



NEWSLETTER

of

The American Musical Instrument Society

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Together again! AMIS meets in person in Calgary



After two years of Covid-19 related interruptions, in June 2022 members of AMIS were able to come together in person once again for our annual conference. The setting was the impressive Studio Bell: National Music Centre, in Calgary, Alberta, where we experienced papers, concerts, and tours of this striking museum and recording studio. With an emphasis on electronic and Canadian music and musical instruments, the conference was sure to bring to light new insights and perspectives on musical instrument history and development.

The activities began on Wednesday, June 8, with registration and guided visits to the galleries of the National Music Centre and the recording facilities of Studio Bell. The structure of the building is incredible, and the displays explore the history of Canadian music and associated musical instruments. A highlight was the visits to the recording studios. Attendees were able to see the impressive mix of modern and historic recording equipment, as well as the “living collection” throughout the three live rooms. Numbering more than 200 items, these instruments are available to musicians for use in their recordings. Later that evening attendees of the conference met for drinks at the King Eddy, a historic hotel and bar that was the centre of the blues scene in Calgary, and is now part of the Studio Bell complex. The rich musical history of the King Eddy set the mood for a fun evening of reunions and introductions.

It was an early start the next morning as AMIS members assembled for the welcoming remarks from Andrew Mosker, President and CEO of the National Music Centre (NMC). Andrew’s welcome started with a bit of

history about the NMC and included points regarding the impact of electronic instruments and how Canada is often missing in organological conversations and research. He rounded out his remarks by exploring the NMC’s mission and how the institution brings all types of music together in one place while it also highlights Canada’s musical story. A very poignant statement was that the NMC “uses history to make history.” A bit of food for thoughts as we transitioned to our first paper session.

Kicking off the focus on electronic musical instruments was a set of three papers that looked at the legacy of Canadian physicist, composer, and musical instrument builder Hugh Le Caine. Gayle Young introduced Le Caine’s electronic sackbut, an instrument with “one foot in science and one foot in music.” Her presentation included recordings of the instrument and she hypothesized why Le Caine named this early synthesizer after the obsolete sackbut. Tom Everett continued the discussion of the electronic sackbut but shifted attention

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The Newsletter is published three times per year for members of the American Musical Instrument Society (AMIS). News items, photographs, and short articles or announcements are invited, as well as any other information of interest to AMIS members.

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LETTER FROM THE PRESIDENT

Dear colleagues,

We finally met again in person in 2022, holding our annual meeting at Studio Bell, home of the National Music Centre/Centre National de Musique in Calgary, Alberta, Canada. It was nice to see colleagues and old friends again, and to meet some new AMIS members. The conference was notable for its numerous presentations on electronic instruments (the focus of Studio Bell's collections) and for its Canadian content, which was especially fascinating to me as a Canadian. You can watch all the presentations [here](#).

I look forward to welcoming you to Memphis in 2023. Planning is well underway for the first AMIS conference to be held in our great musical city. We will have our conference sessions and most events in our lovely new performing arts center, which opened just this Spring.

Registration information will be published by early February, along with the list of papers and presentations.

 Janet Page
President

News from the Editor's Desk

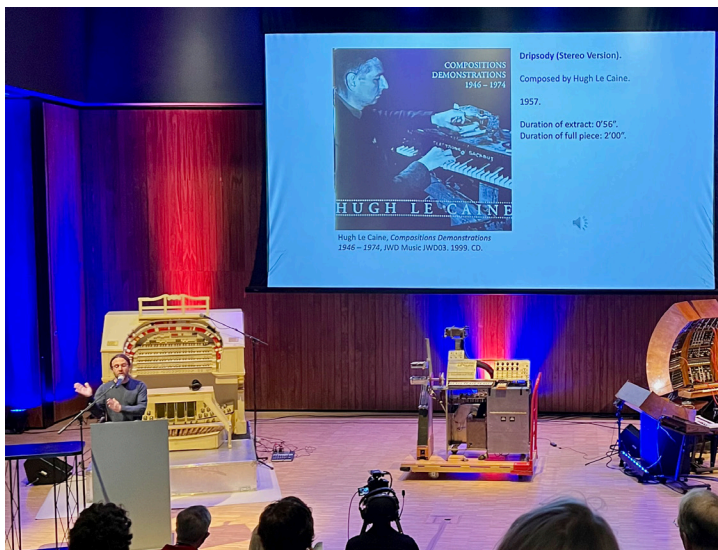
It feels like old times again! After a long hiatus, AMIS was able to meet again in person and this *Newsletter* explores what happened at the Calgary conference. For members who were not able to attend, we have included an overview of the conference and I hope that this will inspire you to go back and explore the recorded presentations available on the AMIS YouTube page.

Also included in this issue is an article by one of the 2022 Gribbon scholars, Shanti Nachtergaele. Her article explores her research into the double bass and is adapted from her paper presented at the conference. Robert Pyle investigates the conundrum as to why the harpsichord in the image on the membership list is backwards, a question he posed at the conference. In museum related news, we have an update on recent acquisitions and projects from the Library of Congress and an overview of a special exhibition currently on display at the National Music Museum.

As always, we welcome short submissions (maximum 500 words) as well as short articles (maximum 2,500 words). Email all submissions and suggestions to: amisnewsletter@gmail.com.

 Sarah Deters
Editor

to The Electronic Sackbut Project, an ongoing project that aims to make one of the world's first synthesizers playable again. The presentation included a video of much beloved and dearly missed John Leimseider playing the original artefact. This paper elucidated many of the difficulties of reverse engineering this complex instrument and how some components, such as perishable materials used in the instrument's construction, cannot be preserved forever. The final paper in this trio was by James Mooney, who presented Le Caine's Special Purpose Tape Recorder, later renamed "Multi-track." Mahoney explained the complexity of this instrument and how it was on the cutting edge of music technology. This was demonstrated by the playing of Le Caine's composition *Dripsody*, where each tone was a recording of a drip of water and then manipulated



James Mooney presenting his paper. Photo by Edmond Johnson.

via tape.

After we fuelled up on coffee and donuts, the second paper session, this time with an ethnographic focus, began. Lisa Beebe explored how the *đàn bầu* represented the Vietnamese diaspora in Canada and highlighted innovations, such as electrifying the instrument, taking place on Canadian soil. The paper also explored how the *đàn bầu* is an important educational instrument being used by Khac Chi Bamboo Music. Next, Ken Moore presented his work on the Apache fiddle. Ken has undertaken a preliminary review of 66 instruments in order to get a better understanding of the fiddle as a whole, comparing provenance (which is often vague), typology, and construction techniques. As the presentation was an overview of a preliminary study, we all look forward to future results. Last in this session was a remote presentation by William Cumpiano,

Noraliz Ruiz, and Norman Storer Corrada, which looked into the history and attempts to revive the Puerto Rican *triple requinto costero*. The group showed that although there was a *triple* revival in the 1990s, the focus was on the *triple doliente* rather than on the *requinto*. The group is trying to promote the playing and making of the smaller, *requinto* instrument.

Two more sessions followed lunch. The first, "Preserving Musical Assets" was divided into a panel discussion followed by a paper presentation. The panel looked at the EMI Music Canada Archive held at the University of Calgary. The five presenters: Annie Murray, Robb Gilbert, Elizabeth-Anne Johnson, David Jones, Andy Nichols, and Kathryn Ruddock took turns in presenting the history of EMI and the archive, how it came to the University of Calgary, what the University was doing to catalogue and preserve the collection, and the challenges the University was facing with such a large and complicated project. Throughout the panel important points on preservation and the continuous need to migrate formats were made. Overall, it highlighted the many issues institutions will face as they take on multimedia preservation projects. The panel was nicely juxtaposed by Heike Fricke's paper on the digitization of cardboard and metal disks currently underway at Leipzig. The project had created some very innovative ways to digitize the music contained on these physical objects and really complemented the previous panel.

The next session completely switched gears by focusing entirely on wind instruments with the flute featured heavily in the three papers. Patrick Connor Dittamo looked at the curious history of the *Dolzflöte*. This flute, an instrument that was seemingly obsolete by the beginning of the nineteenth century, lived on through encyclopaedia entries long past its "used by" date. Samantha Tripp continued with research into Italian flute innovations of the nineteenth century. In her paper she argued that Italian makers' attention to flutists' preferences shaped the Italian flute and that more scholarly research should focus on instruments made in Italy at the time. Lastly, the paper session rounded off with a remote presentation by Fabien Guilloux and Emanuele Marconi, who explored the innovative compositions of Camille Saint-Saëns and how his compositions parallel many developments in wind instrument designs. The paper presented the convergence between composers, performers, and craftsmen resulting in the advancement of new instruments and the creation of distinctive repertoire.

After the last paper, participants all went off to find dinner at one of the many restaurants in Calgary's downtown. Fully sated, AMIS members returned for

a truly memorable musical performance – Chris Maric’s performance on the Allen Theater Organ. This astonishing evening took the audience back to the days of silent cinema with Maric performing the soundtrack to two classic Buster Keaton silent films, *Cops* (1922) and *Sherlock Jr.* (1924). Throughout the evening, it was hard to decide

who to watch, the humorous performance of Buster Keaton or the amazing skill and mastery of Chris Maric.

Friday morning was back to sessions focusing on electronic musical instruments. The first presentation was by Jason Tawkin, the NMC’s Studio and Electronics Engineer, who guided the group through the conservation and restoration of Trident Studio’s Triad (Trident A Range). Along with restoring the original fidelity of this historic console and ensuring its future use at NMC, Jason explored some interesting questions, such as “when is an object still historic if you are replacing parts?” Next, David Jones took us on a nostalgic trip with the Elektron Sid Station, a Swedish synthesizer from 1997 built around the sound chip of the Commodore 64 computer. David discussed how this now -vintage sound is “retro modern” and sparks nostalgia and memories. He also explored how the limitation of the tonal capacity can spur creativity. The importance of language and the impact of English in the electronic music scene was presented by Pablo Doderó. In his paper, Pablo explored how, as a multilingual individual, he has to use English terms when discussing electronic music and instruments and how this can be a limitation in design and creativity. Pablo expanded in the paper with examples of manufacturers who are trying to break down these language barriers, giving examples of Mexican-based firms such as Paradox Effects and their Fuzz-E Cat guitar effects pedal.

Banjoes and harps were up next after conference attendees got their caffeine fix. The early banjo was discussed by Kristina Gaddy and Pete Ross. In the pa-



Chris Maric providing the soundtrack to Buster Keaton’s *Sherlock Jr.*
Photo courtesy of the NMC.

per, the presenters made an interesting point that organology is not biology and that musical instrument forms emerge and disappear—they are not necessarily “ancestors” with direct lines. This of course makes tracing the history of instruments tricky, as many forms that are in the historical record might not directly lead to our modern instruments. In the presentation, six characteristics of the early banjo were

explained, and these characteristics can be explored further in Gaddy’s book, *Well of Souls: Uncovering the Banjo’s Hidden History*. A great musical mystery was up next: which of the many harps claimed to being the property of Marie Antoinette were actually played by the queen? This fascinating paper was a true piece of detective work by Fanny Guillaume-Castel, who, although not able to give a definitive answer, presented the “most likely suspects.” Another remote presentation was the final paper in this session. Presented by Mike Baldwin and Lewis Jones, the paper explored the influence and importance in the advancement in the pedal harp design of Jacob Hochbrucker and his decedants. The paper also explored the attempt to replicate Hochbrucker’s harp for modern use.

Lunch was served at NMC so that AMIS members could attend the annual meeting. The meeting took its usual course, with reports on membership, finance, etc., all being given. Following the meeting, a session on musical engagement began with a roundtable, followed by a paper presentation. The roundtable featured You Nakai, Luisa Santacesaria, Valentina Bertolani, and Gayle Young, and focussed on how the traditional methods of preservation and archiving of musical materials are not appropriate for post-1960s music and materials. Next up, Dominik Ukolov presented his work on the digitization of historic musical instruments. Using datasets obtained through the TASTEN project at Leipzig University, Dominik demonstrated a very impressive new standard for virtual acoustic objects.

The last paper session of the day shifted focus to the violin. Chaehoon Lee's remote presentation explored the analysis of instruments made by the Serafin violin making family of Venice. In her paper, Chaehoon walked us through the many different non-invasive techniques, including XRF analysis, that she used to understand more about the instruments' construction and history, as well as the conservation and restoration states of the violins. Up next was Stella Smith, who presented her research into the iconographic history of what many believe to be the Star of David on Markneukirchen-made violins. Using extant instruments, as well as advertisements, Stella traced back this decorative element, connecting the use of a six-pointed star to different decorating techniques as well as Moravian traditions. Shanti Nachtergaele, who explored why the German tuning system became the predominant tuning system of the double bass, gave the last paper of the day. Using a custom-built double bass with interchangeable necks, Shanti was able to compare the timbral characteristics of the four historical tuning systems.

Friday evening brought us back to the NMC for another musical performance, this time featuring The Original New Timbral Orchestra (TONTTO) and Ondéa, a modern reproduction of the Ondes Martenot. Robin Hatch, a NMC Artist in Residence alumna from Toronto performed on TONTTO, the largest analogue synthesizer in the world. This synthesizer, used by Stevie Wonder and the Isley Brothers, is visually striking, and watching Robin interact with the instrument was a once-in-a-lifetime experience. The second half of the concert featured pianist Karl Hirzer and cellist Josué Valdepeñas who presented a varied repertoire of twentieth-century compositions for cello and piano that incorporated the Ondéa, ARP 2600, and Moog Matriarch synthesizer.

The final day of the conference began with Francis Lapointe's Frederick R. Selch Award winning paper on the emerging Canadian instrument making trade in the 19th century through the exploration of the Mead family, and in particular, records relating to George Hooper Mead. Francis explored the pressure put on this maker as he competed with British and American makers in order to establish his business in Montreal. The second paper looked at beautiful, but silent musical instruments. This was presented by Arianna Rigamonti, who explored the cultural context of Italian marvellous musical instruments. Made of precious materials, these objects were created for the eyes, rather than the ears, and although not functional, they illustrate the aesthetics of the time in which they were made. The third paper again looked at "silent" instruments, but this time the silence was for function. Jörg Holzmann and Patrick Speckamp's remote presentation "Clicking the Ivories," explored the Virgil Techniklavier, a practice piano which only makes a slight clicking sound when played. The presenters gave interesting demonstrations of the practice techniques of the instrument.

After a break and time for socialising over Timbits, the next session began. This guitar-focussed session started with Jayme Kurland, who presented her research on the women instrument makers of Fender. In her paper, Jayme explored the lives of the women who worked at Fender and also discussed how paternalism played a large role in the employment of these women, who were hired by the company because they were a cheaper labor force who had a "tolerance for tedium." She also explored how these women are fetishized today by collectors who refer to their objects as "my Lupe" or "my Lilly" in reference to small pieces of masking tape stuck to the items which had the names of the women who made these objects written on them. This



Left: Robin Hatch performing on TONTTO. Right: Karl Kirzer and Josué Valdepeñas performing a composition for piano and the Ondéa. Photos by Edmond Johnson.

paper was followed by a lecture recital by Katalin Koltai. In her lecture recital, Katalin demonstrated a new magnet capo system and a guitar prototype, the “Ligeti Guitar,” and how this system can expand the guitar’s boundaries. The final presentation was given remotely by Erin A. Fitzpatrick, who looked at queer phenomenology and the St Vincent signature electric guitar—a commercially available guitar designed for women. The paper introduced many AMIS members to a new direction of organological research, as well as a new term: “technophallus.”

After the lunch break, the piano had its moment in the sun with two papers on early American-made instruments. First up was Thomas Strange’s look at the nascent American piano industry by exploring the instruments and advertisements of some of America’s first builders, including John Sheybli and John Behrent. Tom’s paper highlighted instruments in the Sigal Music Museum and noted how the budding American piano industry may have been smaller than that of its European counterparts, but it was no less sophisticated. Complementary to Tom’s paper was the next presentation by John Watson. John’s paper focused on a very early upright piano that he argued was made by John Clemm, who immigrated to Pennsylvania in 1733 and was America’s first professional keyboard maker, making this instrument America’s oldest piano. The instrument, which is part of the collection of the Moravian Historical Society in Nazareth, PA can now be “heard” via a reproduction instrument made by John and Tom Winter and this presentation included a video of the reproduction being played. The timbral difference between the brass-tipped hammers and the leather-tipped hammers was a pleasure to hear.

Finally, after one last coffee break, our final paper session of the conference began. This session returned to an electronic focus, with a remote presentation by Thom Holmes, who explored how the radio was used as a musical instrument. In his paper, he expanded on this concept by exploring five composers who used the radio in their experimental compositions. Starting with John Cage with his 1956 composition *Radio Music*, Thom also brought to light considerations of performance, such as AM vs FM and the possible limitation of doing historically informed performances of these pieces as radio technology continues to change. The last session of the conference was an extended “brief history” of the Ondes Martenot by David Kean. Using his collection of Ondes Martenots gifted to the NMC as examples, David was able to show how this instrument developed from its inception in 1927-28 to today’s modern examples.

The last event of the conference was the banquet. Held in the “Bridge,” the fifth-floor connection between

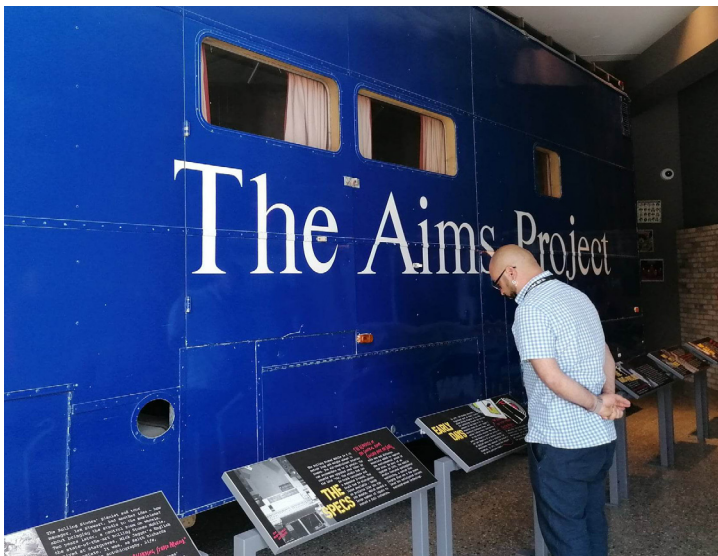
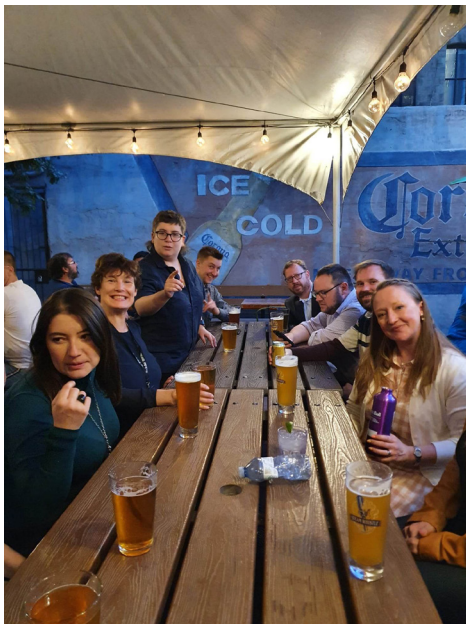


Staring down the extra long banquet table on the “Bridge” during the AMIS banquet. Photo by Edmond Johnson.

the NMC and Studio Bell, the location was a grand place to finalize the conference. Participants met for cocktails before being seated at an extraordinarily long banquet table. The dinner was served via different stations, a bit “street food” style, where diners could choose between different options that highlighted food traditions of Alberta. As everyone ate their fill, presentations took place, including the in-person presentation of the Selch Award to Francis Lapointe and Dominik Ukolov and the Curt Sachs Award to Stewart Carter. The recipient of the Frances Densmore prize, Amine Beyhom, and the Nicholas Bessaraboff Prize, Matthew Brennan, were not in attendance, but both were recognized during the banquet.

Eventually the evening wound to a close and another AMIS conference was in the books. Special thanks go to the organising committee and the team at NMC for their excellent hosting. The conference was exceptionally planned and the logistics of integrating remote presentations, along with the variety of performances of museum pieces was marvellous. It was a treat to finally see this museum in action, feel the energy of the space, and to see how important this space is to the community of Calgary.

🍷 Sarah Deters



Top left to right: the impressive Studio Bell complex, the historic King Eddy sign. Middle left to right: conference attendees after the banquet, some of the “living collection” instruments, costumes on display. Bottom left to right: the Rolling Stones Mobile Studio, historic recording equipment in use. Photos by Sarah Deters, Edmond Johnson, Nuria Bonet and Jonathan Santa Maria Bouquet.

INSTRUMENTAL IDENTITIES AND THE SOCIOMATERIAL HISTORY OF THE DOUBLE BASS

Shanti Nachtergaele

As a musicologist and practicing double bassist, my primary research interest is in the interface between performers and their instruments. My dissertation investigates developing identities of the double bass and double bassist in the period 1760–1890, exploring how performers navigated the musical profession and how instruments mediated this process. I examine this period in double bass history through the lens of sociomateriality, a theoretical framework borrowed from the field of organization studies, which centers on the notions that “relations and boundaries between humans and technologies are not pre-given or fixed, but enacted in practice” and that “the social and the material are considered to be inextricably related—there is no social that is not also material, and no material that is not also social.”¹ I therefore consider how identities of the double bass and double bassist were shaped by the sociomaterial entanglement of things, humans, and organizations in the forms of instruments, individuals, and institutions. I employ a variety of approaches ranging from the study of reception history to acoustic measurements and practice-based case studies. In this article, which draws from one chapter of my dissertation, I focus on the materials of the sociomaterial entanglement—that is, the instruments.

One of the challenges of exploring material culture and human-thing relationships in the history of the double bass is that the double bass as a *thing*, in the eighteenth and nineteenth centuries especially, is difficult to define. It was historically and remains today one of the least standardized instruments of the Western art music tradition. As one indication of its heterogeneity, sources dating between 1750 and 1900 give almost thirty different tunings for contrabasses with three to five strings. Circa 1800, four tunings were recognized as regional standards: Viennese tuning ($F_1-A_1-D-F\#-A$) used in Vienna and surrounding areas; French tuning (G_1-D-A); Italian tuning (A_1-D-G) also used in Spain and England; and German tuning (E_1-A_1-D-G). By circa 1900, German tuning had become the international standard, as it remains today.²

1 Wanda J. Orlikowski and Susan V. Scott, “Sociomateriality: Challenging the Separation of Technology, Work and Organization,” *Academy of Management Annals* 2, no. 1 (2008): 462; Wanda J. Orlikowski, “Sociomaterial Practices: Exploring Technology at Work,” *Organization Studies* 28, no. 9 (2007): 1437.

2 See, for example, Friedrich Warnecke, “*Ad Infinitum*” – *Der Kontrabass: Seine Geschichte und seine Zukunft, Probleme und deren Lösung zur Hebung des Kontrabaßspiels*, facsimile reprint (1909; Leipzig: Edition Intervalle, 2005), 15–19.

As another approach to the study of material culture, behavioral archaeology provides a useful complement to sociomateriality. Behavioral archaeology examines “the relationships between human behavior and material objects” ranging from prehistoric pottery to early electric cars, and invokes many of the same underlying principles as the theory of sociomateriality.³ The behavioral perspective emphasizes the significance of *performance characteristics* as distinct from an object’s formal properties. Performance characteristics are “capabilities, skills, or competences that material culture and people must have to perform their functions,” and unlike formal properties, vary according to the different contexts in which an object is used.⁴ Performance characteristics may be “utilitarian, social, or symbolic,” but they must be “behaviorally relevant”: they should be recognizable to the people who interact with the object and have the potential to influence their behavior.⁵

As proponents of behavioral archaeology, Michael Schiffer and James Skibo developed the *performance matrix* as a heuristic tool for comparing competing technologies or competing variants of a technology. They emphasize looking for “patterns of compromise,” based on “the premise that an artifact’s performance characteristics cannot all achieve high values in every use activity.”⁶ The performance matrix “clarifies which performance characteristics seem to have influenced acquisition decisions and also illuminates the resultant compromises in use.”⁷ Rather than relying on progress narratives that attribute the “demise” of one technology to “the inevitable triumph of a ‘superior’ technology,” an analysis based in the performance matrix explores the complexity of choices and compromises surrounding the adoption of one technology over one or more alternatives.⁸

The performance matrix shown in Table 1, which is based on Skibo and Schiffer’s model, compares the four regionally defined double bass tunings, ranking their relative values for the performance characteris-

3 J. Jefferson Reid, Michael B. Schiffer, and William L. Rathje, “Behavioral Archaeology: Four Strategies,” *American Anthropologist* 77, no. 4 (1975): 864.

4 James M. Skibo and Michael B. Schiffer, *People and Things: A Behavioral Approach to Material Culture* (New York: Springer, 2008), 29.

5 Ibid. 23, 29, 115.

6 Ibid. 115–116.

7 Ibid. 4.

8 Ibid.

tics deemed most behaviorally relevant in several use activities. The ratings are based on primary source descriptions as well as on my own practical experience playing the four tunings. Orchestral playing is divided into two activities: as part of a bass group—including at a minimum cello and double bass, but also encompassing basso continuo configurations with keyboard and other instruments; and as part of a double bass section—that is, double basses grouped together and separated from the cello section, as in the modern orchestra. The bass group function was the convention in the eighteenth and early nineteenth centuries, and the separation of the double bass section became more pronounced throughout the nineteenth century, alongside the growth of orchestras.⁹

The distinction between the bass group and the double bass section is behaviorally relevant since the sectioning-off of the double basses in the orchestra coincided with a reduced tolerance for performance practices such as octave transposition and bass-line reduction, which had been a matter of course in the eighteenth-century bass group (see Table 1, row 1a).¹⁰ As the expectation grew that double bassists would perform their part as written, a greater emphasis was placed on extending the instrument’s lower compass and increasing its technical facility in order to avoid these practices (rows 2a, 2d). Additionally, when the double bass was used almost exclusively to double the bass line at the octave below, a sound that blended with that of the cello and added depth would have been acceptable if not ideal (row 1b). As the cello and double bass were increasingly given independent parts, an articulate and full low register

that could stand on its own and support the whole orchestra would become more desirable (row 2b).

Eighteenth- and nineteenth-century sources describe double basses with fewer strings as having a “better tone,” and sounding stronger, clearer, and more distinct than those with more strings.¹¹ The Viennese bass, for example, was criticized for its tone quality, as well as for the tendency for its strings to buzz

| | Performance Characteristic | Viennese F ₁ -A ₁ -D-F#-A | French G ₁ -D-A | Italian A ₁ -D-G | German E ₁ -A ₁ -D-G |
|---|--|--|-------------------------------|--------------------------------|---|
| <i>Orchestral Playing: Doubled Bass Line (Bass Group)</i> | | | | | |
| 1a | Can double 8' bass line 8vb, transposing and simplifying as needed | + | + | + | + |
| 1b | Sound blends with 8' bass line to provide depth and support | + | - | - | +/- |
| 1c | Can avoid shifting (more notes in one position) | + | - | +/- | +/- |
| 1d | Reduces angular movement of the bow and need to twist body | - | + | + | +/- |
| <i>Orchestral Playing: Independent Line (Double Bass Section)</i> | | | | | |
| 2a | Can avoid transposition of low notes (extended lower compass) | +/- | - | - | + |
| 2b | Sound 'cuts through' orchestra (clarity in low register) | - | + | + | +/- |
| 2c | Avoids extraneous noise (buzzing, etc.) when playing forte | - | + | + | + |
| 2d | Can avoid shifting and simplifying (more notes in one position) | + | - | +/- | +/- |
| 2e | Reduces angular movement of the bow and need to twist body | - | + | + | +/- |
| <i>Solo Playing</i> | | | | | |
| 3a | Promotes use of higher registers (clarity, agility in higher registers) | + | - | - ^a | +/- |
| 3b | Left hand facility (ease of depressing strings) | + | - | - ^a | +/- |
| 3c | Can play themes/melodies in harmonics | + | - | +/- | +/- |
| 3d | Can avoid shifting (more notes in one position) | + | - | +/- | +/- |
| 3e | Reduces angular movement of the bow and need to twist body | - | + | + | +/- |
| <i>Conservatoire Training</i> | | | | | |
| 4a | Cellists can transition easily to double bass (same strings, fingering patterns) | - | + | +/- | +/- |
| 4b | Fingering patterns are amenable to institutionalized instruction (uniformity) | - | + | + | + |
| <i>String Manufacture</i> | | | | | |
| 5a | Ease of manufacturing functional lowest string | +/- | +/- | + | - |
| 5b | Can avoid use of wound strings | - | + | + | - |

^aExcludes the practice of virtuosos such as Antonio Dall'Occa, Luigi Anglois, and Giovanni Bottesini, who were known to use thinner strings tuned in scordatura for solo playing, which would also have increased clarity in the higher registers.

Table 1. A Performance Matrix for Nineteenth-Century Double Bass Tunings. Entries represent an approximation of a tuning’s performance value relative to the other three tunings. A plus (+) indicates a high value, a minus (-) indicates a low value, and a plus-or-minus (+/-) indicates an intermediate value.

⁹ See Tim Carter and Erik Levi, “The History of the Orchestra,” in *The Cambridge Companion to the Orchestra*, ed. Colin Lawson (Cambridge: Cambridge University Press, 2003), 3–8; John Spitzer and Neal Zaslaw, *The Birth of the Orchestra: History of an Institution, 1650–1815* (Oxford: Oxford University Press, 2004), 148–52, 317–19, 344–52, 534–50.

¹⁰ See Shanti Nachtergaele, “From Divisions to Divisi: Improvisation, Orchestration and the Practice of Double Bass Reduction,” *Early Music* 46, no. 3 (2018): 483–500.

¹¹ See, for example, Johann Joachim Quantz, *Versuch einer Anweisung die Flöte traversiere zu spielen* (Berlin: Johann Friedrich Voß, 1752), 219; Ignaz Jeitteles, *Aesthetisches Lexikon* (Vienna: Carl Gerold, 1835), 1:164; “Il Congresso musicale a Milano” *Gazzetta musicale di Milano* (June 19, 1881): 232.

against each other or the fingerboard when bowed too forcefully (row 2c).¹² By contrast, the sound of the three-string Italian double bass was described as “rich,” “violent,” “robust,” and “round” (row 2b), making it preferable to instruments with more strings.¹³ Although many favored the sound of the three-string double bass, there came a point when the extension of the lower compass was thought to be worth a sacrifice in sound (compare rows 2a and 2b). This debate was central to a Musical Congress on orchestral practices held in Milan as part of the 1881 Italian National Industrial Exposition, which led to the adoption of the four-string instrument by the entire double bass section at La Scala in January 1882, despite objections from principal double bassist Luigi Negri. Published proceedings reveal that although many agreed that the three-string double bass sounded better, the extended lower compass of the four-string double bass (in German tuning) was determined to be a greater priority.¹⁴

In order to further investigate the performance characteristics of different tunings, I commissioned a new instrument that can be set up with three, four, or five strings (Figure 1). The instrument was built by Tom Wolf in Virginia and has interchangeable necks (one for the five-string Viennese tuning with frets, and another for three- and four-string tunings) and three different bridges (one for three-string setups, one for either three- or four-string setups, and one for five-string setups). Gut strings were custom-made by Gamut Strings on consultation with Dan Larson to produce an equivalent total tension for each setup. Working with Douglas Beaton, a colleague in Music Technology, I took bridge admittance measurements of the commissioned instrument set up in its various tunings. The measurement procedures involved exciting the bridge with an impact hammer that measures input force and recording the output response with a Laser Doppler Vibrometer (LDV), using the setup shown in Figure 2. This data is used to graph a frequency response function, which represents the relative strength of the instrument’s resonant frequencies.¹⁵



Figure 1. Double bass with interchangeable necks, tailpieces, and bridges for three-, four-, and five-string tunings, made by Tom Wolf, in German tuning setup (left) and Viennese tuning setup (right). (Photos courtesy of Tom Wolf.)

Figure 3 graphs the frequency response of the four tunings, showing a strong correspondence between the four curves up to around 600 Hz. Inconsistencies in this range can likely be attributed to the changes in setup needed for the four tunings: different bridges for different numbers of strings, and the separate neck and tailpiece for Viennese tuning. A more significant divergence occurs above around 800 Hz: the Viennese tuning curve drops off, while the French and Italian curves show a stronger response, with the German curve falling in between. Based on additional measurements we took of different tunings on each bridge (Figure 4), the frequency response in this range appears to be affected by elements of bridge design, such as mass, waist width, or arching of the legs.

These measurements are only a first step in exploring the relationship between historical tunings and double bass acoustics. Additional studies are needed to determine which features of the bridge affect frequency response, to what extent, and how these affects might be perceived in practice. Furthermore, bridge admittance alone does not give a full picture of the instrument’s timbral characteristics. The measurements do not account for how the string excites the bridge, how the bow interacts with the string, or how the instrument radiates sound into a performance space; however, even without providing conclusive answers, the results highlight the importance of exploring sound more thoroughly, along with technical and musical characteristics, when

12 Leopold Mozart, *Versuch Einer Gründlichen Violinschule*, 2nd ed. (Augsburg: Johann Jacob Lotter, 1770), 3; “Nachrichten” *Allgemeine musikalische Zeitung* 3, no. 3 (October 15, 1800): c.42; “Etwas über den berühmten französischen Violoncellisten Lamare,” *Berliner musikalische Zeitung* 2, no. 26 (1806): 103; “Abhandlung über Instrumente und Instrumentirung,” *Allgemeine musikalische Zeitung* 30, no. 23 (June 4, 1828), c.371; Jeitteles, *Aesthetisches Lexikon*, 1:164.

13 “Atti del Congresso dei musicisti italiani riunito in Milano dal 16 al 22 giugno 1881,” *Gazzetta musicale di Milano* 36, no. 29 (July 17, 1881): 264; no. 37 (September 11, 1881): 327.

14 “Atti del Congresso,” (July–November, 1881): 256, 263–65, 271, 312, 327–28, 408. See also “Gli ugonotti al teatro alla Scala,” *Gazzetta musicale di Milano* 37, no. 4 (January 22, 1882): 31.

15 See Joseph Curtin, “Measuring Violin Sound Radiation Using an Impact Hammer,” *Journal of the Violin Society of America* 22, no. 1 (2009): 193.

examining the standardization of double bass tuning that occurred over the course of the nineteenth century. Taking a behavioral approach and considering an instrument’s sound as a performance characteristic can provide insight into the values and priorities held by the musical communities who used that instrument. More broadly, behavioral archaeology’s emphasis on choices, compromises, and the contextualization of a technology’s material features in action and in interactions offers a promising approach to expanding our understanding of how musical humans—be they performers, composers, luthiers, or others—interact with musical instruments.

Author’s note: This article has been adapted from papers presented at the annual meetings of the American Musical Instrument Society (Calgary 2022) and American Musicological Society (New Orleans 2022). I am grateful for the research and travel support provided by a Vanier Canada Graduate Scholarship, the American Musical Instrument Society, the American Musicological Society, and the Centre for Interdisciplinary Research in Music Media and Technology. I would also like to thank Douglas Beaton and Gary Scavone, whose invaluable expertise and assistance made the acoustics portion of this project possible.



Figure 2. Setup for bridge admittance measurements (left), and close-up showing impact hammer and LDV alignment with the bridge (right).

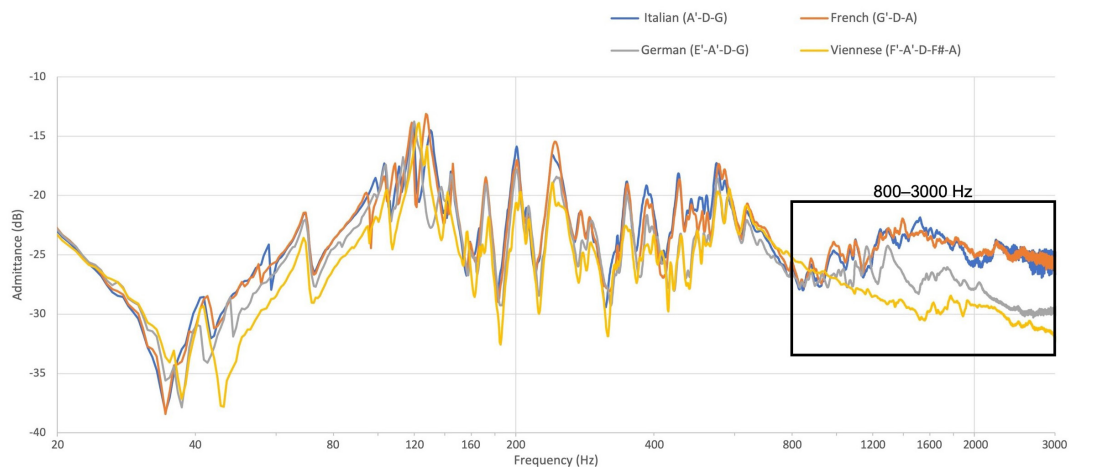


Figure 3. Bridge admittance measurements for four historical double bass tunings.

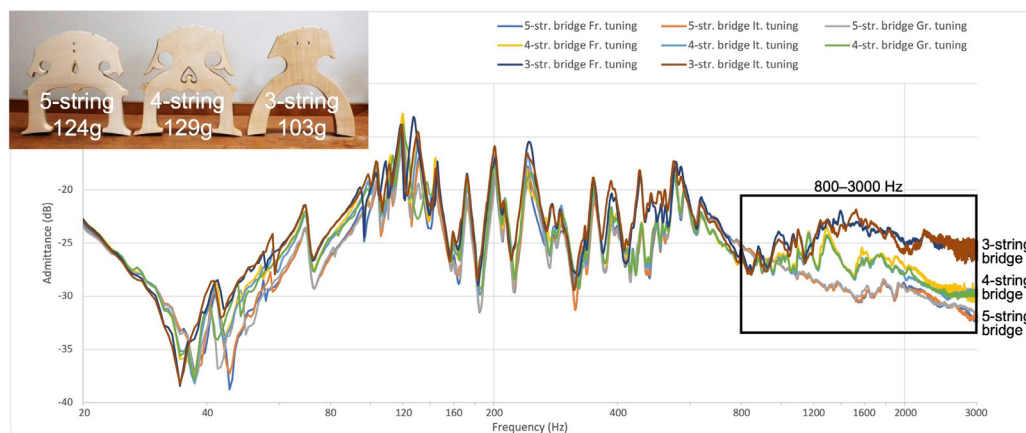


Figure 4. Bridge admittance measurements for French, Italian, and German tunings on three-, four-, and five-string bridges. (Note: Several of the tuning-bridge combinations represented in this graph produce non-playable setups, and were used only to provide admittance data).



A MYSTERY (PARTIALLY) SOLVED

Robert Pyle

At the close of the AMIS business meeting at our recent annual meeting in Calgary, I pointed out a peculiarity in the picture on the front cover of our annual membership directory. This picture shows a group of musicians happily performing together. Their attire appears to me to be early eighteenth century, although I am no clothing expert. There are eight instrumentalists playing a harpsichord, a flauto traverso, an oboe, and five bowed strings of various sizes. The harpsichord, flute, and oboe are shown mirror image from what one would expect. That is, the bentside of the harpsichord is to the player's left, the flute projects to the player's left, and the hands of both woodwind players are reversed. One of the bowed-string players has his instrument tucked under his arm, but the others all hold the bow in the right hand and grip the neck and fingerboard with the left hand, as one would expect. Why this discrepancy?

Mirror-image pictures are usually produced by a woodcut or etching, where the artist depicted what he or she saw and the reversal happens in the printing. The woodcuts depicting musical instruments in the *Theatrum Instrumentorum* of Michael Praetorius, dating from 1620, are examples of this familiar to many AMIS members. My first hypothesis was that our directory cover image is a composite made from two pictures, one the right way around, one a mirror image copied from an etching or woodcut.

I posed two questions to the assembled multitude at the meeting. Had anyone else noticed the contradiction in the picture? No one had. Did anyone know the source of the picture? No one did. President Janet Page suggested that I might look into this and write up my findings for the Newsletter. And so I have.

After returning home, I went to the internet and searched for various phrases like “pictures of Baroque musicians performing”. I looked through several thousand pictures without success. Then my son told me Google could search for images as well as text, which I had not known. I scanned the cover image, uploaded it to Google, and quickly found the picture on several websites including the Metropolitan Museum of Art in New York¹ and the Dayton C. Miller Collection² of flutes

1 www.metmuseum.org/art/collection/search/399163

2 www.loc.gov/item/musdcmicon.0343/



Figure 1. *Mary's Chappel*. Etching by Jane Ireland. Courtesy of the Metropolitan Museum of Art.

at the Library of Congress. Both of these sites say the picture is an etching used to print tickets for a concert at St Mary's Chappel, engraved by Jane Ireland in 1799, after an original by William Hogarth (1697–1764) (Figure 1). Ms. Ireland copied the ticket from an earlier source for her father, Samuel Ireland, who was amassing a collection of prints by Hogarth.

Hogarth was English, so my next stop was the website of the British Museum. After looking at about 2500 pictures by or about Hogarth, I struck real pay dirt. Figure 2 is the original concert ticket etching.³ According to the notes at the website, there was no London concert venue named “Mary's Chappel” at that time, but weekly meetings of the Edinburgh Musical Society were held at St Mary's Chapel⁴ in Edinburgh from 1727–53, and Figure 3 shows the upper floor window that match the windows shown on the ticket.

Each ticket would have been individually numbered, the number written by hand in the empty ellipse in the lower center. Hogarth designed and sketched the tick-

3 www.britishmuseum.org/collection/object/P_1868-0822-1646

4 Editor's note: Although the British Museum notes this as “St Mary's Chapel” the name of the building is in fact Mary's Chappel according to the historic maps held in the collection of the National Library of Scotland. See: *The plan of the city and castle of Edinburgh*, by William Edgar, 1742. <https://maps.nls.uk/view/102190561>

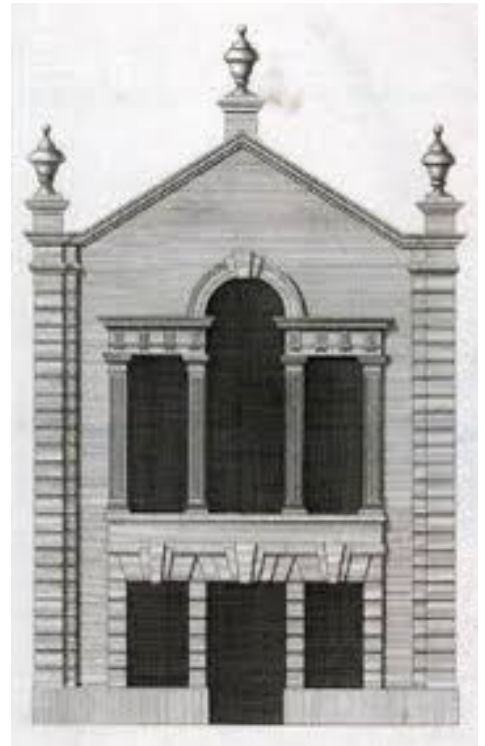


Figure 2. Concert ticket for the Edinburgh Musical Society. Etching by Gerard van der Gucht after William Hogarth. 1733-34. © The Trustees of the British Museum.

Figure 3. West elevation of Mary's Chappel from the book *Saint Cecilia's Hall in the Niddry Wynd* by David Fraser Harris, published by Oliphant Anderson and Ferrier, Edinburgh 1899.



Figure 4. *St Marys Chappel*. Drawing after William Hogarth. 1730-1837.


et, but the actual engraving for the etching was done by Gerard van der Gucht. Hogarth's name appears in the lower-left corner, van der Gucht's in the lower right.

Figure 4 shows what I believe to be the original sketch.⁵ It is unsigned and listed as "after Hogarth," but

my supposition is that the artist really was Hogarth. The British Museum dates it as 1733-1837, with the earlier end of the dating being a lot more consistent with the clothing than the 1799 Jane Ireland date. The harpsichord and the woodwinds are shown the right way around, but now the strings seem backwards. If I am correct that this is a Hogarth drawing, then it is clear that Hogarth drew them this way, but why? My initial guess that the etching was a composite of two pictures was obviously wrong.

A close comparison of the Ireland and van Der Gucht engravings shows that the AMIS directory cover is taken from Ireland.

So now we know that our picture is descended from a single sketch by William Hogarth, but not why Hogarth drew the bowed strings reversed left to right. One mystery has been solved, but the more interesting mystery (musically speaking, at least) has not.

Despite the frustrations encountered burrowing through the British Museum website, I'm glad I undertook this little project. I now know a lot more about William Hogarth than I did before. AMIS members might appreciate a satirical picture⁶ by Hogarth titled "The Enraged Musician." 

⁵ www.britishmuseum.org/collection/object/P_Cc-1-265

⁶ www.metmuseum.org/art/collection/search/403227

AS GOOD AS GOLD: THE FIRST 50 YEARS (1973–2023)

NATIONAL MUSIC MUSEUM KICKS OFF 50TH ANNIVERSARY YEAR WITH SPECIAL EXHIBITION

Ana Maria Silva

The National Music Museum (NMM) is celebrating 50 years in the making with a special exhibition “As Good as Gold: The First 50 Years (1973–2023).” Since its official inception in 1973, the NMM has collected musical instruments and related materials spanning five centuries. That is 500 years of history, tradition, innovation, and music-making. Today, the NMM holds one of the world’s premiere collections of musical instruments.

Beginning on January 20, “As Good as Gold: The First 50 Years” will be featured in the Jason and Betsy Groves Special Exhibition Gallery and will run through October 2023. Admission is free and open to the public on Wednesdays, Thursdays, and Fridays from 10 a.m. to 4

p.m., and on Saturdays from noon to 4 p.m.

“As Good as Gold” will explore the function of collecting in museums with a particular emphasis on how the NMM collection originated and evolved. From the founding collection to recent acquisitions, the exhibition will feature some of the treasured instruments that shaped the NMM’s collecting during its first 50 years of history.

Five “timeline” themes will highlight a particular period in the history of the NMM collections:

- “Filling The Gaps” describes the period of collecting that happened after the donation of the founding Arne B. Larson Collection in 1979. A selection of early woodwind instruments and a harpsichord collected during this time illustrates the intention to “fill in the gaps”

in the European collection, particularly in the areas of 16th- to early 19th-century instruments. Included in this group are a 1793 basset horn from Prague (NMM 3541); a ca. 1720 oboe from Amsterdam (NMM 4547); a ca. 1700–1725 tenor recorder from Brussels (NMM 4879); an original Adolphe Sax, ca. 1861 tenor saxophone (NMM 4039); and a 1659 Flemish harpsichord (NMM 3985) from Antwerp.

- “Once In A Lifetime” is the phrase used when the famed Witten Collection of early Italian stringed instruments became available in 1984, and NMM Director André P. Larson recognized a “once-in-a-lifetime” opportunity to seize the collection and secure the museum’s identity as a major cultural institution. Today known as the Witten-Rawlins Collec-

tion, the selection of instruments in this group includes the Amati “King” cello (NMM 3351); a Stradivari violin (NMM 3598) and guitar (NMM 3976); a ca. 1538 cittern from Urbino (NMM 3386); and the 1767 Antunes piano (NMM 5055).

- “Crescendo” represents the period of growth of the NMM collections between the 1980s and 2000s. Instruments from this group represent the strategic intent behind the opportunities to collect: a C. G. Conn saxophone exquisitely engraved by master Stenberg (NMM 5070); a natural trumpet from Nuremberg workshop founder Haas (NMM 5071); an early 17th-century rubab made in the Pamir Mountains (NMM 5580); a Stradivari mandolin (NMM 6045); a Grenser clarinet (NMM 7385) and a Naust transverse flute



Press Release image for NMM special exhibition “As Good as Gold: The First 50 Years (1973–2023).”



Exhibits from “As Good as Gold: The First 50 Years (1973–2023)” installed in the Jason and Betsy Groves Special Exhibition Gallery. Photo by Ana Silva.

(NMM 10113), among the oldest European woodwinds presently at the NMM.

- “Utley and Bates” represents the two major collections that the NMM acquired at the turn of the century—the Joe R. and Joella F. Utley Collection of Brass Instruments (1999) and the Alan G. Bates Harmonica Collection (2000). Only four, from a grand total that exceeds 3,000 instruments, were selected to highlight these two major acquisitions. From the Utley Collection, a Haas miniature horn (NMM 7213), and a custom-made Taylor trumpet (NMM 7316). From the Bates Collection, a Trumpet Call harmonica (NMM 8293), and a paddlewheel harmonica (NMM 9212).
- “Fine-Tuning” represents the philosophy of sustainable collecting that the NMM adopted in the new century. The selection of instruments in this final group represents acquisitions that were deliberate and informed: one of the last well-documented Amati violins (NMM 14470); a 130-year-old Lot flute (NMM 14792) that influenced the design of modern orchestral flutes; an exceptional custom-made trombone for the 19th-century virtuoso performer Arthur Pryor (NMM 15084); a rare 16th-century English viola da gamba (NMM 15629), and a rarer 16th-century Italian polygonal virginal (NMM 15652), both with well documented provenance history; and finally, a Native American rattle (NMM 15664) and drum (NMM 15667) from contemporary Indigenous artists.

The NMM is now committed to responsible and targeted collecting, which emphasizes objects with well-known provenances, most often enhanced by outstanding previous ownerships, fundamental and/

or unique characteristics, and greatest impact in the forms of educational resource and exhibit potential.

The special exhibition includes a Creation Station with family-friendly activities inspired by instruments on display where visitors can design their own trumpet, craft a functional harmonica, or make crowns inspired by our Amati “King” cello decoration. For both visitors and educators, a special Activity Booklet is also available for “NMM learners” to “look, wonder, dream, and connect” with the exhibit. The booklet is free and can be requested at the front desk or downloaded online on the NMM website. The exhibition is also accompanied by a limited-edition catalog featuring an essay by the curator, historical photographs, and more details about each instrument on display. The catalog is available for purchase through the NMM gift shop or online through the NMM website.

The NMM is thankful for major support provided by Clayton & Odessa Lang Ofstad Foundation, and additional support from Martin Guitar Charitable Foundation, City of Vermillion, and South Dakota Arts Council, all of which made this exhibition and accompanying materials and activities possible.

In addition to the special exhibition, the NMM gift shop and NMM Live! concert series will also be in full swing this spring and summer. Unless otherwise noted, all concerts will be held at the NMM Janet Wanzek Performance Hall and are of free admission. More information can be found on our Facebook page, or online at nmmusd.org.



NEWS FROM THE LIBRARY OF CONGRESS

Carol Lynn Ward-Bamford

Recent acquisitions:

- The Sidney Forrest Collection. Sidney Forrest was a clarinetist with the Marine Corps Band and the National Symphony Orchestra, and professor of clarinet at Peabody, Catholic University of America and American University. He was a keen collector of wind instruments. The gift consists of mostly flutes and fifes including instruments by A. Hopkins, George Cloos, Eisenbrandt, and an early one-keyed Metzler flute. Gift of Paula Forrest.
- Nine woodwinds from the Estate of Barbara Olive Trauffer, including a fife by Crosby, 8-keyed flute by C. Peloubet (serial number 599), flute by C. G. Conn (serial number 9451), clarinet by Martin Freres (serial number C6548), and a one-keyed wood and an ivory flute by J. Hale. Gift of Wilda Heiss.
- Two flutes by Claude Laurent. One of glass, dated 1819, and the other of wood. Dayton C. Miller Flute Collection Fund.



Violin post conversion. Image courtesy of the Library of Congress.

Amati Conversion Project:

In 2022, the Library of Congress converted the 1654 “Brookings” Nicolò Amati (gift, Mrs. Robert Somers Brookings, 1938) back to a baroque set-up. The work was done by John Montgomer, who referenced the National Music Museum’s 1613 Girolamo Amati violin piccolo (03361). The work brought the instrument to as close as it may have looked when it was built in 1654 and included grafting a new neck, bushing the e, d, and g peg holes, fitting period style pegs, new nut and inlaid maple fingerboard with matching tailpiece, baroque style saddle, endpin and replacing wood to the top where needed. Rachel Podger had the honor of premiering it in concert in November, and it’s quite amazing sounding!



IN MEMORIAM: AMINE BEYHOM



Amine Beyhom died peacefully in his home on December 27, 2022. Dr. Beyhom was the recipient of the 2022 Frances Densmore Prize from AMIS. Dr. Beyhom trained as a civil engineer as well as a musician (guitars and bass) and a composer. After obtaining his MA from the École Nationale des Ponts et Chaussées (ENPC) in Paris, he worked as a research engineer in France, then changed the course of his life to become a professional musician and composer, firstly in France then in Lebanon, while learning the *ūd* and founding his own music production company, Experimental Art Concept, one of the first experimental record labels in the Middle East. He was responsible for a wealth of festivals that brought international and local artists together in Lebanon.

Beyhom completed his PhD in 2003 at the Sorbonne University, Paris, and his Habilitation at the same university in 2010. He later received the title of Professor in Music and Musicology. Dr. Beyhom published articles on numerous topics including Byzantine chant, the theory of music, and Orientalism in musicology. He taught at universities in Lebanon and France, and in 2011 he founded the Centre for Research on the Music of Arabian and Akin countries (CERMAA), which he led until his death. In 2018 he established [the] VIAMAP (the Video Animated Music Analysis Project), which has produced more than sixty video analyses. He was awarded the Lois Ibsen Al-Faruqi triennial Award by the Society for Ethnomusicology in 2017. He was active as a music analyst and videographer, as Chief Editor of *Near-Eastern Musicology Online*, and as the head of the CERMAA research center. He delighted in conducting workshops with international students on various themes, most recently Artificial Intelligence and Music.

