Journal of the American Musical Instrument Society

VOLUME XLVI • 2020

BOOK REVIEWS

Florence Gétreau. *Voir la musique.* Paris: Citadelles & Mazenod, 2017. 416 pp.: 350 color illus. ISBN: 978-2-850-88719-2. €189 (hardcover).

The literal impossibility of the title of Florence Gétreau's latest book, *Voir la musique (To See Music;* all translations are my own), is what makes it so intriguing. Music is the most ephemeral of all arts; as a result, organologists and musicologists have to make do with the physical remnants left behind by music played in the distant past. These remnants include not only instruments and scores, but also other kinds of written evidence, and even the very spaces in which music sounded. Although not a remnant of music-making *per se*, iconography offers yet another perspective on musical activity of the past, by freezing in time a moment, a gesture or an object, as interpreted by an artist.

As Gétreau notes in her introduction, musical iconography has existed as a scholarly field since the seventeenth-century theoretical works of Praetorius and Mersenne, which contain invaluable engravings showing instruments and musical practice. The study of representations of music in art history, however, only began in earnest with Eugène de Briqueville's brief "L'iconographie instrumentale au musée du Louvre" (in *Les Instruments de musique*, Paris: Librairie de l'Art, 1894, pp.53–61), which in turn led to more ambitious publications such as Heinrich Besseler, Werner Bachmann and Walter Salmen's monumental *Musikgeschichte in Bildern* (35 vols., Leipzig: Deutscher Verlag für Musik, 1961–89). Subsequent studies adopted divergent methodologies, from Emmanuel Winternitz's traditionally organological *Musical Instruments and their Symbolism in Western Art* (New Haven and London: Yale University Press, 1967; second ed. 1979) to the more sociological approach found in the publications of François Lesure. Albert Pomme de Mirimonde concentrated on thematic studies, particularly in his *Sainte Cécile: M étamorphose d'un thème musical* (Geneva: Minkoff, 1974) and *L'Iconographie musicale sous les rois Bourbons. La musique dans les arts plastiques (XVIIe-XVIIIe siècles)* (2 vols., Paris: A. & J. Picard, 1975–77).

Gétreau is the most notable scholar to follow in the footsteps of Mirimonde. Over the past three decades, she has directed a research group of

the CNRS devoted to organology and musical iconography, taught those subjects at the Paris Conservatory, and founded the journal *Musique-Images-Instruments* (published by Klincksieck, later CNRS Éditions). *Voir la musique* is the culmination of her work thus far on musical iconography. The book has already earned several prestigious prizes, including the Prix du Cercle Montherlant, awarded by the Académie des beaux-arts of the Institut de France and the Claire Brook Award from the Barry S. Brook Center for Music Research and Documentation at the Graduate Center of the City University of New York.

In *Voir la musique*, Gétreau looks at representations of music in Western art from antiquity to the twentieth century in an attempt to understand how music was "seen." The book grew out of a 2009 museum exhibition of the same name, which resulted in the publication of a catalog: *Voir la musique: Les sujets musicaux dans les oeuvres d'art du XVIe au XXe siècle* (Abbeville: Musée départemental de l'abbaye de Saint-Riquier, 2009). In her new book, Gétreau delves deeper into the subject, presenting many more artworks and more penetrating analyses.

Voir la musique is itself physically magnificent, easily the most beautiful (and at close to nine pounds, perhaps the heaviest) book in my library. It is produced according to the high standards of Citadelles & Mazenod, one of Europe's leading publishers of art books. The volume is contained in an elegant box adorned with details from Gustav Klimt's *Musik* (1895) and Jan Brueghel the Elder's *The Sense of Hearing* (1617–18), and the 350 interior color reproductions are vividly printed on beautiful paper. Although some of the paintings are well known, such as Joseph Lange's unfinished portrait of Mozart (1789) and Edgar Degas's *L'Orchestre de l'Opéra* (*ca.*1870), there are many from private collections or small museums that have rarely been reproduced. Each reader will have his or her favorites, but I was particularly pleased to discover Frans Floris de Vriend's evocative portrait of the Berchem family (1561) from the Museum Wuyts-Van Campen en Baron Caroly in Lier, Belgium.

This volume is far more than just an anthology of beautiful artworks; it is Gétreau's analyses that make this book so valuable. Drawing on works of musicologists and art historians, she addresses herself to a sophisticated non-specialist audience, taking the reader by the hand as she points out aspects of paintings that would otherwise be overlooked. One of the reasons *Voir la musique* is so delightfully readable is that Gétreau resists the temptation to proceed chronologically and instead treats her subject the-

matically, with each chapter containing examples from antiquity through modernism.

In the first chapter, entitled "Mythes: Origine et pouvoirs de la musique" (Myths: Music's Origin and Powers), Gétreau examines representations of Apollo and the Muses, Orpheus and astrological figures such as Mercury, Venus and Cupid. She also treats music's position in the liberal arts, its power as conveyed in allegorical representations of the senses and in both Platonic and religious worldviews. In both her analytical texts and the progressively enlarged illustrations accompanying them, Gétreau acts as an expert museum guide, directing the reader's attention to what is most important. In her reading of Brueghel the Elder's *Feast of the Gods* (ca. 1618), for example, she leads our eyes from an overall view to a focus on the concert of the Muses in the corner of the scene, and then to a minute detail, deciphering the music depicted in their score.

The spiritual dimension of music is the focus of the second chapter: "Religion: Puissance sacrée de la musique" (Religion: The sacred power of music), whose principal subjects are King David, angel musicians, shepherds and saints. Gétreau presents a fascinating range of portrayals of David (the most often painted of all Old Testament figures, according to Gétreau), from Lucas van Leyden's *David Playing the Harp for Saul* (after 1508) to Marc Chagall's *King David* (1951)—a series of paintings that not incidentally furnishes wonderful examples of sixteenth- and seventeenth-century harps. In the section on angel musicians, Gétreau analyzes a number of details from the celebrated Ghent altarpiece, with such an attention to detail that one feels as if one is seeing these celebrated images for the first time.

The third chapter "Objets: Matérialité de la musique" (Objects: The Materiality of Music) examines how artists present the physicality of musical instruments and scores, favorites in trompe-l'oeil decorations. Gétreau divides the genre of vanity or still life paintings in two categories: conventional models (by Pieter Claesz, Sébastien Stoskopff, Everisto Baschenis, Nicolas Peschier, Evert Collier, and Simon Renard de Saint-André) in which one or two instruments are depicted with skulls, fruit, and other typical objects; and what she calls "nature mortes virtuoses" (virtuoso still lifes), in which instruments and scores are shown in strikingly unusual arrangements. Examples of this second category include Franz Friedrich Franck's *Still Life* (1671), in which a bass viol appears ready to slide off of a table, and Giuseppe Maria Crespi's famous *Still Life of Bookshelves with*

Musical Books (ca.1720–30), today a centerpiece of the International Museum and Library of Music, Bologna.

In the complex fourth chapter "Acteurs: Statuts du musicien" (The Actors: The Status of Musicians), Gétreau turns her attention away from instruments and scores to focus on the people that used them. Drawing on much of her previous scholarship, Gétreau considers the ways in which artists have portrayed different classes of musicians, from urban minstrels and itinerant musicians, to professional and court musicians and even dilettantes. She astutely points out that the subject of Georges de la Tour's *The Musicians' Brawl* (ca.1625–30) is not so much a rowdy fight as it is a labor disagreement: the regulations of the minstrels' guild did not permit performance by blind hurdy-gurdy playing beggars. Those interested in the history of ensemble and orchestral music will appreciate the plentiful examples, ranging from domestic ensembles (both bourgeois and aristocratic) to professional and court orchestras and their leaders. This chapter also features numerous representations of singers—from church cantors to opera and music hall singers—and composers and virtuosi. The chapter concludes with images of a vitally important, yet often neglected, category of musical actor: listeners.

In chapter Five, "Lieux: Contextes et sociabilités musicales" (Places: Musical Contexts and Sociability), Gétreau begins by studying paintings that show how music operates in outdoor spaces: in public squares and streets, and in processions and public festivals. The second part of this chapter looks at indoor music: in palatial banquets, balls and other courtly *divertissements*, and in opera houses and concert halls. The chapter ends on a quiet note, with a consideration of intimate music making in salons, workshops, and private concerts.

The sixth chapter, "Concepts: Œil intérieur et sonorité visuelle" (Concepts: The Inner Eye and Visual Sonority) allows Gétreau to explore a number of specifically painterly issues tied to musical representation. She begins by discussing the influence of the cult of Wagner during the century that separates Henri Fantin-Latour's *Isolde à la tour (Isolde atop a Tower*, 1886) and Anselm Kiefer's *Siegfried's Difficult Way to Brünnhilde* (1991). She then proceeds to analyze the fragmentation of instruments by cubist artists, noting that the complexity of the shapes of string instruments made them favorite subjects. The chapter concludes by demonstrating the common esthetic goals of many twentieth-century composers and painters, from Arnold Schoenberg and Vassily Kandinsky to John Cage

and Mark Tobey.

The end matter consists of notes, an extensive bibliography, a glossary of both musical and art historical terms (allowing the book to be more easily understood by scholars of either field), and an index of names. One regrets the absence of a thematic index, and most importantly one that comprises instrument types. This book is such a valuable resource for organologists that it is unfortunate that one cannot search for examples of particular instruments as they are depicted in paintings. One can only hope that if the book were to appear in English translation an instrument index could be added. In the meantime, if one would want to search for depictions of flutes or viols, for example, one would need to leaf page by page through the volume—but one could not imagine a more pleasant task.

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Patrizio Barbieri. *Hydraulic Musical Automata in Italian Villas and Other Ingenia 1400–2000*. Rome: Gangemi Editore International, 2019. 544 pp.: 184 black-and-white and 106 color illus. ISBN: 978-88-492-3813-6. €50.

This daunting volume, comprehensive and mostly well-organized, gathers written documents, visual representations, archaeological remains, modern restorations, and reconstructions of hydraulic musical automata and other *ingenia*, a mostly neglected genre in organology. These automata incorporate water falling from a height into engineered piping and "aeolian chambers," producing continuous air pressure that feeds organ pipes and, at times, other instruments or mechanisms. Some allow human control via a keyboard, while many are complex barrel organs. Others include singing birds and instrument-playing statues, all driven by the water organ's air pressure.

The quantity, depth, and breadth of the material collected, sorted, analyzed, and explained is no less than encyclopedic. For readers deterred by physics and technical drawings, there are marvelous descriptions of personalities, pranks, installations, paintings, photographs, and general-

ized workings of various automata installed in gardens of wealthy estates. The book's main focus is in Renaissance Italy, but it includes restorations and new installations to the end of the twentieth century. The publisher has provided fine paper and binding, cover art, and copious high-quality reproductions of images, diagrams, and engravings in black-and-white and color. All chapters include numerous original plans and drawings, plus new plans created by Barbieri, with detailed explanations. If you want to know how to frighten your friends with roaring monster heads, or soak visitors to your garden with water-spurting arquebuses this is your book.

The book draws on articles Barbieri published between 1981 and 2007, plus new research. Signs of this recycling are rare, with the exception of some randomly populated chapters and a few more that feel added on at the end. The preface's summary of contents is a harbinger of the density of material to come. This is not a quick read.

The book is organized into two sections with seventeen chapters (identified by letters, not numbers), followed by twenty-six pages of works cited. Ten chapters describe water organs plus other automata derived at least roughly from first-century CE writings by Hero of Alexandria, along with the writings of ninth-century Arab inventors such as the Banū Mūsā brothers. The last seven chapters address various other types of *ingenia*, generally activated by other means, such as sunlight or wind.

Chapter A discusses the history of the development and structure of two types of aeolian chambers: compression and emulsion, utilizing writings and diagrams going back to the ninth century. The large quantity of information in this chapter will either frighten readers or absorb them for some time. Document reproduction here and throughout the book is of high quality. Chapter B, though briefer, is populated with equations, excellent analyses of early quantitative theories, and some experimental data and calculations for functional flow rates that the non-scientific reader can harmlessly gloss over.

Chapter C introduces the reader to the *Fontana dell' organo* and *Fontana della Civetta* at the Villa d'Este installed at Tivoli in 1567 to 1571, complex water organ installations that inspired other nobles around Europe. The history of these places and their residents, as well as the designers, makers, and repairmen of the complex installations, is fascinating. Included are engravings, paintings, and frescoes of the original installations, as well as are many photos of remains.

Chapter D summarizes knowledge about the early existence of automata in the Western world, before and after those at Villa d'Este. Barbieri notes much uncertainty as to when the first was installed, and as to whether some were only plans or visions. Naturally, the great Italian inventor Leonardo da Vinci enters into this discussion. Barbieri accurately describes some of the designs as "not wholly comprehensible."

At Villa d'Este, a new water organ based on late Renaissance installations was introduced in 2003 as part of a general villa restoration. Chapter E describes its design and construction, directed by architect Isabella Barisi, as well as the original's remains, design criteria, and various issues arising from the deleterious effects of water and humidity on materials and functionality. The Villa d'Este water organ installation included a "Fountain of the Owl," based on a description by Hero. Various devices included singing birds, performing statues, simulated explosions, and artillery effects. Barbieri's excursion into *uccelliere* (artificial bird chirping devices) and *serinettes* (small hand-cranked barrel organs designed to teach canaries and blackbirds to sing) is delightful.

Chapter G is an overview of the historical and technical events surrounding the *organo ad acqua* in the Pontifical Quirinal Gardens from 1596 to 2013. Documents detailing failings and repeated interventions show why these remarkable installations did not survive; the ongoing repairs and rebuilds incidentally document changing ideas and technology, as well as the changing fortunes of the estate owners.

Barbieri moves in Chapters H and I to the Villa Aldobrandini at Frascati, where three hydraulic devices were installed in 1617 to 1619: "Mount Parnassus," "Cyclops," and "Centaur." At a Roman villa, the Belrespiro, the Pamphilj family, owners from 1683 to 1769, radically restored all the water organ constructions, adding features including an "echo organ" to mimic the story of the Faun and the nymph Echo. Barbieri discusses the architectural layout, the devices prior to and after their reconstruction in 1759, and the music. Who would not love statues of a neighing Pegasus and Apollo playing the psaltery? Regarding the type of music played, Barbieri offers letter and diary entries of visitors, along with educated conjectures.

Chapter J introduces Jean Baillou, an internationally popular engineer, mathematician, and hydraulics expert, who created a water organ made for the Farnese Royal Palace at Parma (1619), as well as hydraulic musical automata for the Farnese Summer Palace in Colorno, the *corni da*

caccia at the Villa Visconti-Borromeo, and other barrel organs in Milan. Baillou's *Grande grotto incantata* showed the magician Circe, Vulcan at his forge, Apollo with his cithara, and flute-playing shepherds in an array of decorated grottos populated with moving figures, singing birds, flutists, falling water, and lighting effects.

In "harmonic fountains," water falls into containers that resonate on their respectively tuned notes. Chapter K describes these, as well as statues based on acoustical *ingenia*, which echoed what they heard or appeared to answer questions. Similarly based modern devices include a "House that Plays with the Rain" in Dresden, and an organ powered by sea waves to produce sounds at a Croatian tourist resort.

Chapter L discusses the improbable designs (sometimes unrealized) of harpsichords, organs, and other devices activated by thermal effects. Blowers in the shapes of human heads, for example, when heated emitted a violent jet of steam and sounds. The quirky Dutch engineer Cornelis Drebbel built a "virginal" powered by the sun for James I of England. A statue described by Athanasius Kircher (1653) had moving eyes and a voice activated by the morning sun. Kircher, a Jesuit scholar who lived and taught in Rome, also set up a famed museum that included such *Magia artificialis* as automated organs, harpsichords, and various popular monster devices. In chapter M, Barbieri traces the history and incarnations of the Museum Kircherianum and its holdings. Visitors leaving the museum were doused by four water jets emerging from behind a mechanical barking dog. Noisy monster heads, depicted in photos and engravings, would "vomit fire and smoke."

The Italian architect Giambattista Aleotti (1546–1636), who translated Hero's *Pneumatica* and *Automata* via Latin into Italian, proposed an elaborate automaton based on Vulcan's Forge (1589), discussed in chapter N. Different versions of the forge spread about Italy, along with other types of hydraulically powered automata that included flute players, drummers, and horn players, some shown in photos of extant remains. Kircher proposed an automaton based on the legend of Pythagoras listening to smiths pounding on anvils and calculating pitches based on hammer weights. Barbieri includes diagrams of the automaton, as well as a score of appropriate music, composed by Kircher.

A fascinating turn in Chapter O describes musical automata, mostly non-hydraulic, introduced from Italy to India, China, and Japan, in the service of diplomacy. While some instruments were shipped from

Italy, others were designed and constructed by various talented Jesuits in China. Lengthy period writings are included, both original texts and translations. The chapter ends with a good summary of purely mechanical automata driven by clockwork mechanisms that came to dominate automata, primarily made by Bavarians. Diagrams of weight- or spring-driven and conoidal actions for automated chamber organs are beautifully reproduced and explained.

Chapter P introduces mechanisms that combine various musical instruments under the control of one keyboard with a human player. The focus in on Michele Todini, a master performer and maker in Rome. The tale of his *Galleria armonica* (which survives in the Metropolitan Museum of Art, New York), its demise, and Todini's own woes makes for fascinating reading. Barbieri offers detailed descriptions and documentation of the workings, makings, repairs, and evolution of the *Galleria* and its components.

Chapter Q is a bit of a patchwork add-on. Barbieri finally offers details about the Graeco-Roman hydraulic organ, drawing a clear distinction between it and the original Greek hydraulis described by Hero. He also describes devices intended to augment organ sound with effects emulating human singers, including dynamics, vibrato, *messa di voce*, and *portamento*. Organists may be interested in the production of desired tone color in Italian Renaissance organs, as opposed to earlier European tastes. Barbieri discusses the *Vox humana* and short-lived efforts such as dynamic variation by changing the pressure on the key. After 500 pages the book ends abruptly.

Overall, this book is a tremendous resource. The audience served is wide, as the book covers topics related to physics, engineering, art, music, organology, culture, history, fantasy, and humor. Who knew some highly placed clerics found it hilarious to soak their guests unexpectedly? We always need reminders of great inventiveness of the distant past. I hope individuals with an engineering bent will be inspired to recreate some of these marvels. There is enough information here to do so.

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Bettina Hoffmann. *The Viola da Gamba*. Translated by Paul Ferguson. London and New York: Routledge, 2018. xiv + 391 pp.: 107 illustrations, 18 musical examples. ISBN 978-1-138-24023-0 (hardbound), $155.00; 978-0-367-443757 (paperbound), $47.95; 978-1-315-28425 (e-book), $47.95.

Although widely played throughout Europe from about 1500 to 1750, the viol—like the recorder, lute, and harpsichord—fell into disuse during the nineteenth century, before experiencing a revival of interest and popularity that began some 125 years ago and continues ever more strongly today. During the latter period, in addition to numerous article-length publications, there have been only a few books devoted to the instrument, either in whole or in part. A list of these ought to begin by acknowledging the pioneering contributions found in the opening chapters of Edmund van der Straeten's *History of the Violoncello, the Viol da Gamba, their Precursors and Collateral Instruments* (London: William Reeves, 1914) and the greater part of Gerald Hayes's *The Viols and Other Bowed Instruments* (London: Oxford University Press, 1930). Important publications from the second half of the twentieth century include *The Viola da Gamba: Its Origin and History, its Technique and Musical Resources* (New York, London, and Frankfurt: Hinrichsen Edition, 1962), a slender volume of eighty-seven pages by Nathalie Dolmetsch, whose father Arnold had done so much, as both a performer and a maker, to spark the instrument's rebirth; Ian Woodfield's much longer but more narrowly focused *The Early History of the Viol* (Cambridge: Cambridge University Press, 1984); and Adolf Heinrich König's extensively illustrated *Die Viola da Gamba* (Frankfurt am Main: Verlag Erwin Bochinsky, 1985). The first full-length monograph offering comprehensive coverage was Annette Otterstedt's *Die Gambe: Kulturgeschichte und praktischer Ratgeber* (Kassel: Bärenreiter, 1994), of which a revised English translation entitled *The Viol: History of an Instrument* appeared in 2002 from the same publisher.

Bettina Hoffmann, like several of her predecessors just mentioned, is an active professional gambist as well as an author. (Woodfield is a viol-playing musicologist with wide-ranging research interests; König was a luthier, and Hayes a civil servant and dedicated amateur musician.) A German who has lived for many years in Italy, she chose to publish her book first in Italian (*La Viola da Gamba*; Palermo: L'Epos, 2010) and then in German (*Die Viola da Gamba*; Beeskow: Ortus Musikverlag, 2014) before arranging

for a professional translator to produce the present English edition. On the back cover it is described as "an introduction to the instrument—its construction, technique and history—for the non-specialist," whose primary focus is "a historical and geographical survey of the instrument from its origins into the classical period."

The book is divided into six chapters, of which the central two, respectively devoted to the "Renaissance" and "Baroque and Classical" eras, comprise approximately two-thirds of its length. Like the others, they are helpfully divided into numbered subsections, which for the Renaissance cover topics including the instrument's origins, repertoire, tunings, and appearance; in contrast, the latter chapter is organized geographically, dealing in turn with the various and varying situations in Italy, England, France, and finally the German-speaking areas of Europe and the Netherlands. The opening three chapters provide an introductory basis for these detailed discussions, with the first being devoted to "Getting Acquainted" (nomenclature, sizes, and sound quality), the second to "Anatomy of a Viol," and the third to "Antecedents." Throughout, Hoffmann delves deeply into the primary sources that tell us how the viol was made and played during the centuries of its original flourishing, meticulously citing both these and modern publications in a total of more than 1,000 endnotes, in which she also provides original-language texts for numerous quotations from those sources. The volume concludes with a brief (twenty-page) consideration of "The Revival," followed by a glossary of technical terms, an extensive bibliography, and an index of personal names.

Acknowledging that the viol went through "an amazing richness of stylistic development and experimentation" (p. 1) before arriving at a more-or-less standardized design, Hoffmann concludes that "only two characteristics are common to all viols of all periods: the playing position and the [presence of] frets" (p. 3). In her initial description of the "Anatomy of a Viol" in chapter 2, she writes that "Our reference-model will therefore be the 17th century English viol, . . . which . . . was admired and imitated throughout Europe" (p. 25). Subsequently, at the end of chapter 4 she discusses how sixteenth-century Italian viols differ from this type, and each of the nationally-focused sections of chapter 5 contains one or two brief sub-sections describing the distinctive characteristics exhibited by viols of the seventeenth and eighteenth centuries in those countries. For the most part these presentations are clear and accurate, though here and there one encounters a questionable or misleading statement. For example, in

showing alternative tunings for the different sizes of viols Hoffmann appears to conflate those for great bass or violone (in GG) and contrabass (in DD), while for the two kinds of *pardessus de viole* (respectively with five or six strings) she places the more commonly-used tunings second (pp. 13 and 15); her list of Italian viol makers from the baroque period singles out Pietro Zenatto as "the most heavily represented Italian maker of viols" (p. 190), even though dendrochronological testing has shown that the two dozen instruments in the Brussels Musical Instruments Museum and elsewhere that bear this name (mostly with dates of 1683 or 1684) or have been attributed to him were made no earlier than 1875; and she claims that the measurements in James Talbot's manuscript notes on musical instruments dating from the early 1690s (Oxford, Christ Church, Music MS 1187) were "rounded off to the nearest whole-number in inches," (p. 207), whereas in fact they are given to the eighth of an inch, which he refers to as a *ligne*. Other comparatively minor points involving maker biographies are that the Henry Jay who made pochettes in the mid-eighteenth century is not the same person as the Henry Jaye who made viols between 1610 and 1632 (p. 25); Richard Meares Sr. did not remain active until 1722, but had probably died or at least retired by about 1700, and his namesake son did make viols as well as violins (p. 228); and while Michel Collichon may well have been working as early as 1666 (when he would have been twenty-five years old), none of his surviving viols is dated before 1683 (p. 260).

Overall, however, Hoffmann displays an impressively thorough knowledge of all things pertaining to the viol, including not only its physical characteristics but also the diverse kinds of music written for it and the social contexts in which it was played, as well as the way these differed from country to country and over a span of some three hundred years. As is entirely appropriate for such a wide-ranging survey, both organological information and playing technique play important but secondary roles in her presentation. The publisher's description of the book as "an introduction . . . for the non-specialist" is, however, perhaps too modest a claim: this is much more than a once-over-lightly treatment, and the depth of detail the author presents could at times seem a bit daunting to a newcomer to the topic, even as it occasionally feels challengingly dense to an already well-oriented reader. As such, it is comparable to the volumes of the Yale Musical Instrument Series that have been appearing slowly over the past two decades, with seven titles in print and a further seven still described as forthcoming. Phrases from the dust-jacket blurbs of some of

them are equally applicable to this book, which likewise "examines the [instrument's] full social, historical and cultural trajectory" and "provide[s] an up-to-date and lively portrait . . . in unprecedented detail."

An even more relevant—indeed, an almost inevitable—point of comparison is Otterstedt's *The Viol*, whose original edition and subsequent English translation were each published about a decade and a half before Hoffmann's corresponding volumes. Though Otterstedt's book has only three-quarters as many pages, her approach is similarly comprehensive and well-informed but is organized differently and has a somewhat different emphasis. In keeping with the subtitle of her German edition (omitted from the English version), her intention was to offer not only a cultural history of the viol but also a practical guide for modern-day players. This led her to include substantial sections devoted to playing technique and to the construction and fittings characteristic of a good instrument, topics which together comprise the final twenty percent of her main text but are covered either less fully or not at all by Hoffmann. Otterstedt's writing style is also rather more personal and less academic, for example in characterizing the viol as a princess and in inserting into her main historical narrative biographical sketches of important figures in the instrument's history under the rubric "Legends of the Saints." She is also not reluctant to express her sometimes strong personal opinions on a range of issues, which has led some reviewers to call her writing polemical or even argumentative as well as informative and entertaining. In contrast, Hoffmann's approach is more straightforwardly factual, though still clear, well-considered, and engaging. She also has twice as many illustrations as Otterstedt, though unfortunately many of them are less clearly reproduced (and sometimes inconveniently smaller) in the English edition than they were in its German or Italian predecessors.

Although both authors, to my personal knowledge, are fluent in English, each chose to collaborate with a professional translator in producing the English version of her book. For Otterstedt this was Hans Reiners, who is himself a gambist as well as a bow-maker, after earlier employment as a diplomatic interpreter. In Hoffmann's case, however, while Paul Ferguson has had a long career as a commercial and technical freelance translator, and also describes himself as an amateur musician (https://www.societyofauthors.org/translator-Profile?itemID=450), unfortunately he is not completely familiar with the vocabulary of the viol. Scattered throughout the book are more than fifty mistranslations or misunderstandings, starting on

the very first page where we read that the viol has "less sharply tapering [*recte* pointed] middle bouts" than instruments of the violin family, together with "a flat back ending in a tilted peg-box" [*recte* a sloping section], and that its waist sometimes "can end in sharp edges" [*recte* pointed corners]. Most of these do not seriously interfere with comprehension but are jarring nevertheless, especially the repeated rendering of *Griffbrett* as "fretboard" (a term more appropriate for plucked-string instruments) rather than "fingerboard." There are also a number of more general idiomatic infelicities, such as translating *Konferenzen* as "conferences" instead of "lectures," or *Ergebnisse* as "Consequences" instead of "Results" as the title of the section summarizing a lengthy discussion of historically-documented viol tunings.

Some readers may be surprised that chapter 5 covers not only the baroque but also the classical period of music history. However, at least in some countries the viol continued to be played until nearly the end of the eighteenth century (both by virtuoso soloists on the bass such as Carl Friedrich Abel in England and Franz Xaver Hammer in Germany and by devotees of the fashionable *pardessus de viole* in pre-revolutionary France), so this twilight period certainly deserves to be included in a full-length study such as this one. Hoffmann's coverage of the viol's modern revival, though, is disappointingly short, and moreover somewhat unbalanced, with six pages on activity during the final decades of the nineteenth century and only six more for the whole of the twentieth century. A case could be made that the revival period merits a book of its own, but since by now it has lasted nearly half as long as the historical period of the viol's use, a lengthier consideration of its more recent history would have been welcome here.

To sum up, this is not only the most recent and most substantial book devoted to the viol in modern times, it is also thoroughly recommendable for both the depth and breadth of its coverage of the instrument, its music, and its social context during the sixteenth, seventeenth, and eighteenth centuries. Minor problems of translation aside, we in the English-speaking world are fortunate that Hoffmann's knowledge and insights about her chosen instrument are now available to us as well as to those who during the past decade have been able to access them in either Italian or German.

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Michael Latcham. *Towards a New History of the Piano: A Context for the Work of Johann Andreas Stein as a Piano Maker.* Munich and Salzburg: Musikverlag Bernd Katzbichler, 2019. Musikwissenschaftliche Schriften 53. 383 pp.: 173 black-and-white illus. ISBN 978-3—87397—270-4. €48 (paperback).

What was considered the essence of the piano in the first few generations after its invention? Was it to produce a variety of sounds through various mutation or imitative stops, or was it to allow control over nuances of volume through touch? This recently published history of the piano by Michael Latcham answers those questions from the perspective of people in that era. Through the notebooks and letters of makers and their clients, patents and period reports of innovations, marketing and regional preferences, and the movements of makers through a wide landscape of experimentation and varied musical sensibilities, all finally manifest in the instruments themselves, the author gives a sense of the aesthetic values of a century different from our own. Today's tendency by some to consider timbre stops as artless gimmickry in pianos and harpsichords underestimates the fascinating diversity of the eighteenth-century keyboard soundscape. This *New History* will surprise many readers with its description of that world.

Those two modes of expression—stops to create a variety of timbres, versus nuance of volume through touch—are introduced as contemporaneous but separate starting points for the piano; throughout the period, they remained intertwining strands of nearly equal importance. The first was inspired by the performances of Panteleon Hebenstreit on his outsized dulcimer, called a *Pantalon*, and the second by Bartolomeo Cristofori. As inventor of the piano, Cristofori gets due attention, but while nearly all histories of the piano from the last century make brief mention of Hebenstreit at the beginning, Latcham continues tracing Hebenstreit's influence from Foreword to Epilogue, mentioning his name 148 times throughout the text. In the section on the pianos of Taskin, for example, Latcham writes, "the idea of having a means of disengaging all the dampers at once and the idea of a moderator both belong to the strand of piano making inspired by the performances of Hebenstreit on his *Pantalon*" (p.289).

The subtitle of Latcham's book "A Context for the Work of Johann Andreas Stein as a Piano Maker" is left off the cover, relegated instead to

the title page. The author's long devotion to the study of J. A. Stein above all others comes through occasionally in the text (p. 177), but as the cover conveys, this book is a broad history of the piano in the eighteenth to early nineteenth centuries. Latcham's foreword is clear about his intentions, and they are worthy, ambitious, and consistently well-followed. He promises a treatment "that respects the work of each maker, not as a step in a development but as a creative contribution" (p.7). Latcham delivers magnificently on this bold claim, showing how each maker of the eighteenth century contributed to a rich diversity of form and timbre that the piano would largely lose in the nineteenth century.

The book prompts few complaints, but the lack of action diagrams is a weakness. Technical drawings are offered only from period sources, while clear new diagrams of mechanisms are conspicuously absent. This requires sometimes tedious descriptions of mechanical devices that are somewhat difficult to visualize, as when comparing the mechanical actions of the Silbermans with those of J.A. Stein (pp. 173–77), sending this reviewer to other books to find diagrams. Illustrations are frequent, although they are all black and white, and modest in size.

The author takes a "systems" approach based on the truism that nothing happens in a vacuum. No instrument can be fully understood without placing it and its maker in a broad context: With whom had the maker been trained, and what other instruments had they seen? What performers and composers might have influenced them, and what was the inspiration behind each new idea? What was going on in harpsichord design at the time? These ingredients came together in a maker's mind like genetic strands, the origins of which can be traced. Occasionally the stimuli for various ideas are recorded, as in the notebook Andreas Stein kept for about thirty years. Other times, understanding the innovation requires virtually sequencing its DNA to work out the sources of each element, as Latcham does with Erard's *clavecin mécanique* (a harpsichord) of 1779 and 1783 (pp. 296–305). The author is relentless in his analysis of the web of influences and the artistic objectives behind every invention and innovation, an approach that brings to life the first formative century of piano history.

In following those lines of influence across time and place, Latcham attempts a thematic, rather than strictly chronological or geographical progression, which is rather more challenging to write. Discussing an innovation inspired by the maker's travels, which occurred years earlier,

means revisiting the earlier history, and a certain amount of repetition. Latcham's approach accommodates readers who will spot-read this as a reference book and not cover-to-cover. For others, like this reviewer, the repetition is noticeable but appreciated as an aid to retention.

Latcham has a useful solution to the problem of nomenclature for historic keyboard instruments. Period terms, such as *Clavecin Roïal, Cembalo d'amour, Tangentenflügel*, and *Cembalo Angelico*, were often born of marketing strategies and were sometimes overlapping and inconsistently applied in the period. Latcham uses these terms to discuss the specific instruments where the names were first used, but he otherwise reverts to generic terms. If it strikes the string with a hammer, it is a piano, not fortepiano. This avoids the conundrum of describing at what point the fortepiano became a piano. Similarly, an instrument with uncovered wood hammers and no dampers is also a piano, avoiding the argument-inducing question of when the pantalon became a piano.

The book's strength with contextualizing and conceptualizing broad themes is supported by the author's command of massive amounts of historical detail. For example, he traces Mercken's evolution of changes for action, hand stops, dampers, knee levers, and pedals with dates for each development (p. 294). A thorough analysis of Antonio Bruni's list of keyboard instruments seized during the *Terreur* in Paris (pp. 290–92) gives details and implications about trends in expressive capabilities, the relative popularity of instrument types, their origins and related shifts in trade patterns and manufacturing.

This book offers a significant re-assessment of the fundamental revolution in eighteenth-century stringed keyboard instruments—a revolution often mis-characterized as a transition from harpsichord to piano. Instead, Latcham's treatment reassesses the century as a gradual shift from a delight in a variety of timbres (through the use of various stops) to a delight in dynamic nuance (through touch alone). These two aesthetics transcend whether the instruments pluck or strike: Pianos in the early part of the century were often equipped with hand-stop-controlled mutation stops (inspired by Hebenstreit), and harpsichords late in the period were equipped with touch-sensitive leather plectra, pedals, swells, and knee levers or pedals for changing stops while playing, all serving the same aesthetic language of the piano. The reviewer's own article "A 1793 Longman & Broderip Harpsichord and its Replication: New Light on the Harpsichord-Piano Transition" in *Galpin Society Journal* (2020), pp.

153–72, independently posited the same view about the latter phase of the transition, while Latcham's book covers its beginning as well.

The author characterizes the eighteenth century as a time of "plenitude" (p. 8), when there was appreciation for tonal variety in keyboard instruments, a characteristic he attributes to the influence of Hebenstreit's performances. Over the course of the century, Hebenstreit's influence diminished only gradually, as the taste for dynamic nuance began to dominate. Latcham ends with a wistful look back on the rich diversity of eighteenth- and early nineteenth-century pianos. After the widely hailed perfection reached by Erard in his *méchanique a double échappement* (p. 337), the piano ultimately ossified into a uniformity. This, Latcham argues, "meant letting go the delight in the best of all possible worlds, the world that had contained the greatest variety" (p. 349).

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Francesco Carreras. *I brevetti italiani sugli strumenti musicali, elenco sintetico dal 1855 al 2018 con il testo integrale dei brevetti sugli strumenti a fiato.* Lucca: Libreria Musicale Italiana, 2019. 292 pp.: illus. ISBN: 978-88-5543-000-5; €35 ($40) (soft cover).

Francesco Carreras is an Italian scientist, scholar, and musical instrument collector specializing in the flute, and in Italian woodwind makers. His writings include a biography of the important woodwind maker Giovanni Maria Anciuti; a study of combination-clarinet patents in Italy; a harmonic description of musical signals using schema-based chord decomposition; two essays in the monumental collection *Il flauto in Italia* (Rome, 2005); and the 2009 catalog of the Carreras Collection exhibition at the Museum of Musical Instruments of the Accademia Nazionale di Santa Cecilia.

Carreras's latest book is a printed listing of 3,598 patents issued in Italy from 1855 to the end of 2018. It is well-produced on quarto-size thick paper with a clear type font. Even for non-readers of Italian, it is a valuable source for research. It includes "patents of musical instruments, accessories, teaching aids, technologies and processes for producing in-

struments, and electronic and digital components specifically employed in the manufacture of musical instruments and similar topics." In Italian, Renato Meucci introduces the book's contents and a short list of sources on patents (pp. ix–x); a foreword in English (pp. xi–xii) mentions that musical instrument patents were included in different categories developed in 1971 by the European International Patent Classification system. A foreword in Italian (pp. xiii–xxi) describes where information on patents can be found; criteria for completing the patent lists, with definitions of terms and abbreviations of musical instruments; summary tables; organization of the book; and acknowledgments. Tables include the number of patents completed, in five-year intervals; Italian and foreign patents; patents by instrument category; and patents distributed in foreign countries.

The text consists of a spreadsheet format over two pages, wherein each patent is described, using twelve categories: N.R.G. (number of the general register of the Office of Patents); Inventore (inventor's name); Titolo (patent title); Tip. (Type): Pat. (patent), Com. (further data); D. (duration, the number of years requested); Depositato (filed, the date of submission); Dal. (start date); Concesso (grant date); Naz. (applicant's country abbreviation or location of the company); Città (applicant's city); Cat. (instrument category); Brevetto originario (patent filed by country of origin; date or extension of the patent date; and the number and date of the original filing, for patents filed in another country). The publisher offers a website, www.lim.it, of two databases on Italian patents from the National Patent and Trademark Office in Rome. After searching by the book's title and upon clicking on the book's image, the two databases appear. The first, "Brevetti ordinati per inventore e per categoria" (patents sorted by inventor or by category), is a spreadsheet of all Italian patents using the twelve criteria in the published book. In addition, this spreadsheet may be viewed either by the inventor's names or by an instrument category, by clicking the desired arrangement on the buttons at the lower left of the screen. The second database, "Fascicoli dei Brevetti" (patent files) is an alphabetical list by the last names of the inventors, in most cases including a patent number. The reader chooses a name to access, and scans appear of the text and drawings (four or more pages) of the patent for a woodwind or brass instrument. All this information is downloadable from this website, and the patent text is available even to non-buyers of the book.

Carreras's book is complementary in scope to Günter Dullat's 2010 patent book, *200 Jahre Patente Privilegien und Gebrauschmuster im internatio-*

nalen Holz- und Metallblasinstrumentenbau, published in Wilhelmshaven by Florian Noetzel and reviewed in this JOURNAL 38 (2012): 162–65. Both books use the same size of paper and are of roughly comparable length: Carreras, 292 pages; Dullat, 332 pages. Dullat's book includes important primary material on patents from seven countries and a selection of German patents from Prussia, Saxony, and Austria. He includes dozens of reproductions from the patents themselves, which are useful for research, although only two patents from France, and none from Belgium or Japan. The book begins with a short summary of fifty-four early woodwind and brasswind privileges and patents from Prussia, Saxony, and Austria dating from 1815 to 1890; followed by a spreadsheet listing for seven countries: Germany, Austria, United States of America, Great Britain, France, Belgium, and Japan. Of Dullat's listings, the most extensive are of German patents (1877 to 2009) and American patents (1827 to 2009). Shorter (often selective) listings and descriptions focus on Great Britain (1785 to 2009), France (1806 to 2009), Belgium (1825 to 1930), and Japan (1825 to 1930). Of Dullat's eight sections, three—for Germany, the United States, and Great Britain—include patents that were originally approved outside of those countries. Dullat's organization is not consistent throughout the book, perhaps because the available information was not uniform for each country. He does include a helpful index by inventor at the end of the book; however, many errors in names, dates, and patent numbers have been noted by the reviewer.

Carreras's book is organized uniformly throughout with a minimum of repetition of information. In an appendix, he reproduces the text and photos of two unusual instruments: Giuseppe Gabusi's 1879 Gabusifonia, a four-valve tuba in either upright or helical form; and Egidio Forni's 1865 Systema Forni clarinet, of which one example is known, in the Luigi Cherubini Conservatory in Naples. Interesting Italian woodwind patents include Giuseppe Cremonesi's bassoon design of 1885; Salvatore Sanna's combination clarinet of 1892; and Romeo Orsi's 13-key oboe of 1906. The two databases from the publisher's website cover all Italian woodwind and brass instrument patents, an important source for research.

Carreras's book is a fascinating treasure trove of patents for all types of instruments by many well-known Italian makers and important firms, but also including French, German, Austrian, and American inventors as patentees. It also documents the development of the Italian musical instrument industry and the use of instruments popular in the twentieth

century, such as electric guitars and pianos. It is highly recommended for research libraries, musical instrument museums, and organologists.

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Beatrix Darmstädter, Rudolf Hopfner, and Alfons Huber, eds. *Die Sammlung alter Musikinstrumente—Die ersten 100 Jahre / The Collection of Historic Musical Instruments—The First 100 Years.* Vienna: Praesens Verlag, 2018. 459 pp., text in English and German, numerous illustrations, DVD of musical examples and images. ISBN: 978-3-7069-0939-6. $27.10 (paperback).

The Sammlung alter Musikinstrumente (SAM) housed at the Kunsthistorisches Museum in Vienna needs no introduction to organologists and early music experts. Formed in 1916 by the merging of three important collections of historical instruments belonging to Archduke Ferdinand II, the Obizzi dynasty, and Archduke Franz Ferdinand of Austria-Este respectively, this collection contains some of the most outstanding and significant musical instruments that have survived worldwide, dating from the Renaissance to the twentieth century.

This book brings together an impressive and ambitious selection of essays and transcriptions of three roundtable discussions from an international conference organized in 2016, coinciding with the 100-year jubilee of the collection's public opening. A short introduction by Rudolf Hopfner (pp. 11–12) precedes the articles, listings of the contents of the accompanying DVD and the conference program, and three indexes. There is no collective bibliography, but relevant sources are contained in the footnotes of each article.

The first nine articles relate mainly to the early history of SAM with references to similar European and North American musical instrument collections. In three separate articles, Richard Kurdiovsky (pp. 13–22), Beatrix Darmstädter (pp. 23–40), and Rudolf Hopfner (pp. 41–50) present an overview of the foundation and establishment of SAM, offering valuable insights into the protagonists who shaped the profile and status

of this collection, with a focus on Victor Luithlen and his associates. The first directors and curators of SAM placed a high value on the intangible properties of instruments, such as sound and performance techniques, often to the neglect or detriment of tangible characteristics, such as material authenticity. Nevertheless, many of their activities in SAM, which involved pioneering concerts and recordings with previously overlooked instruments and repertoire, or the innovative use of audiovisual multimedia as an aid for lectures and workshops, were crucial for the dissemination of early music in the pre-digital era.

SAM gradually became a hub for early music enthusiasts, as argued by Mimi Mitchel (pp. 51–66), who examines the collection's influence on the endeavors of Gustav and Marie Leonhardt in postwar Vienna. By looking into extant archives and correspondence, Dominik von Roth and Linda Escherich (pp. 67–88) trace personal and professional connections of Ulrich Rück, whose collection formed the basis of the musical instrument department at the Germanisches Nationalmuseum in Nuremberg, with the curatorial staff of SAM, before and after World War II. Otto Biba (pp. 89–112) concentrates on the formation and later expansion of another important Viennese collection, that of the Gesellschaft der Musikfreunde, inspecting its close links to SAM. The next two articles, by Kenneth Moore (pp. 113–24) and John Koster (pp. 125–44), transfer the reader to the other side of the Atlantic, showing how musical instrument collections in the USA were fashioned essentially by the personal tastes of collectors and curators, rather than by well-defined institutional agendas and strategies, a trend observed in SAM and elsewhere. Despite any negative effects that have been attributed to the allocation of musical instruments to museums, the fate of objects in private ownership can be far more unpredictable, as shown by Klaus Martius (pp. 145–60), who describes how the significant collection of violin-related items accumulated by Karl Schreinzer was sadly dispersed across many museums and private hands.

The next seven articles include diverse organological studies on various instrument types, with the lion's share taken by wind instruments. Maria da Gloria Leitao Venceslau (pp. 161–76) provides a concise account of makers of bowed and plucked instruments in Tuscany during the sixteenth and seventeenth centuries. Ki-tak Katherine Wong (pp. 177–216) presents the evolution of expressive keyboard instruments from the clavichord to piano, discussing the interaction between instrument makers and composers, as illustrated in various eighteenth- and nineteenth-century

treatises and musical works. Three articles, by Peter Van Heyghen (pp. 217–26), Susanna Borsch (pp. 227–36), and Adrian Brown (pp. 237–50) respectively, examine and compare the construction and sonic features of early recorders housed in SAM, as well as of modern reconstructions, using detailed physical and acoustical measurements of bore profiles and tone-hole positions. Likewise, Fritz Heller (pp. 251–65) and Rainer Egger (pp. 265–76) demonstrate the advantages of scientific investigation in the classification and replication of brasswind instruments.

Articles by Alfons Huber (pp. 277–328) and Sebastian Kirsch (pp. 329–40) offer views of two different generations of musical instrument conservators in SAM. Fascinating "behind the scenes" details emerge about the restoration and conservation of instruments, as well as the problems of preserving and displaying a large collection of fragile artefacts in a historic building with inherent deficiencies of climate control and environmental monitoring (an issue shared by other major collections around the world). The articles shed new light on the transition of conservation from a traditional handcraft to an interdisciplinary academic field with its own distinct impact on the museum community during the second half of the twentieth century. In addition, four short contributions by museum educators David Gasche (pp. 341–46), Elisabeth Ritter (pp. 347–52), Roman List (pp. 353–56), and Spyridoula Katsarou (pp. 357–60) describe the challenges and potentials of engaging with museum visitors of all ages, backgrounds, and interests in SAM; they provide useful empirical observations and suggestions from a personal perspective. The final part of the book is occupied by transcriptions of three roundtable discussions (pp. 361–420) in a more informal tone, full of exciting stories and anecdotes about persons influential in the early music movement, including many well-known scholars, performers, and instrument makers. Three comprehensive indexes list persons, institutions, and locations, as well as all the instruments discussed.

The articles vary considerably in terms of content, length, structure, and writing style, revealing the authors' diverse professions and experiences. Some constitute exhaustive studies with extended quotations and footnotes, others have a more fluid narrative with only sporadic references to relevant literature, while others are basically technical reports containing numerous facts and figures. Moreover, the outline and order of the articles is neither chronological nor thematic. The book would have benefited by the grouping of the articles under clearly labeled chapters

or headings relating to their subjects, as prepared for the papers listed in the conference program, for example "on the history of the SAM"; "international perspectives"; "the SAM as a center of historical performance practice";" "research in organology"; "restoration and museum education"; and so on. Furthermore, despite the German/English title of the book, the majority of articles are in German. The two languages used in the texts introduce an additional degree of incoherence, which sometimes requires additional effort from the editors as from the reader, especially in the roundtable discussions, where German and English are occasionally mixed. In the table of contents, the three indexes are not in German or English, but Latin instead (Index Nominum, Index Locorum, and Index Instrumentorum). However, the same system regarding titles, references, and captions is followed throughout, with the book's consistency balancing its diversity. The overall quality of the book is further enhanced by the large number of images, drawings, graphs, and tables, making it attractive and reader-friendly, and illustrating the systematic and careful work of the three editors, who should be praised for their energy and determination.

This publication is a major contribution to the growing literature on the history of musical instrument collections and the advance of early music, offering new material for further organological, musicological, and museological research. It sheds new light on the acquisition, documentation, conservation, exhibition, and dissemination practices employed by SAM and similar museums, providing a critical standpoint with comparisons from different locations, cultures, and historical periods. By including detailed biographies of persons, institutions, collections, and individual objects, the book illustrates the complex networks and exchanges that influenced the development of musical instrument collections in Europe and North America throughout the twentieth century. The multifaceted information and data included will hopefully enable future musical instrument specialists and museum professionals to be inspired and guided by the approaches of their predecessors, while improving upon their methods and avoiding their errors. Given its broad scope and variety, this book will be also be valuable to anyone involved in the study, preservation, and display of tangible and intangible cultural heritage.

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