

The American Musical Instrument Society

Founded in 1971

Forty-Seventh Annual Meeting

May 23-26, 2018

**Bethlehem and Nazareth, Pennsylvania
Hosted by Moravian College**

Program and Abstracts

The American Musical Instrument Society

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Program and Local Arrangements

Laurence Libin (chair), Stewart Carter, Blair Flintom (Moravian College), Dick Boak (Martin Guitars), Willard Martin (Martin Harpsichords), Paul Peucker (Moravian Archives) and Megan van Ravenswaay (Moravian Historical Society)

The American Musical Instrument Society extends its gratitude to friends, organizations, and others whose cooperation has supported this meeting:

Moravian College
Moravian Archives, Northern Province
Moravian Historical Society
Historic Bethlehem Museums & Sites
C. F. Martin & Company
Martin Harpsichords
Fegley Brewworks

PROGRAM

Moravian College

Priscilla Payne Hurd (South) Campus

See map at www.moravian.edu/about/campus/priscilla.

Peter Hall and Hearst Hall are on the second floor of the brick building at 348 Main Street, at the corner of Church Street and adjoining the stone Single Brethren's House. Use the north side entrance through the Single Brethren's House, in the narrow passageway next to Main Residence Hall. Clewell Dining Hall is on the ground floor. The Hill is behind these buildings (see map). Abby Dominick, the College's Summer Conference Assistant, can be reached at 484-575-1742 for questions or lockouts.

The Early American Industries Association (EAIA) meets in Bethlehem at the same time as AMIS and some EAIA events are open to AMIS members and the public, as noted below.

Wednesday, May 23

2:30-5:30: Check-in and registration at The Hill (Check-in at Comfort Suites from 3 pm)

[EAIA public tool and book trading, Comfort Suites parking lot, noon-5]

Dinner on your own, recommended at McCarthy's Red Stag Pub, 534 Main Street (entrance around the corner on Walnut Street)

Board of Governors dinner meeting, 6-10 pm at the Red Stag Pub, private dining room
Reception for Gibbon Scholars at the Red Stag Pub

Thursday, May 24

8 Hearst Hall: Registration

8:30-9 Peter Hall: Welcome by Carol Traupman-Carr, Associate Provost and Professor of Music, Moravian College; Gibbon Scholar introductions

9-11 Peter Hall: Chair: Allison Alcorn

Stewart Carter. From Saxony to Bethlehem and Beyond: Commerce in Musical Instruments of the Moravian Brethren in America

Darcy Kuronen. The Keyboard Instruments of Emilius N. Scherr

William E. Hettrick. Another Kind of Pitch: American Piano Advertising in the "Gilded Age"

Hannah Grantham. Iranian Instrument Makers in America

11-11:30 Hearst Hall: Coffee break courtesy of Moravian College, silent auction display

11:30-1:30 Peter Hall: Chair: Matthew W. Hill

Rick Meyers. Ritual and Regalia: the Odd Fellows' Curious "Self Playing Harps for David"

Arian Sheets. Between Old and New: Changes in Vogtlandish Stringed Instrument Production and C. F. Martin

Lynn Wheelwright. A Path Not Taken? The Early Electric Guitar in America and Surprising Letters in the Martin Company Archives, 1933-35

Dick Boak. An Overview of C. F. Martin's Museum and Archives

The paper by Nick Pyall originally scheduled for this session cannot be presented in person because a visa delay prevented Dr. Pyall's attendance. His paper is printed at the end of this booklet.

1:45-2:30 Box lunch on bus to Nazareth

2:30-5 Moravian Historical Society, Tannenberg organ demonstration; American Archtop visit

5:15 Bus to C. F. Martin & Company

5:45-7:30 Martin Guitar Museum reception, tour, and music by guitarist Robert Green

8 Buses back to Bethlehem, dinner on your own

Friday, May 25

9-10:30 Peter Hall: Chair: Carolyn Bryant

Jimena Palacios Uribe. The Brass Bands of Santiago Chazumba in Oaxaca, México: a Historical Reconstruction

Stephen Cottrell. The Saxophone in Britain at the Turn of the Twentieth Century

Jayme Kurland. Fine-tuned Design: The Musical Instruments of John Vassos

10:30-11 Hearst Hall: Coffee break courtesy of Moravian College, book display

11-12 Peter Hall: Chair: Anne Acker

Charles Pardoe. Reconstructing "the Kindian lute": an Invitation

Stephen Birkett. Joseph Webster's Music Metal

12-12:45 Peter Hall: AMIS business meeting

1-2:30 Clewell Dining Hall: Catered lunch

1:30-2:30 Peter Hall: JAMIS editorial board meeting

2:30 Campus bus, drive, or walk one mile north along Main Street to Moravian Archives, 41 W. Locust Street. Parking is available behind the Archives building; enter lot from Locust Street

3-5:30 Moravian Archives: Beer tasting, view exhibition “Sing, O Ye Heavens: Moravian Music and Instrument Making” (www.moravianchurcharchives.org/programs/exhibits/)

Optional: visit Historic Bethlehem Museums & Sites (Moravian Museum, Kemerer Museum, Gemein Haus, Goundie House, Mill, Industrial Quarter); Willard Martin shop; Sigal Museum in Easton PA

[EAIA tool auction at Comfort Suites, viewing 4:30, auction 6-10 pm]

6-7:45 Dinner on your own

8- The Hill third-floor classrooms:

Working Group on Collection Management for Universities, Colleges and Conservatories, chaired by Kathryn Libin

Collectors’ Roundtable: “Collecting for the Future: Options for Private Collections,” chaired by Mimi Waitzman

Saturday, May 26

[8-noon EAIA tool trading and displays, Moravian Industrial Quarter]

8:30-10:30 Peter Hall: Chair: Sarah Deters

Hayato Sugimoto. Emergence of Inexpensive Instruments in Industrial Britain: a Case Study of Harp Lutes by Edward Light

Byron Pillow. Mid-Century Fraud, American Murder, and the King’s Forgotten Lute

Alexandra Cade. Music for All: Amateur Piano Making in Antebellum America

Geoffrey Burgess. Live from the Metropolitan Museum, 1955: Instruments of Bach’s Orchestra

10:30-11 Hearst Hall: Coffee break, silent auction display

11-12 Peter Hall: Chair: Edmond Johnson

Will Peebles. An Unstamped “Boehm-System” Bassoon

Daniel Fox. Does it Matter Which Room Alvin Lucier Sits In?

12-2 Lunch on your own, pick up silent auction purchases

2-4 Peter Hall: Chair: Arian Sheets

Cleveland Johnson, Michele Marinelli, Jere Ryder. To Play or Not to Play:
Capturing the Intangible from the Tangible

Luca Rocca. Under the Dust: the Conservation Treatment of an Eighteenth-
Century Salterio

Jonathan Santa Maria Bouquet, Arianna Rigamonti. Violins, Pochettes, or Mute
Violins? Shining a Light on the “Violins without Sides”

Daniel Wheeldon. 3D Printing in Brass: Implications for Historical Reproduction

[Comfort Suites: EAIA session with Henry Disston musical saw demonstration]

5:30 Clewell Dining Hall: pre-banquet cash bar

6-8 Clewell Dining Hall: banquet, awards presentation

8 Peter Hall: recital by Bradley Brookshire, harpsichord, Lautenwerck, organ

Sunday, May 27

7:30-9:30 a.m.: Check-out time at The Hill

12 noon: Check-out deadline at Comfort Suites

The American Musical Instrument Society takes pleasure in announcing the following awards, to be conferred at this annual meeting:

Tony Bingham is the recipient of the **Curt Sachs Award**, the Society's highest award, which honors those who have made outstanding contributions toward the goals of the Society – to promote the understanding of all aspects of the history, design, construction, and usage of musical instruments in all cultures and from all periods. Tony Bingham receives this award in recognition of his passion and knowledge in the realm of musical instruments, benefitting a spectrum of people and collections; his indefatigable pursuits, bringing important instruments to light; his contributions to organological knowledge, publishing works of fine design and erudition; and his facilitation of dialogue among enthusiasts, curators, collectors, and scholars, cross-fertilizing the study of musical instruments while modelling the nature of connoisseurship.

Michael Fleming and John Bryan are recipients of the **Nicholas Bessaraboff Prize**, awarded annually for the best book-length publication in English in furtherance of the goals of the Society. They receive the prize for their book *Early English Viols: Instruments, Makers and Music* (Abingdon, Oxon. and New York: Routledge, 2016).

Yuanzheng Yang is the recipient of the **Frances Densmore Prize**, awarded annually for the best article-length publication in English in furtherance of the goals of the Society. He receives the prize for his article “Typological Analysis of the Chinese Qin in the Late Bronze Age,” in the *Galpin Society Journal* 69 (2016): 137–151.

The **Frederick R. Selch Award** was established in 2004 to honor the best student paper presented at an annual meeting of the Society. Papers will be judged by an appointed committee, and a prize of \$250 and a certificate will be awarded at the committee's discretion.

ABSTRACTS

Thursday, 24 May 2018, 9-10:30 AM
Allison Alcorn, Chair

Stewart Carter

*From Saxony to Bethlehem and Beyond:
Commerce in Musical Instruments of the Moravian Brethren in America*

In the early days of their settlements in North America, Moravians often sang chorales to the accompaniment of instruments and within a few decades they were also performing larger works by European and American composers. As their musical activities became more sophisticated, demand for musical instruments grew. Some of their instruments were manufactured in the New World, but many were imported from Europe.

More than 200 musical instruments made before 1900 survive in Moravian-related collections in America. Using these instruments and surviving documents as source material, my paper demonstrates that the Moravians' early commerce in instruments centered primarily on two locations in Saxony: Herrnhut, the headquarters of the church; and Neukirchen, an instrument-making center in the Vogtland.

Moravians in America often relied on agents in Herrnhut to procure instruments for them. Gottfried Weber in Herrnhut, for example, arranged for the shipment of brass instruments to Salem, North Carolina in 1784. The instruments probably were made by Johann Schmied of Pfaffendorf, a community not far from Herrnhut. Some fourteen instruments made by the Schmied family survive in Moravian communities in the United States.

Not long thereafter instrument makers and dealers from Neukirchen began to emigrate to America. In 1795 Christian Paulus arrived in Bethlehem, where he traded in musical instruments, and in 1817 his nephew, Heinrich Gütter, joined him. Gütter established a thriving music business, obtaining instruments from family members in Neukirchen and selling them to Moravian communities in the United States. The most prominent Neukirchen-born instrument maker in Pennsylvania, however, was Christian Friedrich Martin, who arrived in America in 1833. Martin made fine guitars in the Nazareth area, where the firm he established is still run by his descendants.

Stewart Carter is Past-President of both AMIS and the Society for Seventeenth-Century Music. Recent publications include (with Jeffery Kite-Powell) *A Performer's Guide to Seventeenth-Century Music*, 2nd edn. (2012) and *The Trombone in the Renaissance: A History in Pictures and Documents* (2012). He serves as Editor of the *Historic Brass Society Journal*. In 2012 the Galpin Society honored him with the Anthony Baines Prize. Carter holds an endowed professorship at Wake Forest University, where he teaches music history and theory and directs the Collegium Musicum.

Darcy Kuronen

The Keyboard Instruments of Emilius N. Scherr

Emilius Scherr was a Danish instrument maker who immigrated to Philadelphia in 1822, with a successful career there building pipe organs, reed organs, pianos, and guitars. Though a scholarly

article is forthcoming regarding his patented harp guitars, his keyboard instruments have yet to be studied. There are unfortunately no surviving pipe organs by Scherr, and only six square pianos from his shop have been discovered to date, which is surprising, given that he operated a manufactory from the 1820s through at least the end of the 1840s. Although his pianos are not especially progressive musically, the handsome bronze-powder stenciled designs often adorning their casework would seem to have dictated a higher survival rate, at least as furniture. Of particular interest is the recent discovery of two small reed organs by Scherr, one of which is labeled “Phys. Harmonika.” This wording solves the mystery of what Scherr meant when, during the mid-1830s, he advertised an instrument referred to only as a “harmonica,” which could easily have been construed to indicate musical glasses. These early reed organs are remarkable in many ways, and represent the only known examples of such instruments ever built in Philadelphia. Their five-octave range, from *FF* to *f3*, is exceptional in reed organs of this early period, and is made possible by rather narrow keys fitted into a relatively small case. The narrowness is surely because these instruments were intended primarily for a woman’s boudoir, underscored by the presence of several “workbox” compartments housed in a tray that folds down from inside the deep lid, all covered by a hinged panel with a writing desk on the outer surface and a mirror on the inside. I will offer preliminary findings about the history, design, and relevance of Scherr’s pianos and harmonicas.

Darcy Kuronen has worked since 1986 at the Museum of Fine Arts, Boston, where he is the Pappalardo Curator of Musical Instruments. He also serves as volunteer curator for the historical instruments owned by the Boston Symphony Orchestra. A specialist in early American instruments, he has written several articles and lectured widely on this subject.

William E. Hettrick

Another Kind of Pitch: American Piano Advertising in the “Gilded Age”

Piano manufacturing formed a considerable part of the American economy during the “Gilded Age,” and advertising was an important aspect of that enterprise. This paper examines the various features of piano advertising during the time and enumerates the several media employed to communicate the message, including the printed page, exhibitions, performance sites, and testimonials from performers and other celebrities. The constituencies that advertising was intended to reach will be identified, and pictorial and verbal methods used to persuade them will be described and quoted. A fine example of chromolithographic advertising created by the Sohmer Piano Co. will be examined. A major stylistic mode of advertising at that time was the literary genre of poetry, which evidently attracted the attention of readers to a degree that we may have difficulty appreciating today. Entertaining examples of poems from Chickering and Steinway ads will be quoted. In this vein, I have also discovered an extensive series of anonymous poems, heretofore undocumented, published from 1892 to 1894 in leading music-trade journals, advertising the “Crown” piano and organ, manufactured by the George P. Bent Co. of Chicago. This paper includes an analysis of the varied styles and contents of these verses, illustrated by a representative sampling of the collection provided in a handout. In addition, an account of a strange restriction of advertising in New York trade journals, mandated by the local association of piano manufacturers, will be presented.

William E. Hettrick has served AMIS as *Journal* editor, president, recipient of the Curt Sachs Award, and member of numerous committees. His musical-instrument research has produced a translation and study of Martin Agricola's *Musica instrumentalis deudsch* and several papers and articles related to American piano history, including a recent study of the piano-supply industry and the work of Joseph P. Hale. Hettrick's favorite hobby is searching for former piano factories.

Hannah Grantham
Iranian Instrument Makers in America

Currently there are six nations federally sanctioned by the United States Government, including the Islamic Republic of Iran. American sanctions against Iran have been in place since 1979 following the Revolution and overthrow of the Pahlavi dynasty. The United Nations subsequently sanctioned Iran in 2006 as a response to the country's uranium program. These international sanctions remain in place today and continue to affect the nation's culture and economy. The political and economic consequences of embargos, sanctions, and travel bans frequently appear in our news and social discourse, but they also cause detrimental impacts on cultural heritage and the fine arts that garner less attention. As museums continue to define their roles in twenty-first century society, promoting inclusive, multicultural experiences is an essential way to engage diverse museum audiences. Musical instrument collections are involved in these efforts and can be uniquely effective for making global connections.

But how do collectors and museums represent musical culture from sanctioned nations? The lengthy bureaucratic process often serves as a deterrent, discouraging attempts to acquire historical or contemporary objects from sanctioned nations. Perhaps the solution to the problem lies in commissioning active makers preserving their traditions outside of their homelands in countries like the United States or Canada. Iranians living in North America maintain many aspects of their cultural heritage, including music and instrument making. Purchasing instruments from makers living outside Iran allows museums to continue their representation of Iranian musical culture and enables them to act as an invested participant in the ongoing preservation of Iranian culture.

Hannah Grantham is an organologist with research interests in ethnomusicology and interdisciplinary connections between music and art. Her background in jazz and folk music instilled a deep appreciation of musicology and guided her to pursuing organology at the University of South Dakota. Hannah's academic research explores Iranian musical instruments and their development alongside the visual arts. After completing her degree, she looks forward to a museum career and cultivating diversity in organology.

Thursday, 24 May 2018, 11:30 AM-1:30 PM
Matthew W. Hill, Chair

Rick Meyers
Ritual and Regalia: The Odd Fellows Curious "Self Playing Harps for David"

At the turn of the twentieth century, in response to an American populace increasingly drawn to events containing pageantry and theatrics, fraternal organizations fearing a decline in membership

were compelled to modify their “dry” standardized rituals to make them more entertaining and appealing to potential new members. Following suit, regalia manufacturers anxious to profit from this new trend hastened to develop a tantalizing assortment of new lodge supplies. Among these was a line of stringed instruments exclusively designed for the Odd Fellows (IOOF) called “Self Playing Harps for David,” used in conjunction with conducting their “first degree” dramas.

To match the historical context of the Bible-based stories they were used in, Harps for David were fashioned in the likeness of “ancient” lyres and harps, with the curious addition of a music box built into the back of each instrument, controlled by an on/off switch situated along the top or side. While still playable in the usual way by plucking or strumming, the addition of this “automatic player,” mandated by Odd Fellows’ leadership, was purposely included for assuring that lodge members with little or no musical skill would feel secure in their ability to “play” the required musical interludes scripted in the enactments. Considering that these century-old instruments are still being used in degree rituals at IOOF halls throughout the United States, one cannot help being impressed by the quality and durability of these harps but also by the level of care they have received from lodge members that clearly value them.

The paper presentation will consist of photo documentation and sound recordings gleaned from a variety of models in the author’s collection and others at the National Music Museum; a detailed summary of the “secret” ceremony these harps are still used in; illustrations, descriptions and pricing scanned from regalia catalogs ca. 1910–1944; and a live demonstration of a music box temporarily extracted from a rare harp in the author’s collection.

Rick Meyers is an independent musical instrument historian, performer, multi-instrumentalist, and teaching artist specializing in traditional American music from Colonial times to the present. He is also director of the American Fretless Zither Project, dedicated to collecting, restoring, recording and exhibiting American-made fretless zithers (1882–1972), and producing publications that combine illustrations and narrative to interpret their story for the benefit of museum professionals and the general public alike.

Arian Sheets

Between Old and New:

Changes in Vogtlandish Stringed Instrument Production and C. F. Martin

C.F. Martin & Company is one of the oldest continually owned family companies in the United States, and one that sprung from an even earlier musical instrument making tradition in the Vogtland region. By the time Christian Friedrich Martin arrived in New York in 1833, his home town, Markneukirchen, was on the cusp of major changes that had been a long time in the making. Professional instrument production in the area had its roots in the seventeenth century and quickly the manufacture of musical instruments for distribution to a national and international market became an important part of the economy. Issues of concern to local makers included management of qualifications for artisans, relationships with distributors, and shifts in market demand as fashions for instruments changed. The complexities and speed of change would accelerate dramatically in the first half of the nineteenth century. Makers were faced with a variety of difficult options in order to adapt and many were ill prepared to understand what was happening and what was to come.

This paper will examine the commercial environment in which Christian Friedrich Martin got his start, local conflicts that affected him, and reasons that immigration to the United States

was appealing for someone of his skills and outlook. Additionally, it will look at the continued commercial relationship Martin had with his homeland and the complexities as those paths at once diverged but continued to affect one another.

Arian Sheets has been Curator of Stringed Instruments at the National Music Museum since 2001. She is the author of *The Masters' Bench; The Guitar-Making Workshop of D'Angelico, D'Aquisto, and Gudelsky* and has contributed articles and book chapters for a variety of publications concerning guitars, violins, and the instrument trade. She served as Contributing Editor, Stringed Instruments, and an author for the *Grove Dictionary of American Music*. She has a strong interest in economic aspects of the musical instrument trade as well as the impact of technology on instrument development.

Nick Pyall

Martin and Stauffer: Guitars, Connections, and Those Who Stayed Behind

A visa delay prevented Dr. Pyall's attendance. His paper appears at the end of this program.

Lynn Wheelwright

A Path Not Taken? The Early Electric Guitar in America and Surprising Letters in the Martin Company Archives, 1933–35

Technological developments in the first quarter of the twentieth century had laid the groundwork for the boom in electric instruments of the 1930s. Vacuum tube amplifiers, microphones, and speakers were rapidly developing and people were embracing the new technologies as they became more accessible and affordable. The increase of mains electricity to homes and workplaces enabled cumbersome batteries to be replaced with alternating current for the operation of radios, public address systems, and amplifiers/loudspeakers. Musicians quickly began to harness the technology for their own home-brewed experiments to amplify their instruments, but formal commercial marketing and sales of electric musical instruments did not begin in earnest until the early 1930s. The first companies to manufacture and launch electronically amplified stringed were Vivi-Tone of Kalamazoo, Michigan, and Ro-Pat-In (Rickenbacher Electro) of Los Angeles, which were founded in 1931 and had their products to market by fall 1932.

However, there were numerous other companies attempting to capitalize on the novel technologies, and a natural course of action was to contact and pitch their products to established, important members of the music industry. There are a number of letters in the archives of C.F. Martin & Co. documenting these pitches and their reception from company executives. This paper will examine the letters and discuss the companies who contacted Martin, their products, and the idea of add-on pickups for acoustic guitars in the period. In combination with sound clips and video of surviving examples of these guitars and pickups, this paper presents a tantalizing glimpse of a path not taken by Martin at the dawn of the electric guitar.

Lynn Wheelwright is a custom guitar builder and repairman with thirty-eight years of experience. His articles and photographs have been published in *20th Century Guitar* and *Vintage Guitar* magazines and he has contributed research and images to numerous books and articles. He has a collection of over 150 instruments and amplifiers from 1930 to 1942 that chart the

development of electric stringed instruments, many of which have been featured in museum exhibits he has co-curated on the history of the electric guitar.

Dick Boak

An Overview of C. F. Martin's Museum and Archives

My slideshow and synopsis explains how the C. F. Martin company was able to preserve and greatly extend its historical archives. In addition, I will outline the evolution of the Martin Museum from a small room with a few instruments into a significant exhibition area displaying more than 220 guitars and countless artifacts. This brief overview will provide the relevant background for the AMIS reception and museum tour with me later this evening.

Dick Boak worked for the Martin Guitar Company for 42 years until retiring in January 2018. He established Martin's Artist Relations and Limited Edition guitar program, which produced signature models for more than 100 legendary artists including Eric Clapton, Paul Simon, Jimmy Buffett, Mark Knopfler, Joan Baez, Johnny Cash, Willie Nelson, Tom Petty, John Mayer, Crosby, Stills and Nash, and Sting. Originally hired as a design draftsman, Dick has been a builder of prototypes, manager of Martin's sawmill, director of Martin's in-house advertising department and print shop, and more recently Director of C. F. Martin's Museum and Archives. Dick has authored six books about musical instruments and founded ASIA (The Association of Stringed Instrument Artisans). He is an accomplished and published illustrator, writer, designer, woodworker, guitar maker, and recording artist.

Friday, 25 May 2018

9-10:30 AM

Carolyn Bryant, Chair

Jimena Palacios Uribe

The Brass Band of Santiago Chazumba in Oaxaca, Mexico: A Historical Reconstruction

Oaxaca has been a very representative Mexican state for brass music since the nineteenth century. Its bands and musicians are recognized around the world, as they constitute an important manifestation of Mexican musical heritage. Santiago Chazumba, located at the North of Oaxaca, serves as a testimony for this. Following the discovery of thirty mainly European musical instruments in the choir of the Chazumba chapel, and after cataloging the music preserved, it is certain that the band was one of the largest and most important musical groups of the northern part of the State, known as the Mixteca baja. According to the documents found so far, the brass band was formed toward the end of the nineteenth century and ceased to play around 1919. Local musicians, who later became renowned in the Mixteca, emerged from Santiago Chazumba and encouraged the formation of other bands, thus extending the learning and musical practice to southern Puebla and northern Oaxaca.

This paper will demonstrate the development of the brass band from the information in the local archives, analysis of the musical instruments, and the preserved music. The study will also show who were the band musicians, how they acquired their instruments, the band's participation in the community, its representation in the region, and its impact on the change of

cultural and musical traditions at a time that looked forward to its modernization, combining both new and traditional ways of expression.

Finally, most of the approaches to the history of brass bands in Mexico have been based on the study of music and local documents; little has been said about musical instruments. It is therefore important for this research to demonstrate that large-scale manufacturing may have been decisive in the growth of bands from that century, in which they became definitive objects of exchange among musicians from communities eager to form national and regional brass bands.

Jimena Palacios Uribe is a conservator of musical instruments and historian. Her interests are related to cultural and economic history that involves the use of musical instruments, as well as the conservation and dissemination of Mexico's musical heritage. She coordinated the Musical Instruments Conservation Laboratory of the National School of Conservation (Mexico City, 2007–13). She studied professional practices at the National Music Museum (2008) and at the Musée de la Musique, Paris (2013). She is currently a researcher for the National Institute of Fine Arts (INBA) and is pursuing a Master's Degree in Modern and Contemporary History at the Dr. José Ma. Luis Mora Research Institute. In 2010 she received the William E. Gribbon Award from AMIS.

Stephen Cottrell

The Saxophone in Britain at the Turn of the Twentieth Century

From about 1880 through the end of World War I, Britain underwent a series of profound social, political and economic changes. A nineteenth-century national identity founded upon colonial networks and industrial power began to be re-assessed. Prevailing class distinctions were slowly eroded. In the arts, the hegemony previously enjoyed by the “legitimate” arts—including western classical music—was challenged by the rise of popular culture, which was increasingly appreciated by a population with expanding amounts of leisure time to fill. While the roots of these developments can be clearly identified earlier in the nineteenth century, by the turn of the twentieth century they were particularly acute, and were accompanied by profound changes in the social organization of musical performance (such as the establishment of self-governing orchestras). All of this impacted upon the production, dissemination, and use of musical instruments.

I shall consider the saxophone as a bellwether of these developments. The polyvalent identity that we ascribe to the instrument today was in part forged during this period. Less associated with the classical music tradition than other instruments, it nevertheless occasionally surfaced in the concert hall. It was adopted into military and wind bands, albeit less rapidly than in some other countries. It also became increasingly employed by popular music performers, who capitalized upon both its novelty and the relative ease by which it might be mastered. All of this was underpinned by developments in the manufacture and distribution of instruments, and the establishment of a local saxophone manufacturing base that reduced reliance on imported models. This paper will provide an overview of these developments, and ask what we can learn from the symbiotic relationship between the production of the instruments themselves and the musical and cultural contexts for which they were intended.

Stephen Cottrell is Professor of Music and Associate Dean at City, University of London. His research interests fall into three inter-related areas: ethnographic approaches to musicians and music-making; the study of musical instruments, especially the saxophone; and the study and

analysis of musical performance. His publications include *Professional Music-making in London* (2004), and *The Saxophone* (2013), the latter for which he was awarded the Bessaraboff Prize by the American Musical Instrument Society.

Jayne Kurland

Fine-tuned Design: The Musical Instruments of John Vassos

In the early 1930s, manufacturers employed freelance artists and designers, the new-minted “industrial designers,” to re-imagine household objects with attention to color, style, ergonomics, and new technologies. These fashionable new products were often more affordable, due to the rise of mechanization and mass production. Much has been written about industrial design history, yet designers who were hired by instrument manufacturers deserve more attention.

Many iconic instrument designs were done in house by company employees, however we know of a few designers hired to design musical instruments. In 1946, Gibson Guitar Corporation hired the firm of Barnes and Reineke to design the “Ultratone” lap steel guitar, and in 1962, enlisted automobile designer Raymond H. Dietrich to design the “Firebird” electric guitar. Artist and designer John Vassos (1898–1985) was the lead consultant designer for the Radio Corporation of America (RCA) for almost forty years, and much has been written about his designs, yet his instrument collaborations with RCA and Hohner are less known.

The “Storytone” electric piano was introduced at the 1939 New York World’s Fair. The piano’s streamlined modernist case and bench were designed by Vassos, while Story & Clark created the musical components and RCA designed and fabricated its electrical components. The “Storytone” was marketed as the first electric piano, which according to advertisements could “virtually supplant the conventional piano” with its “richer and more expressive” sound. Also in the late 1930s, Hohner hired Vassos to design the “Echo Elite,” “Regina,” and “Comet” harmonicas, with a focus on ergonomics and art deco aesthetics. After several prototypes, Hohner also produced Vassos’s “Marchesa” accordion in the 1960s. Using examples from various instrument collections, I will show how Vassos influenced musical instrument design beyond his creations.

Jayne Kurland has been the Curatorial Research Fellow in Musical Instruments at the Museum of Fine Arts, Boston, and was previously a curatorial assistant at the Musical Instrument Museum in Phoenix. Jayne received her B.A. in music history at the University of Oregon and her Master’s in music history at Arizona State University. Her research focuses on musical instruments, music and the Holocaust, accordions, and twentieth-century musical-instrument industrial design.

Friday, 25 May 2018

11 AM-12 PM

Anne Acker, Chair

Charles Pardoe

Reconstructing “the Kindian Lute”: an Invitation

A substantial literature addresses lutes and guitars in Europe since 1500. Less appreciated is the rich legacy of these and other fretted chordophones before that time. Today, several works attributed to the ninth-century “philosopher of the Arabs” al-Kindī are preserved in a few

manuscripts that display a sophisticated appreciation of such an instrument. In particular, one manuscript offers a complete account of a four-stringed lute that is said to follow closely the example of the ancient philosophers. These individuals, and their example, remain unknown from direct evidence, but the present author cautiously ventures that al-Kindī records a much earlier instrument than has hitherto been acknowledged: specifically, a characteristic Persian lute of ca. 400–700 C.E., which might even be traced to an archetypal “guitar” of ancient Greece.

Since at least 1895, evidence of a characteristic guitar of classical Antiquity has been mounting, but hardly touched. Reasons may include the declaration of one musicologist that the instrument was a “sham” after his belief that it could have been played like a lyre; alternatively, perhaps the area has simply fallen between the expertise of classicists, guitarists, and musicologists. Either way, I shall attempt to show, through more iconographical evidence than has been related in situ, that the sham thesis is improbable. More promising still is al-Kindī’s tuning: “his” lute is to use a system that can be attributed perhaps only to Didymus the musician, a scholar of great repute, but whose influence is known only via Ptolemy’s *Harmonics* and Porphyry’s *Commentary* on it.

Between a walkthrough of al-Kindī’s instructions, iconography from 500 B.C.E.–900 C.E., and a reconsideration of Didymus’s tuning, this talk is an invitation to any who might add to this conversation and all who enjoy guitars.

Charles Pardoe is reading for a Ph.D. in music at Sidney Sussex College, Cambridge. His previous thesis, on the problem of tuning guitars, encouraged him to delve further into the history of these most popular instruments. In assimilating the musical writings of the ninth-century “philosopher of the Arabs” al-Kindī, he hopes to expose the construction, tuning, and music of perhaps the earliest lute according to extant literary sources.

Stephen Birkett
Joseph Webster’s Music Metal

When Joseph Webster III finally developed a commercially and technically viable steel music wire, it was met by a weary piano industry that had suffered from many false leads with other steel music-wire products. Despite the widespread modern view that frequent metallurgical advances drove changes in piano design, there are surprisingly only two fundamentally different ways to make steel piano wire. One of these was discovered by Webster, the other by his eventual business partner, James Horsfall. This paper begins by explaining the nature of early attempts at steel wire and why they failed in the marketplace. Details of Webster’s revolutionary methods are given, deduced based on evidence obtained from analysis and physical testing of wire samples from historical pianos, as well as historical sources, including unpublished archival material. Webster’s contribution—“music metal,” as he called it—was ultimately made possible through his outstanding abilities as a steel maker, by which he was able to produce the raw material he needed for drawing. Broadwood was an early adopter of Webster’s wire, using it exclusively from 1831 to 1851. Other piano makers explored the capabilities of the new wire through the 1830s, cautiously evaluating it first with existing scaling intended for Berlin iron, before embracing it fully and adjusting their designs for the 1840s. Webster had an international monopoly on steel piano wire, prompting Chickering’s well-known request to Washburn to make a domestic product to displace the English. Webster’s monopoly continued until the 1850s, when Horsfall’s wire

appeared, heralding a second incremental change in piano design, and driving the founding of Steinway, Bluethner, and Bechstein in 1853.

Stephen Birkett is an Associate Professor of Systems Design Engineering at the University of Waterloo, Canada. His technical background is complemented by piano performance studies at the RCM, London. Birkett's research focuses on technology and design of historical and modern keyboard instruments and the physical properties of critical materials such as leather, felt, and wire. This work has been applied to the commercial production of authentic historical iron, steel, and brass music wires.

Saturday, 26 May 2018

8:30-10:30 AM

Sarah Deters, Chair

Hayato Sugimoto

*Emergence of Inexpensive Instruments in Industrial Britain:
A Case Study of Harp Lutes by Edward Light*

In early nineteenth-century Britain, economic growth caused by industrialization led to an increase in personal consumption. So dramatic was this economic growth that Edward Light, the inventor of a harp lute (a type of inexpensive instrument that was used as a fashion item), succeeded in business with a constant introduction of new models. Fast-forward nearly 200 years, and we find that Toyota has reduced by half the number of its car models. This was intended to increase productivity; perhaps as the car market reaches saturation and consumer spending declines, people are less greedy for possessions, particularly in economically advanced countries. If we interpret this 200-year trend as dynamic consumerism, the conventional measurement for the prosperity of a country solely depending on economic growth may no longer make sense.

This paper reconsiders the meaning of economic growth for the populace (consumers and manufacturers), exploring the roots of consumerism as applied to the musical instrument industry in Britain. As a case study, Light's series of harp lutes will be analyzed statistically, using his standard model as a criterion for the product that was sold in quantity. In conclusion, within a framework of socio-historical study, manufacturing of inexpensive instruments in a period of high economic growth, in which the basis of our sense of values for consumption was built, will be re-evaluated.

Hayato Sugimoto learned the skill of guitar making in England between 2000 and 2005. In 2005 he completed a B.A. in Music Technology (Musical Instruments) at London Metropolitan University, followed in 2009 and 2015 by a M.Mus. in Musical Instrument Research and a Ph.D. at the University of Edinburgh. Since 2016 he has been a part-time lecturer, researching inexpensive guitars used as "fast fashion" instruments manufactured between 1800 and 1970.

Byron Pillow

Mid-Century Frauds, American Murder, and the King's Forgotten Lute

In the throes of the Italian unification of the 1860s, history-minded *ébénistes* of Northern Sardinia, such as Ferdinando Pogliani, brought a newly revived style of Renaissance marquetry to

the forefront of Milanese cabinetry. Some half a century later, in 1906, on a warm summer night in New York City, renowned architect Stanford White was shot to death at the rooftop theatre of Madison Square Garden. Ninety-two years later still, in the parvenu's summer enclave of Newport, Rhode Island, an anonymous mandolin was removed from a gothic-revival cottage, the place it had called home for over a century.

It is often seemingly disparate events, unconnected to musical motive, that craft the fabric of an instrument's path through history. These paths leave their record outside the canon of typical organological inquiry, unknown until quaint circumstance brings them to the light of day. Such is the case of a recently rediscovered instrument in the collections of The Preservation Society of Newport County: the anonymous mandolin, now better known as a lute attributed in part to the polynymous Vvendelio Venere of Padua, 1574.

Here is presented the known life of this instrument and the many threads it wove, reaching out from the musical world to connect itself to the unexpected: the Pogliani revival style, the unprecedented Stanford White and his new-found Continental aesthetic, and the family estate of a merchant of the Old China Trade. Looking forward, plans and progress of this long-lived lute's conservation and reinstallation are revealed, returning a once prominent artifact to its Gilded Age home and the curious eye of the public.

Byron Pillow is a Research Fellow with The Preservation Society of Newport County, where he documents and explores the presence and implication of musical material culture in Gilded Age high society. He holds a Master's degree in the History of Musical Instruments from the University of South Dakota and pursues widely varied interests, including American aestheticism, French decorative arts, the history of the trombone industry, and cultural heritage digital imaging.

Alexandra Cade

Music for All: Amateur Piano Making in Antebellum America

In rural antebellum America, a curious convergence of piano production and exuberant creativity inspired craftspeople with little to no formal training to create their own keyboard instruments. Each amateur-made instrument deviates from the norm in construction, yet displays clear aesthetic influence from the conventional square piano form and showcases creative solutions to making intricate mechanisms that comprise some of the most complex objects extant in the early nineteenth century. Indeed, this was no small feat. Despite a bevy of work on the individual studies of antebellum piano production, vernacular craft, and amateur musicianship, very little is known about the presence of amateur piano making—a topic that puts these bodies of scholarship in conversation for the first time. The use of qualifiers like “amateur,” “vernacular,” or “folk” has had negative implications on the perceived quality and importance of these keyboard instruments, and has diminished the cultural significance of the few surviving examples. This paper confronts the presence of amateur-made pianos in the antebellum period as examples of a self-sufficient zeitgeist that is unique to the United States. Inspired by an American sociopolitical environment that inherently fostered innovation and self-sufficiency in craft traditions, I will consider how patterns of exposure, trade networks, and craft backgrounds catalyzed amateurs to construct their own pianos. Drawing upon surviving rural instruments and written materials, this presentation complicates the current understanding of amateurism within American craft and musicianship that speaks to a distinctive musical culture in the backcountry. In closely examining the larger

implications surrounding these unusual instruments, this paper calls for a renewed consideration of America's vernacular pianos as a remarkable testament to self-taught genius.

Alexandra Cade is a second-year fellow in the Winterthur Program in American Material Culture. She holds a Bachelor of Music in viola performance from the Eastman School of Music and a Bachelor of Arts in American History from the University of Rochester. After completing her undergraduate studies, Alexandra worked in Colonial Williamsburg as a Baroque musician and served as an apprentice harpsichord maker. At Winterthur she studies the material culture of music through instruments, sheet music, and soundscapes.

Geoffrey Burgess
“Live from the Metropolitan Museum, 1955”

In 1954 and 1955 Princeton University produced a series of over twenty thirty-minute educational television programs that, to quote *Time* magazine “emphasized research and scholarship related to problems of the day or to the enduring concerns of mankind.” Bach scholar Arthur Mendel represented the field of musicology with an investigation of the scoring of Bach's music. Broadcast on January 16, 1955, “Instruments of Bach's Orchestra” presented brief introductions to the instruments Bach called for in the sinfonia to cantata 152, *Tritt auf die Glaubensbahn*. Recorded in the exhibition halls and auditorium of the Metropolitan Museum, the program features two performances of the sinfonia—one on modern the other on baroque instruments. Mendel brought together New York free-lancers and early-instrument pioneers including Seymour Barab (cello and viola da gamba), Howard Boatwright (viola d'amore), Alfred Mann (recorder), and Josef Marx (oboes) for one of the first audiovisual recordings of Bach on “original instruments.”

I contextualize Mendel's work in the burgeoning early instrument movement, evaluate how effective his demonstration was at negotiating the tensions between scientific enquiry and practical concerns, and consider what elements informed later developments in the field of Bach performance practice. As much as a snapshot of Bach performance in the US in the mid-1950s, this document highlights the role of the Metropolitan Museum's collection of musical instruments in the revival of historical instruments. My presentation includes footage from the film.

Geoffrey Burgess is a leading scholar in research related to the oboe. In addition to entries in the *New Grove* and *MGG*, he has published extensively on the history, repertoire, construction, performance, and culture of the instrument. *The Oboe* (Yale UP, 2004), co-authored with Bruce Haynes, was awarded the AMIS's Bessaraboff Prize. The sociological perspective he brings to the study of musical instruments has influenced the direction of organology. Recent publications include *Well-Tempered Woodwinds: Friedrich von Huene and the Making of Early Music in a New World* (Indiana, 2015), and *The Pathetick Musician: Moving an Audience in the Age of Eloquence* (Oxford, 2016) based on writings of the late Bruce Haynes. Forthcoming projects include entries in the *Lexikon der Holzblasinstrumente* and a detailed survey of Bach's writing for the oboe. Geoffrey is Baroque Oboe instructor at the Eastman School of Music.

Saturday, 26 May 2018
11 AM-12 PM
Edmond Johnson, Chair

Will Peebles
An Unstamped “Boehm-System” Bassoon

An unstamped bassoon with saxophone-like fingerings was sold on eBay Australia in 2016. The bassoon resembles examples attributed to Gautrot in the Waterhouse collection and to Adolphe Sax in the Brussels Museum of Musical Instruments. While the typical French bassoon thumb keys are retained, the holes for the fingers have been moved to more rational positions and only one is left uncovered. To say that the instrument follows the “Boehm System” is an overstatement, since the large open-standing holes recommended by Boehm are not present here, but the simplification of the fingering system is certainly evident. Retaining the narrower tone holes preserves the traditional tone color of the bassoon, the loss of which was a primary complaint against bassoons such as the Triebert-Marzoli-Boehm instrument that featured radically larger tone holes.

The Australian seller knew nothing of its provenance, but the instrument shows signs of considerable use. The bell, bocal, and one key are missing. Fortunately, reasonable reconstructions can be made by comparison to the other two instruments. I will compare the Australian instrument to the two bassoons mentioned above and conclude with a short demonstration of the instrument’s scale.

Will Peebles has taught courses in bassoon, music theory, music history, and world music at Western since 1992, and served as Director of the School of Music from 2005 to 2014. Will’s doctoral work focused on the historical development of bassoon fingering systems. His interest in this area has led him to develop a small collection of historical double reed instruments, some of which he is restoring for potential performance.

Daniel Fox
Does it Matter Which Room Alvin Lucier Sits In?

Although Alvin Lucier’s *I Am Sitting in a Room* (1969) continues to be a central reference for discussion about the material conditions of sound in music, little attention has been given to the changing conditions of production of the work. Its recursive process of recording and playing-back continues to transform the composer’s speaking voice into a music of architectural resonances. But which architectural resonances? The original recording was made in the composer’s living room and a “performance” consisted of playing-back that spliced magnetic tape in concert halls. Then in 2005 Lucier began collaborating with James Fei on digitally mediated performances that resonate the architecture of the public performance space in real time.

I describe the crucial role of the sound-engineer-as-performer in emplacing living-room aesthetics into the concert hall. I trace changing performance practices using the Alvin Lucier Papers at the New York Public Library and my interviews with sound engineers that have performed the work.

There persists in the literature an overemphasis on non-intervention—of the room sounding itself. But closer investigation reveals significant variation in performative interventions and the resulting sounds. In a performance at Issue Project Room with sound engineer Bob Bellerue (2017), a few stable sine tones rapidly overpowered Lucier’s speech, growing to an ear-piercing volume. In contrast, in the MoMA recording (2014) Lucier’s speech gradually dissolves

into room resonance and there arises “a cluster of tones [that] mutate—they still go-away and come-in—and sometimes they start beating with another tone” (Fei). Revealing subtleties of architectural resonances through a gradual process may have been immanent in Lucier’s living room in 1970, but in current live performance practice sound engineers often need to continually intervene through volume and EQ levels if they want to tether the subtlety of living room aesthetics to performance hall acoustics.

Daniel Fox is a doctoral student in composition at the CUNY Graduate Center. His dissertation is on acoustic resonance in the music of Alvin Lucier and Morton Feldman. His writing has appeared in *Perspectives of New Music*, *Hyperallergic*, and *Van Magazine*. His compositions have been performed by Either/Or, the Momenta Quartet, and Contemporaneous. He holds a Ph.D. in mathematics and has published in *Transactions of the American Mathematical Society* and *Communications in Analysis and Geometry*.

Saturday, 26 May

2-4 PM

Arian Sheets, Chair

Cleveland Johnson, Michele Marinelli, Jere Ryder

To Play or Not to Play: Capturing the Intangible from the Tangible

Museums with assets of functioning objects—be they Alexander Calder mobiles, steam engines, automobiles, mechanical toys, or musical instruments—struggle perennially with competing questions of conservation, preservation, interpretation, and accessibility. Objects with functionality as one element of their design are only incompletely experienced by visitors when matters of condition, unavailable expertise, or general policy stand in the way. The Murtoth D. Guinness Collection of Mechanical Musical Instruments and Automata, at the Morris Museum, endeavors to evaluate and embrace these difficult issues by acknowledging and building upon each object’s unique attributes, period technology, art, and history.

In our experience, we believe it is imperative to thoroughly consider an object’s historical importance within its genre, original integrity, and condition. Only afterward can one consider conserving, and at times implementing a conservative repair approach, wherein the audio and/or visual performance of a particular object may be captured or documented for historical posterity. After all, these artworks were designed and created to be experienced in their many dimensions, including their visual, sonic, and functional appeal. Defining the process of capturing or documenting the *intangible* (audio and visual) aspect of a tangible artifact is eminently compelling; if the intangible aspect of an artwork is avoided or ignored, the historical information it contains, including the object itself, may never be fully revealed or understood.

This presentation will introduce some of the unique objects in the Guinness Collection and the varied challenges they present as we endeavor to introduce and interpret them for our museum visitors.

Cleveland Johnson is Executive Director of the Morris Museum in Morristown, New Jersey. He is Professor Emeritus of Music and past Dean of the School of Music at DePauw University and

is the immediate past Director of the National Music Museum. He holds a D.Phil. from Oxford University and the B.Mus. from the Oberlin Conservatory. He is a scholar of German keyboard tablatures and the organs of northern Europe and has recorded the complete organ works of Heinrich Scheidemann on historic instruments. His research also embraces South Asian music and instruments.

Michele Marinelli is Curator of the Guinness Collection at the Morris Museum. Her museum career began as an educator at the Museum of Early Trades and Crafts (Madison, New Jersey), then at the Morris Museum, where, beginning in 2013, she transitioned into her present curatorial role, working specifically with the Guinness Collection. She oversees all aspects of collection management for the Collection. In addition, she researches, develops, and delivers Guinness-related programming, exhibitions, and publications.

Jere Ryder is Conservator of the Guinness Collection of Mechanical Musical Instruments and Automata at the Morris Museum. With more than forty years' experience in this specialized field, he has repaired, restored, appraised and has acted in an advisory capacity to some of the finest private collections and has acquired objects on behalf of state and privately owned museums worldwide. His expertise extends to secure packing, international transport, storage, location set-up, maintenance, staff operations, and institutional docent training.

Luca Rocca

Under the dust: The Conservation Treatment of an Eighteenth-Century Salterio

The salterio MIMEd 1093 in the musical instrument collection of the University of Edinburgh has been until now catalogued as a “dulcimer” of an unknown maker and dated “Probably 18th but possibly 17th century.” A recent conservation treatment project, part of the Thomson-Dunlop Conservation internship in St Cecilia’s Hall, brought attention to this instrument. Multiple cracks on the soundboard, severe rust blocking the tuning pins, missing parts, and a substantial accumulation of dirt and soot compromised the integrity of the instrument. A comprehensive treatment was implemented to consolidate the instrument structurally and bring back its aesthetic characteristics, whilst gathering as much documentation in the process. With this in mind, a number of non-invasive documentation techniques were carried out: dendrochronology dating, visible light and UV-induced fluorescence photography, microscopic wood identification, as well as a mathematical analysis and dimensional documentation in order to produce a technical drawing and a possible copy of the instrument.

New evidence discovered through this process narrows down the possible maker of the salterio, and provided a better understanding of the mathematical proportions and methods employed for its construction. The aim of this paper is to describe the process applied in the documentation and treatment of the salterio MIMEd 1093 and the information gathered during that process employing non-invasive methods.

Luca Rocca is a Thompson-Dunlop conservation intern at St Cecilia’s Hall, University of Edinburgh. He attended the University of Pisa to study macromolecular chemistry and later studied violin making under the supervision of Luca Primon. Currently Luca combines his passion for musical instrument making and music with his scientific knowledge as a student in the Restoration and Conservation of Musical and Scientific Instruments at the University of Pavia.

Jonathan Santa Maria Bouquet, Arianna Rigamonti
Violins, Pochettes, or Mute Violins? Shining a Light on the “Violins without Sides”

There are only three known examples of the so-called “violins without sides,” all of which are currently held in musical instrument collections in Scotland: two in St Cecilia’s Hall and a third in Dean Castle in Kilmarnock. But the lack of in-depth research on these three instruments has led to ambiguous attributions, conflicting dating, and confusing taxonomical cataloguing. A research project has been undertaken at St Cecilia’s Hall that aims to clarify dating, provenance, and attribution, as well as to better understand these instruments’ function within a musical context. The project is two-fold and investigates the instruments with both historical and scientific approaches.

The historical study of the instruments explores the provenance and historical context of the violins without sides through examination of iconographic and written sources, as well as through comparing the instruments with other extant taxonomically similar examples. The scientific approach provides a detailed analysis of the construction and age of the instruments through photographic documentation (both in visible light and under UV induced fluorescence), industrial computed tomography scanning, dendrochronological analysis of the soundboards, and a spectroscopic and micro-chemical analysis of their surfaces.

This paper will present the findings of this research and will provide valuable evidence to shine a light to these intriguing objects.

Jonathan Santa Maria Bouquet is the Conservator of St Cecilia’s Hall. Previously Jonathan worked as Conservation Research Assistant for the National Music Museum and held fellowships and internships at The Metropolitan Museum of Art in New York, the NMM, and the Museo degli Strumenti Musicali in Milan. Recently he completed a Ph.D. in organology at the University of Edinburgh, with a thesis focused on the reconstruction of a lute by Sixtus Rauwolf.

Arianna Rigamonti completed a four-month Erasmus traineeship at St Cecilia’s Hall. Arianna holds a Bachelor’s degree in musicology and is currently undertaking a Master’s degree in musicology at the Department of Musicology and Cultural Heritage in Cremona of the University of Pavia. She is also a violinist and received the violin diploma under the supervision of Enrico Casazza at the Gaetano Donizetti Conservatory of Bergamo.

Daniel Wheeldon

3D Printing in Brass: Implications for Historical Reproduction

3D printing is mostly used for rapid prototyping in projects which often rely on other methods for manufacturing a usable part. In recent years printing services are trying to achieve *end-product* quality prints for their customers, but perhaps one of the most significant changes came when “raw brass:” and “polished brass” among other precious metals became available in printing catalogues.

This paper intends to display the results of a project that attempts to reproduce the brass elements of surviving English Guitars as found in Edinburgh University’s musical instrument collection, namely the component parts of the watch-key tuning mechanism invented by John Preston and different ornate brass roses. High definition 3D scanning is used to create a digital image of each brass rose; these are then altered to achieve a useable 3D file for printing. The

University of Edinburgh has excellent examples to be used for this case study including English Guittars by Longman & Broderip, John Preston, and Frederick Hintz (Moravian).

Although 3D printing is different from most traditional manufacturing processes, it ought not be entirely separated from them. 3D printing is a *tool* for makers who can achieve previously impossible tasks. Working with a student grant from Shapeways, it has been possible to experiment with these technologies and to produce high-quality and usable results. This paper intends to describe the methodology in creating the digital files needed for 3D printing, but also to describe the steps following printing necessary to finish a part.

Daniel Wheeldon is a Ph.D. student at the University of Edinburgh in a creative practice-based project looking at technology being applied to musical instruments in the British *pianoforte guittar* and the German *Tastenguitarre*. His background has been in musical instrument making and repair since his 2011 B.Sc. in Musical Instruments. In 2016 he completed his M.Mus. at the University of Edinburgh, and was subsequently based at The Metropolitan Museum of Art in New York.

RECITAL

BRADLEY BROOKSHIRE

Sinfonia in G Minor, Op. 5, No. 6 (arranged B. Brookshire) Johann Adolf Hasse
(1699-1783)

Allegro
Andante
Allegro

Samuel Green chamber organ

Prelude, Fugue, and Allegro in E-flat Major, BWV 998 Johann Sebastian Bach
(1685-1750)

Willard Martin *Lautenwerck*

Suite in E Major George Frideric Handel
(Suites de Pièces pour le Clavecin, 1720, HWV 432) (1685-1759)

Prelude
Allemande
Courante
Air and Five Variations (“Harmonious Blacksmith”)

Sonata 1 in A Major Christian Ignatius LaTrobe
(Three Sonatas for the Pianoforte, Op. 3, dedicated to Jos. Haydn) (1758-1836)

Allegro
Lente
Menuetto
Presto

-- Intermission --

Tocatta in D Major, BWV 912 J. S. Bach

(Presto)
Allegro
Adagio
Con discrezione
Fuga (Gigue-Fugue)

Chromatic Fantasy and Fugue, BWV 903 J. S. Bach

Phillip Tyre harpsichord after 1738 Vater; *mis a grand ravalement* by Willard Martin, 2006

Bradley Brookshire is an assistant conductor at the Metropolitan Opera, where he has played harpsichord in a number of productions. At New York City Opera, he was assistant conductor and harpsichordist for Christopher Alden's staging of *Così*. He also worked for many years at Glimmerglass Opera. Besides his operatic work, he has regularly performed with the Orpheus Chamber Orchestra and Trinity Wall St. Baroque Orchestra, among others. The *New York Times* named his solo album of Bach's *French Suites* a Critic's Choice recording of the year (2001). His 2007 release of *The Art of Fugue* was similarly recognized with a five-star rating by *Goldberg* magazine. Brookshire is an associate professor of music at SUNY-Purchase. Among his scholarly publications are "'Bare ruin'd quires where once the sweet birds sang' – covert speech in William Byrd's *Walsingham Variations*," "Traces of the Magnificat: Marian Devotion in William Byrd's *My Lady Nevill's Book*," "Edwin Fischer's Bach-Pianism in Context," and "Chopin's Ornamentation and the Legacy of Carl Philipp Emanuel Bach." Brookshire lives in Manhattan, where he is the devoted servant of a Boston Terrier named Liza.

The Samuel Green chamber organ (Middlesex, England, ca. 1790) has been lent to Moravian College by The Metropolitan Museum of Art. Purchase, Margaret M. Hess Gift, in memory of her father, John D. McCarty, 1993. 1993.112.

WILLIAM E. GRIBBON SCHOLARS FOR 2018

As a doctoral student in music and material culture at the Royal College of Music in London, **Esteban Mariño Garza** is researching the cultural role of the cittern in Europe from the Middle Ages to the Baroque. He studied at the National School of Conservation, Restoration and Museography “Manuel del Castillo Negrete” in Mexico City, and later worked in the musical instrument restoration workshop as a teaching assistant and assistant conservator. His Bachelor’s dissertation was on a historic clavichord in the National Museum of the Viceregal Period in Tepetzotlan, Mexico. In 2014, he won a full scholarship from the Mexican National Fund for Arts and Culture and the National Council of Science and Technology to pursue a Master’s degree in music focused on the conservation and history of musical instruments at the University of South Dakota, where he wrote his thesis on two 16th-century Italian citterns from Urbino. He has also worked in Mexico City as a freelance conservator, instrument builder and researcher.

Hannah Grantham is an organologist with research interests in ethnomusicology and interdisciplinary connections between music and art. Her background in jazz and folk music instilled a deep appreciation of musicology and guided her to pursuing organology at the University of South Dakota where she is currently finishing her Master of Music degree, having received her Bachelor’s degree in music history at the University of North Texas. Hannah’s academic research explores Iranian musical instruments and their development alongside the visual arts.

Samantha Krüger is working on her Bachelor of Musical Arts at Roosevelt University’s Chicago College of Performing Arts. A classically trained violinist, Samantha originally pursued a degree in violin performance. In 2016, her trio won third place in the College/University division at the American Prize Chamber Competition. Her research interests include issues surrounding ivory bans, instruments of refugees, and the instrument needs of large touring ensembles.

April Legatt is working on her Master’s degree in the history of musical instruments at the University of South Dakota. She received her Bachelor of Arts in music at St. Cloud State University. She is interested in the development of brass instruments, primarily the euphonium and related low brasses. For her Master’s thesis, she is researching the tortoiseshell keyed bugle by George Shaw in the National Music Museum’s collection as well as one held at the Smithsonian Institution. The oldest object in April’s personal collection is a Conn euphonium from about 1890.

Following degrees in music, **Charles Pardoe** is now working on his Ph.D. in music at Sidney Sussex College, a constituent of the University of Cambridge. His research centers on the musical writings of the ninth-century philosopher al-Kindi, who left detailed accounts of the construction and tuning of the medieval lute (al-‘ūd). He is supervised by Samuel Barrett, Christopher Page, and James Westbrook. Charles is also interested in recent organological developments, particularly those of instrument technologies and the place of electricity in music making.

Arianna Rigamonti is a Master’s student in the Department of Musicology and Cultural Heritage in Cremona, a campus of the University of Pavia. Arianna spent four months in

Edinburgh completing an Erasmus Traineeship at St Cecilia's Hall Concert Room and Music Museum, where she provided the Italian translations, and began researching the dates, provenance, and attributions of the museum's "violins without sides," to better understand these instruments' historical and musical functions, which may become the basis for her Master's thesis. Arianna obtained a Bachelor's degree in musicology at the University of Pavia, where she researched the twentieth-century Italian violinist Pina Carmirelli. Arianna received a violin diploma under the supervision of Enrico Casazza at the Gaetano Donizetti Conservatory of Bergamo. As a violinist, she performs with several orchestral and chamber music ensembles and teaches violin to children in music schools around the city of Bergamo.

Lucca Rocca is working on his Master's degree in the Restoration and Conservation of Musical and Scientific Instruments at the University of Pavia. Luca attended the University of Pisa to study macromolecular chemistry, and later studied violin making under the supervision of Luca Primon. Currently, Luca combines his passion for musical instrument making and music with his scientific knowledge as an intern at St Cecilia's Hall Concert Room and Music Museum in Edinburgh.

Jimena Palacios Uribe is a musical instruments conservator with a degree in Conservation-Restoration of Cultural Heritage from the National School of Conservation, Restoration and Museography in Mexico City, where from 2007 to 2013 she coordinated the Musical Instruments Conservation Laboratory. In 2008, she worked with John Koster at the National Music Museum in Vermillion. From 2009 to 2012, she coordinated the conservation and restoration of the San Juan Tepemasalco pipe organ. In 2013, Jimena continued her professional development at Cité de la musique in Paris, collaborating with conservator Thierry Maniguet. In 2014, Jimena was the Documentation Coordinator at the National Center of Research, Documentation and Musical Information "Carlos Chávez" of the National Institute of Fine Arts, and later joined the researchers of this Center to document and preserve nearly 450 instruments. She curated the exhibitions "CENIDIM: 40 years building the musical memory of Mexico" and "Tradition, Nature and Sound: the collection of musical instruments from CENIDIM", and is currently pursuing a Master's degree in modern and contemporary history from the Dr. José Ma. Luis Mora Research Institute.

Daniel Wheeldon graduated from London Metropolitan University in 2011 with a first-class degree in musical instruments. He then worked repairing various stringed instruments for shops and individuals in London's East End. In 2012, he presented a paper at the AMIS/CIMCIM conference in New York. In 2012, he taught engineering and product design at a secondary school in South London. In 2015, he earned his Master's in Music at the University of Edinburgh, studying under Darryl Martin, Jenny Nex, and Arnold Myers. He was a Chester Dale fellow in the Department of Musical Instruments at the Metropolitan Museum of Art in New York, where he documented and catalogued all pre-1900 European guitars in their collection. Currently, he is working on a creative practice Ph.D. at the University of Edinburgh, where he is building copies of late eighteenth- and early nineteenth-century keyed guitars from London and Germany.

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Martin, Staufer: Guitars, Connections and Those Who Stayed Behind

Nick Pyall

Christian Martin is reported as having travelled from his hometown of Markneukirchen in Saxony to Vienna, Austria, to start his apprenticeship with the stringed-musical instrument maker Georg Staufer in 1811. Yet in some circles there has been speculation that Martin was never in Staufer's employment, and that if he was, then it wasn't as an instrument maker but rather as a maker of instrument cases. Did this last assertion stem from a distortion of the claim by Markneukirchen's violinmakers in their long running guild dispute with the town's cabinet makers, suggesting that the latter were only fit to make cases for guitars and not the instruments themselves? According to the violinmakers, the cabinetmakers, of which Martin was a member, were 'bunglers' when it came to instrument making.¹

Both Christian Martin and his friend and colleague Heinrich Schatz declared on the labels of their first New York made guitars that they were pupils of the celebrated Staufer of Vienna. However neither of their names appears in the bibliographies of Lutgendorff, Prochart, Haupt, Hopfner and others in connection with Georg Staufer, his son Anton, or any other of his known apprentices and associates. Yet the instruments that Martin and Schatz both made between 1834 and 1836, after Martin's emigration to America, are fashioned almost entirely in the same way as Georg Staufer's. Indeed they are the same model of guitar he was producing in the late 1820s. Were these makers' then simply excellent copyists rather than Staufer's pupils, who had chosen his *Legnani* model as their source? Were they importing guitars from the Staufer workshop and relabeling them as their own work? This last explanation would seem unlikely, as surely those who have studied these extant instruments would have discovered evidence of such practice. Rather, there is more evidence to suggest that it was the other way round with instruments built by journeymen in the Staufer workshop receiving the Staufer label.

According to family history, Martin left Staufer's employment after some fourteen years and went to work for the Viennese harp maker Karl Kühle. On 25 April 1825 he married Ottilia, Kühle's daughter, and later that year on 2 October 1825 they had a son, also named Christian Friedrich. Shortly after their son's birth Martin returned to Markneukirchen with his family.²

Previously, the only documented evidence of Martin's apprenticeship with Staufer was from testaments concerning the guild dispute between the Markneukirchen violinmakers and cabinetmakers. As part of their response to the violinmakers' complaint, the cabinetmakers rejoined that the violinmakers had no vested right to the exclusivity of guitar making. The instrument had been brought to the region by travellers some thirty to thirty-five years before and as such was now an established product of the cabinetmaker Johann Georg Martin. A testimonial was submitted from the wholesaler Christian Wilhelm Schuster stating that 'Christian Friedrich Martin, who for a number of years had been foreman in the factory of the noted violin and guitar maker, Johann Georg Stau[f]fer of Vienna, had produced guitars, which in point of quality and appearance left nothing to be desired and which marked him as a distinguished craftsman'.³ Of Schatz's presence in Vienna the only discernable mention comes from a reference in documents surrounding the guild dispute where he is cited by the cabinetmakers as having

¹ Philip F Gura, *C. F. Martin and His Guitars, 1796-1873*, H. Eugene and Lillian Youngs Lehman Series (Chapel Hill: University of North Carolina Press, 2003), 35-38. The violinmakers accused the cabinetmakers of being 'bunglers' where instrument making was concerned, suggesting that they were only fit to fabricate instrument cases.

² Gura.

³ 'Der Festschrift Der Geigenmacher-Innung Vom Jahre 1927' (Markneukirchen, 1927).

travelled to Vienna to receive proper training in a guitar making factory there and was therefore willing to produce a journeyman's masterpiece as proof of his competence.⁴

Michael Lorenz, however, has unearthed important circumstantial evidence from 1825 that supports the claim that Martin had a direct connection to the Staufer workshop. Lorenz also shows that Schatz too, along with Martin, was in Vienna in 1827. It is not inconceivable then, as in the years he was reported to be in Vienna at a guitar manufactory, that this was in fact Staufer's workshop.

In 1825 Georg Staufer signed a business agreement with Franz Seraph von Lacasse making him a financial partner – Staufer was bankrupted twice in his lifetime and although the guitar making side of his business was eminently successful, he evidently spent much of his time and money on developing instrument inventions. With Staufer and Lacasse's arrangement a new company was formed. This meant that Staufer had to financially compensate Johann Anton Ertl, his colleague, business partner and co-signatory to the 1822 privilege [patent] that specified the detachable and elevated neck. This particularly innovative design featured on many of the guitars the two men were building, as well as on early New York Martins. It can also be found on some of Staufer's cellos and the guitarre d'amour, later to be known as the Arpeggione. Martin and Andreas Jeremias, another maker emanating from the Staufer workshop, appear as signatories witnessing the document that was drawn up between Staufer and Ertl⁵ - thus putting the four men in direct contact with each other.

As previously stated, Christian Martin was married to Ottilia Kühle in 1825. Lorenz has identified another common connection between Martin and Staufer in Franz [Georg] Rzehaczek, whom he has identified as best man at Martin's wedding. According to Lorenz, Rzehaczek was also the best man to Ignaz Schuppanzigh (the violinist, friend and teacher to Beethoven), the luthiers Johann Georg Staufer, Peter Teufelsdorfer, Ludwig Deák and Beethoven's copyist Wenzel Schlemmer. [He was also the godfather of many children of other musicians and violinmakers.]⁶

Lorenz has also discovered the baptism record for Martin's daughter Emilie, dated 2 May 1827 at St. Ulrich's in Vienna, in which Schatz appears as godfather. This date is after the time that Martin was reported to have returned to Markneukirchen. Unless they returned especially for the event, it suggests that Martin and Schatz were both in Vienna for longer than was previously thought.⁷

In the mentioned guild dispute, the cabinetmakers named are known and show that as family members and colleagues they had been making guitars for around thirty-five years and over two generations.⁸ The lack of extant instruments from the beginning of the nineteenth century with identifying labels from those named, to the time when Martin immigrated to America is perhaps surprising. It would be simplistic to explain this away as a result of the guild dispute halting their trade in guitar making until all matters between the two guilds were settled. The violinmakers had filed their first complaint to the King of Saxony in 1806 but then felt the need to do so again in 1826, 1831 and 1832 (with the dispute

⁴ Johann Friedrich Hilpert, 'Christian Friedrich Martin - Biography until 1833' (Course of studies Musikinstrumentenbau Markneukirchen, 2001)., Arian Sheets, 'C. F. Martin's Homeland and the Vogtland Trade', in *Inventing the American Guitar: The Pre-Civil War Innovations of C. F. Martin and His Contemporaries* (Milwaukee, WI: Hal Leonard Corporation, 2013), 18–22.

⁵ Michael Lorenz, 'Staufer Miscellanea', *Musicological Trifles and Biographical Paralipomena* (blog), 2 March 2014, <http://michaelorenz.blogspot.co.uk/2014/03/staufer-miscellanea.html>.

⁶ Michael Lorenz.

⁷ Michael Lorenz.

⁸ Johann Georg Martin, Christian Friedrich Martin, Carl Gottlob Wild and Carl Friederick Jacob; later on August Paulus, Johann Friedrich Durrschmidt, Heinrich Schatz, Christian Gottfried Seifert, and Christian Friedrich August Meinel.

being ruled in the favour of the cabinetmakers in that year, although not finally resolved until some twenty years later). It is not clear from any of these documents that there was an effective ban on the cabinetmakers constructing guitars, and indeed if there had been, why the need for the continual appeals to try and prevent them from doing so? It seems that at this time it was not the custom for most Markneukirchen guitar makers to label their instruments. In her chapter 'C. F. Martin's Homeland and the Vogtland Trade' in *Inventing the American Guitar*, Arian Sheets has observed that this was due to instruments being sold through dealers.⁹ No labelled instruments by either Martin or Schatz have so far surfaced from the time before their arrival in America, nor in the five or six year period when Martin had returned to Markneukirchen after leaving Vienna. Certainly there were notable guitar makers in Saxony at this time producing instruments inspired by the Viennese form – for example from Markneukirchen, Johann Christian Voigt; Liepzig, Johann Georg Langerwisch; Kliegenthal, Christian Friedrich Goram and Friedrich Hoyer. Some of these guitars feature the distinctive S-shaped Persian Slipper headstock, equipped with the in-line enclosed mechanical tuners associated with the Staufer *Legnani* model. More often the Viennese influence in making is recognised in their tightly waisted body shape.

Guitars were of course made in Vogtland before the guild dispute. The Voigt family workshop dates back to 1699, with violin making dominating until the early 1800s. It is then, when the guitar started to become fashionable, that Johann Georg Voigt (1776-1829) and his son Wilhelm (1811-1861) came to prominence as guitar makers. Domingo Prat in *Diccionario de Guitarristas* mentions Charles Ferdinand Voigt (1823-1887) as an excellent guitar maker.¹⁰ In his account book of 1820 their relative, the violinmaker Johann Friedrich Voigt (1756-1826), lists twelve different guitars available in different price ranges. In 1821 for the first time he lists instruments with 'screws' [presumably mechanical tuners] or with 'hidden screws' [Staufer-style enclosed tuners]. In 1826 his account book includes terz as well as 13- and 14- string guitars. Despite this evidence of guitar making activity with a Viennese influence, none of these instruments show the true elegance, proportion, flowing line and attention to detail seen in Georg Staufer's instruments of the late 1820s. However, these attributes do appear outstandingly so in the New York instruments labelled Martin and Martin & Schatz.

Of the cabinetmakers named in the dispute, and with the exception of Martin and Schatz, the names of Jacob and Paulus are perhaps those most familiar. It is possible that Carl Friedrich Jacob was related to Carl Gottlob Jacob (1817-1891), a known bass maker and the father of Carl August Jacob (1846-1916). According to Angela Waltner, Carl August Jacob learnt his profession as a guitar maker from Johann Friedrich August Paulus (1806-1870), who in turn had trained with Johann Anton Stauff[f]er in Vienna.¹¹ Carl Jacob's son, the guitar maker Richard Jacob, advertised this legacy when promoting the workshop in the twentieth century.¹²

In 1836, after having immigrated to New York, Martin was trading with Heinrich Gottlob Gütter in Bethlehem, who besides acquiring musical instruments from local craftsmen was, like Martin, also importing them from Europe. According to Philip Gura, 'Martin bought guitar strings, violins, and

⁹ Arian Sheets, 'C. F. Martin's Homeland and the Vogtland Trade'.

¹⁰ Domingo Prat, *Diccionario biográfico, bibliográfico, histórico, crítico de guitarras ... guitarristas ... guitarreros, etc. [With a portrait.]* (Buenos Aires: Romero y Fernández, 1934).

¹¹ Angela Waltner, "The Guitars of Richard Jacob 'Weißgerber' in the Museum of Musical Instruments of the University of Leipzig." www.studia-instrumentorum.de, 2001, http://studia-instrumentorum.de/MUSEUM/weissgerber_inhalt.htm.

¹² Andreas Michel, 'The Guitars of Richard Jacob "Weißgerber" in the Museum of Musical Instruments of the University of Leipzig', 2001, http://www.studia-instrumentorum.de/MUSEUM/WEISSGERBER/weissg_summary.htm.

occasionally guitars and in return sold him brass instruments'.¹³ Stewart Carter informs us that Gütter's family background in Markneukirchen was in wind instrument making and that he had immigrated to Bethlehem in 1817 and that he had traded in musical instruments from 1819.¹⁴ His uncle, Christian Gottlob Paulus also from Markneukirchen, had immigrated there earlier in 1795, and introduced him into the town's otherwise closed Moravian community.¹⁵ Both the Gütter and Paulus families had a long history in the musical instrument business of Markneukirchen: their familial union was formed when Gütter's father, Heinrich Ferdinand Gütter married Johanna Christiana Paulus the sister of Christian Gottlob Paulus and daughter of the violin string maker Johann Georg Paulus.¹⁶ The Martin and Paulus relationship is also a familial one: Eva Regina Paulus was married to Johann Georg Martin - Christian Friedrich Martin's parents. The Paulus family of Markneukirchen is numerous with various members trading as violinmakers, however in the church records of Eva and Georg's marriage her father, Johann Adam Paulus is described as a cabinetmaker and not an instrument maker.¹⁷ Her mother Maria, on the other hand, as part of the Schuster family of musical instrument dealers, was well connected with the instrument making trade.¹⁸ As Georg Martin is described as a cabinetmaker in the violinmakers' attestation, although he was listed as making pianos as well, is it not possible that Adam Paulus could also have been involved in musical instrument making that was not governed by the violinmakers' guild.

The Markneukirchen violinmakers named one August Paulus as a journeyman to whom they objected making guitars, and included him alongside the Martins and others in their dispute with the cabinetmakers. It seems likely that August Paulus was from a branch of the family involved with the music instrument trade in Markneukirchen that was separate to activities of the violinmakers guild,¹⁹ much in the same way as were the Martins, with them all being caught up in a conflict that's bitterness, through family associations on both sides of the dispute, may well have become even more personal.

In conclusion there are more questions thrown up than answered. Lorenz's archival research shows that both Martin and Schatz were in Vienna during the 1820s, and that a legal document puts Martin and Stauer's names at least together. This lends greater credence to Martin and Schatz's claim that they were Stauer's pupils. This is again backed up by evidence of their inclusion socially in the Viennese music-making community. When added to the material evidence shown in the similarity between Stauer's instruments of the late 1820s and the first New York Martins, their connection is all the more solid. It is apparent that there was movement between other makers in Vogtland and the Stauer workshop in Vienna with the *Wiener* model of guitar being adopted in Saxony. Although most guitars

¹³ Gura, C. F. *Martin and His Guitars, 1796-1873*.

¹⁴ Stewart A. Carter, 'The Gutter Family: Musical Instrument Makers and Dealers to the Moravian Brethren in America', *Journal of the American Musical Instrument Society* 27 (2001): 48-83.

¹⁵ Stewart A. Carter.

¹⁶ Stewart A. Carter.

¹⁷ Church book Markneukirchen, *marriages*, vol. 10 (1793), p. 112. The Köthener Hofkapelle in 1776, listed in its inventory, a violin by Balthasar Paulus from 1746.

¹⁸ Church book Markneukirchen, *baptisms*, vol. 43 (1768), p. 274: 'Eva Regina Paulusin den 29. Oct: nat:: den 1. 9br: ren:, Eva Regina, Mstr. Joh: Adam Paulusens, B. u. Zimmermanns aufn Berg, filia; mater: Maria, geb: Schusterin Kirchenbuch Markneukirchen, Tote 1788/26'.

¹⁹ Richard Petong, *The Arts and Crafts Book of the Worshipful Guild of Violin-Makers of Markneukirchen, from the Year 1677 to the Year 1772*, trans. Edward & Marianna Heron-Allen (London: H. S. Nicholls & Co., 1894), p. 41. Three families named Paulus are mentioned as violinmakers, but are not entered into the Guild proper until 1772. Petong suggests that they would have been employed in other trades as well before that time, particularly string-making, which he notes they were occupied with until the end of the eighteenth century. He considers that they had probably arrived in Markneukirchen by the middle of the seventeenth century.

from Markneukirchen were unlabelled and sold through dealers in the years immediately preceding Martin's immigration to America, it is still surprising however that none featuring the level of visual aesthetic so strikingly comparable between Stauffer and Martin have surfaced that can then be attributed to Martin. On the other hand, musical instrument trade between Saxony and America had been well established within the Moravian community in Pennsylvania by the time Martin immigrated - on his arrival, importing musical ware from the old country was his main business. Later in the nineteenth century Martin's own guitar developments and business success were both copied and exploited upon in his former home country. Perhaps, then, the answer to the mystery of Martin's instrument making activity between the years of his time with Stauffer and then setting up in New York lies in the further investigation of his connections with those Markneukirchen families who had already established themselves in Bethlehem before his move to America.

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