



# THE GALPIN SOCIETY

FOR THE STUDY OF MUSICAL INSTRUMENTS

**NEWSLETTER NO. 64**

**AUTUMN 2022**



**The Wolfson Gallery, Musical Instrument Collection at  
the University of Edinburgh (see p.4)**

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# THE GALPIN SOCIETY

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The *Galpin Society Newsletter* is edited by Lance Whitehead and copy-edited by Maggie Kilbey.  
Opinions expressed by authors in this newsletter are not specifically endorsed by The Galpin Society.

**Page 1:** The Wolfson Gallery, Musical Instrument Collection at the University of Edinburgh.

*Photo: Michael Fleming*

## A note from the administrator - another change of address!

For the second time in a little over a year, for unavoidable reasons, the administrator is moving house, though only within the same village, and anything already in the post to us will arrive safely as we remain on good terms with the landlady of the old address.

The new address is:

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And many thanks to all those who have renewed their subscriptions well in advance of the deadline next spring; those who have not will soon receive a reminder.

**Chris Goodwin**  
Administrator

# EDITORIAL

One of the principal highlights of The Galpin Society is the biennial conference, which was hosted this year by the University of Edinburgh's Musical Instrument Collection. After the postponement of the meeting due to the COVID pandemic, I was extremely disappointed to then miss it due to my testing positive to the virus the day before the opening reception. I would particularly like to thank the conference organisers – Arnold Myers, Jenny Nex, Sarah Deters and Jonathan Santa Maria Bouquet – for their hard work and dedication in ensuring the success of the event. Although a full report of the conference by James Kopp appears elsewhere in the Newsletter, I would like to highlight two features. Firstly, J. Kenneth Moore received the Anthony Baines Memorial Prize in recognition of his multifaceted contributions to organology and museums over the course of a long and illustrious career, and secondly, Elly Langford was awarded the Galpin Conference 2022 Debut Paper Prize for her presentation 'The Stewart Symonds Collection Lyraflügel: Examining its Attribution to F.A. Klein.' Elly is a PhD student at the Western Australian Academy of Performing Arts, Edith Cowan University, Australia, and I hope will publish a short paper on her main research project in a future issue of our Newsletter.

In addition to the conference, and notice of the Baines Prize, the current Newsletter contains a request for help from Douglas MacMillan concerning the taxonomy of 'whistles', and part 2 of Curtis Price's article 'On the Shoulders of Giants: Harpsichord Making Today'. Offers of help, as well as longer items, research projects, and new book titles may be sent directly to me for possible inclusion in the January 2023 Newsletter (copy deadline 15 December). I am particularly interested in having a series of articles exploring 'Instrument Making Today', especially if a comparison can be made with historical practices.

**Lance Whitehead**

## IT IS HERE

Boalch-Mould Online (BMO), the database of harpsichords and clavichords we announced in the last newsletter, is finally ready for browsing and research. Now optimized to receive your contributions of new and corrected information and photos, it promises to be as up to date as we all make it.

A video of 8½ minutes (link below) introduces you to its many interesting features and shows how to get the most out of the resource. Give it a try and let us know what you think.

John Watson (editor[at]boalch.org) and Lance Whitehead (biographies[at]boalch.org)

Introductory video: [www.youtube.com/watch?v=cosU-PXcTJk](https://www.youtube.com/watch?v=cosU-PXcTJk)

BMO website: [www.boalch.org](http://www.boalch.org)

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## Galpin Society Conference, 2022 Edinburgh

The 2022 Galpin Society Conference on Musical Instruments, held in Edinburgh on 23–25 June, drew more than 60 registrants hailing from 16 countries. Presentations gave insight to dozens of topics relating to musical instruments; attendees were also treated to performances, demonstrations, and viewing of the University of Edinburgh's Musical Instrument Collection. (For full titles, credits, and abstracts of the 43 papers, see: [www.euchmi.ed.ac.uk/gxtta.html](http://www.euchmi.ed.ac.uk/gxtta.html).)

During a banquet held in South Hall (Pollock Halls) on 24 June, J. Kenneth Moore, curator emeritus at the Metropolitan Museum of Art, New York, received the Anthony Baines Memorial Prize in recognition of outstanding contributions to the field of organology. Most activities took place in the gently lit oval concert room of St Cecilia's Hall, dating from 1763; the entire building, including galleries and offices, was handsomely renovated in 2017. Organisers of the conference were Sarah Deters, Arnold Myers, Jenny Nex, Jonathan Santa Maria Bouquet, and Lance Whitehead.



**Figure 1.** Oval concert room at St Cecilia's Hall. *Photo: Michael Fleming*



In his keynote address, Stephen Cottrell charted the 'object biography' of Grafton 10265, an alto saxophone of acrylic nylon played by Charlie Parker in an iconic jazz concert in Toronto, 1953. Illustrating broader patterns of musical and social change, Cottrell drew on work by ethnomusicologists, literary theorists, and anthropologists.

**Figure 2.** Stephen Cottrell giving his keynote address.  
*Photo: Michael Fleming*

The idea of 'social life of musical instruments' was sometimes explicitly addressed, as by Simon Waters, but sometimes remained a subtext, as in a survey of silent musical objects in Italian homes during the sixteenth and seventeenth centuries by Arianna Rigamonti (see Figure 3). Christopher Miller examined the *khaya* (an adapted English concertina) in Pa' O Khaya, a song tradition of Myanmar, through the lens of 'new materialism.' During these and other talks, current academic terms such as actants, agents, informants, material culture, objected-oriented ontology, alien phenomenology, and social steganography met the ear.



**Figure 3.** Arianna Rigamonti.  
*Photo: Michael Fleming*

A second observable trend was an increasing reliance on data and information, usually through electronic and digital transmission. Simply put, data are facts or figures. When organized or interpreted by machines or humans, the data become information. When the information is filtered through a human consciousness, the result is knowledge. During papers, demonstrations, and performances, the Galpin presenters steadily converted received information into useful knowledge. In a wide-ranging survey, Ignace de Keyser examined information transmission per se, in both linear and lateral pathways, in the evolution of musical instruments.

The founding members of the Galpin Society were no strangers to checklists and catalogues, of course, and left a sizable legacy of organization and scholarship. But in our new century, available digital resources include sizable databases of images, some of them machine-searchable. Using such images, Kelli McQueen made a comprehensive inspection of surviving troubadour chansonniers to arrive at implications for the performance of their melodies. Lance Whitehead, scouring digital

platforms maintained by three museums, identified sources used by the decorators of Taskin harpsichords, including a fashion print and a suite of engravings. (Jenny Nex presented his findings, as Lance was absent due to illness.)

Another product of digital information is three-dimensional printing. A team of seven researchers (Marguerite Jossic et al.) printed a replica of a flute by Jacques Martin Hotteterre for comparison with a wooden replica, and conducted a blind listening test before listeners (generating more data). In a brief simulation of the laboratory experiment, the researchers engaged the conference audience in a listening test, and released their tabulated results within minutes. Daniel Wheeldon reported a triple play of novel information applications: his short film (digital application no. 1) demonstrating his reproduction of a keyed guitar by Mathias Neüner (1810) attracted attention on social media (application no. 2), gathering more than 3.3 million views and many comments to date; using 3D printing (application no. 3), he has also built prototype models to demonstrate the workings of the guitar.

Modes of traditional information-gathering were themselves topics of papers. Michael Gale spoke about John Chappington, a well-documented organ-maker of the Elizabethan era. Jean-Philippe Échard examined practices of documenting antique violins in two Parisian lutherie shops of the nineteenth century. Eleanor Smith discussed the Moberg brothers, twentieth-century twins who kept revealing records of their restorations of ninety Swedish organs from c1600 and later.

Traditional connoisseurship was on display, especially concerning identification and dating of keyboard instruments via style points. Andreas Holzmann argued for linking a known maker (Daniel Herz) to an anonymous Southern German harpsichord. Pascale Vandervellen et al. identified the hand of Ioannes Petrus Bull, who in the 1780s carried out a ravalement of a surviving Ioannes Ruckers harpsichord of 1632. Elly Langford examined the attribution to F.A. Klein of a Lyraflügel, an instrumental type prevalent in Berlin c1825–60.

Michael Fleming examined the Eglantine Table, inlaid with images of musical instruments, concluding that it was likely made in London in the late 1560s. John Humphries, Rachael Durkin, and Jenny Nex examined the musical inventions (including tuning forks) of Charles Clagget, active in eighteenth-century London and Dublin.

Many papers were centered on technical features of historical instruments. Heidi von Rüden identified a guitar model typical of nineteenth-century Berlin. Daniela Kotašová traced the evolution of harps by Alois Červenka, from hook to double action. James Kopp identified three exemplars of a little-known contrabassoon type by Buffet Crampon dating from 1885. Sabine Klaus introduced the C-attachment for cornets, a useful appliance for parlour music-making. The rare *barítona* (a baritone shawm evident in 1930s Catalonia) was the subject of comment by Albert Fontelles-Ramonet and Núria Bonet. Clarinets, in the broad sense, received a large share of attention. Albert Rice surveyed instruments by the nineteenth-century makers Simiot and Streitwolf, while Robert Šebesta discussed basset horns by the Schöllnast family. Sue Ryall spoke about the Reform-Boehm system, dating from the early twentieth century.



**Figure 4.** Thilo Hirsch. *Photo: Michael Fleming*

Not all papers focused on instruments of the distant past. Arnold Myers et al. examined the ‘precarious place’ of the saxhorn basse in the modern instrumentarium, while Alan van Keeken discussed the electronic home organ in West Germany, 1958–1989.

Several studies of repertory considered implications for instrumental performance. These focused on the rabab in the thirteenth-century *Cantigas de Santa Maria* (Thilo Hirsch); the lute consort in eighteenth-century Vienna (Sebastian Kirsch); works for keyed trumpet, as later arranged for valved instruments (Jonathan Apple); brass chamber music repertoire in mid-nineteenth century Paris (Sandy Coffin); and works featuring woodwind instruments by Camille Saint-Saëns (Emanuele Marconi and Fabien Guilloux).





**Figure 5.** Sebastian Kirsch.  
*Photo: Michael Fleming*



**Figure 6.** Stefaan Verdegem,  
Marcel Ponseele and David Gerrard.  
*Photo: Michael Fleming*

Some papers studied cultural, religious, or socio-economic aspects of instruments and their repertoires: Moravian brass bands in eighteenth- and nineteenth-century Yorkshire (Sandy McGrattan); the Kuhlohorn (oval flugelhorn) in Protestant Germany (Ryoto Akiyama); and the Albanian llautë, a short-necked lute (Ardian Ahmedaja).

Instruments were also heard. Tim MacDonald, a Scottish Fiddling champion in the United States, demonstrated instruments from the MIMEd collection, including a violin without ribs attributed to Bassano and a selection of Scottish-made violins. Stefaan Verdegem and Marcel Ponseele surveyed 14 oboes made in Leipzig during Bach's era, which led them to new conclusions about authorship and playing quality. In a duo arrangement from Bach, they demonstrated reproductions of a Sattler oboe, chosen for its playing quality (see Figure 6). Tony George, professor of ophicleide and serpent at the Royal Conservatoire of Scotland, demonstrated a ten-key chromatic basshorn by Streitwolf, a *serpent Piffault*, a *basson russe* by Dubois & Couturier, and the five-metre Anaconda, a unique contrabass serpent made by Joseph and Richard Wood of Huddersfield (see Figure 7).



**Figure 7.** Tony George demonstrating low brass.  
*Photo: Jenny Nex*

Musical instruments as collections were the topics of several papers. Heike Fricke discussed a *Harmonie* ensemble in early nineteenth-century Sondershausen. Christian Breternitz described a household collection in late eighteenth-century Berlin, while Bernhard Reiner introduced the musical Lewy family of nineteenth-century Vienna, seen in an anonymous painting of iconographic importance. And of course, the attendees had leisure to view the instruments in the splendid MIMEd collection.

An optional Sunday trip took interested viewers to the Lord Howard de Walden collection, Kilmarnock, currently home to the van Raalte musical instrument collection, normally on show at nearby Dean Castle. The Castle being under renovation, the Dick Institute exhibited the instruments, some of them retrieved from the stores especially for the Galpin visitors. The old-style cabinet of curiosities boasts such wonders as a narwhal horn, a whale's jawbone, and (from the days of phrenology) a cast of Robbie Burns's skull.



**Figure 8.** Coffee time in the Laigh Hall. *Photo: Michael Fleming*

The international gathering included attendees from Australia, Austria, Belgium, Czech Republic, England, France, Germany, Italy, Japan, Scotland, Slovakia, Spain, Sweden, Switzerland, and the United States. Thanks are due to Michael Fleming, Heike Fricke, Christopher Goodwin, and Lance Whitehead for contributions to this article.

**James Kopp**



## The Anthony Baines Memorial Prize 2022

The Galpin Society confers the twenty-fourth Anthony Baines Memorial Prize on

### J. Kenneth Moore

In recognition of his multifaceted contributions to organology and museums over the course of a long and illustrious career. His tenure at the Metropolitan Museum of art spanned over 40 years and brought musical instruments to the attention of an immense international audience. As Curator in Charge of the Musical Instruments Department, he led a pioneering programme of exhibitions, concerts, and educational events. His interdisciplinary work with other departments broadened the perspectives of musical instrument curatorship and generated new interest in the field. As the Museum's first ethnomusicologist, Moore secured the position of non-western instruments at the Met, advocating for their display and strengthening the collection with important acquisitions. The last years of his tenure saw the complete renovation and reinterpretation of the music galleries. His guidance as a supervisor of research fellows has shaped the careers of a number of museum professionals. Moore has lectured widely and has been a consultant for museum projects in Russia and Saudi Arabia. He has served CIMCIM as a Board Member, Vice President and President, and AMIS as a Board Member and Treasurer.

### Acceptance Speech

Edinburgh, 24 June 2022

Dear Galpin Society colleagues, thank you so much for this incredible recognition. I am highly honored to receive your prestigious Anthony Baines Memorial Prize. It was quite unexpected and, at my age, quite encouraging.

Many years ago, long before becoming a curator, I read a book by Alejo Charpentier called *The Lost Steps*. I felt I had a lot in common with the protagonist, a New York ethnomusicologist searching for Amazonian musical instruments for a major museum. It filled my imagination with exotic organological quests and romance. But unlike his dangerous, angst-filled path, mine was a more urban journey of discovery and acquisition. It's one of being an ethnomusicologist in a Eurocentric museum and how to devise strategies, often undercover, to make the stories of non-Western instruments, the majority of the Met's collection, less exotic and more about the musical context and practices of its players. This work was not only about the public-facing exhibition but also about cataloging and replacing generic instrument names with indigenous ones, a decolonialization, if you will. More than once, I was accused of making up instrument names like *huhu*, a Chinese fiddle akin to the more familiar *erhu*. Once when I told the Museum's august director that I was an organologist, he reacted with great surprise and amusement. Afterward, he started using the word to impress people, saying that the Museum had an organologist on staff. Consciousness-raising was constant.

I'd like to accept this award on behalf of the past and present musical instrument museum professionals, or MIMPs as I like to call them, whose contributions are primarily anonymous and



publicly uncredited by their institutions. In some ways, this award acknowledges the generalists who interpret the roles of instruments from multiple cultures and periods, those scholars who examine the vast breadth and infinite connections presented by instruments' cultural histories and social lives, and the narratives of people expressing themselves through music. Though made easier now by the digital world we live in, in the past, one spent hours researching for information on a non-Western instrument only to find scarce or prejudiced information. Today, more disappointingly, is to find your own work as the primary online resource. Conversely, when an instrument is extremely well-documented, one is challenged to condense its story into a 50-word or less label. Along with producing permanent and special exhibitions, the MIMP's skill set must include public presentations, tours, live or digit programming (sometimes called edutainment), docent and volunteer training, and burdensome but necessary financial planning, fundraising activities, leaping over bureaucratic hurdles, and employing diplomatic skills you never knew you had.

Ultimately, the MIMP's goal and motivation are to engage visitors, young and old, by sharing our passion for the objects in our care, bring alive the tangible evidence of music, reveal the multiple aspects of an instrument's mostly secret life, and introduce new sonic worlds, concepts, and ways of thinking about musical cultures.

The MIMP meets some of the most interesting people during this mission-driven endeavor. Some are pedantic, some oblivious, others fiercely focused, and others just finding their way. There are visionaries and traditionalists, antagonists and allies, all of whom have something to contribute. For me, getting to know them is one of the greatest organological rewards.

We, the MIMPS and non-MIMP scholars, stand on the shoulders of those who have come before, learning from their successes and failures and then using our own intuition and sound judgment to adjust to our times and audiences, each generation delving deeper into this fascinating world.

So, thank you again for this wonderful recognition, and here is to all of us sharing our enthusiasm and love for our own unique sphere of the organological universe.

Thank you all.

**Ken Moore**

.....



## **Galpin Conference 2022 Debut Paper Award**

We are delighted to confirm that Elly Langford was awarded the Galpin Conference 2022 Debut Paper Prize for her presentation, 'The Stewart Symonds Collection Lyraflügel: Examining its Attribution to F.A. Klein.' Elly is a PhD candidate at the Western Australian Academy of Performing Arts, Edith Cowan University, Australia. Her doctoral research into the history of the Lyraflügel and its role in contemporary collections of musical instruments is funded by the Feilman Foundation. Elly holds a Bachelor of Music (Honours) from the University of Newcastle, and a Master of Music (Musicology) from the University of Melbourne. She specialises in historical organology with a focus on keyboard instruments.

## On the Shoulders of Giants: Harpsichord Making Today: Part II

Matthias Griewisch clearly shares Martin Skowroneck's view that the soundboard is the heart and soul of any harpsichord.<sup>1</sup> He glues all the constituent spruce strips together at the same time in a special clamping jig, whereas Skowroneck advocated joining up one strip to another (already thinned to no more than 5mm or nearly the final maximum thickness), beginning with the treble end, in a time-consuming sequence. This thin, the soundboard is very fragile and liable to splitting along the joints until the ribs, cut-off bar and boudin are attached, when it is too late to do much further planing of the upper surface. Griewisch hand-planes his somewhat thicker soundboard blanks down a few millimetres to the desired thickness. Skowroneck usually began with the soundboard and then stored it in his attic for at least six months to allow it to darken. 'The soundboard should never', he said, 'be put into direct sunlight outdoors: the ultraviolet light bleaches and damages the wood.'<sup>2</sup> Griewisch, by contrast, makes his soundboards quickly, allowing them to bask in the Baden-Württemberg sun (see Figure 6).



**Figure 6.** Dulcken/Griewisch soundboard.

He also angles the grain away from the line of the spine about five degrees, which increases stiffness and reduces the inevitable swelling and shrinking under the bridges. Even offsetting the grain did not, however, prevent the soundboards of almost all old harpsichords from eventually splitting.<sup>3</sup>

<sup>1</sup> An important article should have been cited in Part I: Martin Elste, 'From Landowska to Leonhardt, from Pleyel to Skowroneck: historicizing the harpsichord, from stringed organ to mechanical lute', *Early Music* 42/1 (February 2014), pp.13–22. Of particular relevance to the present article is Elste's observation that for his first six harpsichords Skowroneck had the cases built by a Bremen carpentry workshop, something he does not mention in *Cembalobau: Erfahrungen und Erkenntnisse aus der Werkstattpraxis* (Bergkirchen: Edition Bochinsky, 2003) and a piano factory practice for which he condemned Hubbard and Dowd. From no. 7 Skowroneck did everything himself, including case and soundboard painting. Elste discusses Dowd's removal of the secondary bentside from the Smithsonian Dulcken but is mistaken in stating that parallel bentsides were 'characteristic of all Dulcken harpsichords made before 1755'. Note the exception of the 1745 instrument in the Brussels MIM which Griewisch followed here.

<sup>2</sup> Martin Skowroneck, *Cembalobau: Erfahrungen und Erkenntnisse aus der Werkstattpraxis* (Bergkirchen: Edition Bochinsky, 2003, p.186.

<sup>3</sup> See Grant O'Brien, *Ruckers: A harpsichord and virginal building tradition* (Cambridge: Cambridge University Press, 1990), p.102: '[...] there seems not to be a single [Ruckers] harpsichord without the characteristic split at the treble end of the bridges'. Martin agrees that exposure to sunlight will help to darken and not bleach a soundboard; see *The Art of Making a Harpsichord* (London: Robert Hale, 2012), pp.20 and 58.



Being able to trust the stability of the case walls means that Griewisch can install the soundboard but wait to attach the main baseboard until as late as possible, so the bridge and boudin can be supported underneath when hammering in the bridge pins and 4ft hitch-pins. The guides and slides can also be finished and fitted at this stage. Like Skowroneck, Griewisch marks the bridge pins with a rule with a sliding attachment at the treble end to maintain a constant height above the soundboard and to keep the marking awl perpendicular to the registers. The position of the nut pins can also now be marked, and Griewisch has even at this stage strung the entire instrument *before* attaching the long section of the baseboard, which for most makers is the point of no return in the birth of any harpsichord. It is still possible to thin and shape the soundboard from underneath, move a rib if dead notes are found when chipping up to pitch, or even in extreme cases add a rib to an area left weak by over-thinning.<sup>4</sup> For all his Dulcken models, Griewisch attaches the main baseboard only with treenails; the unglued joint is hidden by the stand. If access to the interior is ever required, the treenails can simply be drilled out and the bottom will easily come away from the case sides.



**Figure 7.** Front part of bottom panel installed, but soundboard is still accessible from below.

Griewisch then turns to what he considers the most important component, the keyboard, which could in fact be completed and installed once the front baseboard panel is in place. The keyboards are drawn out in the conventional way, and thus the subject needs little discussion here, except to point out that with the bridge and nut pins already in place and the guides and slides finished, he is able to mark the jack positions on the soon-to-be key ends as Ruckers did: a punch or a blank jack with a sharp point is dropped down through the guides and slides leaving a row of marks or dimples on the keyboard blank.<sup>5</sup> With the position of the playing ends of the keys already drawn on the blank, it is merely a matter of connecting the line segments. Surprisingly for such an historically faithful keyboard, Griewisch inserts round, hardwood balance pin bushings manufactured by Adam Swainson instead of punching the mortices for the pins directly into the keylevers. Perhaps it takes a professional harpsichordist who has experienced the mortification of sticking keys

<sup>4</sup> Cf. Skowroneck (2003), p.190: 'The ribbing of some 16th-century Italian, and 17th-century French harpsichords looks more like an embarrassed or despaired reaction to sunk-in soundboards and other catastrophes.' Martin, however, notes that with Italian instruments at least 'there is no evidence to suggest harpsichord makers ever made adjustments once the bars were glued in place and given their initial shape'. See *The Art of Making a Harpsichord*, p.129.

<sup>5</sup> O'Brien (1990), p.82. For a detailed explanation of this method using a metal-capped jack, see Martin (2012), p. 182.

caused by swollen balance pin mortices in the middle of a slow movement in a hushed hall to embrace this a-historical bushing, which assures that no key will ever bind on its balance pin.<sup>6</sup> The finished keyboard (see Figure 8) is otherwise a close replica of the original (albeit transposable), with inlaid bone touch plates, cartouche key-fronts, and backwards slanting sharps.



**Figure 8.** The finished Dulcken/Griewisch keyboard, with transposer.

Griewisch no longer makes the parchment cartouches himself but relishes tackling key-fronts when a faithful reproduction demands special carving. Amongst the most beautiful and ornate keyboards ever made are by Vaudry (see Figure 9).



**Figure 9.** Griewisch's copy of a Vaudry keyboard.

These arcades can only be carved into the keylevers after the touch-plates have been glued on. The potential for disaster is great and achieving uniformity a nightmare. Griewisch explains how he does it.

The key-front arcades are of course hand-carved. I doubt there is any other way of making them. First, I scribe the key-fronts with a vertical centre line using a marking gauge. The location of the top and bottom of the pattern is marked in pencil with small wooden blocks, and the outlines of the circles are lightly scored with a punch. These points give enough fixed lines for 'shimmying along' with various gouges and chisels. I practised on eight blanks before tackling the real keys. The first keyboard took 11 hours to carve, the second only eight hours. The hard part was not repeating the pattern exactly but having to carve constantly against the grain, which we don't like, do we?<sup>7</sup>

<sup>6</sup> Before using Swainson's bushings, Griewisch found that in many of his earlier keyboards with traditional punched mortices, the balance pins had to be freed up two or three years after delivery. Letter to the author, 23 November 2021.

<sup>7</sup> Private correspondence dated 9 November 2020; my translation.



**Figure 10.** Practice makes perfect.

To make or not to make one's own jacks is a vexed question. Ernest Miller, who has specialized in building Ruckers-style instruments during his long career, grapples thoughtfully with this issue as did Skowroneck before him.<sup>8</sup>

Jack making is difficult. Most professional harpsichord makers purchase their wooden jacks from professional jack makers [...]. There is a steep learning curve that must be mastered before reliable wooden jacks can be produced. The costs in material and machinery will certainly equal the cost of purchasing plastic jacks, and may even approach the cost of professionally made wooden jacks, with no guarantee that your wooden jacks will work properly. While you may be able to function by using traditional woodworking machines (band saw, table saw, etc.), the purchase of micro machines (micro table saw, micro drill and stand) will

certainly make this work easier, especially considering the small, delicate parts like tongues.

With some misgivings, Miller finally comes down in favour of making one's own jacks. As we have seen, Ruckers certainly bought in his jacks, as did later harpsichord makers. In the early eighteenth century, the composer John Cousser (1660–1727) recorded in his address book the name of one Huglins, 'Jackmaker in Dublin, in St. Georges Lane'.<sup>9</sup> The Berlin-born Ephraim Stahlberg was also a specialist jack maker, active in London c1770–89; there is compelling circumstantial evidence that Stahlberg may well have supplied Kirkman.<sup>10</sup> Early in his career, Griewisch made his own jacks. Skowroneck always did in the traditional way with historically appropriate woods. And by his own admission they could cause trouble, though loose register slots were also to blame (see Part I, fn. 6).<sup>11</sup> Griewisch and other leading makers are now using jacks manufactured by Adam Swainson. For this Dulcken copy, Swainson supplied French-style jacks made from quartered beech, with padded holly tongues and spring grooves, back-checks, and slots for flag dampers. A plastic monofilament spring rather than boar's bristle is the only departure from the original, except that no contemporaneous jack supplier ever made anything nearly as precise and reliable. Some makers, Malcolm Rose included, purchase the tongues separately and fit them to their own jack bodies, the tongue being by far the most difficult part of a jack to

<sup>8</sup> See his e-book *The Harpsichord Project 5* (2021), chapter 38, [www.harpsichordproject.com](http://www.harpsichordproject.com).

<sup>9</sup> See Samantha Owens, *The Well-Travelled Musician: John Sigismond Cousser and Musical Exchange in Baroque Europe* (Martlesham: Boydell & Brewer, 2017), p.211.

<sup>10</sup> See Lance Whitehead and Jenny Nex, 'Keyboard Instrument Building in London and the Sun Insurance Records, 1775–87', *Early Music*, XXX/1 (February 2002), pp.4–25, at pp.11–12 and 22. Also Whitehead and Nex, 'The Insurance of Musical London and the Sun Fire Office 1710–1779', *The Galpin Society Journal*, LXVII (2014), pp. 181–216. I am grateful to Lance Whitehead for drawing this information to my attention.

<sup>11</sup> Reflecting on the somewhat mischievous anecdote recounted in footnote 6 of Part I about the problems a Skowroneck harpsichord encountered on the raked stage of Carnegie Hall, Mark Kroll would like to emphasize his great admiration for the sound of Skowroneck's instruments and considers him 'one of the giants in the field' (letter dated 6 May 2022).



make along historical lines. Swainson's jacks rarely fail, though their tongues are removable in case they ever do.<sup>12</sup> For this reason and not for the sake of economy Griewisch and other makers are willing to meet their considerable expense.

### After an early Neapolitan

In complete contrast to the Dulcken, the second harpsichord to be considered is based on a sixteenth-century Neapolitan *cassa levatoia*; the instrument itself is placed in an outer decorated protective box (what Hubbard called an 'inner-outer'). It shares many characteristics of the later harpsichords made by Onofrio Guarracino, with split low F-sharp and G-sharp keys, a so-called broken octave, but only a single rank of 8ft strings. Its most striking feature is the extremely acute angle of the tail typical of some but not all instruments of Guarracino.<sup>13</sup> (See Figure 11.) Griewisch has also been influenced by the anonymous early Neapolitan harpsichord in the National Music Museum, Vermillion, USA, but gives it a shorter scale tuned to A=415Hz.<sup>14</sup>



**Figure 11.** Neapolitan model with spruce framing and acute tail; note the double-handled rasp for fairing the bentside frame.

Deceptively simple, almost every part of the inner instrument is adorned with complex mouldings typical of a Guarracino *cassa levatoia* but with even sharper and more delicate profiles. They have been formed with a router rather than cut with a scratch-stock. The case is entirely of maple, which is characteristic of early southern Italian instruments, cello-back thin, while the frames, key-bed, knees and wrestplank supports are very strongly built but in spruce to save weight. Whereas the early Italian makers usually mitred or dove-tailed their case joints, Griewisch uses butt joints instead, though the mouldings are still mitred (see Figure 12).



**Figure 12.** Butted tail joint with mitred mouldings.

A somewhat unusual feature of the framing is a secondary 'wrestplank' on the opposite side of the register gap on top of which is glued the soundboard. To prevent this plank from deadening the treble range, it has to be hollowed out to allow that part of the soundboard to vibrate freely (see Figure 13). Following the practice of William Jurgenson, but not a feature found in old instruments, this plank is added for strength and stability, as there is always the danger of the gap closing up under string tension and jamming the box-slide.<sup>15</sup>

<sup>12</sup> Occasionally, the bottom beveled edge of a tongue will stick to the pad on the mating bevel of a jack body, perhaps because the adhesive has squeezed out around the pad.

<sup>13</sup> See Grant O'Brien, 'The design and construction of some 4-octave harpsichords in the Neapolitan tradition' and 'Characteristics of instruments built in the Neapolitan School of harpsichord building', [www.claviantica.com](http://www.claviantica.com).

<sup>14</sup> Griewisch discusses the construction of this instrument at some length in 'Bau eines frühen neapolitanischen Cembalos', [www.youtube.com/watch?v=Za6Sn-sUKfQ](https://www.youtube.com/watch?v=Za6Sn-sUKfQ).

<sup>15</sup> Letter to the author dated 28 November 2021.



**Figure 13.** Secondary ‘wrestplank’ hollowed out to free up soundboard.

Martin recommends marking out the bridge pin positions of an Italian instrument before installing the soundboard, since ‘inside-out’ construction does not allow it to be supported from below when inserting the pins.<sup>16</sup> Griewisch believes this method to be too risky and always marks and inserts his bridge pins after the soundboard is glued in, using a sophisticated marking out gauge shown in Figure 14.



**Figure 14.** Marking bridge pin positions.

Somewhat unusually, the wrestplank itself is unveneered, with a prominent knot which other makers might regard as disfiguring (see Figure 15).



**Figure 15.** Detail of wrestplank.

Of course, a clear piece of oak could have been found, but Griewisch is fond of quoting Joachim Ringelnatz: ‘Am Baum das Beste sind die Äste. Denn wär er kahl, wär’s nur ein Pfahl’ (‘The best thing about the tree are the branches. Because if it were bald, it would only be a pole’). For a more recent Italian inner-outer, he even found a nameboard with two prominent knots (see Figure 16).



**Figure 16.** ‘Am Baum das Beste sind die Äste ...’

The sharp-eyed reader will have noticed something else unusual in Figure 15. All the jacks pluck to the left, except for the bottom one which plucks to the right; this is possible because the instrument is single-strung. The purpose of this quirk is to move the lowest string away from the spine, thereby allowing it more soundboard

<sup>16</sup> Martin (2012), p.116.



on which to vibrate. Griewisch reflects on the limitations of one set of strings: ‘[...] you always have the problem with all the single-strung instruments, that there is not much which can reverb[erate]. For that reason I used a very soft damper felt, which touches the strings just a little, making the sound not too dry.’<sup>17</sup> As can just be seen in Figure 13, elongated holes have been cut in the belly-rail which, along with the rose, help to release the sound. Leonhardt used to say (and not in jest) that even the lid stick can affect the tone. Griewisch would not disagree: ‘You surely have noticed that a harpsichord with the name-board removed sounds better for the player [...]. Even the jack-rail makes the sound worse – but we still need it’.<sup>18</sup>



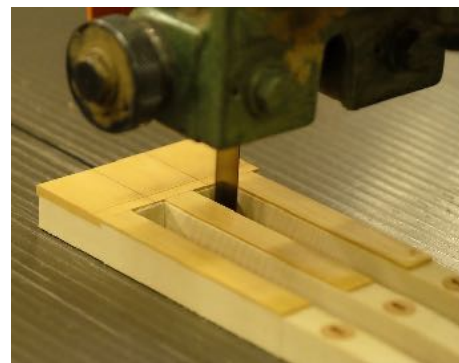
**Figure 17.** Keyboard of the Neapolitan harpsichord.

The splaying of the keylevers to make room for the broken octave (with split low F-sharp and G-sharp in Figure 17) is almost a work of graphic art. But some will regard the round balance pin inserts as a sacrilege in such an otherwise pure instrument. It is also rather curious that Griewisch commissioned the keywell scroll blocks from a south Tyrolian figure carver which are near-replicas of those on the Vermillion instrument (see Figure 19). In his defence, one should point out that few makers, now or then, would attempt to fashion an Italianate ‘wedding

cake’ rosette, built up several thin wooden layers, another job for a specialist carver (see Figures 15 and 19).

As Hubbard said, the success of any keyboard depends crucially on a steady hand when cutting out the individual keys, which is certainly evident in Figure 17. Griewisch has developed an unorthodox approach to this nerve-racking task: ‘cutting the sharps out first gives me the possibility to cut the heads from behind. This again is good, because the saw blade is stabilized then, [and] it hits the key-lever wood first (though it is only one millimetre or so), before reaching the box wood plate [...] So you don’t start with a wider cut, what you’d do when sawing from the front. The thirteen millimetres or so at the front of the sharps are cut by a scroll saw.’<sup>19</sup> See Figure 18.

**Figure 18.** Cutting out the keys.



Not to be overlooked is the outer case, which is absolutely essential to protect the delicate mouldings and razor sharp tail of the instrument itself. For Griewisch, this is no mere afterthought knocked together to hasten delivery to the customer. A potential problem with Italian inner-outers is that the unsupported bentside of the outer case which should parallel the inner curve exactly will, after a while, sometimes warp spectacularly out of shape, usually trying to straighten itself out and leaving an unsightly gap between the two cases. Griewisch’s solution,

<sup>17</sup> Letter to the author dated 19 December 2020.

<sup>18</sup> Letter to the author dated 26 November 2020. The maker performs ‘Lay qui moy fay’ from the *Tabulatur des Clemens Hör* on this instrument. See [www.youtube.com/watch?v=6i61JPWr5Vs](http://www.youtube.com/watch?v=6i61JPWr5Vs).

<sup>19</sup> Letter to the author dated 5 December 2020.



though anachronistic, is to glue-laminate the outer bentside from thin poplar boards with a plywood core, clamped to the same former used for the inner bentside. The upper ply edge is then hidden with a strip of veneer. The outer box also has a very sharp tail but much less fragile than the one it encases.<sup>20</sup>



**Figure 19.** Finished Neapolitan.

Griewisch is an iconoclast rooted in history: lap-joints instead of mitres (not without historical precedent); knots deliberately placed in prominent locations (something most makers, then and now, would want to avoid given a choice); outsourcing jacks (though they are fine copies of originals); trusting others to decorate his cases and soundboards (as Ruckers and many others did). He will also make transposing keyboards though was delighted when the customer for the recent Vaudry copy specifically asked not to have a transposer and for the

instrument to be pitched ‘in the cracks’ at A=400Hz.<sup>21</sup> Like all fine makers, Griewisch aims to create harpsichords that will be appreciated by a virtuoso playing the most delicate *sarabande* and yet stand up to continuo bashing, travel and extremes of temperature and humidity. Early fanaticism has mellowed with experience. He will quill an instrument with feathers at the customer’s request (seagull rather than crow) but prefers ‘pre-voiced’ Marc Vogel no. 4 plectra.<sup>22</sup> He takes a neutral position in the current debate about historic iron wire.<sup>23</sup> After stringing one instrument with Stephen Birckett’s much lauded ‘P-wire’, he continues to use that manufactured by Malcolm Rose, being unable to detect much difference in sound though acknowledging that P-wire with greater tensile strength becomes stable sooner and is therefore very useful for replacing a broken string in the middle of a concert.

In some respects, Griewisch and Skowroneck are philosophically aligned as harpsichord makers – both loners, though the latter records that he needed his wife’s help to glue up a soundboard. Griewisch only welcomes an assistant to help him stack heavy timber; otherwise he undertakes *all* aspects of construction entirely alone (‘a helper would only make me nervous’). Neither has made exact copies, preferring to trust their own judgement about how to shape acoustically important components such as the soundboard, bridges, ribs, cut-off bar and boudin, rather than exactly following technical drawings. The one has no scruples about outsourcing jacks, whereas that was against the other’s principles.

<sup>20</sup> The inside of the lid is lined with Shantung silk hand-painted by Marcelo Gimenes and Jaap Snijder. See [www.youtube.com/watch?v=D3yEkWD2c98](http://www.youtube.com/watch?v=D3yEkWD2c98).

<sup>21</sup> Andreas Gilger, *Dessiner les passions*, Bayerischer Rundfunk and GENUIN classics, Gen 22768 (2022). Gilger wanted to record the music of the *clavicinists* D’Anglebert, Chambonnières, Louis Couperin and others on a copy of a contemporaneous instrument, one made in France before the emergence of the Franco-Flemish school. ‘For such a strict copy I only felt comfortable approaching a master harpsichord builder of the highest rank. My choice was quickly made: Matthias Griewisch [ . . . ]’ (p. 12).

<sup>22</sup> Note that Skowroneck also preferred delrin plectra. See Elste (2014), p.18

<sup>23</sup> See Tilman Skowroneck, ‘Strings from Waterloo’ (2013), <https://skowroneck.wordpress.com>.

Both have made wonderful instruments, and the best Skowronecks, though perhaps visually not perfect and sometimes mechanically unreliable, have an unforgettable sound.<sup>24</sup> Griewisch's instruments look faultless yet never over-machined or factory made.

### Postscript

A recent instrument commissioned by the Calleva Foundation for the Royal Academy of Music merits a brief account. It is Griewisch's first for a British client and stands, I think, at the apogee of his career.<sup>25</sup> Modelled loosely on an anonymous early eighteenth-century false inner-outer perhaps made by Giovanni Ferrini, a pupil of Bartolomeo Cristofori, this long harpsichord (2x8ft with a double transposer - 415, 440 or 466Hz) might be described as the workhorse of the Griewisch stable; he has produced many versions allowing a certain degree of experimentation from instrument to instrument. It displays the flawless craftsmanship one has come to expect and has a superb, distinctive tone, especially the back 8ft. Ideal for accompaniment and basso continuo, it is also a surprisingly powerful solo instrument suitable for anything from Frescobaldi to Scarlatti; with both 8ft-ranks, it has more carrying power throughout the full compass than many mid-eighteenth-century concert doubles.

The nameboard is (dis)figured with a signature knot; the case is made of poplar and lime wood with butted joints visible through the painted exterior; there are Swainson jacks and keylever bushings, a sharply curved bentside which starts at nearly a 90-degree angle from the cheek. The keyboard has thick boxwood touch-plates made from Griewisch's precious 130-year-old stock (see Figure 22). The interior cypress veneer in the

key-well to the jack-rail is extra thick (6mm), which helps to retain the wrestplank as if it were rebated into the case walls, since wrestplanks are known to lift catastrophically in old Italian instruments (see Figure 20).

**Figure 20.** Thick veneer doubles as wrestplank hold-down and jack-rail support block.



Hoping to evoke Skowroneck's belated spirit of openness, I invited Griewisch to account for the instrument's exceptional power and character which is at once fresh and antique. He came close to revealing some trade secrets, adding a disclaimer: 'just applying some "secrets" does not make good instruments'.<sup>26</sup> First, the soundboard is made from very close-grained quarter-sawn spruce with the grain angled 13 degrees away from the spine; by comparison, the soundboard of the Dulcken copy discussed above is angled only about five degrees. The main innovations are that the soundboard has been planed daringly thin and the case has been widened to increase the distance between the ends of the bridge and the case sides. A determination to maximize the vibrating area of the soundboard includes floating the hitchpin rail at the tail so that it does not touch the soundboard, which is also a feature of the eighteenth-century anonymous model (see Figure 21).

<sup>24</sup> Elste (2014), p.19, describes it thus: 'a full-blooded harpsichord sound that is sharp and strong at the same time, and open in tone, owing to ample resonance.'

<sup>25</sup> The Calleva Foundation's extraordinary grant has allowed the Royal Academy of Music to commission over 40 period and modern instruments from leading European makers: strings including bows, harps, guitars, a theorbo, a clavichord, harpsichords, viols, fortepianos, brass and timpani.

<sup>26</sup> Letter to the author, 9 May 2022.



**Figure 21.** Note the gap between the soundboard and the bass hitchpin rail.

As with the *cassa levatoia* discussed above, long slots have been cut in the belly-rail to release the sound, which is dramatically confirmed when the instrument is played with the name-board removed. To help avoid another well-known catastrophe which can befall old Italian harpsichords – jammed box-slides – a ‘secondary wrestplank’ (also found on the earlier inner-outer discussed above) overhangs the belly-rail forming a T-section. This sturdy plank has also been hollowed out in the treble, giving the soundboard a very thin resting place along that edge. So, despite its essentially structural purpose, the ‘secondary wrestplank’ may also contribute to the tone and power of this instrument. The highest and lowest notes are certainly very open and strong, unimpaired by their proximity to the case sides. Though the case is wider than in previous models, the GG–f<sup>3</sup> range has been retained, which necessitates ‘oversized’ key-blocks, especially at the treble end where the upper surface of the transposer blanks provides enough space for at least one wine glass (see Figure 22). In this instrument, Griewisch has found the delicate balance between maximum resonance and enduring stability (what Skowroneck called ‘acoustics and static [rigidity]’), which is of course the elusive goal of all stringed instrument making.

When he first played this instrument soon after delivery, Royal Academy harpsichord professor Pawel Siwczak remarked that there was nothing green about the sound. No playing-in would be required; it was love at first touch. Leonhardt had the same reaction to Skowroneck’s first Italian model more than half a century ago.<sup>27</sup> Could Griewisch have achieved so much without Skowroneck’s sound ringing somewhere in his memory? Thanks to the openness and generosity of both these *Cembalomeistern*, we now know in some detail how they made their instruments and why their methods and tools differ. But I doubt it will ever be possible to explain how they turned their craft into art.

**Curtis Price**



**Figure 22.** Double transposer set at A=440Hz.

<sup>27</sup> This was his no. 7, purchased by Nikolaus Harnoncourt. According to Elste, this instrument marked a turning point in Skowroneck’s entire approach to making harpsichords (‘From Landowska to Leonhardt’, p.19).



# NOTICES

## **Exhibition: Made to be Played**

Torquay Museum, Torquay, Devon, U K

24 September 2022 to March 2023

[www.torquaymuseum.org/events](http://www.torquaymuseum.org/events)

The exhibition will display around 100 instruments from the museum's collection and my own, including some 18th-century woodwinds by Proser, Lot, Cahusac, Hallett and Potter.

**Ian Summers**

.....

## **Taxonomy of 'whistles'**

I wonder if anyone 'out there' has any definitive classification for an assortment of duct flutes which are clearly not recorders or flageolets. It is reasonably easy to specify (for example) that a Baroque recorder is an internal duct flute with a contracting conical bore and a 7+1 arrangement of tone-holes, whereas a Renaissance recorder has a more cylindrical bore profile. Equally, a French flageolet always has 4+2 tone-holes, plus or minus a key system.

A glance through collection catalogues reveals a number of instruments variously called flageolets, tin whistles, whistles, or simply duct flutes but there appears to be no rational classification proposed for these instruments of varying tone-hole arrangement, bore profile and construction materials. For example, a tin whistle is relatively easy: it has a contracting conical bore, 6+0 tone-holes, is made from a sheet of soldered metal, and has a wooden block— but what about Barnett Samuel's catalogue of 1911 listing 'The Original Cylinder Metal Flageolets' in metal with a cylindrical bore and 6+1? They are not flageolets in the sense of either the French instruments or Bainbridge's conical-bored wooden English flageolets. The currently available 'Generation Flageolet' is also of metal, has a cylindrical bore, and is topped with a plastic mouthpiece— to say nothing of umpteen 6+0 instruments in almost any material from wood through to metal, celluloid, and various plastics which I have seen catalogued as flageolets?

Organological expertise in the classification of instruments in the twenty-first century vastly exceeds Hornbostel and Sachs '421.221.12 *open flute with internal duct with finger-holes*' and I would like to think of a better way to list these multifarious instruments in collection catalogues and organological literature. Perhaps something on the lines of a classification based on a combination of bore profile, tone-holes and materials after excluding recorders and French and English flageolets? However, we will need a generic heading— even if it is only on the lines of 'otherwise unclassified internal duct flutes'!

Any ideas would be most welcome.

**Douglas MacMillan**

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## Horns and Trumpets of the European Iron Age

The Horn and Trumpet in Ancient Europe and the Middle East  
book 1

Dr Peter Holmes

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