before. After it had finished, Adam went on to say something that he must have been commenting on earlier: *'Yes, well if you loathe the harpsichord and prefer to hear the piano, then let's find out! I'll play a piece by Handel – his Suite number 2 in D major – before 9.00am and you can decide whether you want to hear it on the piano or the harpsichord. It'll be played either by Karl Richter on the piano, or Colin Tilney on the harpsichord. You decide – you can text on 83111 or email 3Breakfast@bbc.co.uk or tweet'.*

It was interesting that he used such a disparaging adjective with the harpsichord, yet nothing so unpleasant with the piano. What was odd, though, was his choice of pianist: a German choirmaster, organist and harpsichordist who has been dead for over 30 years…?! Anyway, I sent my text and listened on. At about 8.25am he said *'I can tell you now that there has been a very big response to this and there is a clear choice. I'm not saying which it is, just yet, but there is a very strong favour one way'.* He was cautious not to play anything contentious and then at about 8.40am he announced the winner: *'By a very large majority you have voted to hear Handel's music played upon – the harpsichord!'.*

There were some comments from listeners that he read out. One person from Amsterdam said that it had to be the harpsichord *'because Gustav Leonhardt would have done so'*. Another suggested that Handel would never have used the piano *'because it had not been invented then'*. Surprisingly, Adam didn't challenge this notion.

Well, the piece was played and jolly good it sounded, too. I then quickly sent my own reasoning by email as to why it should have been the harpsichord, all along, but it was close to the end of the programme. In any case, nobody replied from the studio and I think I know why – they have no way of contradicting or disproving what I said.

There are very clear reasons why the harpsichord should be used, instead of the piano, by composers whom specifically indicated that their music should be heard on that instrument. The first is exactly that – it was their prime keyboard of choice. The piano was invented by Bartolomeo Cristofori around 1700 and, although only three of his instruments survive (the earliest of 1720 being in the New York Metropolitan Museum of Art) it is inconceivable that composers such as Handel were not aware of the piano's existence. I once saw a fascinating programme on the Public Broadcasting Service in the United States given by the late Rosalyn Tureck, a scholar and authority on J.S. Bach, when she commented that Bach was not only mindful of the piano, but actually bought and sold them. She then showed written evidence by way of receipts bearing his signature, so it is clear that composers of even that period had a choice.

Although I cannot be unequivocally certain why they chose the harpsichord in those times, there are very clear differences between the instruments that are even more manifest today. Harpsichords almost always had multiple stops and even two keyboards and so this would have provided a much greater range of expression in sound compared to the piano. Certainly, the piano is capable of being loud or soft, but, as most musicians are aware, the illusion of this can be obtained on the harpsichord by the skilful use of over-holding and articulation.

Moreover, the actual harmonic structure of each note is entirely different on the two instruments and, as such, has severe implications when the concept of subjective sensation is considered. The fundamental of the harpsichord is relatively small, yet there are many more upper partials present and these provide the sizzling brightness of tone. It is the overtones, particularly, that provide considerable nuance to the sound of harpsichords and why they vary so much between themselves. On the piano, the fundamental is much stronger and more than capable of restricting the character of its higher harmonics. I should like to go further and say that the structure of notes on the modern piano are so close and have such large fundamentals, that once you have heard one piano – you've heard the lot! How can this not be one of the most boring sounds on earth?

Another important distinction which may have been a contributing factor in late baroque times, but is surely absolutely relevant today is temperament. The piano is tuned equally and as a result it is possible to play in all keys and enharmonise without limit, but, as Gerrit Klop points out in his excellent book on tuning, *'These freedoms are dearly paid for: there is not one single pure interval; the thirds are especially poor, giving the triad an insecure and restless sound; there is no differentiation between keys;*[1] *melodic tensions are reduced'*.

Conversely, the preferred tuning of harpsichords was and is, *unequal* temperament. The human condition is such that we are more comfortable when hearing pure intervals and the more perfect thirds and fifths present, the better. In this regard, meantone, with its pure thirds throughout is regarded as the richest of all temperaments, although the circle of fifths cannot be closed, so enharmonisation is impossible. This was overcome by various hybrid temperaments that, by a general rule, required just four of the fifths to be narrowed and the remainder to stay pure. Andreas Werckmeister created a number of such temperaments in the 1690s, the most pleasing of which is number III. He managed to retain a number of meantone thirds *and* eight pure fifths and on top of that, allow one to modulate freely. It is probably this temperament or something very close to it that Bach employed as his *wohl temperirt* since it enabled the characteristics of all keys to be demonstrated. As Klop so sagely points out: *'Temperament is a factor to be considered in interpreting a piece of music – a tool for the creation of harmonic and melodic tensions that was often, if not always, used by composers'*.

Well, there it is. Significant reasons why the harpsichord and not the piano, should be used to play music written so skilfully to show and make full use of the special characteristics and range of colours available on that instrument. OK, harpsichords do vary, as I was happy to acknowledge, but good recordings of beautiful instruments *are* available, and in any case, that is part of the charm.

The fact is that most people really do want to hear the harpsichord and broadcasters like the BBC and Classic FM are doing their listeners a considerable disservice by so selfishly denying them the possibility. Those whom are in a position to change policy are not just governed by mere prejudice; it is much more deep-rooted and goes back to their education, awareness and understanding – or in their case, the lack of it.

Sincerely,
William Mitchell

Your letters and comments are always welcome; please send to info@harpsichord.org.uk

[1] *'Key colour'-i.e. each key having a specific character, this was important to Baroque composers, see the writings of Rousseau, Mattheson, Rameau and many others. Ed.*

Useful facts for Musicians visiting Japan!

- Japanese students learn and use tonic sol fa (do, re, mi) at school.
- Japanese music students use German terms for music.
- Japanese trains are always arrived punctually. Musicians cannot use excuse that my train was delayed!
- Trains stop in exactly planned places, so passengers wait in correct spot for very easy getting on and off. No pushing and bumping!
- It's so quick to buy a train ticket at the machine at every station and there is no queue!
- It's not allowed to talk with a mobile phone in a train.
- Roads for cars are left side same as in Britain. Very easy for carrying harpsichord in car (like UK) with steering wheel on the right.
- Every service station on the highway has own foods cooked with local ingredients. All musicians enjoy travelling through Japan!

- There are many 24 hours shops in Japan.
- There are drink vending machines everywhere, on almost every street
- Japanese toilets are high technology. They cause surprise and confusion to Many foreign guests!
- There are many Japanese period instruments players, but often joking that most are in Europe, not Japan!
- Harpsichords have a very difficult life in Japan due to climate. Many European builders don't realise, when they send instruments.

Thank you to our Guest Editor, Naomi Okuda, for sharing these snippets with us.