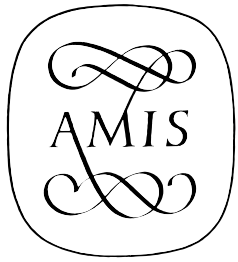
Journal of the American Musical Instrument Society

VOLUME XXXIV • 2008



BOOK REVIEWS

Elizabeth Wells and Christopher Nobbs, editors. *Museum of Instruments: Catalogue*. Part III, *European Stringed Instruments*. London: Royal College of Music, 2007. 224 pp.: 16 color plates, ca. 200 black-and-white photographs. ISBN: 0-946119-08-2. £35.00 (paper).

The Museum of Instruments at the Royal College of Music, London, houses an internationally renowned collection of instruments and accessories dating from ca. 1480 to the present. The collection, initiated with the foundation of the college in 1883, has been augmented by gifts over the years from the Rajah Sir Sorindro Mohun Tagore (1884); the Prince of Wales, later King Edward VII (1886); Sir George Donaldson (1894, 1899); A. J. Hipkins (1911); E. A. K. Ridley (1968); Geoffrey Hartley (1985); Amaryllis Fleming (2002); Richard Walton (2003); and Crispian Steele-Perkins (2003). The museum moved to its current home in 1970, and today houses approximately seven hundred European keyboard, string, and wind instruments, as well as around one hundred from Asia and Africa.

A catalog of the musical instrument collection is appearing over time, in parts, each describing separate types of instruments. The first two parts, published in 1982 and 2000 respectively, contain information about the museum's European wind and keyboard instruments. These have since been converted to electronic format, and are now available in their entirety online, at www.cph.rcm.ac.uk/gencatalogues.htm. The present part of the catalog provides details of the string instrument collection, with generous descriptions and numerous photos of 129 instruments. A fourth part, at present available only online, details eighty-four bows made between 1700 and 1950, primarily by English makers. It's wonderful that the latter information is so easily obtained, but it seems a pity that the bows were not included in the published string instrument catalog. The introduction to the latter volume makes the boast, both tantalizing and disappointing, that the college has additional important string instruments on loan, and a unique collection of decorated cases—but no details are published here.

Major donations from Sir George Donaldson in 1894 and 1899 form the basis of the RCM string instrument collection. His special passion was evidently European string instruments, particularly those with beau-

tiful form and decoration, or with features that were perceived during the nineteenth century as unusual. Violin-family instruments are underrepresented, but the collection contains a large and rich assortment of plucked strings, as well as an interesting variety of bowed strings. Though perhaps mere curiosities in Donaldson's time, many of the types of instruments represented in the RCM collection have now come back into regular use in historical performance, and will certainly be of interest to performers and scholars. Of special note, the museum owns the earliest surviving baryton, made by Magnus Felden in Vienna in 1647 (RCM 204), and one of the world's foremost collections of guitars, including a five-string Renaissance guitar by Belchior Dias, Lisbon, dated 1581 (RCM 171), likely from the Medici collection in Florence, and possibly the oldest of its type to survive. In the catalog, every instrument is pictured and described in detail. In addition to the black-and-white photographs that appear throughout the volume, the catalog also contains sixteen pages of stunning color plates, representing twenty-five of the instruments.

The catalog is organized chronologically (from earliest to latest) within each instrument type. More than half the RCM string collection is plucked and hammered instruments, and this is where the catalog begins, describing psalteries, dulcimers, harps, lutes, chitarrones, mandolins, citterns, and guitars. These are followed by bowed strings: viols, violas d'amore, barytons, violin-family instruments, pochettes, trumpets marine, etc. The final section is devoted to hurdy-gurdies. The table of contents provides a clear overview of the collection, listing every instrument in every section along with its maker's name, plus the instrument's date and accession number.

Catalog entries begin with details of any inscriptions (helpfully annotated with editorial translations or clarifications, where necessary), followed by a brief curatorial description of the instrument (in terms that may be understood by a non-specialist), and then detailed measurements and details of materials and construction. While many other institutional catalogs do not reach even this level of detail, the RCM publication goes on to discuss non-original features or modifications; describe any dendrochronological analysis that has been performed; compare the instrument to others by the same maker in other collections; and often to provide basic biographical details of the maker. The editors have conscientiously inserted question marks wherever a specific detail cannot be ascertained with certainty.

Each entry concludes with details of provenance and bibliographical references (helpfully including page numbers). Instruments deemed particularly noteworthy may be represented by as many as seven photographs, showing details of labels, scrolls, rosettes, and other unusual or interesting decorations. Additional historical images are often included: record books detailing sales and repairs; old advertisements for instruments by the same luthier; historical engravings and woodcuts of players using related instruments; photographs of performers playing the actual instrument, etc. This book offers virtually all that the specialist could hope for. And yet one need not be a scholar to understand and appreciate the charms of the collection—the details provided act almost as a biography, a colorful narrative about each instrument and its place in history.

This volume was a long time in the making. According to the prefatory notes, Wells started work on the project during her tenure as curator at the RCM from 1964 to 2005, completing it only in her retirement. The attention to detail and painstaking care evident in this publication are a testament to her dedication and expertise. Measurements, descriptions, and paragraphs on construction and alterations were provided by co-editor Christopher Nobbs.

This is truly a Rolls-Royce of catalogs—organologists, performers, luthiers, and instrument enthusiasts will all appreciate its loveliness and thoroughness. The heavy-stock, glossy paper allows good realization of the photographs, and the soft covers are thick enough to provide durable support. The price seems remarkably reasonable, given the book's sumptuous quality. For anyone who enjoys studying or looking at instruments, this book is a treasure trove, and one that will likely be appreciated even after its contents are available electronically.

JOËLLE MORTON
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Henry Johnson. *The Koto: A Traditional Instrument in Contemporary Japan.* Amsterdam: Hotei Publishing, 2004. 200 pp.: 7 full-page color plates, 73 color photographs, 3 black-and-white photographs, 6 line drawings, 19 tables, 18 musical exx. ISBN: 90-74822-63-0. $101.00 (cloth).

Henry Johnson's *The Koto: A Traditional Instrument in Contemporary Japan* will appeal to a wide spectrum of musical instrument specialists and to generalists interested in Japanese music and culture. Lavishly illustrated

and abundantly annotated, this book is an object of beauty as well as a scholarly resource. The color photos (by the author himself) and the full-page color plates are magnificent; the endnotes are expansive, providing much essential information; and the bibliography is extensive—listing over three hundred works. Two helpful appendixes (though not labeled as such) provide a chronology of Japanese historical eras (p. 175) and a "Selected Character List," giving relevant terms in both Latin and Japanese characters (pp. 176–82).

This book is fruit of its author's ethnographic and historical research, the former carried out in Japan among players and makers of koto, the latter in both England and Japan. An ethnomusicologist, Johnson approaches the instrument as material culture, imbued with multivalent meanings. In addition to having learned to play the koto, Johnson brings to his study both iconographical and literary evidence, as well as extant exemplars of koto (historical and modern), and he links the instrument's forms, functions, sounds, meanings, and performance traditions to Japanese society as a whole.

After an Introduction featuring a preview of the book's contents, Johnson's first chapter, "The Setting," provides a brief cultural history of the instrument, a tale that will be amplified in each succeeding chapter. Though the koto originated in China, becoming established in Japan by the eighth century, it is understood today as a Japanese "traditional" instrument, i.e., one that predates Western musical influences. As such, the koto evokes—both visually and sonically—an idealized Japanese past. Its social contexts encompass the ancient court ensemble associated with Shinto rites (*gagaku*), secular entertainment by blind male professionals and sighted female amateurs, and most recently—from the 1990s—children in public schools.

In chapter two, "Instrument Names and Types," Johnson delineates variants of the koto's nomenclature and structural details, placing these in historical perspective. While the technical aspects covered in this chapter make it one of the most valuable parts of the book for collectors and museum curators, for others the challenges may be daunting. First are linguistic challenges, including the fact that names ("koto," for example) can refer to both generic and specific instrument types. Second are difficulties in understanding the metaphoric terminology for component parts of the koto ("tongue" and "lips," for example), which Johnson does not define until the following chapter. Third is Johnson's adopting of the cultural viewpoint by which koto taxonomy is based on musical

genres, social contexts, playing techniques, and types of surface decoration, rather than on morphological differences. Although twentieth-century modifications such as synthetic strings and bridges are accepted, and instruments of larger and smaller size than usual are now in use, "the fundamental form of the instrument has remained unaltered since its introduction to Japan" (p. 49).

Chapter three focuses on the everyday type of koto (*yamadagoto*), detailing the "Manufacture and Component Parts" of the instrument. Informative diagrams, tables, and photographs abound, illustrating not only the present-day process of making a koto but also the symbolism encoded in the instrument's shape and decoration. Johnson's connecting of the Japanese concept of "wrapping" to the instrument's layers of meaning is instructive. Tables of "Qualities and Grades" of koto list the features considered by Johnson's koto-making informants when labeling their instruments along a continuum from lowest to highest, in terms of aesthetic as well as monetary value (pp. 81–87).

In chapter four, "Performance Traditions," Johnson further expands the historical record he has been unfolding throughout the book: here he examines "the social, cultural and geographic distribution of the *koto* in Japan, and the social systems that are characteristic of the internal structure of everyday performance traditions" (p. 90). As explained in his introduction (pp. 12–13), Johnson learned from exponents of several traditions, in order to pursue a comparative approach. By contrast, koto players in Japan normally belong to a single tradition, usually for life, working within "a social frame that is given priority in self-identification, rather than one's personal attributes"—a phenomenon that Johnson calls "groupism" (p. 95). Thus, koto players perform with fellow members of a tradition, all of them having learned its set repertoire within a *iemoto* (a school headed by a grand master) or *iemoto*-like system (p. 103) and being subject to licensure: proof, by examination, of one's level of attainment within that tradition. Only rarely would someone appear as a koto soloist.

Chapter five, "Performance," deals with "cultural meanings that are embodied in the performance event" (p. 16), such as performance spaces, players' posture and dress protocols, tunings, ornamentation techniques, uses of recorded koto music to lend atmosphere, and, finally, genres and styles of composition in present-day koto repertoire, along with mention of some composers. Most interesting to this reviewer are the samples (and their transcriptions) of historical and modern notation systems, including excerpts from several compositions (pp. 117–57).

In his introduction, Johnson presents himself as a non-Japanese researcher offering interpretation of the koto based on his admiration for, and experiences with, the instrument in the context of Japanese culture. He admits to having adopted some Japanese ways of thinking and acting during the course of his studies (p. 17). I sense this in his book: the spacious layout of text and illustrations, for example, echoes Japanese aesthetics. Johnson's historical exegesis of the koto proceeds in a way that I found too repetitive until I recognized its structure as analogous to a traditional Japanese musical genre in which thematic elements appear in a series of variations called *danmono*. In this light, Johnson's first five chapters could be seen as variations on the Introduction, with chapter six, "Conclusions," providing the quick ending. Henry Johnson is to be congratulated for successfully—and artfully—representing the koto in its historical and present-day cultural contexts.

Beth Bullard
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André Millard, editor. *The Electric Guitar: A History of an American Icon.* Baltimore: Johns Hopkins University Press, 2004. x, 226 pp.: 13 color photographs, 35 black-and-white photographs, 2 line drawings. ISBN: 0-8018-7862-4. $45.00 (paper).

The electric guitar has almost certainly been the most significant development in musical instruments during the last one hundred years. From fairly small-scale beginnings, it has attained iconic status both as a musical instrument and, more broadly, as a shorthand signifier for rock and roll, itself shorthand for the popular culture and, more particularly, the youth culture of the second half of the twentieth century. Because of this, the electric guitar's significance, perhaps uniquely among musical instruments, has been as much social as musical or organological—maybe even more so. These intertwining technical, historical, and sociological aspects of the electric guitar are collectively examined in *The Electric Guitar: A History of an American Icon,* a compilation of essays derived from "Electrified, Amplified and Deified: The Electric Guitar, its Makers and Players," a museum exhibit and symposium held in 1996 at the Lemelson Center for the Study of Invention and Innovation, based at the Smithsonian Institution, Washington, D.C.

Editor André Millard's aim is "to gently take the reader into all the territory colonised by the electric guitar and its sound without lingering long enough in one place to spoil the ride" (p. 15), which makes the

scope of the book broad rather than comprehensive. The use of the word "icon" in the book's title is significant. Rather than being a straightforward history, this book attempts to examine and contextualize the electric guitar from several different perspectives: as a musical instrument, a developing technology, a symbol of social change, and as an object of aspiration and veneration that incorporates elements of all of these. The book is aimed at a general readership, yet the material is thoroughly but unobtrusively referenced through informative endnotes.

The book is divided into nine chapters, with an introduction and a concluding summation. Each essay treats a different facet of the electric guitar, and in some cases different essays examine the same element from different perspectives. The first six chapters deal with the history of the electric guitar as both an instrument and a technology, and the final three explore aspects of playing and players.

The opening chapter, "The Music: The Electric Guitar in the American Century," by Charles McGovern, gives a multicultural overview of the cross-fertilization between the electric guitar—in both its Hawaiian and Spanish forms—and its players, focusing on its impact on American popular music. The second chapter, by Millard, deals with the invention of the electric guitar, examining the intricate and entwined relationships among many of the early electric guitar manufacturers, relationships comparable in their convolution to those among the Cremonese violin makers of the eighteenth century. The chapter places the development of the electric guitar in both historical and organological contexts, examining the contributions of, and the often surprising connections among, the key players in its development, such as George Beauchamp (inventor of the Frying Pan, the first true electric guitar), Adolph Rickenbacker, Paul Bigsby, and Leo Fender.

James P. Kraft's chapter on manufacturing explores the part played by Fender and Gibson, the two largest electric guitar makers of the time, in the developing electric guitar market up to the end of the guitar boom of the 1960s. Particularly emphasized is the effect on the instruments and their markets of the acquisition of many important American manufacturers by large conglomerates (Fender, for example, was acquired by CBS in 1965).

Although the title of the fourth chapter (by Millard) is "Solidbody Electric Guitars," this is slightly misleading, because the chapter's primary focus is on instruments made by Fender, especially the Stratocaster and its association with Buddy Holly. There is also a brief discussion of the impact made by Fender's electric Precision Bass model. Chapter five

discusses the often overlooked aspect of recording the electric guitar. Susan Schmidt-Horning traces the electric guitar—in the 1920s, simply a means for increasing volume—and its interrelationship with recording technology, which, through 1970s studio wizardry, became an artistic tool in its own right. In chapter six, "Playing with Power," Millard discusses the relationship between the post-World War II market and the electric guitar's then-current technology and design.

Chapters seven, "The Guitar Hero," and eight, "Heavy Metal: From Guitar Hero to Guitar Gods," both written by Millard in collaboration with Rebecca McSwain, examine the rise of the "Guitar Hero" during the 1960s and the ever-increasing virtuosity (and outrageousness, both personally and in their instruments) of rock lead guitarists during the last thirty years. The final chapter, by John Strohm, deals with women guitarists and is equal parts critique and sociology-infused memoir.

One of the stated goals of the book is to fashion a cohesive narrative of the electric guitar from diverse perspectives. For the most part, it succeeds in this. The introduction (which is almost an essay in its own right) and the first six chapters are particularly effective in placing the electric guitar in context as both an artifact and instigator of not only the American musical experience during the twentieth century, but American culture in general. The first three chapters, especially, although each by a different author, form a cohesive whole that is probably the most cogent account of the development of the electric guitar so far. Also noteworthy is the consistent inclusion of the contributions of women to the story of the electric guitar, not just in Strohm's chapter on women guitarists, but in the earlier, more historically oriented sections of the book.

As good as this book is, it is not without faults: the collective essay format means that the diverse sources, which provide wide perspective, also lead to an unevenness of tone among the various chapters. Additionally, due to the book having multiple authors writing on the same general subject, there is inevitably some overlap, which is not always to the benefit of the material. This results in the book's somewhat fragmented approach to some of its themes, especially consideration of the phenomenon of the "Guitar Hero" and in the sections examining the electric guitar and its market after World War II.

These, however, are mostly minor points. *The Electric Guitar: A History of an American Icon* does not purport to be the last word on the electric guitar, but is intended rather as an overview of the instrument and its impact. For anyone wishing to expand, in an accessible yet scholarly way,

his or her understanding of this uniquely American icon, this is an excellent point of departure.

MATTHEW HILL
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Stewart Carter, editor. *Brass Scholarship in Review: Proceedings of the Historic Brass Society Conference, Cité de la Musique, Paris 1999.* Buccina: The Historic Brass Society Series 6. Hillsdale, NY: Pendragon Press, 2006. x, 306 pp.: 72 illus., 11 tables, 27 musical exx. ISBN: 978-1-57647-105-0. $48.00 (cloth).

Brass scholarship has been on the upswing in recent years, with the addition of some notable young scholars to the field, and expansion of scope to include a wider variety of topics, such as performance practices, music, and nineteenth- and twentieth-century valved instruments. Another positive sign has been the book series *Buccina*, initiated by the Historic Brass Society under the general leadership of its founding president, Jeffrey Nussbaum.

Books allow authors to bring both range and depth to their analyses, not infrequently also engendering an enhanced readability over traditional journal articles. The hybrid form—the book that gathers together disparate articles, often based on papers read at a meeting—is a somewhat different matter. There the success of the venture depends not only on the quality of the contents, but also on the degree to which common themes can be found to unify the work. Otherwise the book differs little from a journal issue.

The present volume scores high marks on general quality of the articles it contains, but it is so eclectic in range of subject matter that it differs little from a typical issue of the *Historic Brass Society Journal*, apart from the fact that it is handsomely bound in hardcover. ("Brass instruments" is the sole unifying theme, apart from the largely irrelevant fact that the papers were all delivered at a meeting in Paris in 1999.) This eclecticism would not matter so much, perhaps, were it not for the worry that these articles will be overlooked by the scholarly community, as they will not always be indexed in databases of journal articles. They deserve to be noticed by as wide a community of scholars as possible: some of them should be read by organologists and other musicologists not focused on brasswinds.

That said, Stewart Carter has engaged in a successful dialogue with his authors, managing to assemble fourteen articles (and several reports of conference events) that merit the attention of specialists. The articles discuss subjects including living conditions of trumpeters in Renaissance Parma and the light their lives shed on social conditions there in general; the physics of sound production in trumpets; embouchure issues; repertoire in fox hunts in nineteenth- and twentieth-century Russia and nineteenth-century Germany and Austria; and historical figures such as Adolphe Sax and Pierre Louis Gautrot. In short, this collection has something for everyone.

I'll mention a few highlights, of necessity revealing my own biases. I had read the late William Waterhouse's excellent contribution to this volume, "Gautrot-Ainé, First of the Moderns," before I heard the news of his recent passing. Gautrot was indeed the first to use modern manufacturing techniques to produce musical instruments (and not just brass instruments) in large numbers, including many inexpensive (*pacotille*) models often used as stencil instruments by dealers in Europe and the United States. But he also produced the high-end "Gautrot-Marquet" line, named after his wife, Augustine Marquet. Waterhouse tells us that, in preparing his indispensable *New Langwill Index,* details of Gautrot's personal life were virtually impossible to find. In this article, Waterhouse expands our knowledge of this important maker, providing us with gems such as the etymology of "Marquet" and additional details of Gautrot's difficulties with Adolphe Sax, all culled from and inspired by research done by one of Gautrot's great-great-grandsons. Waterhouse will be sorely missed.

Brass makers and players alike have argued from time immemorial over the importance of the composition of the brass, as well as over which proportions produce the best result. Myths abound. Gautrot himself is apocryphally said to have been so impatient with these arguments that he built a horn of cheese (the story does not specify which kind!) to show that material composition matters little in sound production. In "Evaluation of the Composition and Technological Properties of Historical Brass in Instrument Manufacture of the Sixteenth to Eighteenth Centuries," Karl Hachenberg trains a keen metallurgical eye on the subject. He documents the generally high quality of brass used in Nuremberg, but also demonstrates the great variation in brass composition in general. My favorite single passage in the entire book comes from his conclusion (p. 74), and we might expect M. Gautrot to have concurred:

> In 1959 I experienced in Bremen a breathtaking performance of the Second Brandenburg Concerto by Adolf Scherbaum, and in 1992 an unforgettable interpretation of the Hummel Concerto by Maurice André in Cologne. As far as I am concerned, these performances were exclusively the result of the talent and skill of the artist, and also of his form on that particular day, rather than the analytical composition and/or crystalline structure of the brass in their trumpet bells.

Finally, I draw attention to the last paper in the book: "Brass Playing before Globalization," by Robert Philip. By "globalization," Philip means the invention of recording techniques, which allowed musicians to hear everyone else, as well as, of course, themselves. Philip compares recorded performances from different eras and places, and his examples are by no means restricted to brass. In reality, this is a piece of criticism rather than of "scholarship"—yet I found it the most riveting contribution of all. Homogenization and the deadly fascination with technical perfection are the twin negative side effects that modern technology imposes on musical performance in general. Whether or not one agrees, this is a piece well worth reading by all who study—or simply love—music.

Niles Eldredge
American Museum of Natural History

Readings in the History of the Flute: Monographs, Essays, Reviews, Letters and Advertisements from Nineteenth-Century London. **Edited and with an introduction by Robert Bigio. London: Tony Bingham, 2006. xxxi, 329 pp.: 33 black-and-white illus. ISBN: 0-946113-07-6. £35.00 (paper).**

Edward Blakeman. ***Taffanel: Genius of the Flute.*** **Oxford and New York: Oxford University Press, 2005. xii, 322 pp.: 25 black-and-white illus., 6 appendixes. ISBN: 978-0-19-517098-6, 0-19-517098-9 (hardcover); 978-0-19-517099-3, 0-19-517099-7 (paper). $74.00 (hardcover); $27.50 (paper).**

Nancy Toff. ***Monarch of the Flute: The Life of Georges Barrère.*** **Oxford and New York: Oxford University Press, 2005. iv, 437 pp., + 12 pp. black-and-white illus.: 2 appendixes. ISBN: 978-0-19-517016-0; 0-19-517016-4. $45.00 (hardcover).**

Flute maker Robert Bigio's splendid new anthology of nineteenth-century British tracts and treatises, essays, opinion pieces, letters, and advertisements relating to the flute takes us into the heart of flute exper-

imentation and manufacture in London during the middle four to five decades of the nineteenth century. New designs were being worked out, and new models offered to professionals and an astonishingly large flute-playing public, primarily made up of wealthy gentlemen. Some idea of the flute's popularity is suggested by an 1843 notice from *The Musical World* entitled "Flute-Mania" that begins: "A flute is a musical weed which springs up everywhere" (p. 58). London was, according to Bigio, the ideal place for the flute to develop, for "there was a completely free market in which no manufacturer needed to ask permission of any authority to set up in business"; moreover, "no central authority in the form of a powerful national conservatory . . . could dictate what sort of instrument was the correct one to play" (p. ix), as was the case in France. All these factors encouraged a proliferation of new flute designs in London—according to Bigio, more than a dozen in the two decades around the middle of the century. Hence the passionate debates recorded in this collection.

I longed, as I read, to be plopped down in the midst of a collection of flutes of different designs, so I could see their mechanisms and evaluate the claims made by flute makers and other authors represented here. Not having such a collection of instruments available was the greatest disadvantage in following the arguments and counter-arguments introduced by each individual flute maker and other writers presented in the collection. Yet, the volume also deals with many matters of musical practice and history in a way that is much easier to follow.

In the first few decades covered in these readings, Charles Nicholson and other professional flutists were still playing on "old" flutes. Bigio describes these as having a conical bore, a cylindrical head joint, six unequally spaced and unequally sized finger holes, and, by the 1840s, typically eight keys. All the keys were closed-standing except for low C-sharp and C. Experiments to extend the capabilities of these old-style instruments continued throughout the period and longer, especially in Germany and Austria. Still, probably by the 1850s, and certainly by the 1870s, every professional player in London used a "modern" flute of some sort.

But not all "modern" flutes were based on Theobald Boehm's design. In mid-century London, the debate "was not so much between supporters of the old flute and supporters of the new, but rather between supporters of rival new flutes" (p. 12). The new flutes had essentially evenly spaced and equally sized tone holes that were larger than those on most

old-system flutes; some, like Boehm's, had open-standing keys, though most had closed-standing keys and could be played with the fingering of the old flute. Boehm's first successful "modern" design of 1832 had a conical bore similar to that of the old flute, while his redesigned flute of 1847 had a cylindrical bore and so-called parabolic head joint. Likewise, some "modern" flutes by other makers had conical bores, while others had cylindrical bores. The inspiration for this flurry of development was apparently the great Charles Nicholson: Boehm was inspired to redesign the flute after hearing his powerful tone in 1831, and other inventors, suggests Bigio, were also trying to develop instruments that made it easier to sound like Nicholson.

Bigio's excellent introduction is filled with this sort of useful general commentary, and also includes detailed information about each author. Following that, the first two selections immediately throw us into the middle of a battle in print that took place between Nicholson and W. N. James, who had previously published critical remarks about Nicholson in both his flute magazine and *A Word or Two on the Flute* (Edinburgh: Charles Smith & Co., 1826; repr., London: Tony Bingham, 1982). While it is a disadvantage to the reader that James's prior appraisals of Nicholson in his flute magazine could not also have been included here—that is, if the original source materials might still be found—by the time we arrive at *Mr. W. N. James's Answer to Mr. Nicholson*, we can appreciate that James is fully up to the counterattack. The two criticized and taunted each other, James dismissing Nicholson's compositions (although praising some aspects of his playing) and Nicholson attacking James as "a self-satisfied pretender, the self-made professor, the great self-constituted arbiter of public taste . . ." (p. 5). Bigio notes that "Brobdingnagian egos interfered with anything that can be recognised as rational discussion" (p. xiii), and, in strong language of his own, calls James a "fool" and a "charlatan" (p. xiii), and suggests that James's stamp on a flute labeling himself "Maker to the King" made a patently untrue claim, and that the instrument was a factory-made one, possibly by Potter.

Following these opening selections and a substantial miscellany of shorter writings, we hear from flute teacher William Annand, whose *A Few Words on the Flute* (1843) provides advice on playing techniques, including embouchure, intonation, double tonguing, and the like. Annand describes the leading players of his day and touts the eight-key Nicholson flute as made by Thomas Prowse. Thomas Clotworthy

Skeffington's *"The Flute" in its Transition State* (1862) speaks for wealthy amateur flute players, many of whom were reluctant to learn new systems. Thus, Skeffington praises John Clinton's "Equisonant" flute for retaining the old system of natural fingering while removing its imperfections.

Clinton and Richard Carte, both professional players as well as makers, played the conical Boehm flute in the 1840s and wrote tutors for the instrument, but later developed their own designs. Carte's *Sketch of the Successive Improvements Made in the Flute* describes his 1851 Patent flute, which according to Bigio was "a radical new open-standing fingering system applied to Boehm's acoustical design." He also describes his new improved old-system flute, "an attempt to apply the fingering system of the eight-key flute with its closed standing keys to Boehm's design" (p. xx). Carte's two systems were intended for different markets—the first for flutists "who were not put off by the idea of learning a new fingering system but found Boehm's fingering rather awkward, particularly in sharp keys," and the second for "those who wanted as many of the [acoustical] benefits of the Boehm flute as they could get but were reluctant to learn any new fingering system" (p. xx).

Clinton's *A Few Practical Hints to Flute Players . . . to which is prefixed an explanation of the Equisonant Flute* of 1855 back-tracked on his earlier praise for Boehm's conical flute, and was now openly hostile to Boehm. Bigio suggests that Clinton turned against Boehm after the latter's new cylindrical flute was patented in 1847 and he enlisted Rudall & Rose to produce it; blocked from using the new design, Clinton pronounced it a bad idea and developed instead a conical flute with closed keys that could be played with the old system of fingering—his "Equisonant" flute. This interpretation differs from Ardal Powell's in *The Flute* (New Haven: Yale University Press, 2002), 162–63; Powell suggests that Clinton changed course because he was disappointed by Boehm's new design. But Bigio points out that Clinton began to make a cylindrical metal flute with Boehm fingerings when the patent on Boehm's 1847 flute expired.

In *The Flute Explained*, Cornelius Ward describes his own patent for an instrument that assigned an open-standing key or a hole to each finger, even though that left no finger available for the foot-joint keys; consequently, Ward designed a mechanism for the left thumb that operated levers attached to wires running the length of the flute. Bigio suggests that although Ward's execution of the design was beautiful, the flute was too bizarre for the market and failed to gain favor.

Theobald Boehm's contribution in the *Readings* includes the original English manuscript version (1847) of his *Essay on the Construction of Flutes*, which reached print only in 1882, in a slightly edited version (a German translation had, however, been published in 1847). Extracts from Boehm's letters to Walter Stewart Broadwood, who wrote the introduction to the English edition, are reprinted, as is Broadwood's translation of Boehm's diagram illustrating his method for siting the note-holes on wind instruments for every given pitch. Also included is a translation of Carl von Schafhaütl's letter on the "authenticity" (i.e., originality) of Boehm's invention. According to Bigio, Boehm (unlike Ward, Clinton, and Carte) did not make his *Essay* into an advertising tract for his flute; rather, he methodically explained his new instrument and the experiments he conducted to develop it. Among the new features, he made "at the upper end of [his] tube shorter or longer contractions, which in the outline of their form approached the 'parabola,' and which terminated in, or converged to, a hemisphere" (p. 294). Dayton C. Miller's careful measurements of many of Boehm's flutes reveal that the curve had little mathematical resemblance to the parabola despite the similarity in general shape (see Nancy Toff, *The Development of the Modern Flute* [Urbana: University of Illinois Press, 1979], 67). It is interesting to read Boehm's careful wording, given that the head joints of Boehm flutes are frequently described as "parabolic," without further qualification. (See also Terry McGee's discussion of Carte's use of the term "parabola," specifically with regard to the 1847 Boehm patent, at http://www.mcgee-flutes.com [accessed November 6, 2007].)

The large section entitled "Miscellany" includes information about concert artists of the period, their repertory and performing styles, the character of the flute, and the reactions of the public to what a certain Marsyas called "The Flute Controversy." One writer asserted that the flute had been improved until its true character had been impaired, if not destroyed (p. 44), while another declared that the flute had changed for the better, writing, "the old-fashioned one-keyed flute was well styled a 'lugubrious howling-stick,' for on it, it was impossible to play in tune. It was this being out of tune which the poet eulogizes when he sings of the 'soft complaining flute' " (p. 46). A hilarious letter addressed to "my dear Phunniwistl" ridiculed both contemporary flute performance and composition. Bigio reprints letters related to the introduction of the conical Boehm flute in England (previously reproduced by Christopher Welch in his 1882 *History of the Boehm Flute*), plus a flurry of letters from the

1845 *Musical World* that Welch did not include. In all these matters, Bigio's comments help place the readings in a broader context.

Historical instrument makers and performers on historical flutes should find the rich source material in this collection fascinating, as well as essential reading. Readers with an interest in the history of performance styles as well as in no-longer-fashionable nineteenth-century styles of composition will also find the collection useful and entertaining. Robert Bigio is to be highly commended for bringing together so many interesting pieces relating to the flute and its development in nineteenth-century England; the book makes it easier to compare developments there with those elsewhere. His brief bibliography and list of patent specifications may also be useful. That the book contains no index is extremely disappointing, however. One would think that in such a collection, an index would be *de rigeur*, as without it readers will have to hunt through the selections again and again to find the information they seek.

* * *

The books by Edward Blakeman and Nancy Toff are both splendid biographies of important flutists who flourished largely after the period covered by Bigio's *Readings*. Since these flutists were natives of France, where the Boehm flute was accepted much earlier than in England, the biographies show few points of correspondence with the Bigio volume. Yet they too offer sufficient information about the flute, its repertoire, and performance practice to be well worth the time of readers interested in the history of musical instruments. Paul Taffanel (1844–1908), widely considered the founder of the modern French school of flute playing, is the subject of Blakeman's fine biography (based on his PhD work). Taffanel was also a composer and conductor, and the founder of an important chamber music society for wind instruments. The young Taffanel began with an "old-fashioned" flute, but may have been playing a "state-of-the-art" cylindrical wooden Boehm-system flute by around 1854. When Louis Dorus was appointed flute professor at the Paris Conservatoire in January 1860, the year Taffanel joined his class, he immediately imposed the Boehm flute at the Conservatoire. It soon became the standard instrument for all professional players. Dorus also recommended that Louis Lot be appointed official supplier of flutes to the Conservatoire. When Taffanel won a *premier prix* the following summer, he was presented with a nickel-silver instrument made by Lot, and he was to play on Louis Lot flutes throughout his career.

The soprano Adelina Patti provided Taffanel with "an invaluable model of sound production and limpid tone" (p. 23). In the draft text for a projected flute method, Taffanel wrote that "quality of tone is the most important thing to cultivate on the flute" (p. 105). Blakeman brings to light Taffanel's otherwise undocumented involvement with the firm of Louis Lot: an 1888 letter reveals that a new design of Lot flute embouchure with a chin support had originally been Taffanel's idea. Correspondence also shows that Taffanel was approached by an independent flute maker, Djalma Julliot, in 1887, and that he made various suggestions regarding possible improvements in Julliot's designs. But by the time Julliot's first flutes were produced, Taffanel had given up regularly playing in public, and he still considered Lot flutes best for his students.

Blakeman contends that without Taffanel there would not have been such an influential French flute school in the twentieth century. He also credits him with reintegrating the flute into the mainstream of chamber music and reestablishing it as a solo instrument with "a flexible, expressive, and evocative character" (p. 218). Indeed, Blakeman suggests that although Taffanel "never lived to hear Debussy's *Syrinx*, the *Sonate pour flûte, alto et harpe*, and the later works of Ravel or Roussel, they were the true musical realization of his ideals" (p. 182).

Nancy Toff, distinguished author of *The Development of the Modern Flute* and *The Flute Book*, focuses in *Monarch of the Flute* on the life of Georges Barrère. (The epithet "Monarch of the Flute" was Olin Downes's, according to Susan Nelson ["Georges Barrère," *ARSC Journal* 24, no. 1 (1993): 4].) After playing fife in a program of military education in the late 1880s, Barrère was introduced to the silver Boehm flute by Léon Richaud, a player in the Lamoureux Orchestra, and admitted to the flute class at the Paris Conservatoire at age fourteen, in 1890. After an undistinguished period of study with Henri Altès, Barrère became energized by his work with Taffanel, who was appointed to teach there in 1893. Barrère would soon begin a distinguished career in Paris, playing first flute in the premiere of Debussy's *L'Après-midi d'un faune* in 1894, taking first prize at the Conservatoire in 1895, and playing in the Opéra and Colonne orchestras. He was also at the center of the Baroque revival in France as a teacher and performer at the Schola Cantorum (although not on historical instruments). Invited in 1905 to become principal flutist of the New York Symphony by Walter Damrosch, Barrère emigrated to the United States and exerted a lasting influence on genera-

tions of American flute players, founding the woodwind department at the Institute of Musical Art and continuing to teach when it was incorporated into the Juilliard School. According to Toff, Barrère quickly displaced Carl Wehner—who had studied with Boehm in Germany, played first flute in the New York Philharmonic on a wooden, open-G-sharp, closed-hole flute until 1902, and refused to teach anyone who played a metal instrument—as the leading flute player in New York. Barrère worked with the William S. Haynes Company, and became a major influence on the young Verne Q. Powell. The Haynes Co. and Powell came to dominate "the American flute market with their silver instruments for most of the century," also training several generations of American flute makers (p. 101). Barrère's experiments with gold and platinum flutes are also traced in Toff's study, as are many other facets of his career, including his championing of the flute as a solo instrument, his introduction of it to a wider public, his solicitation of new repertoire, his performance of masterworks of the past, and his historic recordings.

Toff's moving epilogue provides an elegant summation of Barrère's importance in all these realms. But her most important message for readers of this JOURNAL will be Barrère's enormous influence on flute playing, including the nearly universal adoption of the silver flute in the United States.

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Jan Bouterse. *Dutch Woodwind Instruments and their Makers, 1660–1760.* Utrecht: Koninklijke Vereniging voor Nederlandse Muziekgeschiedenis, 2005. CD-ROM, 637 pp.: over 2,000 photographs and figures; accompanying book (cloth), 79 pp.: 22 color photographs, 2 black-and-white photographs, 4 line drawings. ISBN: 90-6375-198-2. €55,00.

The Dutch recorder and flute maker Jan Bouterse is known for his detailed articles on Baroque recorders, transverse flutes, and *Schalmeien* and for his contributions to two catalogs of woodwind instruments in the outstanding collection of the Gemeentemuseum in The Hague. His *Dutch Woodwind Instruments and their Makers, 1660–1760* is a systematic investigation of the work of more than thirty makers in Amsterdam and the Republic of the United Netherlands from 1660 to 1760, discussing nearly 250 recorders, transverse flutes, oboes, bassoons, clarinets, and *Schalmeien*, now dispersed worldwide.

The CD-ROM is a revised and augmented version of Bouterse's Utrecht University doctoral dissertation of 2001, translated into English by Ruth Koenig. It contains instructions for use; an introduction; eleven chapters; a summary and conclusions (in both English and Dutch); a bibliography; and four appendixes. Besides photos and drawings of instruments, Bouterse includes photos of paintings, at least one engraving, and tables. The photos vary considerably in quality, as Bouterse notes in his text.

The text is organized in the strict, scientific style of many Germanic dissertations, with numerical divisions for each new subject discussed (1.5.1, 1.5.2, etc.). The longer chapters are on sources and methods (chapter 1); stamps and inscriptions (chapter 6); recorders and flageolets, with ninety-six recorders discussed (chapter 7); transverse flutes, with forty-five discussed (chapter 8); and oboes and *deutsche Schalmeien*, with ninety-six oboes and twenty *Schalmeien* discussed (chapter 9). Shorter chapters examine biographical data (chapters 2 and 3) and the production and distribution of instruments (chapter 5). The shortest chapters concern Dutch instruments that have survived in few examples: dulcians, bassoons (three survive), and racketts (two survive) (chapter 10); and *chalumeaux* and clarinets (two survive) (chapter 11). Appendix C is an extremely useful catalog, presenting a description of individual instruments, their location, museum number (if available), measurements taken by Bouterse over a period of twenty years, and a photo or photos. The commentary is in Dutch, but a concise English version is provided.

The booklet contains information selected by the author to highlight the CD-ROM contents: excerpts from the introduction; an overview of all the chapters; a list of instruments; and the summary and conclusions. It also includes photos of instruments, makers' stamps, and a trade card (Coenraad Rijkel's); line drawings of instruments; and color reproductions of a painting, *Young Flute Player* (before 1636), by Judith Lyster (Nationalmuseum, Stockholm). The drawings are also on the CD-ROM; the photos, taken especially for the booklet, are not. The instruments in the booklet's color photos are not identified.

The CD-ROM format allows users to move easily about the data using Adobe Reader. The text includes purple links to different sections, drawings (Bouterse calls them "tracings") of instruments, or bibliographical references; red links take the reader to footnotes. Most of the instruments have been photographed in various views, and there are addi-

tional photos of individual parts and the maker's stamps. The reader clicks on a square or rectangle outlined in red to go to a different view. After navigating away via links, the reader can backtrack by clicking on a green arrow at the bottom of the page.

Numerous cross-references enrich the rather factual text with fascinating details. For example, Bouterse writes in chapter 6 (p. 234, n. 46) about a stamp, found only on Dutch instruments, that shows a peculiarly flat fleur-de-lis. (William Waterhouse, *The New Langwill Index* [London: Tony Bingham, 1993], 31, s.v. "Beukers," suggested that it may represent a sheaf of wheat.) Bouterse provides a link to a photo of a beautiful yellow iris (*Iris pseudacorus*), commonly found in the Netherlands and sometimes called a fleur-de-lis, that may be the model for this stamp.

Bouterse writes in a very clear, common-sense manner, and his writing reflects his extensive knowledge of the literature. His background as a maker enriches his discussion of measuring instruments, woods used, and the structural details, including the bore, finger holes, turnery, keys, and springs. He is critical of the interpretation of certain details of instrument construction in earlier organological work, and he points out additional methods that can be used to study woodwind instruments. For example, he comments (chapter 1, pp. 26–27) on the extensive variations of makers' stamps of the seventeenth and eighteenth centuries, and on the silence of specialized studies and even catalog descriptions regarding their size and location on the instrument. Although he rightly extols the virtues of the three extensive folio volumes that catalog the woodwinds in the Gemeentemuseum, Bouterse regrettably does not mention the detailed photos of keys and makers' stamps and the similarly precise measurements that appear in Martin Kirnbauer's catalog of the woodwind instruments in the Germanisches Nationalmuseum, Nuremberg (*Verzeichnis der Europäischen Musikinstrumente im Germanischen Nationalmuseum Nürnberg*, vol. 2, *Flöten- und Rohrblattinstrumente bis 1750: Beschreibender Katalog* [Wilhelmshaven: Florian Noetzel, 1994]).

Although Bouterse makes some astute observations in chapter 11 on the construction of the clarinets by Boekhout and Borkens, he is weakest in his discussion of the clarinet. He does not recognize that it, unlike the other woodwinds, was a transposing instrument during the eighteenth century. His system of describing recorders, flutes, and oboes by the pitch of their lowest notes is not useful in describing eighteenth-century clarinets because the latter have varying downward extensions of one or more notes. Bouterse omits mention of an important photo of the

Boekhout clarinet, including its now-missing mouthpiece-socket joint, in Phillip T. Young's *Twenty-Five Hundred Historical Woodwind Instruments* ([New York: Pendragon Press, 1982], plate XI). The English description of an incomplete five-key clarinet by Johannes van der Knikker (in Appendix C) misidentifies the F-sharp/C-sharp key (for the left-hand little finger) as an E-flat key.

One of the publication's most important contributions is the biographical data on makers, found in chapter 2. Much of this material, which Bouterse, J. H. Giske, and Rob van Acht discovered in archival sources, is previously unpublished. (Some of it appeared in Rob van Acht, Jan Bouterse, and Piet Dhont, *Dutch Double Reed Instruments of the 17th and 18th Centuries: Collection Haags Gemeentemuseum* [Laaber: Laaber Verlag, 1997].) For example, Bouterse reports that Jan Boekhout (b. 1696), son of Thomas Boekhout, announced in the *Gazette d'Amsterdam* on June 14, 1718, that "[he] continues to make all kinds of instruments including recorders, oboes, [and] bass recorders, as well as a recently invented bassoon: he has also just invented another instrument called the Clarinet, which can be played in a large concert" (il continuë à faire toutes sortes de Flûtes, Hautbois, Basses de Flûtes, comme aussi des Bassons d'une nouvelle invention: il vient encore d'inventer un autre instrument, nommé Clarinet, dont on peut se servir dans un grand Concert). As a similar advertisement by T. Boekhout from 1713 (see Waterhouse, *New Langwill Index*) did not mention the clarinet, it seems possible that the one surviving two-key clarinet (Musical Instrument Museum [MIM], Brussels, M2561) stamped with "crown/T.BOEKHOUT/ lion rampant" was made by Jan Boekhout about 1718 or later. Its structure, appearance, and turning indicate that it was a copy of a clarinet by Johann or Jacob Denner.

Bouterse has thought deeply on many technical issues, with mixed results. He adds a disclaimer regarding differences that occur in measurements of instruments, taken by the same or different researchers, in different published sources. He sensibly suggests that builders who wish to copy particular instruments go to the museums and measure the instruments themselves. In chapter 1 (p. 19), Bouterse devises his own system for notation of pitches for the bassoon compass, using note letters with abbreviations for the fundamental, B-flat^{co}, and the great octave, C^{gr}. The suffix 0 refers to the tenor oboe's fundamental of f^{0}. The reviewer finds this new system unnecessary and unhelpful. However, Bouterse rejects Bruce Haynes's use of the term *hautbois* or *hautboy* for many early

oboes since, for the sake of consistency, Bouterse would have to use old terms such as *basson* for bassoon and *fluit does* for the recorder.

Bouterse's bibliography and text indicate that his sources end at 1999: thus he relies on the 1980 *New Grove Dictionary of Music,* which is unfortunate, since many of the articles have been updated in the 2001 edition and in *Grove Music Online*. For the English translation, however, he has added a few sources up to 2002 and listed one catalog published in 2004. The index of names is a little cumbersome to use on the CD-ROM, since only page numbers are given, not the chapters into which the CD-ROM is divided. The reader must click on the main index with its full table of contents to find the chapter in which a certain page is located. The English translation of the text is very good, with only a few insignificant typographical errors; the English summary of individual instrument entries in Appendix C, written by Bouterse, is less adept.

Bouterse has produced an important reference publication for organologists and researchers. The CD-ROM and booklet format make it a powerful tool, allowing the user to move easily about the contents. The numerous photos and illustrations provide much useful information, especially when multiple views of an instrument are available. The work on makers' stamps and the new biographical data are significant, and the breadth and depth of the material are impressive. This publication belongs in all research libraries and the libraries of serious woodwind instrument makers, students, and researchers.

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Bernard Brauchli, Alberto Galazzo, and Ivan Moody, editors. *De Clavicordio VI: Proceedings of the VI International Clavichord Symposium, Magnano 2003*. Magnano: Musica Antica à Magnano, 2004. 199 pp.: 14 photographs, 12 figs., 2 drawings, 20 tables. ISBN: 88-900269-3-6. €50,00 (paper).

De Clavicordio VI is the proceedings of the sixth annual International Clavichord Symposium at Magnano, which took place September 10–13, 2003, bringing together musicians and scholars of history, organology, iconography, and musicology, all broadly defined. The focus of this conference was clavichord history before 1700, and most of the essays follow this theme. The table of contents may be seen at http://www.omifacsimiles.com/brochures/declav_6.html.

The sixteen papers taken as a whole begin to clarify details of a historical and cultural picture that is still foggy. They also evoke a gathering of scholars and enthusiasts that I would have found very congenial, and I was moved to seek out previous volumes of *De Clavicordio*. In the space available, I will comment on just a sampling, chosen for their emphasis on physical organology.

The essays of Alfons Huber, Thomas Glück, Andreas Hermert, and Maria Erdmann examine clavichord design and tuning in light of available materials and the mathematics of tuning possibilities. In "Iron Scale or Brass Scale—When Were these Concepts First Used?" Huber combines published writings on clavichord construction from the fifteenth century and later with evidence of modern physical experiments; he concludes that ferrous wire may not have been stronger than brass in the late Middle Ages. The article is self-contained, in that it starts with a review of the then-current understanding of brass and ferrous scales (i.e., the relation between string length and frequency for each material) in eighteenth–century practice.

Huber discusses the limitations of using mathematical ratios, such as 6:5 or 7:6, to determine string length. Such ratios cannot be strictly applied due to a variety of physical factors, including tensile pickup, observable when wire is drawn from modern brass and ingot iron (modern wire, unlike earlier wire, gets proportionally stronger when it is drawn smaller). He then examines written sources for clues to early uses of the two materials. Early comments on the differences between brass and iron strings seem more focused on sound than on scale length; however, clues to pitch can be found in Arnaut de Zwolle's comparisons of string length to organ pipes, ca. 1440. Huber then examines physical limits of the early fretted clavichord structure, including those imposed by extreme cranking of the bass keys.

The groundwork is thus laid for the experimental work that makes this paper important. Huber performed experiments on loose chainmail rings of both brass and iron that probably date to before 1500 (chain mail became obsolete as firearms came into use). He drew three samples of each down to about 0.16 mm and measured hardness as a surrogate for tensile strength, concluding that the two materials may not have differed nearly as much as the later versions. This was the beginning of a series of experiments that were not all finished by the time of the conference, and it provides a fascinating foretaste of what I hope Huber will report at subsequent conferences.

One part of the puzzle is not addressed in this paper. Both iron and brass differed significantly in composition depending on origin, both because of impurities native to the ore, and because methods of processing differed. For example, Brian G. Awty ("The Development and Dissemination of Walloon Ironworking," *Technology and Culture* 48, no. 4 [October 2007]: 783–803), discussing the first large batch of iron cannonballs made in Europe (in 1414), mentions that Walloon iron, while suitable for cannonballs, was unsuitable for some other uses because of impurities. Loose chain-mail rings are hard to trace to a maker or refining process, but trace-element analysis may one day provide clues. This information, in conjunction with research on patterns of trade and commerce, might provide some clues as to where the metal was processed. It is no flaw that the paper stimulates such questions in a reader, as it may also trigger further fruitful research.

An earlier paper by Huber inspired Thomas Glück to write "Rack Division—The Fingerprint of Historical Fretted Clavichords." Huber had found the rack spacing of five traveling clavichords to be so similar that some explanation seemed required, or at least that pure coincidence could be excluded. Three of these clavichords are probably by Otto Joachim Tiefenbrun, he found, the other two by Johann Heinrich Gräbner.

A modern reader might assume that quarter-comma meantone fret spacings would be mathematically obvious. But early builders did not have logarithms, slide rules or calculators. If a master had a scale-stick and fret pattern that worked, his apprentices would be likely to copy it, as well as other details of construction, such as the angles formed by the string band and the fret face with the back wall.

Glück proposes a rack-spacing data bank to search for other similar correlations in the physical record. To build a case for such a project, he explains the limits on layout that all makers of fretted clavichords face, suggesting that there are enough choices to distinguish traditions, if not individual builders. He helpfully offers a non-contact way of measuring the rack with a laser-pointer mounted on a rail (much more likely to be acceptable than methods that require contact with old artifacts), and he hopes those with access to anonymous instruments will provide detailed information to the database.

In "A Seventeenth-Century Clavichord from Poland," Andreas Hermert describes an unusual clavichord, made in Kraków by "Jacobus," that shows features archaic by the time of its apparent seventeenth-century

date, given on a paper label as "16[?]4." The instrument has been in the Clarist convent in Stary Sącz, southwest of Kraków, for most, if not all, of its existence.

The forty-five-note compass is normal for that time, but other features seem archaic. For example, the instrument has a full-length soundboard that passes under the key levers, wrest plank, and hitch-pin rail, spanning the whole length of the box. Its bridge, necessarily tall, is not curved, and is held without glue by the pressure of the strings. The string band is nearly parallel to the spine (back wall). Instead of rack slots, the instrument has brass blades that jut out of the rack, and matching slots in the ends of the keys. The full-length soundboard seems a hangover from earlier practice, but the "male" rack is unique, to the author's knowledge (and mine). These features may indicate a line of apprenticeship that separated very early from the rest of central Europe.

Kraków archives mention a cabinetmaker Jacobus, active in the early seventeenth century. The lid painting and inscription, however, commemorate the installation of the new abbess of the convent in 1691. That this instrument can be identified with a specific place and a relatively specific time gives it a significant place in clavichord history.

The Jacobus clavichord also figures in Maria Erdman's overview of a Polish treatise, whose title she translates as *The Tablature of Music or Musical Practice* (Kraków, 1647). The author of the treatise, Jan Alexander Gorczyn (1618–1694), was born and died in Kraków. He was a bookseller, printer, and author of several books on various subjects. His ten-chapter tablature was couched as a "catechism" in question-and-answer form for beginners and amateurs of music.

Erdman translates the short tenth chapter, "On the Tuning of the Clavichord," in its entirety. Gorczyn devotes two paragraphs to stringing, giving a starting gauge and suggested ranges. If a note doesn't sound right, he suggests trial and error. He also includes cautions one would hope unnecessary, such as "you also need to learn that you should never wind two strings on one pin . . ."

Gorczyn gives hints on tempering some intervals: he is not explicit enough for me to identify the tuning, but it includes at least one pure third. Erdman questions why the pure third needs mention, and proposes that maybe there was only one. Then, given that Gorczyn distinguishes different kinds of fifth, she suggests the possibility that one of those could be a pure fifth. From there she leaps to the suggestion that Gorczyn anticipated Kirnberger III tuning, which would emerge in print

only in 1760. This is a bold hypothesis, not easy to reconcile with a triple-fretted clavichord like the Jacobus instrument. However, Gorczyn did not say specifically that he was discussing a fretted instrument. Also, any number of working musicians, even before Gorczyn, might possibly have discovered that one pure third, with pure fifths almost around the circle, results in bearable enharmonics. I believe Erdman will face a lot of criticism over this, though not from me.

Erdman dissects Gorczyn's stringing instructions, which give no information about fretting. She refers to the Jacobus clavichord mentioned above, which she has inspected; gives her interpretation of its triple-fretting scheme; and suggests a possible stringing in millimeter diameters for such an instrument, consistent with Gorczyn. Erdman also discusses Gorczyn's fingering directions at length, attempting to untangle some of the ambiguities, and she succeeds in extracting some interesting fingering suggestions that differ from those of other sources. Players will doubtless judge their plausibility through trial.

In "Every Player's First *Grammatica*," Gregory Crowell advances an explanation for the value German organists placed on the clavichord for practice and teaching in the sixteenth through eighteenth centuries. In particular, he raises the question of why it was less important to French organists. Marpurg is quoted as saying that Jacques Duphly "plays only the harpsichord in order, as he says, not to spoil his hand by playing the organ." No German keyboardist had the luxury to be so specialized. Crowell launches the argument with a quotation translated from Johann Gottfried Walther's *Musikalisches Lexikon* of 1732. Walther apparently considered the clavichord so familiar that there was no need to describe it, calling it the "first *Grammatica*" of all keyboard players, "for if they have command over [it] they can also get on well with spinets, harpsichords, regals, positive [organs] and [large] organs."

Crowell tries to convey the significance of the word *Grammatica* in German culture, going back as far as Martin Luther in a 1530 sermon. The *Grosses vollständiges Universal-Lexicon* (1743) of Johann Heinrich Zedler, which quotes the Walther clavichord entry nearly verbatim, has its own lengthy definition of *Grammatica*. It begins: "an art that displays how one writes and speaks a language correctly, and has four main sections: orthography, etymology, prosody, and syntax." After a lengthy exegesis of the origin and history of the word, Zedler closes his definition with a very important application of *Grammatica*, "the study of foreign languages." I am grossly oversimplifying Crowell's (and Walther's)

argument; it is well worth reading whole, as are a host of other essays in this compendium.

I am unable to accept Crowell's understanding of two quotations (p. 58) describing keyboard technique. One is Burney's description of Handel's playing, the other a translation of Forkel's description of J. S. Bach's. In both cases, Crowell takes the absence of visible hand motion to imply that arm motion is used to press the keys. I take both authors to mean that finger motion is hidden by the hand. Except for this caveat, I find Crowell's essay utterly compelling. Of course, I became convinced of the value of clavichords more than thirty years ago through comments made by the modern organists Harald Vogel and the late Klaas Boldt, both of whom emphasized the importance of clavichord practice in achieving an idiomatic style for early organ music.

I hope readers will be sufficiently tantalized by my words that they will look for *De Clavicordio VI,* and that they will enjoy it as much as I did.

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Gerhard Doderer and John Henry van der Meer. *Cordofones de tecla portugueses do século XVIII: Clavicordios, cravos, pianofortes e espinetas / Portuguese String Keyboard Instruments of the Eighteenth Century: Clavichords, Harpsichords, Fortepianos and Spinets.* Lisbon, Fundação Calouste Gulbenkian, 2005. 489 pp: 109 plates (88 color photographs, 21 black-and-white photographs), 20 silhouettes. ISBN: 972-666-077-7. €35,00 (paper).

Studies of stringed keyboard instruments of the Iberian peninsula have been few and far between, most likely due to the difficulty of accessing the few instruments that have survived to the present day. This volume is the most important source of information in existence today about Portuguese stringed keyboard instruments of the eighteenth century and the only survey on the subject to appear since Gerhard Doderer's *Clavicórdios portugueses do século XVIII / Portugiesische Klavichorde des 18. Jahrhunderts* was published in 1971, over thirty years ago. The authors do not claim this new publication to be a systematic organological study, but rather a summary of information about instruments with which they are familiar. However, it contains enough information to keep even the most meticulous of organologists happy. The instruments in the study include

clavichords, harpsichords, fortepianos, and bentside spinets, all constructed in Portugal during the eighteenth or early nineteenth centuries.

The book is written in both Portuguese and English, with the Portuguese text appearing first. In between the two texts are an illustrated list of moldings, with silhouettes depicting each component for twenty of the instruments discussed; a glossary of terms in both languages; and 109 photographs, most in color, illustrating the instruments. An exhaustive bibliography on Portuguese keyboard instrument making concludes the volume.

The opening chapter in both the Portuguese and English versions consists of three sections. The first offers a historical overview of Portuguese stringed keyboard instruments from the Renaissance to the Romantic era, drawing on original documents and twentieth-century studies. We learn that the clavichord was present at the Portuguese court as early as 1428, and that harpsichords and clavichords made their way to Portuguese overseas territories in the sixteenth century. There is even an account of harpsichords finding their way to Japan through Portuguese sources. Names are known of instrument makers in Lisbon from the beginning of the sixteenth century onward, but they cannot be associated with particular instruments.

The second section is concerned with Portuguese instrument makers of the eighteenth century. Information on Portuguese makers and professional guilds is still scarce, but the authors provide the latest biographical research on eleven makers, most of whom are otherwise known only by extant instruments from their workshops. In some of the biographical sketches, historical documentation, such as official licenses, broadsheets, and wills, is presented in sidebars. These provide interesting insights into the daily life and cultural norms of eighteenth-century Portugal as well as information on the makers.

The third section discusses the orientation of the keyboards and development of the keyboard compasses of the instruments, and categorizes them according to their lowest note: C, G or F. Subcategories list the various compasses, including the short octave; the approximate dates in which these compasses started appearing in Portugal; and the keyboards in the study that fall into each subcategory.

The rest of the volume is dedicated to description of the instruments themselves. Each category is assigned a different chapter heading: “Clavichords and Square Pianos,” “Wing-Shaped Instruments with Strings Running in the Direction of the Key Levers,” and “Bentside

Spinets." Each chapter begins with an introduction that compares and contrasts information about general construction, color schemes, decorations, moldings, materials, and other data for all the instruments in the category, allowing the authors to draw conclusions about stylistic similarities and differences among the instruments. Following the introduction, each instrument is given its own section with more detailed description, including measurements. Alterations and restorations are also noted. Headings include ownership and provenance, bibliography, and restoration and discography, if applicable.

Clavichords make up the largest category of the instruments in this survey. Seventeen instruments are included, although only four have dates or signatures, or both. The authors briefly discuss the remains of three other clavichords found in the Colégio de Nossa Senhora de Saúde da Vila de Redondo, but do not include these in the detailed descriptions. One of the most interesting facts of this study is that in Portugal clavichords were manufactured until the middle of the nineteenth century, perhaps even as late as 1855. Makers continued to use older techniques that had been abandoned in Germany and Sweden decades earlier. As a result, all known Portuguese clavichords are fretted, and fretting was used in clavichord manufacture right up to the very end.

Only one square piano, from the workshop of Tataros in Coimbra, is discussed in detail. Although this maker, whose first name is unknown, also built clavichords in the old style, he incorporated more modern elements into his 1824 square piano, which is based on an English design. Another square piano, preserved in the Colégio de Nossa Senhora de Saúde da Vila de Redondo, is anonymous and of uncertain provenance. The authors provide a brief description of it to allow readers to make their own judgment as to its origin.

Harpsichords and fortepianos are grouped together in chapter three (chapter nine in the English version) because of the similarities in their construction and the fact that makers in the second half of the eighteenth century built both types of instrument. The authors distinguish three types of Portuguese harpsichords: those showing a direct Italian influence; those revealing a definite Portuguese national style; and those built in a national style but with English influences. Only one example of the first type exists—an octave harpsichord in the Musikinstrumenten-Museum SIMPK, Berlin. Although the origin of this instrument is unclear and it has prominent Italian features, the authors ascribe it to a

Portuguese maker due to the presence of Portuguese characteristics. These include the fixing of the bottom plank to the underside of the case walls, the use of rosewood veneer on the keyboard end blocks, a C–d''' compass, and other details. Portuguese attribution is also based on an inscription (albeit nearly illegible) on the highest key of the instrument and the fact that it was purchased from someone in Portugal.

There are eight instruments in the national style category: five harpsichords and three fortepianos converted from harpsichords. Since only instruments from after the middle of the eighteenth century are dated, it is difficult to say when the national style first started to develop. Based on the compass of the instruments thought to be earlier (C–d''') and the keyboard compositions of Domenico Scarlatti and Carlos Seixas from the first half of the century, the authors fix 1720 as a possible reference point for the beginning of the national style. All of the instruments in this section have a fairly similar construction. Several workshops were active in Lisbon during the period 1720 to ca. 1790, but there do not seem to be specific characteristics by which each maker may be identified.

Only one instrument is identified as having some English features—a harpsichord by Mathias Bostem from 1789, later converted to a fortepiano. Although it is little more than a shell, with the nut, bridge, keyboard, and action missing, it still provides valuable information: it includes many of the features of the national-style instruments. Dissimilarities that may be attributed to an English influence include a completely veneered case, a stand unlike the Portuguese type, and a "swell" section added to the lid, with a pedal to operate it. The pedal was probably used to raise the dampers when the instrument was converted to a fortepiano.

In an appendix to this chapter, the authors describe yet another instrument, an octave harpsichord that appears to have been built in the Southern Netherlands in 1724. It was later exported to Portugal, where typically Portuguese changes were effected: these include alterations in the mounts for the front slide and in the layout and compass of the keyboard; the addition of arcaded fronts for the naturals; and paintings on the case. These changes document the Portuguese style, even if the instrument itself is not of Portuguese origin.

The second section of chapter three deals with four wing-shaped fortepianos that are of certain Portuguese provenance, all dating from a period of about thirty years, ca. 1750–77. Two further instruments are mentioned, but not included in the detailed study, the one having too

few original features left after undergoing extensive repair, and the second being more likely of Spanish provenance. The four fortepianos include one each by Henrique van Casteel, the brothers Manuel and Joaquim José Antunes, and Mathias Bostem. The fourth instrument, although similar in timbre to the Antunes instrument, is anonymous and possibly the earliest of the group. This is a fairly homogeneous grouping, and it is clear that the makers based their cases, soundboards, wrest planks, nuts, bridges, and hitch-pin rails on their harpsichord-building practices. A special feature of Portuguese fortepianos is the grouping of the stringing into divisions of 4 x 10 + 11, or 14 + 3 x 13, which is continued in the grouping of key levers. Portuguese fortepianos have an action modeled on that of the Cristofori piano, and there is concrete evidence that Cristofori-type pianos were known at the Portuguese court as early as 1732, if not earlier.

The last chapter deals with bentside spinets, giving a general history of the instrument and detailed descriptions of two instruments of Portuguese provenance. One, by Mathias Bostem, is in the Museu Imperial in Petrópolis, Brazil; the second, an anonymous instrument later converted into a fortepiano, is in private hands in Switzerland.

Obviously, this book is aimed primarily at those interested in technical data about Portuguese stringed keyboard instruments, and the exhaustive descriptions make it invaluable as a reference volume. Other readers will find something of interest here as well, particularly in regard to the history and development of Portuguese keyboard instruments. The beautiful photographs enable the reader to visualize the features described in the text, although it would have been helpful to have labels, identifying the various parts for those unfamiliar with the anatomy of the instruments. This is a very small criticism for a work that will serve as a landmark document on Portuguese stringed keyboard instrument making for years to come.

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John Henry van der Meer et al. ***Alla ricerca dei suoni perduti: Arte e musica negli strumenti della collezione di Fernanda Giulini / In Search of Lost Sounds: Art and Music in the Instruments Collection of Fernanda Giulini.*** **Briosco, Italy: Villa Medici Giulini, 2006. 716 pp.: ca. 709 color photographs, 72 black-and-white photographs, 25 drawings, 81 facsimiles, 33 diagrams, 7 graphs, 4 family trees, 81 tables, 1 musical ex., 2 CDs. ISBN: 978-88-95325-00-2. €150,00 (hardcover).**

Giuseppe Barigazzi, John Henry van der Meer, Daniela Di Castro, and Michael Latcham. ***Walter e Stein gli strumenti di Mozart: Arte e musica nella collezione di Fernanda Giulini / Mozart's Piano Makers Walter and Stein: Art and Music in Fernanda Giulini's Collection.*** **Briosco, Italy: Villa Medici Giulini, 2006. 84 pp.: 69 color photographs, 2 black-and-white photographs, 2 facsimiles, 2 diagrams, 3 tables. No ISBN. €40,00 (paper).**

Over the past twenty-five years or so Fernanda Giulini has assembled a noteworthy collection of musical instruments, which these volumes (and the accompanying recordings) document for "those who wish to discover the art of musical instruments and . . . to know more about the magical world of sounds" (p. 7). The co-proprietor of a family business primarily devoted to making and selling women's clothing, Signora Giulini holds a diploma in piano from the Conservatory of Milan and began, not surprisingly, by buying examples of antique keyboard instruments, to which eventually were added a lesser number of other kinds of plucked-string instruments. As presented here, her collection consists of seven harpsichords, two harpsichord-piano hybrids, twenty-three pianos dating from before the mid-nineteenth century, and six pianos of more recent construction, together with three organs, eleven harps, five psalteries, two mandolins, and a guitar. The harpsichords and harps are kept at her home in Milan, while the pianos and organs are located at a seventeenth-century country estate outside that city, where a part of the property also functions as a conference center under the name of Villa Medici Giulini. Evidently most of the instruments are in playing condition, and at least some are used from time to time for public performances, not only at the villa but also at other venues both in Italy and abroad.

At the heart of *In Search of Lost Sounds*, the larger of the two volumes listed above, lies a series of sixty detailed catalog entries, one for each instrument, prepared by specialist scholars and illustrated with numerous high-quality color photographs (the latter regrettably uncredited). John Henry van der Meer, the book's main author, wrote the sections on early stringed keyboards and psalteries, and collaborated with Grant O'Brien for modern pianos, Oscar Mischiati for organs, Dagmar Droysen-Reber for harps, and Tiziano Rizzi for mandolins and guitar. Except for the organ, each type of instrument also receives an introductory essay outlining its history, the longest being Van der Meer's magisterial eighty-page article "Birth and Development of the Piano," which also covers the harpsichord. These essays are likewise generously illustrated and provide

a helpful context for the specific specimens in the collection. Rounding out this hefty book—which weighs more than seven pounds and is described in its publicity material as "a little encyclopaedia of musical string instruments"—are seven further articles under the heading of "Essays on Art and Musicology," covering topics such as "Fortepianos as Objects of Furniture" (by Daniela Di Castro), "The Foundations of Musical Organology" (by Renato Meucci), and "The Imagery of Music" (by Carlo Bertelli). At the end there are separate glossaries and bibliographies for the keyboards, harps, and other hand-plucked instruments, along with biographies of sixteen collaborating authors (in addition to Van der Meer, whose biography appears on p. 4) and an index of names.

Clearly this is an ambitious and deluxe publication, combining some of the best features of the coffee-table book genre with extensive scholarly content, and all of it presented in two languages, Italian and English. It is this last feature, however, that constitutes the volume's greatest weakness, because unfortunately it appears to have been produced without editorial assistance from a native speaker of English. For articles or catalog entries by anglophone authors this is not too serious, but real problems occur in those portions that have been translated into English from Italian, or in some cases perhaps from another language, such as German. Here the frequent appearance of unidiomatic expressions and other linguistic infelicities is a constant distraction for a reader of the English texts, even though the intended meaning can usually be discerned and the number of outright errors is relatively small.

In other ways as well, one has the feeling that this publication project could have benefited from more careful planning and supervision. For example, the introductions to each type of instrument contain many photographs of the specimens in this collection, and while some of these reappear in the main catalog entries, many others (including at least forty additional views of the early keyboards) do not and thus are likely to be overlooked by readers interested in one or another specific instrument—especially in the absence of cross-references or any general list of the book's more than one thousand illustrations and tables. On the other hand, while it was a fine idea to include an essay by an art historian about the paintings found on half a dozen of the harpsichords, the decision to reprint excerpts from Bertelli's "The Imagery of Music" in the individual entries for each of these instruments, appended under the rubric "Remarks on Painting," leads to somewhat awkward results. Such an approach is all the more unexpected because Daniela Di

Castro's informative commentaries on the decorative aspects of individual stringed keyboard instruments, similarly ranging for the most part from one to five paragraphs in length, are completely independent of her essay mentioned above, and therefore fit much more gracefully into the catalog descriptions of the harpsichords and early pianos, though still as a separate section within each entry.

The issue of editorial coordination arises also when considering the shorter book on *Mozart's Piano Makers Walter and Stein.* At first glance this seems to offer simply a reprint of the catalog entries for the collection's pair of fortepianos by Anton Walter and the slightly later instrument by Nanette and Matthäus Stein. However, these twenty-two pages are prefaced by a lengthy narrative essay by the Italian journalist Giuseppe Barigazzi on the origin and growth of the collection, and followed by Michael Latcham's valuable article "Mozart's Favourite Piano Makers: A Comparison between Stein and Walter"; the latter really should have been included in the larger volume but for some reason was not. Instead, Latcham is represented there by a much shorter and slighter contribution in which he translates and annotates some remarks on the Viennese piano makers Anton Walter, Johann Schanz, and Nanette Streicher that were originally published in 1796 by Johann Ferdinand von Schönfeld. While not without interest, this and a few of the other essays following the main catalog seem somewhat peripheral or miscellaneous, and Guglielmo Mozzoni's concluding "Brevissima storia degli strumenti musicali" (the title, exceptionally, is not translated) turns out to be a series of some two dozen pen-and-ink sketches, apparently created in response to certain keyboard instruments or pieces of music, that frankly seem out of place in a publication of this kind.

As mentioned earlier, however, the central and most important part of this whole endeavor is the catalog itself, which occupies more than half of the larger volume—or as much as three-quarters if one counts the introductory essays and appendixes—and is very well done. The presentation is arranged initially by type of instrument, moving from the most numerous (keyboards) to the least numerous (the two twentieth-century mandolins and the 1894 guitar), and within each category essentially in chronological order, although harpsichords and spinets are grouped separately, as are early grand and square pianos. A typical entry consists of either four or six pages of written descriptions and photographs, presenting the instrument's essential attributes both systematically and in considerable detail. As an example, the categories of information used

for the early keyboards (nos. 1–32) include Inscriptions, Case Construction, Stand or Legs, Soundboard, Wrestplank, Bridge and Nut, Keyboard, Disposition or Action, Jacks or Stops, and Dimensions (given in tabular form for the case, keyboard, and selected strings). This information is followed by a biographical note on the maker that is normally limited to one or two paragraphs but occasionally is much longer, as with the five pages devoted to Conrad Graf. The physical descriptions take particular pains to name the different kinds of wood used for each part of the instrument, although the basis for these identifications is not explained and may be visual inspection rather than scientific analysis. For the modern pianos, there is a particular emphasis on string-scaling design, based on Grant O'Brien's introduction to the section, which explains the physical and mathematical factors involved in a manner easily understandable even by those of us with little scientific background; for the harps, the main focus naturally involves the various mechanisms for altering the pitch of the open strings.

Despite such extensive descriptions, two potentially interesting and valuable kinds of information pertaining to the history of these particular instruments are notably absent. Almost nothing is said about their provenance, although we are told (p. 182) that one of the Schanz pianos was formerly at a villa near Bologna originally owned by the husband of Elisa Bonaparte, sister of Napoleon. And although the photographs and recordings reveal that virtually every instrument is currently in very good or excellent condition, both visually and musically, the only reference to the reason for this state of affairs comes in the form of an occasional brief comment that some piece of the whole (most often a music desk or set of legs, though sometimes a soundboard or some organ pipes) "was made during the restoration" (e.g., p. 168), with no mention of when or by whom this work was carried out or how extensive it was. One hopes—and, given the obviously high-budget nature of the book itself, one has some reason to believe—that this has been done both skillfully and in accordance with currently accepted best practices, but since different attitudes do exist on this topic (notably between performers and curators), some people might view the book's pervasive silence as a possible source for concern.

The two compact disc recordings are an unexpected and pleasant bonus, providing informative aural snapshots of more than half the collection's instruments. On the first disc, Fernanda Giulini herself performs twenty brief selections on sixteen keyboard instruments, ranging

chronologically from a Scarlatti sonata on the Boccalari harpsichord of 1679, through several selections by Mozart on the Stein and Walter pianos mentioned above, to Chopin on pianos by Pleyel and Erard, and Debussy's *Clair de lune* on a 1902 Blüthner. On the second disc, six specialist performers offer a further seventeen solos (plus two duets) on two Italian chamber organs, eight harps (mostly French and all dating from between 1775 and 1825), three psalteries (ca. 1800), both mandolins, and the guitar.

All in all, *In Search of Lost Sounds* contains a remarkable amount of information about these sixty instruments, documentation that is all the more welcome because, despite activities such as an annual concert series in Milan, this is a private collection that is apparently not regularly open to the public. Its greatest strength is unquestionably in the area of early pianos, with two examples each by Anton Walter (ca. 1789 and ca. 1796), Johann Schanz (ca. 1810–20), Conrad Graf (both ca. 1834), and Ignace Pleyel (1839 and 1852), plus individual specimens by such famous makers as Johann Christoph Zumpe (1780), Jean-Henri Pape (1825), Johann Baptist Streicher (1837), and Ignaz Bösendorfer (ca. 1850); its eleven historical harps constitute an important secondary emphasis, including two single-action pedal instruments by Jean-Henri Naderman (both dated 1790), two more by members of the Cousineau family (ca. 1785 and ca. 1815), and a pair with double-action pedals by Sébastien Erard (made in London in 1821 and 1825). Despite problems with some of the English texts, the overall presentation is generous, professional, and elegant, resulting in a book that should appeal to many readers of this JOURNAL, whether they be historians, builders, curators, collectors, performers—or simply those who for one reason or another share Signora Giulini's curiosity about "the secrets of construction of a musical instrument, from which the true beauty of the sound and therefore the music originate" (p. 7).

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