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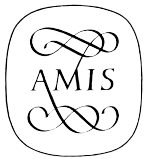

BOOK REVIEWS

***The Grove Dictionary of Musical Instruments*, 2nd ed. Laurence Libin, Editor-in-chief. Oxford: Oxford University Press, 2014, 5 vols., line illus., photographs, tables, diagrams, index in fifth volume. ISBN: 978-0-19-974339-1 (set: alk. paper). $995.00.**

The publication in 1984 of the *New Grove Dictionary of Musical Instruments* (hereafter *NGDMI 1984*) caused William Waterhouse to comment in *Early Music* (August 1985) that "the appearance for the first time of a major reference work devoted to the subject of musical instruments is an important event." Barbara B. Smith exclaimed in *Asian Music* that the publication was "a major step towards a global perspective on the musical instruments of the world's peoples." André Larson enthused in the *Journal of the American Musicological Society* that coverage of modern instruments and sound sculptures was "little short of amazing." Even with its considerable faults, that publication served as the authoritative English reference work for a generation of instrument scholars and enthusiasts. The publication of the second edition of this work in 2014, edited by Laurence Libin (hereafter *GDMI 2014*) is an opportunity to measure the advancements of the discipline over the last generation. As Libin states in his Preface, the publication "seeks to map the directions in which this field is growing in the 21st century, and to encourage further investigation." (vol. 1, vii).

By necessity, organology is an interdisciplinary field, and as was true with the first edition, *GDMI 2014* includes the contributions of an enormous number of individuals who offer expertise and occasionally divergent perspectives. While many entries are drawn from the work of earlier *Grove* dictionaries including *NGDMI 1984*, the *New Grove Dictionary of Music and Musicians* 2nd ed. (2001) (hereafter NGDMM 2001), and the *Grove Dictionary of American Music*, second edition, 2013, many new contributors were engaged to write or correct entries, and the end result is an outstanding compilation of instrument-related material. However, the publication is far from perfect. There are several problems including incomplete and inaccurate indexing and poor treatment of photography as well as some debatable editorial decisions in the organization of *Grove 14*.

A criticism of *NGDMI 1984* was its failure to adequately include articles pertaining to the history of the field of organology, from its glaring

omission of authors of historic treatises such as Virdung, Agricola, Praetorius, and others, to its failure to include entries for collectors and scholars of musical instruments. The *GDMI 2014* has expanded the scope of the publication to include all such material. In addition, there are now articles for instrument-related organizations including organological societies, those dedicated to makers, technicians and repairpersons, and those whose membership is comprised primarily of performers and teachers. Even historical organizations such as the Guild of St. Luke's now have entries. Libin has gone to great lengths to represent the diversity and history of the study of instruments, defining it more widely than perhaps some are comfortable with, and the result is a captivating and often stimulating five-volume dictionary.

Those who are familiar with *NGDMI 1984* and other *Grove* dictionaries will notice several changes in the presentation, organization, and layout of material. The second edition is presented with a much larger page size, bigger print, and an attractive layout that makes it easy to read. A significant change is the decision to eliminate alternate names and spellings of instruments as subject entries. In *NGDMI 1984*, many entries for such terms were merely cross-referenced to more informative articles. To compensate, the second edition includes an index at the back of the fifth volume for these alternate spellings and names, and the most successful way to search for any term is to check there first rather than beginning with the subject entries. One very useful aspect is that terms are indexed in several ways: by the instrument or person's name, grouped under countries where they are commonly found, or by makers of a type of instrument.

On the other hand, considerable errors and omissions in the index may prohibit users from finding information or may even introduce confusion. For instance, in searching for the peacock-shaped, bowed instrument of India many visitors encounter in museum collections, I searched under the terms most institutions give the instruments: *mayuri* or *ta'us,* the Hindi and Urdu words for peacock. These terms were not found as subject entries, nor were they listed in the index. The only way to locate the information was to consult a copy of *NGDMI 1984* in which both terms receive subject entries and are cross-referenced to *dilruba.* Indeed, the relevant information is found under that entry in *GDMI 2014*, including the Hindi and Urdu terms for the peacock-shaped version.

Another search that proved elusive was caused by a misleading cross-reference. Looking for the term *shekere,* which is commonly used to refer

to an African shaker consisting of a dried gourd with beads or cowrie shells woven into a net covering, revealed that there was no subject entry for that name. The index gives a cross-reference to the term *chocalho*, but readers will be confused, as the definition describes it as a generic Portuguese or Brazilian rattle or scraper that can also be used for cowbells and jingles. The second paragraph instructs that the *cabaça* is one type of *chocalho* that has a gourd and "network of rustling beads . . . presumably originated in west Africa, where it is known by various names, including . . . *shekere* in Nigeria." The index included a list of instruments found in Nigeria, however, *shekere* does not appear there. A reader might recognize, or guess, that *ṣèkèrè* is an alternate spelling (in the list of Nigerian instruments, there is a copyediting note for the typesetters about using the correct diacriticals that has mistakenly made it into the final print version). That entry does reveal the desired information about the gourd instrument of the Yoruba people of Nigeria and Benin. These are not obscure instruments or terms, yet in both the case of the *mayuri/ta'us* and the *shekere* poor indexing made the search for information nearly impossible.

Another substantial change is the scope of material included. The editor made the decision largely to remove discussion of topics related to performance practice and repertory. In the Preface, Libin explains that the growth in this area of research over the last thirty years has had the result "that it is impossible any longer to do it justice in a reference work devoted to instruments" (vii). Some of these deletions are indeed beneficial, as many entries in the *NGDMI 1984* are in the purview of the much larger *NGDMM 2001* and do little to aid in the understanding of musical instruments. In some instances, however, the removal of performance practice and repertory sections and discussions within individual instrument articles results in the loss of useful information to the reader. For example, the article on *lute* (European) in *GDMI 2014* is based on the entry in the NGDMM 2001, but sections devoted to *ornamentation* and *repertory* were removed. The section on ornamentation was especially useful to understanding the use of the lute and how it was played. Similarly, the *sitar* entry in *NGDMI 1984* had a section titled *Repertory and Performing Practice* that is removed from *GDMI 2014*. Although that section included much general discussion about *ragas* and Indian classical music, there are also specific details about how this relates to the sitar. Because many of the articles in *GDMI 2014* are based on those in *NGDMM 2001*, removing these sections has the presumably unintended

consequence of making the entries for some instruments in the parent dictionary a richer source of information than the entries in this specialist resource.

The area receiving the greatest addition of material in *GDMI 2014* are the entries dedicated to instrument makers. A vast amount of new information in these entries goes beyond merely listing makers' names and dates, offering available biographical facts as well as details related to their work in instrument production. While *GDMI 2014* is not, and should not be, a directory of makers, for many hundreds of entries there is more biographical information available here than in such specialist resources as the Waterhouse-Langwill and Jalovek.

Instrument makers of European and American wind, keyboard, and bowed stringed instruments have received especially comprehensive treatment. Included in this category are makers of "early" or "revival" instruments used for historically informed performance. Many foremost authorities have written new entries for members of the *Meares* family (Thomas G. MacCracken), the *Bassano* family (David Lasocki), the *Voboam* family (Florence Getreau), *Carleen Hutchins* (Quincy Whitney), and for *John D'Angelico* and *James D'Aquisto* (Paul Schmidt). Other articles dedicated to instrument makers have been re-commissioned or rewritten, like the new article on *Charles Gerard Conn* written by Margaret Downie Banks. The article on *Antonio Stradivari,* now including the contributions of Charles Beare, Carlo Chiesa, Duane Rosengard, and Jonathan Santa Maria Bouquet, has been expanded to include much new information about his building of plucked stringed instruments and with new sections for his sons *Francesco* and *Omobono.*

Makers of instruments primarily used in popular culture do not fare as well in *GDMI 2014*. Several of the largest guitar makers active today, including Taylor and Ibanez, do not appear. Influential archtop guitar makers Linda Manzer and John Monteleone (who is named in three separate entries on other topics) do not have entries, nor does the Deering Banjo Company or the Sabian cymbals company. Historically important percussion companies have entries, including Ludwig, Slingerland, and Leedy, but companies familiar to contemporary drummers such as Sonor, Pearl, and Drum Workshop do not.

Even more neglected are makers of non-Western instruments, as many well-known builders have failed to receive subject entries. Part of this is simply an inconsistent treatment, as for example, although there are no entries for the master ud makers Emanuel Venios "Manol" or the

brothers of the Naḥḥāt family, there is information about them within the *ūd* article. Maruri Adhikari's contributions to the design of the modern *vina* can be found in that instrument's entry. His importance as a sitar maker is unmentioned and other prominent makers of his tradition are overlooked completely. There is no mention of instrument makers of the great West African *griot* traditions such as the musicians and instrument builders of the Diabaté family of Mali or the Kouyaté family of Senegal. These important makers, and many others, of non-Western traditions should be treated the same as notable European and American instrument makers with their own entries and articles. Hopefully, such additions can be made to *Grove Music Online* that will not require waiting until the creation of a third edition.

Many of the articles in *GDMI 2014* are based upon those found in earlier *Grove* dictionaries with corrections, updates, and additions. Excellent articles on subjects such as the *accordion* and *trumpet* have received very little rewriting. In other places, such as the *harpsichord* and *kora* articles, there are revisions within individual sections while the organization of the articles remains essentially unchanged. Other entries have newly commissioned material, such as the *harp* article, now including a section on *ancient harps,* or have been substantially rewritten or expanded as is the case for the *electric bass guitar* and *electric guitar.* Still other instruments have completely new entries replacing those of the first edition, including the *dudy* (Michael Cwach), *kundu* (Mervyn Mclean, Don Niles, Paul Wolffram, Kirsty Gillespie, and Margaret J. Kartomi), *qin* (Joseph S. C. Lam and Yu Hui), *sāraṇgī* (Joep Bor, Neil Sorrell, Nicolas Magriel, and Mireille Helffer), *tibia* (Olga Sutkowska), and many others. A new entry was included on the *Balinese gamelan* that provides material about this regional tradition separately from the Javanese ensembles that are the primary subject of the main *gamelan* article. Many terms are updated: for example *bala* is now the term for xylophones of West Africa instead of *balo,* reflecting current scholarly use. A particularly helpful new article was included titled *Native American Instruments,* which gives an overview of the most commonly found types of instruments in the diverse cultures of North America. Other general articles about instruments of a region or culture would have been similarly useful. A new entry on *side-blown horns* explains the general instrument used throughout Africa, and the index helps in finding the approximately 120 entries for these types of instruments in the dictionary. One area of inconsistency is the treatment of different members of an instrument family. Some variants of instruments receive their own entries, such as the *basset horn* and *tenoroon,* while

others like *archtop guitar, flat-top steel string guitar, harp guitar,* and *flamenco guitar* are all found lumped together in a section of the *guitar* article with the misleading title: *variants of the classical guitar.*

An area of particular strength in *GDMI 2014* is its attention to electronic instruments, specifically keyboards/synthesizers and computers. Anne Beetem Acker, who had editorial oversight for this area made remarkable contributions, including authoring many articles and soliciting other expert contributions. These entries deserve special attention and should be read especially by those of us who are non-specialists in order to gain an understanding of this important and growing area of our field.

The biggest disappointment with *GDMI 2014* is its poor treatment of photographs. The larger page size could have accommodated more and larger high-quality images, but instead those that appear are small—most less than a quarter of a page—and of low resolution. Almost universally, the images used to illustrate a given entry are of isolated instruments completely removed from any performance context. In most cases there are fewer images in *GDMI 2014* than existed in the first edition or *NGDMM 2001.* For instance, the *trumpet* entry found in *NGDMM 2001* was illustrated with multiple photographs of different types of trumpets within their cultural contexts, several examples from iconographical sources, and numerous photos of instruments. Overall, nineteen images illustrate this single subject entry. *GDMI 2014* has none. Only two drawings are reproduced in both entries.

Many images are not good examples of the instruments they illustrate. The entry for *pipa* in the *GDMI 2014* shows an instrument missing a large fingerboard fret and with its strings tied together in a bunch on the soundboard. Other images used feature modern examples of historic instruments. The *cornett* entry shows an example made in 1990, the *chittarrone* one made in 1993. In the last few years, many museums have adopted open access rules regarding image rights that allow academic publications to freely and easily use images that are available online. It is unfortunate that important historical examples from the world's great collections of instruments are not used to illustrate more of the instrument articles.

Supporting images from iconography are also missing. The *NGDMM 2001* entry on *organ,* largely reproduced in the *GDMI 2014* has a paragraph dedicated to discussing the problems and inaccuracies of an organ that appears in the painting by Van Eyck for the altarpiece at Ghent. This discussion makes sense in the earlier work, where an image appears

of the painting, but not in *GDMI 2014* where the image has been removed.

In still other situations, the photos chosen lead to confusion, such as in the articles on the *baritone* and *euphonium*. The entries attempt to explain the confusion in the terminology of these instruments, but illustrating the *baritone* article is a double-bell instrument, even though that entry does not mention this type of horn. Conversely, a rather atypical *euphonium* is shown with a paragraph explaining that the double-bell version "has been the most successful of the duplex type of instruments" (Vol. 2 p249). Photo placement is another issue that can lead to confusion, as a picture of a Gibson mandolin and a Gibson mandocello appear alongside each of those entries, facing each other on a page (Vol. 3 p380 and 381). The photographs are of the exact same size and the instruments are so similar in appearance that without showing them in proportional relationship a non-expert reader could mistake them as being the same instrument.

The most intriguing new additions to *GDMI 2014* are new entries about general topics that should prove of interest to a broad range of readers. Several of these entries are impressive pieces of work that offer significant new information, including a substantial article on the *archaeology of instruments* written by a team of eight scholars. Others are shorter, but still of interest, such as the entry on the *faking / forgery* of instruments. The article on *conservation* by Robert Barclay and John Watson should soon be required reading in organology programs. Some of these articles touch upon contemporary issues like *sustainability*, an article coauthored by Aaron S. Allen and Laurence Libin, and others may prove to be a bit controversial, like Libin's entry on *gender attribution*.

There is very little interpretive information to help readers understand broader issues of cultural and sociological importance that relate directly to instruments. This seems an obvious editorial decision limiting authors from exploring such topics. Perhaps general articles could have filled this void especially as such concepts are often applicable to many instruments and regions. For example, an intriguing line in the Preface to *GDMI 2014* states, "the editors have excluded some secret, sacred instruments of certain peoples out of respect for their religious beliefs." (viii) Although there is an article about the *secret flutes* of New Guinea, presumably the editors are referring to other instruments that are not found in the dictionary. There was an opportunity in this instance to have a general article that would have been helpful to readers and dis-

cussed traditional cultural beliefs as well as the philosophical perspectives facing contemporary scholars.

Or consider the issue of cultural appropriation and how it applies to many instruments across the globe. It is essential to explain this anthropological phenomenon in entries about instruments such as the *banjo*, and yet the term is not used there nor defined in a general article. Future iterations of the *Grove* would be well served by including interpretive discussions about cultural and sociological issues as they relate to instruments.

GDMI 2014 is an important though flawed work that will dominate many discussions in the coming years. It contains much useful information, but its organization and presentation can be confusing and misleading for users confined to the print edition alone. The editors have made a valiant and often successful attempt to create a work that documents the collective knowledge of a diverse and quickly-changing field. At its best moments, the dictionary manages to even convey a sense of excitement about its subject matter—no small feat for a reference dictionary. Many of its problems, like those of indexing, are not even relevant when using the *Grove Music Online*, and other problems—including the poor illustrations—could be corrected as material from *GDMI 2014* is made available in that format. Until such time as all of its content is uploaded and integrated, the print edition will be necessary. Whether this second edition will have the same widespread and long lasting influence as did the 1984 edition will not be known for many years. Yet, to paraphrase Waterhouse's 1985 observation, the appearance of a major reference work devoted to the subject of musical instruments is *still* an important event.

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Claude Montal. *The Art of Tuning: A Self-Guided Manual for Piano Tuning, Design, Action Regulation, and Repair from mid-19th Century France: For the Piano Owner and Technician, with Guidelines for Training the Blind and Visually Impaired*, translated by Fred Sturm, Kansas City: Piano Technicians Guild Foundation, 2015, lv, 390 pp., illustrations, and music illustrations. ISBN: 978-0-9861851-0-6, $50.

Happily, the Piano Technicians Guild Foundation has sponsored the first publication of an English translation of the piano tuning and maintenance guides by the blind French piano tuner, technician and maker Claude Montal (1800–1865). Fred Sturm, RPT, has chosen to merge and augment the original 1836 and subsequent 1865 editions of the work originally titled *L'Art d'Accorder Soi-Méme son Piano d'après une Méthode Sure, Simple et Facile. Déduite des principes exacts de l'acoustique et de l'harmonie, contenant en outre les moyens de conserver cet instrument, l'exposé de ses qualitiés, la manière de reparer les accidents qui surviennent a son mécanisme, la manière d'enseigner l'accord aux aveugles, et un traite d'acoustique.* [*The Art of Tuning One's One Piano by a Secure, Simple and Easy Method, deduced from precise principles of harmony and acoustics, containing in addition the means of maintaining that instrument, a description of its qualities, the means of repairing problems that arise in its mechanism, and a treatise on acoustics.*] This complete title perfectly gives the character of the work and is a nearly exhaustive summary of the contents. The books were purportedly intended to aid instrument owners, especially those far from a major city with skilled technicians, but were more likely used as a training and reference guide for professional piano tuners and technicians, specifically for training blind in the profession and for skilled craftsmen from other fields.

Montal was a fascinating character, as revealed by the translator's preface. Blinded by a childhood illness, Montal kept active and proved bright and able, including assisting his father, a saddle maker. He entered the Institut National des Jeunes Aveugles [National Institute for Blind Youth] at age sixteen. By age twenty, he taught grammar, geography, and mathematics at the Institute. With another student, Montal taught himself to dismantle and repair pianos and studied everything possible about the theory and practice of tuning. At age thirty he became an independent piano technician and was soon teaching classes in tuning, and buying, repairing and selling used pianos, eventually making pianos of his own design. The classes became the basis for a pamphlet on tuning sold at the Great Paris Exhibition of 1834. This was expanded into the 1836 edition.

Of interest to AMIS members, Montal includes detailed chapters discussing the various types of pianos and their components. Among many gems found throughout the book is a brief discussion of the "false" or over soundboard, clarifying the purpose of that often missing component. Diagrams and descriptions appear for many forms of grand repetition actions and upright variants of the "standard" Wornum type tape

check action. Throughout, the well-executed and labeled diagrams and descriptions of interiors, exteriors, and tools are a delight. The 1836 edition is primarily concerned with the then most common early square pianos, while the 1865 edition appropriately includes many examples of upright piano design as well as grands. Unfortunately but not unexpectedly, Montal focuses on pianos most commonly available in France and in particular those of his own design and make. Likewise he spends a disproportionate amount of time essentially hawking his own inventions, including the so-called expression pedal that simply moves the hammers closer to the strings dynamically while playing. Montal's preference for single escapement actions (not the double) is quite clear. He criticizes the double escapement action of Érard, the immediate forerunner of the modern repetition action, as being too expensive, prone to clicking and other problems, and the difficulty in finding technicians for them outside of major cities.

Of note are Montal's detailed discourse on repairs as well as design and construction choices with topics ranging from the angles of stringing, deflections of the strings at the bridge, and preferred speaking lengths to strike points. His discussion of the evolution of hammer coverings from deerskin to rabbit fur to wool felt and methods of recovering hammers is of particular consequence to restorers and builders. He states clearly that the bass should not overpower the treble. The section on piano strings and their replacement discusses types of wire and gauge correspondences along with instructions for replacing strings for both drilled and undrilled tuning pins. Here is one of several places in this merged edition where it would be helpful to distinguish more clearly between the 1836 and 1865 editions.

The chapters related to tuning are a marvel of concise detail, the delivery obviously honed by an experienced teacher. His exercises and iterative tuning method will be of interest to many. Ever practical, Montal deftly discusses topics such as temperature fluctuations, pitch raising and lowering, tuning pianos to each other or other instruments, and preparing instruments for shipping—issues little different today but for the packing straw.

Montal shows himself as scholar, teacher, and astute self-promoter. He provides very readable summaries of acoustics and the history of the piano, countered by a long self-congratulatory section replete with contemporary reviews of his book and other accolades. Without the descriptions of unusual instruments such as the ocular harpsichord and organ of tastes, they would otherwise likely have been forgotten. While overall

very good, there are errors in the history, so the wise reader will not rely solely on Montal's book for keyboard instrument history.

All in all, this new edition is a valuable addition to libraries, for the translation, the biographical information about Montal, Paul Poletti's foreword, and the index, but it does have issues. Sturm has done a fine job of creating a very readable translation, retaining the character of Montal's writing. On the other hand, basing this translation on the 1865 edition muddies what was original to the 1836 version, despite the helpful inclusion of parts unique to the 1836 publication as notes or appendices. Published in the last year of Montal's life, who knows under what circumstances the 1865 version was produced. Some comments remained that are clearly irrelevant well before 1865, such as stating that German pianos have thin and weak tone compared to English pianos. The serious scholar can find the original works online without too much difficulty, but the concern is that some well meaning readers will perpetuate outdated "facts" found in this edition.

Lack of bibliography or any other information about his sources for this important figure in piano history is truly unfortunate in terms of its usefulness to scholars. A related fault is Sturm's rather arbitrary and sparse insertion of comments that would be of interest and help to the reader. Still, this is a very valuable edition, particularly for the modern piano technicians who are likely Sturm's primary intended audience.

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Jérôme Lejeune. *A Guide to Period Instruments—Guide des instruments anciens—Leitfaden durch die historischen Instrumente; A Guide to Musical Instruments vol II, 1800–1950*, Belgium: Ricercar; 2 vols, I: RIC 103, 2009, 200 pp. booklet, many ills. some in color, 8 CDs; II: RIC 104, 2013, 154 pp booklet, many illus., some in color, 8 CDs. EUR 49, www.outhere-music.com.

Have you wondered what a Geigenwerk is or how a csakan is played? Perhaps you want to hear the difference between valved cornets and keyed trumpets or to learn about the origins of the viol family. Are you curious to know how Ravel's *Tzigane* would sound with luthéal or Hindemith's *Langsames Stück und Rondo* played on a trautonium? Perhaps you want to compare Landowska playing Rameau on a Pleyel with a performance on an eighteenth-century harpsichord or note the differences between the violoncello piccolo and viola da spalla? The two-volume *Guide*

to Musical Instruments on the Belgian Ricercar label can satisfy your curiosity and more. From the oliphant and *Cantigas de Santa Maria* to prepared piano and Ravel's *Boléro*, this two-volume audio anthology with accompanying text contains a wealth of material covering the full gamut of Western musical instruments.

The lavishly illustrated booklets by Ricercar's founder and the project coordinator Jérôme Lejeune, musicologist at the University of Liège, serves as a brief history of musical instruments. Organized systematically by instrument family, Lejeune provides an excellent overview, but given space limitations, glosses over many of the complications of nomenclature. Volume I was printed in three languages and, even though slightly larger, contains less information than the second volume produced in separate single-language versions. French was the original language, and accuracy is occasionally compromised in translation. Take *basson*, which in French is used to designate not only what in English is called bassoon, but also the dulcian (or curtal). This leads to the dubious statement in the English translation that "in true Renaissance spirit, the bassoon was also built in versions for the higher ranges." Lejeune also conflates dulcian and douçaine (a medieval cylindrical-bored shawm). Illustrations from historical sources and photographs of museum specimens clarify the situation, and dulcians are also heard on the recordings. In addition to a magnificent rendition of a four-part ballet by Praetorius, it is heard in consort. Still, with only *basson* to go by in the notes, users are left to decide whether they are listening to Jérémie Papasergio playing a dulcian or bassoon in the *Fantasia per fagotto solo* by de Selma y Salaverde.

The booklets were not conceived as a definitive source. As their title indicates, they were intended as a guide, and while they go beyond a basic account and introduce obscure instruments like the poïkilorgue, saxhorn, orphicleïde, harmonicorde, echo cornet, and *harmonica de bois et de paille* and occasionally provide some important historical observations (read, for instance, the account of the octobass), their primary purpose is to annotate the audio anthology.

The sixteen CDs follow a different organizational principle from the text. Instead of being grouped by instrument type, the recordings are organized chronologically in stylistic and thematic categories. One can choose to listen to "Renaissance Dances," "Bach and His Time," "Adolphe Sax and his Studio," "Keyboard Instruments played by Franz Liszt," or explore music "From the time of Charles Koechlin's Treatise." The result is a compelling sequence of performances that can be listened to on its own merits. With references to the CD tracks embedded

in the text, it is easy to find appropriate audio examples to illustrate specific instruments, but cross-referencing in the reverse direction is not as straightforward. For information on the instruments in a particular track, users have to use the index to find the relevant passage in the booklet. The index in vol. 1 is in French, so English users wishing to learn about the cervelat, manicordion, or chalemie will find the process complicated. Information on the precise specimens used on the recordings is sparse. In Léon Pillaut's *Pièce caractéristique*, a Bechstein piano from c.1900 was used, but the maker of the featured instrument, the viola d'amore, is nowhere identified. Likewise, it would be useful for instance to know what clarinet is heard in the recording of Brahms' Quintet.

This is probably the most extensive compilation of recorded examples of musical instruments ever assembled, with more than twenty hours of music and an impressive coverage of not only standard instruments and their predecessors but also rarer specimens. The majority of recordings are drawn from pre-existing releases from the Ricercar catalogue or other early-music specialist labels with lacunae filled with special commissions. The source recordings could have been better documented, particularly in vol. 1.

Well beyond simple demonstrations, all the tracks, even those of seeming slight musical worth, are high caliber. Listen, for instance to Claude Maury leading a performance of Dauprat's 1*er Sextuor* on natural horns or Marie-Ange Petit's rendering of the skeleton's music from *Danse macabre* on a historic xylophone. Nineteenth-century salon ephemera are treated with equal respect to recognized masterpieces. Konrad Hünteler's rendition of a *Souvenir des Alpes* by Theobald Boehm is every bit as masterful as Yves Rechsteiner's performance of Liszt's prelude on *Weinen, Klagen, Sorgen, Zagen.* Instruments are represented in solo tracks where their tonal characteristics can be evaluated in isolation. Large-scale works demonstrate how instruments operate in combination. There is Renaissance consort music, Baroque chamber music and vocal works, and performances of selected orchestral works from Gossec to Ravel. A slight drawback is that, as on all commercial CDs, the dynamic levels of the tracks are equalized, providing little sense of relative volume. An *alta capella* is no louder than a consort of viols, and a Cavaillé-Coll organ is within the same decibel range as a clavichord.

The anthology is testament to the present state of understanding of the appropriate handling of historical instruments and demonstrates the

impact of historically-informed performance on music from Medieval to modern periods. Despite cautionary remarks on difficulties encountered during the project due to the fragility of the original instruments, there are very few signs that the instruments sound at anything but their best. Some performances are arrestingly beautiful, and as often as being entranced by the sonority of an unfamiliar instrument, I found myself engrossed by the compelling performance and oblivious of the technicalities of a specific instrument.

The second volume covers the developments from 1800 to 1950. It thus stops short of the instruments currently in use in modern symphony orchestras and incorporates some examples of electro-acoustic instruments but makes only passing reference to folk and vernacular genres. Here the text is strongly oriented towards France and Belgium. Quotations from the instrumentation treatises of Berlioz (in both the original and Richard Strauss's revision) and Charles Koechlin provide eyewitness accounts of the changing state of play, and the Paris and Brussels collections provided the bulk of the pictorial sources and playable historical instruments. However, while Paris and Brussels may have led instrument technology, the most progressive musical compositions emanated from Germany and Italy. The audio examples somewhat redress this imbalance, but the two most influential orchestrators of the late nineteenth and early twentieth centuries, Wagner and Strauss, are conspicuously under-represented.

The recordings of the keyboard instruments deserve special mention and illustrate what has been lost with the ubiquitous modern concert grand. CPE Bach's famous *Abscheid von Silbermanischen Klavier* receives a captivating performance. We hear Chopin on Pleyel and Broadwood pianos, two designs he is known to have appreciated, and hearing Brahms *Walzer* op. 39 on an 1871 Grotrian-Steinweg is revelatory. Behind the scenes, Chris Maene's expert maintenance of instruments from his own collection and the Brussels Museum contributed to the quality of many tracks. Only a couple of instrument choices seem inappropriate: a Debussy piano roll is coupled with an 1871 Steinway and a 1900 Bechstein for Saint-Saëns.

The string instruments follow a different developmental trajectory than other families, as they reached definitive form much earlier, but Lejeune still devotes attention to the developments in technique and equipment that affected playing styles from the sixteenth century onwards, and excellent recordings demonstrate these changes.

No instrument plays itself: the quality of a musical performance depends on the symbiotic relationship between instrument and player. Neither can a performance objectively document how a specific instrument sounds. It can only record what one performer can draw out of it on a particular instance. When the same flutist plays the same music on metal and wooden flutes (Toon Fret, playing Debussy's *Syrinx*, vol. 2, CD5), the comparison allows us to discern the contributions of both instrument and player. But players can also "mask" instruments. In volume 1 are we hearing the *pochette*'s unique mode of tone production or the player's idiosyncratic phrasing? Marcel Ponseele presents a convincing performance of the Carl Reinecke *Trio*, but how close can a Belgian Baroque specialist approach the character of a late nineteenth-century Viennese oboe? A few reasonably well-known electric recordings from the early twentieth century are included and capture the timbre of the instruments with reasonable accuracy. They are the closest we can get to how contemporary performers played historic instruments, and serve as a reminder of the chronological and stylistic distance that separates us from many of these historical instruments.

In short, the Ricercar *Guide to Musical Instruments* presents a balanced account of musical instruments as art objects and functional tools for music. It provides an abundance of material that any reviewer would be hard pressed to do justice to. While both volumes will be of interest to educators and musical amateurs, the second, being more directly linked with museum and preservationist projects, is also directed at organologists. With patience, users will learn to mine its riches. It deserves a place in all music libraries and instrument museums and will serve as an indispensible resource for educators, researchers, and music lovers alike.

GEOFFREY BURGESS
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Sabine Katherina Klaus. *Trumpets and Other High Brass: A History Inspired by the Joe R. and Joella F. Utley Collection, Volume 2, Ways to Expand the Harmonic Series.* Vermillion, SD: National Music Museum, 2013. 315 pp.; 514 Color illustrations, 102 Black and white illustrations. ISBN: 978-0-98482699-2-9. Companion DVD, ISBN: 978-0-9848269-3-3. $120.00 (hardcover, with DVD).

This is the second volume of a projected five volumes devoted to a detailed study of the high brass instruments of the Utley Collection at the

National Music Museum, University of South Dakota. It is richly illustrated, thoughtfully researched, and represents the most comprehensive review of the literature and original research on high brass instruments to date. The book differs from individual monographs on specific instruments in several ways: Klaus concentrates on instruments, not repertoire or players, and the study focuses on the Utley Collection holdings of over 600 instruments from all over the world. Klaus frequently includes examples from other museum collections to support or expand the presentation.

As the title of volume two suggests, Klaus investigates the expansions of the natural harmonic series with chapters devoted to slide trumpet, cornetto, serpent, invention trumpet and stopped trumpet, keyed trumpet and keyed bugle. While these topics suggest pre-valve era instruments, the discussion of instruments based on their mechanism can offer insights into the use of that mechanism over several centuries. For example, chapter one on the slide trumpets concludes with the slide cornet and the slide trumpet in twentieth century vaudeville and jazz. Utley did not let the non-availability of an original instrument stand in the way of his collecting. He commissioned reproduction instruments from a variety of respected makers to fill gaps in his collection. As we will see in future volumes, Utley also did not limit his collecting to antiques. Thus, in the discussion of the German baroque slide-trumpet, an illustration from the Curt Sachs' 1922 Berlin catalog of a slide trumpet by Huns Veit (Naumberg, 1651) is juxtaposed by a reproduction of a Veit, on the next page, by John Webb (London, 1990).

One cannot write about the Renaissance slide trumpet without controversy. The first real research began with Sachs and Besseler in 1950, and, lacking surviving instruments to study, they relied heavily on iconography and examined parts that may have been played by a slide instrument. In 1984, Peter Downey questioned the very existence of a Renaissance slide trumpet. Various researchers offered rebuttals to Downey by citing more examples of the instrument as depicted in iconography, by closely examining the holding positions shown in the art works, and by citing additional musical examples that could only be performed by instruments not limited to a specific harmonic series. Klaus' diplomatic and objective summary of the controversy is one of the strong aspects of this volume. The text moves to less controversial ground with the presentation of the development of the cornetto from its humble beginnings as a vented animal horn to its extraordinary role as a virtuoso

instrument in the Baroque. Here, x-rays of bore profiles of period instruments illustrate the fabrication methods of the master craftsmen of that era.

Chapter three on the serpent introduces a convincing case for the link of snake-shaped cornetti with early serpents. One of the highlights of the illustrations are the bench drawings by William Lander, a coppersmith and instrument maker from Mere, Wiltshire who made a serpent (NMM 7129) that is discussed in this chapter. The drawings from his notebooks from around 1820 also show trumpets, trombones, natural bugles, and keyed bugles that appear in other appropriate chapters. Chapter four discussess the late eighteenth century invention and stopped trumpets. This can be a confusing era of trumpet history, and Klaus gives a clear narrative of its origins in the German-speaking world of makers like Eschenbach, Lintner, Friedrich, Riedl, Ullmann, and Saurle, who are represented in the collection.

For many of the same reasons, the narrative on the keyed trumpet (chapter five) enjoys an equally thoughtful presentation. It opens with Leonardo da Vinci's famous drawings of a keyed trumpet that would not be realized for several hundred years. We get a glimpse into the world of Anton Weidinger, Haydn, Hummel, the Viennese maker, Riedl, and the tutor author, Andreas Nemetz. The keyed trumpet's acoustical shortcomings are illustrated in graphs that compare impulse response, acoustic impedance, and air column resonances of a keyed trumpet with closed keys and the first key open. Italian, French, and English keyed trumpet designs and mechanisms are also covered.

The final chapter is devoted to the keyed bugle. Keyed bugles enjoy excellent representation in the Utley collection and Klaus makes use of the new research by Lasocki to bring the story of the keyed bugle's origins up to date. Lasocki's research proved that in 1800 (ten years before the instrument's patent) a bugle horn with keys was advertised for sale by George Astor of London. This new information and the transcript of a court case between John Green (a London music publisher and instrument dealer) and George Collins offer important new details of the intrigue surrounding of the patent, its improvements, and the sale of the rights of manufacture to Mathew Pace. Klaus gives the reader a full transcription of the Case of Collins versus Green as an appendix. An appendix contains an excerpt from a letter by Henry Distin to Enderby Jackson regarding the introduction of the keyed bugle from France to Russia. The wide variety of Utley's instruments in this category give Klaus a large

canvas to paint the picture of the instrument's regional characteristics and construction techniques. Good charts illustrate bell profiles, bore, and tone-hole sizes.

In addition to four appendixes, there is an illustrated glossary of terms, a comprehensive bibliography, and a general index. The companion DVD has been coded so that the reader can view performances on instruments that are marked with an asterisk in the text. There are so many beautifully photographed illustrations that an index of them would have been a welcome addition to the work, but this is a small criticism considering the outstanding qualities of this important book. Sabine Klaus has given us a unique perspective on the history of trumpets and other high brass instruments. She deserves a hearty Brava for her epic coverage of our instruments. Her work will set a high standard for scholars who continue the story. This five-volume magnum opus will be required reading for brass players and organologists.

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***Inventing the American Guitar: The Pre-Civil War Innovations of C. F. Martin and his Contemporaries*, ed. Robert Shaw and Peter Szego, Milwaukee: Hal Leonard Books, 2013. 310 pages, 178 color plates, 53 black and white photos and illustrations, and glossary. Cloth $50.00.**

After years of collecting and studying early American banjos, the New Jersey instrument collector Peter Szego began turning his eye toward American guitars of the nineteenth century. Seeking to fill a gap in knowledge about such guitars, in 2008 he and the Philadelphia instrument dealer Fred Oster met with seven other scholars to begin amassing information about the design, dimensions, history, and chronology of guitars made between 1833 and 1867 by Christian Friedrich Martin, the leading American maker of this period. Data about twenty important examples from the Martin workshop revealed much about the production of such instruments. In 2009 a second conference with additional scholars was held to gather data on other Martin guitars, then totaling more than forty instruments.

Two useful things resulted from this American guitar brain trust. The first is the fine book that is the subject of this review, and the second was a wonderful exhibition of about thirty-five early American guitars at New

York's Metropolitan Museum of Art during most of 2014. In his preface to the book, Szego makes clear his debt to Philip Gura's important publication from 2003, *C. F. Martin and His Guitars 1796–1873.* (See my review of that book in this JOURNAL, vol. 31 (2005), 187–191.) Whereas the strength of Gura's study lies primarily in its biographical and cultural history, however, the present book offers valuable information about the guitars themselves.

Over the past twenty years or so, many publications have been devoted to the guitar in all its forms; most have been written for fans of the guitar in general. The present publication is one of the few that furthers our understanding of one particular segment of guitar history, namely its construction and presence in antebellum America.

The book is very handsome, with abundant high-quality color photographs and an attractive layout owed largely to Szego's own hands-on effort in producing it. Forty-five guitars are featured, each identified with a different profile number at the upper corner of the page when it first appears. The reader will find multiple images of each guitar, from overall shots (showing front, back, and side) to countless details illustrating bridges, headstocks, labels, decorative elements, and even period cases. Supplementing these photos are numerous period images of makers and players, advertisements, and shop locations. Scholars will be pleased to find good comparative dimensions of the instruments and diagrams showing bracing patterns. The end material contains measured drawings of two early Martin guitars, from about 1837 and 1841–43. The large format of the book allows all of the images to be presented at a good size.

Were it only for its photos and other illustrations, this book would be invaluable, but the accompanying essays provide text that is both engaging and informative. Five authors were selected to tell the story of early American guitars from different angles. Each contributor is a specialist, and most participated in one or both of the conferences convened by Szego and Oster.

After an introduction by Jayson Kerr Dobney, who curated the exhibition in New York, the book opens with a chapter by the English scholar James Westbrook about Johann Georg Stauffer, the Viennese instrument builder whose work directly influenced the earliest guitars produced by C. F. Martin. This is followed by a well-written chapter by Arian Sheets, curator at the National Music Museum, explaining the background of Martin's work in the Vogtland, a German region long known as a center for instrument making.

Five of the essays were authored by Richard Johnston, whose scholarship about Martin and his instruments had already begun to take shape in a 1997 publication jointly authored with Jim Washburn, titled *Martin Guitars: An Illustrated Celebration of America's Premier Guitar Maker.* Johnson's chapters in the present work provide a unifying thread about Martin guitars, giving an overall structure to the work's narrative. Three important chapters by David Ganz, a peripatetic researcher and writer, provide fascinating insight to the influence of the Spanish guitar in America before 1850, along with an especially useful essay about the Connecticut instrument maker James Ashborn, whose factory produced three times as many guitars as Martin's during the early 1850s. (It was also a nice surprise to encounter information about the Connecticut flute maker Asa Hopkins in this chapter.) The luthier David LaPlante further fleshes out the influence of Spanish guitars on Martin's work with a chapter about instrument making in Cadiz.

In addition to new material about Ashborn, this book provides at least a bit of information about some less-documented American guitar makers who were contemporaries of, and sometimes collaborators with, C. F. Martin, including George Maul, Henry Schatz, and Louis Schmidt.

It is hard to find problems in this publication, but I would single out one present in varying degrees in so many books and journals these days: weak editing. Each essay is generally well written, but the book's overall readability would have been enhanced by reducing overlap in the contents of the various chapters by editors Szego and Robert Shaw, and by deleting needless repetition within some individual chapters. In particular, it was unnecessary repeatedly to tell the story of C. F. Martin's background and emigration to America, though I applaud Ganz's implication that proof is far from concrete about Martin actually apprenticing with Stauffer (138). Likewise, Ganz's essay about Ashborn states in three separate places that Ashborn produced three times as many guitars as Martin during the early 1850s. It is an interesting fact, but one that did not need to be restated. Ganz's chapter also suffers from a slight bit of hyperbole. He refers to the inlay on Ashborn's highest grade guitars as "extraordinary" (160). That inlay may be more intricate and elaborate than is typical on other American guitars of the period, but in terms of fine woodworking, it probably does not rise to the level of extraordinary, although in this context one could argue that "extraordinary" simply means "atypical." Likewise, the description of the fabric interiors of Ashborn's original guitars cases as "dazzling" seems a bit over the top (165).

The most troubling chapter, from an editorial standpoint, is the opening one by Westbrook. Westbrook's research is sound, but he has a habit of loosely using different terms when referring to the same component on a guitar. This problem also occurs in chapters by some of the other authors. It is most noticeable regarding the structures applied to the underside of the guitar's soundboard, most often called "bracing." But in this chapter one also finds the terms "bar" and "strut." The glossary suggests that there might be a reason for using these differing terms, but not one that is convincingly explained. Writers about guitars also seem to struggle when referring to the parts of the instrument's body, especially the soundboard. This is sometimes called the top, sometimes the front, and at least once in this book (14) the face. Another confusing term is "purfling," which most commonly means thin strips of wood or other material inlaid into a channel within the perimeter of a violin's belly and back. With guitars, too often this term is used to refer to decorative material surrounding the edge of the body, which should more accurately be called "binding." Guitar scholars should come to a consensus about these parts and their terminology. At the very least, it would be helpful to see terminology used consistently within a publication.

Very few actual errors are found, but I noticed at least two regarding the unusual harp guitars made by the Philadelphia guitar maker Emelius Scherr. In describing Scherr's reasons for creating an elongated guitar whose bottom end rests on the ground (30 and 35), Johnson incorrectly attributes to Scherr the statement that the benefit of this design is that it moves the guitar away from the player's body, thus avoiding a muffling of the sound. This, however, is my own personal conclusion; I gave Szego my unpublished research on Scherr, and it was never stated by Scherr or any period writer who commented on his guitars. And speaking of Scherr, it is odd to read that "there is no surviving evidence of North American guitar makers who were active before Martin's arrival in 1833" (28). This is clearly contradicted by Scherr's 1831 patent for his harp guitar (30), even if that instrument was not a normal "Spanish" guitar, an instrument that Scherr also produced as early as 1835, if not earlier. It also seems unfair to imply that most European guitars in the early 1800s were of "lower quality" than Martin's instruments (30), something chauvinistically suggested by Gura in his book as well. Much more research needs to be done regarding European guitars of this period before making such overarching statements.

These are small quibbles in an otherwise excellent book, whose sound research, excellent photos, and beautiful design far outweigh its minor

flaws. Szego and his colleagues deserve hearty congratulations for presenting much important information and many useful images in an area of guitar research that has hitherto been neglected and sometimes misinterpreted.

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Stephen Cottrell. *The Saxophone.* The Yale University Instrument Series. New Haven and London: Yale University Press, 2012. 390 pp.: 120 black-and-white illus., 22 musical exx., 6 tables. ISBN: 9780300100419. $45.00 (cloth).

Stephen Cottrell's long awaited volume offers a comprehensive scholarly history of this iconic instrument. Until now, academic research on saxophone topics has tended to be in the form of "detective work" in DMA theses, but as the author states, "most writing about the instrument occurs in newspapers and magazines or, more recently, on forums and blogs" (xv). From these and from his own exhaustive pursuits, Cottrell's purpose was to synthesize an all-encompassing *book*, the first of its kind. While written for the general reader, there is plenty for pupil and professor alike, with "many other voices" (scholars, journalists, critics, and saxophonists) telling much of the story (xvii). The author is to be commended, for although there appears to be almost no stone unturned in his search for clarity, at no point did the prose collapse under the weight of superfluous facts and data. Considerable print is devoted to anthropology, including the class, cultural, racial, and gender associations in which the saxophone came into its own. Cottrell provides a thoughtful, thorough, and even-handed account from start to finish.

For those new to the subject, the author provides a basic "how-to" introduction to the saxophone, with brief, yet enticingly descriptive overviews with pictures of the instrument and its accessories, along with acoustical and performance considerations. In his biography of Adolphe Sax (1814–1894), Cottrell offers the most complete portrait to date of the celebrated inventor, who, in his long career appears to have had as many successes as setbacks and friends as foes. Sax was an influential figure, as well as a complex psychological study, a man of determination who, as the author states, is "possibly deserving of a more extensive biography" than what is presently available (xvii). Particularly painful for this reader was the missed opportunity to discuss more thoroughly Richard Wagner's impressions, who stated that because of Sax, who worked as a

conductor of stage ensembles at the Paris Opéra, "It was an impossibility ever to get this [offstage] music [from *Tannhaüser*] played properly" (33).

Cottrell painstakingly traces the evolution of the saxophone family through practically every design change, innovation, and offshoot until 1970. With a multitude of technical considerations, this section is not for the merely mildly interested, since much of the language is derived from patent copy, though sketches provide some relief, and occasionally some British terms are inconsistent with international usage, e.g., "button" vs. "bis" B-flat fingering (73). The photos in this section and throughout the book are eye-catching in size and resolution, full of wonderful details and seductive contours. However, one plate mislabels Rothophone and Sarrusophone (68), and another, showing a Selmer Mark VI alto with a rare low A extension, is accompanied by the claim that this model is "often equipped" with such a feature (265).

While the early performing history of the saxophone remains a patchwork, Cottrell is clear on several points: initial demand for saxophones was low; few skilled performers were to be found; most composers were unwilling to score for the instrument; thus, in Europe, the saxophone went into decline, although there is no accounting for the eight saxophonists in a Russian band at the 1867 Paris Exhibition. One curious point of etymology might have been further investigated: the early attempts of Jullien and others, over a five-year period, to establish the saxophone as the *corno musa*. The moniker "Sax," as attached to a musical instrument, smacks of aggressive, modern-day branding, so perhaps an enlightenment-era identity matching the instrument's lofty timbre associations might have fared better in the inventor's lifetime?

The most colorful chapter relates to the period between 1885 and 1930, particularly in the United States, where vaudeville, circuses, minstrelsy, and ragtime fueled the public's near insatiable appetite for saxophones. Cottrell follows long-touring saxophone ensembles such as the Musical Spillers and Brown Brothers, and the rise of virtuosos, particularly Rudy Wiedoft, and outlines the evolution of the dance band sax section. Improved recording technologies and greater efficiency in instrument production coincided with the popularity of jazz, all together spawning a saxophone craze. In leading up to this, the author mentions then Congressman C. G. Conn's influential bill, passed into law in 1899, requiring saxophones in all US military bands, yet he later fails to point out how band instrument companies, such as Conn and Buescher, again

conspired to create the market for "student-line" instruments in the 1920s, an even greater boon for saxophone manufacturers. The most fascinating fact was that Rachmaninoff, during his 1924 recording of his Piano Concerto No. 2, replaced the double basses with a bass saxophone.

As is to be expected, the chapter on jazz has the greatest continuity. Much scholarship and popular writing on the subject already exists, and with first-person accounts being commonplace, these are used liberally. Cottrell chooses wisely to focus on the primary innovators only through the 1960s. He discusses the lineage regarding tone quality and improvising style, connecting the "family tree" of jazz saxophonists in convincing fashion. His portrayal of classical saxophone is also excellent, highlighting the innovators in the field but also suggesting several reasons the instrument never really caught on in this area. His comparison of saxophone and string quartets is instructive, although many would question the conservative ranges he assigns to professional saxophonists. The chapter on "Modernism and post-modernism" can feel a bit like a volume of "Who's Who," but considering the impressive amount of ground needing to be covered—technology, extended techniques, and pedagogy, as well as contemporary classical, jazz, rock, pop, and world music—this format was necessary and was successfully presented.

The final chapter, "The Saxophone as Symbol and Icon," covers the rich history of the saxophone in the contexts of modernity, the making of America, so-called "degeneracy," racial stereotypes and discrimination, politics, gender roles, and sexuality. The author writes in persuasive fashion about how the saxophone, more than any other instrument, is woven into the fabric of nearly every aspect of our modern world. It is an inescapable presence, and for this, and for Stephen Cottrell's new book, *The Saxophone*, I am grateful.

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