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BOOK REVIEWS

Thomas E. Cross. *Instruments of Burma, India, Nepal, Thailand, and Tibet. The Shrine to Music Museum Catalog of the Collections, vol. 2.* Vermillion, S.D.: The Shrine to Music Museum Foundation, 1982. 32 pp.; 2 color, 44 black-and-white plates. \$6.50.

This volume is the second in a projected series dealing with the musical instruments in the Shrine to Music Museum and Center for the Study of the History of Musical Instruments at the University of South Dakota.¹ A statement in the introduction by André P. Larson, director of the Shrine to Music Museum and editor of the *Catalog of the Collections*, sets forth the objectives of the project:

As in Volume I, it was decided to devote the majority of available space to photographs of the instruments. The given measurements are meant only to indicate the approximate size of each instrument. There are those who might argue that these volumes thus constitute a "photographic checklist" rather than a catalog in the traditional sense. Be that as it may, it is our position that misunderstandings caused by differences in terminology, inadequate translations, and so on, can best be alleviated by providing clear photographs which allow individuals to make their own judgments (written requests for more specific measurements, detailed photographs, and other information will, of course, be answered by the museum).

This statement explains the somewhat sketchy nature of the verbal descriptions offered in this booklet: the purpose of the writing is clearly to amplify and enhance the visual explication of the photographs.

While the color photographs on the front and back covers of the catalog are brilliant and evocative, the black-and-white examples within vary in quality from those (the majority) that offer excellent contrast and definition of detail (e.g., no. 3078) to those (only a few) that are somewhat diffuse and faded in appearance (e.g., no. 1370b). The photographs have been silhouetted so as to depict only the images of the instruments themselves on a field of white. This, while highlighting and dramatizing their detail, gives a certain starkness to the page layout.

The descriptive material in the forty-six entries is concise and to the point, consisting of an identification of the geographic area with which

1. Volume 1, Gary M. Stewart, *Keyed Brass Instruments in the Arne B. Larson Collection* (Vermillion, S.D.: The Shrine to Music Museum Foundation, 1980), was reviewed in this *Journal* 9 (1983): 135–37.

each instrument is associated and the approximate chronological frame (given by century), its indigenous name, functional use, performance characteristics, and physical description, including material(s) used in construction, color(s), an explanation of any decorative motifs, and dimensions given in the metric system.

The volume is illustrative of the richness and variety of the holdings of the museum, and entry no. 2683 is typical of the interesting items found in it. The instrument in question is the *Máhōrá thérk*, a cast bronze drum played with a pair of bamboo or hardwood sticks, from seventeenth-century Thailand. In addition to the depiction of the instrument as a whole there are two photographs of details of the top of the drum. The top is decorated with concentric circles and a twelve-pointed star that the author suggests may represent the signs of the zodiac; and one of the photographs shows several groups, carved in tiers, of three-dimensional frogs, elephants, snails, and a lizard. It is suggested that the instrument is used in rain ceremonies to invoke the spirits of the clouds; frogs and snails are associated with the rainy season, and the reverberation of the drum may represent thunder. This entry is typical of the interesting photographic material accompanied by informative descriptions presented in the volume.

Readers and viewers will encounter such familiar genres as the membranophones of North India, the *tabla*, and the South Indian *mridanga*; chordophones such as the *sitar*, *vina*, *sarangi*, and *tambura* (one wonders at the absence of the *sarod*); aerophones including the long and colorful Tibetan trumpets used in Buddhist ritual ceremonies; and idiophones such as the bronze gongs from Thailand that show the musical and geographic proximity of Thai culture to Southeast Asian musical cultures. In addition to the more familiar instruments mentioned above, one finds unusual and colorful examples such as the Tibetan *rKang-dung*, the short horn fashioned from a human thighbone (a mystical symbol of human immortality), and the *Po·ng la·ng* from Thailand, a livestock bell carved from a single piece of hardwood with a wooden clapper.

There is a helpful selected bibliography that contains primarily references dealing specifically with the music and instruments of the areas covered, although it also includes books on ethnomusicology in general, as well as the catalogs of several other collections (one might question the absence of such a standard reference as Sybil Marcuse, *Musical Instruments*²).

2. Sybil Marcuse, *Musical Instruments: A Comprehensive Dictionary* (Garden City, N.Y.: Doubleday & Co., Inc., 1964).

The author of the textual material, Thomas E. Cross, is research assistant at the Museum. Photographs were taken by Gary M. Stewart, Museum conservator.

The present volume will be of great interest to those who want to become familiar with the Shrine to Music's immensely impressive collection of over 3,500 instruments, as well as to general readers who desire a greater knowledge of the richness and variety of the world's instruments of music. Subsequent volumes in the series will continue to be published with the same format so that eventually they can be bound together into a single catalog.

ROBERT WASHBURN

Stephen Bonta and William Salzillo, editors. *The Schambach Collection of Musical Instruments*. Preface by Hans Schambach and foreword by Laurence Libin. Clinton, New York: The Fred L. Emerson Gallery, Hamilton College, 1983. 64 pp.; 12 color, 63 black-and-white plates. \$10.

William Salzillo, editor. *The Art of Music: American Paintings & Musical Instruments, 1770–1910*. Clinton, New York: The Fred L. Emerson Gallery, Hamilton College, 1984. 103 pp.; 5 color, 96 black-and-white plates. \$10.

Janice Gray Armstrong, editor. *Catching the Tune: Music and William Sidney Mount*. Stony Brook, N.Y. 11790 (1208 Route 25A): The Museums at Stony Brook, 1984. 67 pp.; 35 color, 36 black-and-white plates. \$9.50 (plus \$2.50 postage).

These full-size paperback volumes have in common the fact that they are catalogs of very special exhibitions: the first, of a remarkable private collection of musical instruments; the other two, of American paintings depicting music and instruments. All three catalogs are handsomely printed, prolifically illustrated, and bound in heavy paper covers.

The Schambach Collection includes instruments from Italy, France, Austria, Germany, England, and the U.S., and is the largest and most valuable private collection of Tourte bows in the world. The collection includes: twenty-two bows; a rosin box of ivory and gold said to have belonged to Mozart; a treble viol attributed to Giovanni Battista Gabrielli (1750); violas d'amore by Antoine Saint Paul (1762) and Nicholas Chap-puy; a rare violon d'amour by Jean-Baptiste Salomon; violins by Jacob Stainer (1669), Antonio Stradivari (1727 [ex-Joachim], plus a small Strad,

which may be a violino piccolo or intended for a child), and Jean-Baptiste Vuillaume (1855); kits attributed to Carlo Bergonzi (1733), Carlo Testore, Domenico Busan, and Joseph Nicolas Leclerc, and by unknown Italian (eighteenth century) and German (ca. 1700) makers; a miniature violin by Giuseppe Guarneri (1735); hurdy-gurdies by Claude Edmond Jean Prieur and Thibout Fils; a cittern by Gerard J. Deleplanque (1776); an archcittern by Louis Sigismond Laurent (1773); an archlute by Sébastien Renault and François Chatelain (1781); a mandore by Edmond Saunier (1773); guitars by Jean Louvet, dit le jeune (1763), Charles Barbara (1827), and an unknown French maker (seventeenth or eighteenth century); a French flageolet (anonymous, seventeenth or eighteenth century); a double English flageolet by Hastrick; a clarinet by Johann Tobias Uhlmann; a chamber organ by Richard Ferris; and a spinet (unknown Italian maker, seventeenth century) that matches a description in one of Leopoldo Franciolini's catalogs! Each instrument is described briefly and shown in clearly defined illustrations, several in handsome color. The one-page bibliography should be useful to persons for whom this volume is an introduction to the fascination of historical musical instruments.

The Art of Music: American Paintings & Musical Instruments, 1770–1910 also includes photographs of a variety of musical instruments, forty-five in all, mostly from the collection of Frederick R. Selch, member and past-president of AMIS. They are of far less exalted parentage than those in the Schambach Collection, but are of special interest since nearly all were made in nineteenth-century America. They nicely complement the paintings in this exhibit, which was shown during 1984 at the Fred L. Emerson Gallery, Hamilton College, Clinton, N.Y.; the Whitney Museum of American Art at Philip Morris, New York, N.Y.; the Duke University Museum of Art, Durham, N.C.; and the Lamont Gallery of the Phillips Exeter Academy, Exeter, N.H. Included are four violins, two bass viols, violoncello, square piano, five flutes, two piccolos, two fifes, four banjos, English guitar, two Spanish guitars, harp, two cornets, keyed bugle, military bugle, pair of trumpets, military field drum, horn, bass trombone, three clarinets, bassoon, rocking melodeon, accordion, concertina, mandolin, tambourine, minstrel bones, and hammered dulcimer.

Surveying the theme of music in American painting from the late eighteenth through the early twentieth century, *The Art of Music* includes essays that deal with four different aspects of the exhibition. Michael Edward Shapiro writes about "Sound in a Silent Medium: Thoughts on the Pleasures and Paradoxes of Musical Paintings," pointing out that "paintings of musi-

cal scenes bypass the ear in favor of the eye. They attempt to render an auditory experience visible, and, in so doing, they eliminate music's primary characteristic, sound." In discussing the complex subjective experience of responding to paintings of musical subjects, he uses examples of paintings by Hans Memling (*Angels Making Music*), Giorgione (*Pastorale* [*Concert champêtre*]), Luca Penni (*Parnassus*), Jan Brueghel (*Hearing*), Jan Molenaer (*The Juvenile Trio*), William Hogarth (*The Enraged Musician*), Jan Vermeer (*Lady Seated at the Virginals*), Nicolas Lancret (*The Music Lesson*), William Holman Hunt (*The Awakening Conscience*), Eugène Delacroix (*Paganini*), and Edvard Munch (*The Scream*). This is followed by a useful brief history by Frederick R. Selch of the instruments employed in American music during the colonial, Federal, and Victorian periods, with well-chosen illustrations from instrument tutors and advertisements.

The major focus of this volume is on American musical paintings: the period 1770–1865 is discussed by H. Nichols B. Clark, while Celia Betsy writes on the 1865–1910 era. Music, both cultivated and vernacular, has been such an integral part of American life that a survey of musical paintings during the eighteenth and nineteenth centuries gives us quite a remarkable picture of society during that period. The fact that amateur musical accomplishment was a source of much pride is reflected in the number of surviving portraits of persons holding their chosen instrument. Gentlemen amateurs were especially fond of the flute, which held high social status (contrary to a statement by Clark in his essay), while harps and keyboard instruments were considered more suitable for the ladies. Portraits of black musicians reflect changing social attitudes. The theme of courtship is portrayed in such paintings as John George Brown's *The Music Lesson* (1870), while others convey a mood of nostalgia and dreamy sensuality.

William Sidney Mount (1807–1868) is one of the artists discussed by Clark in *The Art of Music*, and he is the subject of the third very handsomely produced book, *Catching the Tune: Music and William Sidney Mount*. Its title is from one of his most famous paintings, in which a young man whistles a tune, while another listens attentively, violin in hand, ready to commence playing it. This painting is of particular interest because the violin portrayed is a special model invented by the artist, which he called the "Cradle of Harmony": it is made in guitar shape with a concave back, constructed from half as many pieces as the standard model, and designed to be "more sonorous, rich and powerful." As Laurence Libin points out in his essay on "Instrument Innovation and William Sidney Mount's 'Cradle of Harmony,'" this was one of many nineteenth-century attempts at improvement

in instrument design that did not find lasting approval. It is known today because its maker was America's first genre painter of international renown, who had a special gift for portraying scenes of everyday life on rural Long Island, including some sympathetic depictions of blacks. Mount also played flute and violin and is important for his collection of fiddle tunes, the value of which was first recognized by Alan Buechner, who began the organization of Mount's musical material at the Museums at Stony Brook. Various aspects of Mount's life and career are discussed in the essays on "Music and William Sidney Mount" by Martha V. Pike, "Micah Hawkins and William Sidney Mount in New York City" by Peter G. Buckley, and "Music and Dance on Long Island, 1800–1870" by M. Hunt Hessler. This book will be of great interest to anyone wanting to learn more about amateur and professional music-making and theatre in the New York area in the first two-thirds of the nineteenth century.

DALE HIGBEE

Victor-Charles Mahillon. *Éléments d'acoustique musicale et instrumentale: Comprenant l'examen de la construction théorique de tous les instruments de musique en usage dans l'orchestre moderne.* 2d ed. Brussels: Les Amis de la musique (avenue des Staphylins 17, 1170 Brussels), 1984. Many black-and-white drawings and diagrams. 1150 FB.

Among the contributors to our knowledge of musical instruments past and present, Victor-Charles Mahillon occupies a pre-eminent position. Any of his major works (particularly the catalog of the museum of the Brussels Conservatoire,¹ of which museum he was the founder, curator, and major builder) are of importance to those interested in musical instruments. The appearance of the present volume, a completely revised edition of the work he first published in 1874 at the age of thirty-three, is due to a "happy chance." In 1969 there was discovered in the home of his granddaughter, Marthe, the nearly completed manuscript of a new and entirely reworked edition of the *Éléments* that he had prepared at St-Jean-Cap-Ferrat in 1916. Apparently, the war and the difficult times following had prevented him from publishing the work prior to his death in 1924, and even the existence of the work had been forgotten. His family, eager to see the project that he

1. Victor-Charles Mahillon, *Catalogue descriptif et analytique du Musée instrumental du Conservatoire royal de musique de Bruxelles*, 5 vols. (Ghent, 1880–1922), reprint ed. (Brussels: Les Amis de la musique, 1978).

had nearly finished in the last years of his life realized, arranged to have the work published by Les Amis de musique in Brussels.

One of Mahillon's aims in writing the *Éléments* was to set down, in easily understood language, the physical principles underlying the behavior of musical instruments and, in those cases where the theory was not well developed, to describe in rational and quantitative terms what the important variables are and what they do as revealed by experiment. In this he was highly successful. He lived during a time of great progress in the application of science to technology, and in a period when the spirit of invention and technological change was very much alive. A large part of the transformation of musical instruments from their earlier forms to those of the present day took place during his lifetime, and Mahillon himself not only recorded and rationalized this process, but contributed to it also. In contrast to those like Theobald Boehm, who worked essentially with a single instrument, Mahillon took a lively interest in all of the varieties; his own contributions and experiments, however, were largely associated with winds, and the book reflects this emphasis to some extent.

This is not the text one would turn to today to obtain a grounding in the physical principles underlying the behavior of musical instruments. Much has been learned since that time, and many of the facts that Mahillon presents simply as empirical observations have since been explained and, as a result, better organized into a theoretical structure that enhances their understandability. He was not trained as a scientist and availed himself but sparingly of the theoretical knowledge that became available (Lord Rayleigh's monumental *The Theory of Sound*² was published in 1877–78) after the first edition of the *Éléments d'acoustique musicale* appeared in 1874. Nevertheless, Mahillon was rarely wrong and usually was quite clear about the limitations of his statements, both theoretical and empirical. Only in a few cases would an uninitiated reader be led astray, and never in matters of fundamental importance.

The subtitle of the book reads: "comprising the examination of the theoretical construction of all the musical instruments of the modern orchestra." If the reader thinks this covers only what we see conventionally in use today, he is in for a surprise. Mahillon completely ignored this self-imposed limitation. Indeed, it is in the remarkable variety of instruments treated that this volume gains interest to the lover of musical instruments.

2. John William Strutt, third Baron Rayleigh, *The Theory of Sound*, 2 vols. (London, 1877–78), 2d ed. (London, 1894–96), reprint ed. of 2d ed. (New York: Dover Publications, 1945).

Hundreds of instruments are described in accordance with a classification scheme that not only divides the instruments into winds, strings, percussion, etc., but also into subcategories according to the nature of the vibrating body and the method of excitation. While the subtitle says "orchestra," Mahillon also discusses instruments that belong to what we would call bands and other musical groupings; in addition he includes instruments now in disuse, as well as their historical forebears and some of their relatives in the non-Western world. The descriptions of most of these are brief and concern mainly their acoustical aspects, e.g., how the various notes they produce relate to the vibrational modes, and the means used to alter the length of the vibrating member. There is little history; for this the author makes liberal reference to his catalogue of the museum of the Brussels Conservatoire. Taken together, these two works of Mahillon provide a rich source of information on a wide variety of instruments.

The text is occasionally enlivened by commentary and anecdote such as the following discussion of a widespread error—the belief that the material of which a wind instrument is made has a profound influence on its tone qualities (pp. 61–62; translation mine):

Who does not know the brilliant sound of the cavalry trumpet? It would seem that if this same brilliance were produced by the same instrument totally constructed of wood, the error would disappear forever. Nothing of the sort. Over the years we have had the occasion to make heard almost every day, before a considerable number of instrumentalists, a trumpet of acacia wood constructed by C. Mahillon to demonstrate the absurdity of an idea of which he was one of the leading adversaries. This instrument, constructed with the exact proportions of the cavalry trumpet, gives exactly the same brilliance as its equal in brass, to the degree that it is impossible to distinguish one from the other.

Is this believed? We have surprised almost everybody, but have convinced nobody! Faced with the truth, many artists have not wanted to believe their ears. One consents with difficulty to renounce, in effect, in one instant, an opinion formed and professed over long years; to confess that one's experiences, one's studies, one's trials, one's fancies have led one astray. Also, with what coldness and indifference does one reject all innovation that attacks preconceived ideas!

What troubles would professors spare their students, however, if, themselves instructed in that which progress reveals, they informed their pupils of the true principles of the instrument, abandoning the thousand prejudices that encumber the studies, waste precious time, and finally erect an almost impenetrable barrier to serious progress.

The sole reasons for the difference in timbre of the wind instruments are due to the proportions of the tubes, and thus of the shape of the vibrating body, which is none other than the *air*, and the manner in which this column of air is excited.

Mahillon would doubtless be disappointed, but not surprised, to find that seventy years later few musicians are willing to admit to the truth of the matter, in spite of several forceful demonstrations of its validity. His analysis was quite as perspicacious with regard to human nature as it was to acoustics!

Reading this work, one is reminded of the spirit of innovation and acceptance of change in musical instrument design that was alive in the nineteenth century. The conservativeness of classical musicians today, and their unwillingness to accept anything but the most incremental changes in the instruments they employ, stands in contrast. Perhaps we must look to the world of electronic supplementation, computers, and synthesizers to point the directions for the future.

JOHN W. COLTMAN

Edwin M. Good. *Giraffes, Black Dragons, and Other Pianos*. Stanford: Stanford University Press, 1982. xvii, 305 pp.; 62 black-and-white plates, many drawings. \$29.50.

Organology students and professionals greet each new addition to the plethora of volumes on the history of the piano with hope. A strikingly bold point of view, a wealth of comparative documentation, penetrating technical analysis, and an illuminating musical perspective are all pressing current needs in the field of the history of hammered keyboard instruments.

Despite its drugstore-novel title, *Giraffes* is an important step in a total reconsideration of the history of the piano (a project that would undoubtedly require an encyclopedia of the piano, as Good himself suggests). The pianos themselves are the primary sources of information for a history such as this one, as the author tells us, and it is clear that he has inspected many of them.

The difference between invention and acceptance, commonly noted in histories of technology but seldom given attention in histories of the piano, is a major theme of Good's work. He describes his book as a history of change, noting that change is not synonymous with improvement or progress (though he does not replace the idea of evolutionary progress with another developed point of view). He is also willing to tackle the myth of the modern piano: "I admire what Steinway did, but I am not ready to suppose that where others did something else, they were misguided or out of touch with reality," he remarks (p. ix).

At many points in the book, Good describes problems of the modern piano: for example, he notes that though felt is now universally used for

hammer covering, it is far from a perfect material for the purpose; that some effects are lost on the modern piano because it lacks a true *una corda*; and that while it saves material and money to use one piece of wire for two adjacent strings, the strings do not stay in tune as well as with single looping.

Chapter 5, "Iron Enters the Piano," presents an instructive discussion of the Thom and Allen compensation frame and Babcock's metal frame patent and practice. Describing them as "innovations," Good shows that they were proposed as solutions to the problems of tension and tuning instability, especially in the English-style pianos (he had pointed out earlier that the tendency towards greater range, greater volume, and significantly higher pitch presented new problems for piano makers). He notes that Graf's successful interior bracing system indicates that there were viable solutions other than the one eventually adopted, and he suggests that American leadership in the development of the iron frame was related to the need to build things to withstand the heating of American homes.

There is enlightening material on the placement of tuning pins in square pianos and on Erard's method of hinging the hammers on the rail. Good mentions that in inventing the repetition action Erard may have wanted to combine the power of the more sluggish English type with the ease of repetition in the light Viennese action, a point that had also occurred to me. He recognizes that the Viennese action has a better leverage ratio than does the Cristofori-Silbermann, and that this accounts for the characteristic lightness of touch, responsiveness, and shallow "dip" of the Viennese action.

Several other points in his discussion of the Classic Piano must be questioned, however. The so-called predecessor of the Viennese action, the simple Prellmechanik, belongs more logically to the section on early square pianos. If Schröter's diagram relates to any later eighteenth-century action, it would be Taskin's, or possibly the tangent action, but not the German-Viennese. The escapement spring on the developed Prellmechanik was more likely to be wire than whalebone (the Schmidt is probably not the most fortunate choice to exemplify the period). The most characteristic differences between the pianos of Walter and Stein are not mentioned: while J. A. Stein used wooden kapsels, rest posts, more vertical escapement levers, and no back checks, Walter used metal kapsels, longer hammers resting on felt at key level, tilted escapement levers, and back checks. The lack of differentiation confuses the discussion of the Streichers' and André Stein's later instruments, as they apparently adopted the Walter form of action circa 1810–15 rather than J. A. Stein's.

The intended orientation of the book is toward technology in the history of the piano, yet the author shuns “an airtight definition of technology” (p. 23). This approach is evident in his statement that “the piano is a machine. . . . A machine accomplishes work, that is, it applies energy to some end. The piano’s energy produces musical sound vibrations” (p. 2). This might be true of an automatic piano, but in other cases it is the performer, using the piano as a tool, whose application of energy to the “machine” produces the sounds.

Good points out that the immediate contribution of science to piano design (and, we might add, to histories of the piano) has been very slight. Scientific or technically oriented studies of historical pianos are notably lacking. But though he stresses technology, Good does not attempt to fill this void, and many of his categorical statements are not given the support of scientific evidence. Here are some examples: “the case of the piano is merely the box that contains the machine . . . [and] does not affect the tone or otherwise have musical value” (p. 4); “some materials have little or no effect on the instrument’s sound” (p. 24); “the longer and less stiff the strings are, the more upper partials can be generated, thus enhancing the richness of tone” (p. 115); and “the volume was less, the timbre thinner, the sound very much more open and less rich and sonorous . . .” (p. 155). Such statements certainly need further support and explanation.

The book is sprinkled with statements such as the following that belie the author’s intention of avoiding the evolutionary point of view: “. . . the development of cross-stringing was a signal point in the evolution of the modern piano” (p. 13); “by the time of the last piano in this chapter, at least one maker had achieved . . . a range close to that of the modern piano” (p. 69); “from 1820 on, the experiments and innovations were . . . aiming toward the modern piano” (p. 164); and “these gap-stretchers were the modest forerunners of the complete cast-iron frame . . .” (p. 62). In some sections often-quoted material available elsewhere is repeated, unwittingly reflecting the evolutionary bias. The choice of the modern piano for the initial example used to explain the parts of the piano was an infelicitous one in view of Good’s avowed purpose, for it assumes that the technical functions of that instrument are common knowledge, and focusses unduly on its features.

Good’s discussion of craft-shop versus factory production also exhibits a modern bias, equating efficiency with number of instruments produced. He states that in craft-shop manufacture one worker ordinarily did all the work on one instrument, and he infers from Mozart’s famous letter that J. A. Stein did all the basic work himself; divisions of labor in the shops of

Erard, the Streichers, Graf, Pleyel, and even Broadwood are not considered to have achieved the desirable mass production.

The scattered references to the relationship of “touch” to the “machine” are intriguing, but disappointingly inconclusive. Descriptive adjectives such as “light,” “stiff,” and “heavy” are not precisely defined, except in one footnote (p. 141); and the fictional piano design on page 15 sets up a proportion of touch “weight” to volume that does not take speed of stroke or frequency into consideration. If “the hammer must strike the string with speed proportional to the weight of the player’s touch on the key,” how does this proportion affect the free flight discussed subsequently? The sections on the regulation of the “touch” in the English grand action and the later Viennese action could have been made more useful by the inclusion of meaningful measurements.

Despite the fact that one of the book’s most interesting sections (pp. 70ff.) relates the instrument’s expanding range specifically to the expanding range requirements of the music, for the most part the author sticks to his decision to offer little to correlate the pianos with the music written for them. The list of ranges on page 152 whets the appetite for an appendix outlining briefly all the pianos involved in this study. The index seems fairly comprehensive, and the bibliography includes some less-accessible recent publications, though it does omit a few important German-language sources listed elsewhere. Chapter numbers or titles in the “Notes” section would have facilitated the use of the copious footnotes. Some unusual items such as “down-striking squares” and Behrent’s first piano (a square piano) should have had more precise documentation, and cross references for pianos discussed in separate chapters would have been helpful.

The virtues of *Giraffes* become increasingly more evident toward its conclusion. In his eye-opening chapter 8, “The Europeans Imitate—or Do Not,” Good cracks the monolithic myth of the modern piano. Of the Steinway piano he says (p. 218): “I find no explanation for the fact that it did win the day except that Steinway and its imitators persuaded the piano-buying public throughout the world that the Steinway system was the norm. Once the public had been persuaded that it was the norm, it had become the norm.” And this “norm,” it seems clear, has prejudiced and obscured our understanding of the opulent variety of pre-twentieth-century hammered keyboard instruments and their music.

MARIBEL MEISEL

Margaret Anne Downie. *The Rebec: An Orthographic and Iconographic Study*. 2 vols. Ph.D. dissertation, West Virginia University, 1981. Ann Arbor: University Microfilms International, order no. PSE82-07522. 651 pp.; 64 black-and-white plates. Paperbound, \$35.

"A Rhybybe is a Rabel is a Rubible is a Rebec" read the title of a paper presented by Margaret Downie to the AMIS several years ago. Little then did anyone realize that she was merely scratching the strings of Pandora's rebec. In her impressive study of this instrument Downie has traced the orthography of 218 variants of the word *rebec*, offering at times as many as fifty-six historical citations of a single variant. Also, she has found iconographical evidence of the instrument in over three hundred paintings, sculptures, and engravings.

As a result of her studies, the use of the rebec in Western Europe can now be documented from the late thirteenth to the mid-eighteenth century, with its earliest appearances in Spain and its latest in Italy and North Central Europe. Within these areas its myriad names are sprinkled through the literature, showing that the instrument was in common use for much of this time. Its influence was so pervasive that the name even turns up in figurative expressions, such as "Il est bon joueur de rebec," meaning "He is a clever person," or "Et jouent volontiers du rebec," that is, "They willingly resist"—the latter found in an anonymous *Sermon joyeux de la patience des femmes obstinees contre leur maris* of the fifteenth or sixteenth century. The demise of the rebec, brought about by the popularization of the violin, was hastened by edicts like that of Guignon in 1741, which forbade the use of the rebec by all but the lowest classes.

The reader may wonder at the outset why such emphasis has been placed on the orthographical and iconographical aspects of the study. In due course it becomes clear that there is almost no music specifically designated for the rebec, only four short arrangements for four rebecs in Hans Gerle's publications of 1532 (*Musica Teusch*) and 1545 (*Musica und Tabulatur*). Moreover, there are no certifiably old rebecs, only one pre-seventeenth-century instrument called a violeta, and a couple of mislabeled early mandoras. Twenty-six rebecs from public and private collections are described, but all are late eighteenth- or nineteenth-century reproductions, of which more than half, Downie suggests, are products of the unscrupulous Florentine dealer Leopoldo Franciolini. As a result the author is forced to rely on secondary evidence for many of her conclusions. Even the basic description of the rebec—that it was most often a bowed instrument with three high-pitched strings and an unwaisted pyriform body with

a rounded back—comes principally from the iconographical section. Hence specifics about the rebec's size, weight, materials, interior structure, and so on, are lacking. Symptomatic of this treatment is the extended discussion of the morphology of the early rebec and lyra, whose differences, the author maintains, depend more on the employment of a pegdisc or a pegbox than on how they are played, how they sound, or their musical uses. In actuality, such essentially decorative features as string fastenings are of more value in determining genealogy and cultural influence than in defining the nature of a musical instrument. No one, for example, would think of describing a guitar with sagittal pegs as a different instrument from one equipped with machine heads.

The first twenty-four pages are devoted to an introduction and a section entitled "Avenues for Research," the latter constituting a primer for instrument-related research that commends itself to anyone embarking on such a project, though it is not specifically related to the study that follows and slows the reader's progress into it. In the iconographical section—and indeed throughout the dissertation—the author is often similarly impeded by her methodology: for example, if one picture takes fourteen steps to describe, then all do, even though for many of the points there is only the statement "No information available." Although this leaves no doubt in the mind of the reader regarding these points, it also tends to obfuscate the significant observations the author does make about the representations. Aspects like these impart to the work a quality of overcareful earnestness—often encountered in dissertations but not contributing to their enjoyable use.

On the whole, however, the author's impeccable work yields considerable insight into a ubiquitous but little-known early instrument. Such detailed research contributes much to the continued development of our understanding of early music and its performance. This dissertation is an important organological contribution; pruned of its methodological excesses, it would make a highly publishable work.

CECIL D. ADKINS

Tom Wheeler. *American Guitars: An Illustrated History*. New York: Harper and Row, 1982. 370 pp.; 136 color, 830 black-and-white photographs; many drawings. \$30.95.

In his latest book, *American Guitars: An Illustrated History*, Tom Wheeler claims to provide us with "the first comprehensive volume devoted to the guitar's post-Civil War history." While this claim might be somewhat over-

stated, Wheeler should be congratulated for compiling a beautifully illustrated and undeniably useful book on the guitar's history and development in the United States.

Conceived as a reference book, *American Guitars* is arranged alphabetically, with information on each maker under that maker's personal or trade name (the text is extensively cross-indexed). Although the author is a bit weak on nineteenth-century material, the book contains a wealth of information on that most influential American instrument, the electric guitar. The electric guitar has received little or no attention from organologists, and, although it has been a mainstay of many forms of American music for almost fifty years, few museums contain examples of electric guitars in their collections. This book, which provides us with a history of the electric guitar's development as well as means for identifying and dating various models, will be a useful and worthwhile addition to a library's collection on organology.

American Guitars is a pioneering attempt to provide serious documentation for an instrument whose history is largely preserved through rumor and orally transmitted lore—often unhindered by facts—passed from one guitar player to another. Although Wheeler does not footnote his entries, he makes scholarly use of company records, trade histories, patent documents, and price sheets, and is usually clear about where he has obtained his information. The author should be commended for his frequent and successful use of oral history and transcribed interviews with such major figures associated with the development of American guitars as Leo Fender, Les Paul, Fred Gretsch, Adolph Rickenbacker, and John Dopyera. The importance of these leaders of the first generation of electric-guitar makers should not be underestimated. (After all, what would we give now for interviews with the earliest piano makers?) Wheeler's interviews and detailed descriptions fill a notable void in our literature.

American Guitars is a more focused, and for the organologist more useful publication than Wheeler's earlier *The Guitar Book: A Handbook for Electric & Acoustic Guitars*.¹ Like his earlier book, *American Guitars* is aimed at guitarists and guitar enthusiasts rather than scholars. There is some overlap between the two books, although most of the shared articles have been revised and expanded. But whereas the earlier book tried to cover all aspects of the guitar's history and present use, including chords and accessories, the latest book remains centered on guitar-making firms and their contributions.

1. Tom Wheeler, *The Guitar Book: A Handbook for Electric & Acoustic Guitars* (New York: Harper and Row, 1974).

My major criticism of the book is the uneven length of its entries. Small firms often receive only two or three sentences, while a major firm like Fender receives fifty pages. (Perhaps this unevenness is inevitable, owing to varying quantities of primary data.) Curiously, the Fender entry is a reprint of an article, made from an interview, that previously appeared in *Guitar Player* magazine; and a short appendix listing a "few particularly interesting patent documents" appears to have been tacked on as a subjectively selected afterthought. Despite these lapses, the book accomplishes its stated goals by providing the reader with a readable year-by-year description of the history and development of the modern American guitar.

The volume is lavishly illustrated: all but three or four of the more than sixty instrument makers' entries are accompanied by photographs. In addition to detailed photographs of the instruments themselves, Wheeler provides us with a wonderful collection of illustrations showing the history, use, and manufacture of guitars. Photographs of makers at work, factory buildings, and unusual advertising materials, as well as patent drawings, movie clips containing guitars, and serial-number charts all enliven the text. (My favorite illustration is a reproduction of a chart showing the custom colors in which 1960 Fender electric guitars could be obtained; selections include "Lake Placid Blue Metallic," "Foam Green," "Surf Green," and "Fiesta Red.")

Wheeler's *American Guitars* certainly constitutes one of the largest collections of guitar-related material presently assembled in a single book. Despite its popular tone and some unevenness in its text, *American Guitars* provides scholars with enough solid information and visual documentation to recommend it as a much-needed roadmap through the wilderness of the modern American world of guitars.

NANCY GROCE

William Waterhouse. *The Proud Bassoon*. Edinburgh: Edinburgh University Collection of Historic Musical Instruments, 1983. 51 pp.; 15 black-and-white plates. £5 (plus £1 overseas postage; prepaid orders in £ sterling only, from Edinburgh University Collection of Historic Musical Instruments, Reid Concert Hall, Bristo Square, Edinburgh EH8 9AG, Scotland).

This catalog was designed as an accompaniment to the Edinburgh International Festival 1983 Exhibition showing the development of the bassoon over the centuries and featuring the William Waterhouse Collection of bassoons and related items. The exhibition, mounted at the Edinburgh Uni-

versity Collection of Historic Musical Instruments, was shown August 17 to 31, 1983.

Waterhouse's text is both informative and readable in its account of the development and construction of the bassoon, its detailed descriptions of all the instruments exhibited, and its lists of reeds, pictures, music, and documents relating to the history of the bassoon.

Twenty-eight of the thirty-four exhibited instruments are included in the plates, where they are clearly shown in both front and back views. Of particular significance are two of the earliest surviving eighteenth-century English bassoons and no fewer than four rare "Boehm" bassoons. No crook is displayed with an instrument or documented unless there is no doubt that it belongs to the instrument in question. Modern reproductions of those early instruments for which original specimens are not available are also included. Unfortunately, there are no illustrations of the miscellaneous items relating to the bassoon that were exhibited. It would have been most helpful to have had reproductions of the iconographical sources mentioned, for many are extremely rare and historically significant.

The Proud Bassoon is a wonderful tribute to an instrument with a long and distinguished history from its beginnings early in the sixteenth century up to the present day. This catalog is a valuable reference book, for it contains information not available elsewhere. Performers, musicologists, enthusiasts, and librarians should find this book most interesting.

BEVERLEY A. ERVINE

James Blades. *Percussion Instruments and Their History*. Rev. ed. London: Faber and Faber Ltd., 1984. 511 pp.; 193 black-and-white plates; 68 text figures. Paperbound, \$32.

This is essentially a corrected rather than a revised edition of *Percussion Instruments and Their History*; it has a new two-page "Additional Bibliography and Discography" and a number of small corrections (dates, names of instruments, and typographical errors), and a photograph of the University of Illinois Percussion Ensemble has been substituted for one showing the tensioning mechanism for Cornelius Ward's bass drum. The organization of the work remains the same: the first half covers the use and history of percussion instruments throughout the world, from rattles to makers and kettledrums, while the second half deals with the European orchestra in the Classical and Romantic eras, the playing techniques of modern percussion instruments, and their use in contemporary music.

The book, which contains excellent drawings, photographs, and other illustrations, also has five articles—added at the end as appendices—that are most informative: “The Americas,” “The Latin American Orchestra,” “Changing Styles in Light Music,” “Use of Percussion in Education,” and “Inventions and Patents.”

In the introduction to “The Americas,” which describes the music of early cultures both northern and southern, the author points out that many ancient instruments that have changed little over the centuries are to be found in Latin American dance orchestras and have in the last few years attracted the attention of composers. In “The Latin American Orchestra” the author presents the percussion instruments used as a continuation of the earliest musical activity (described in “The Americas”) rather than as merely the more modern product of a dance-oriented society. The characteristic rhythms of the various instruments in the band are also described here.

Although the author evidently has an ethnocentric hierarchy of music in mind when he refers to “serious music” and less serious “light music” in “Changing Styles in Light Music,” he does recognize some contributions made by popular music, such as style and frequent application of counter-rhythms, as well as polyrhythms.

In “Percussion in Education” the author has compiled an excellent bibliography of authors interested in school percussion-group training, and in “Inventions and Patents,” where patents taken out between 1897 and 1962 are discussed, both instruments and devices related to percussion are included.

A final appendix is the “Glossary of Principal Terms,” which includes an extensive list of names for percussion instruments in English, Italian, French, German, and Russian (the Spanish, Asian, African, or Arabic terms through which most of the names of the instruments were derived are not given).

Before the next edition of this work appears, we hope, someone will devise a reliable method of documenting the vocalization of rhythm patterns used for training drummers in Africa, India, and Latin America. Perhaps by then we will also be fortunate enough to have a computer program and a method that will assist Mr. Blades in providing us with a chapter on the interplay of rhythm patterns, polyrhythms, and improvisation.

I highly recommend this book as a source of information pertaining to percussion instruments. It is by far the most accurate work on percussion available.

JOSEPH H. HOWARD

Mantle Hood. *The Evolution of Javanese Gamelan. Book 1, Music of the Roaring Sea.* International Institute for Comparative Music Studies, Berlin; *Pocketbooks of Musicology*, 62. Wilhelmshaven: Edition Heinrichshofen, 1980. (U.S. distributor, C. F. Peters Corporation.) 229 pp.; 8 black-and-white photographs. Paperbound, DM16.80.

One of several publications by Mantle Hood devoted to the origin of the Javanese gamelan (large gong-chime ensemble), this volume contains the first of a projected three-book study, preceded by an overview of contemporary Indonesian culture (the overview includes an insightful twenty-six-page orientation course, written by an anonymous Javanese, that was distributed in 1958 to Westerners arriving in Java for employment by the government). In the general preface, Hood states that the "nature of the material . . . divided quite naturally into three parts or 'books,' and each one seemed to require its own peculiar [*sic*] emphasis and style of presentation" (p. 10). Presumably, therefore, one is justified in reviewing this volume as a separate publication.

Hood, whose principal research activity has been the Javanese gamelan and its music, says that in this work he seeks an orientation broader than just that of the closely related arts (p. 9), an approach more humanistic than just a review of the archaeological literature (p. 55), and a readership greater than that already interested in the subject (p. 10). The style, unusual for a scholarly work, may have suggested itself during Hood's residence in Honolulu when James Michener's historical novel *Hawaii*¹ demonstrated how effectively a popularized presentation could stimulate increased interest in a society and culture of a former period.

Book I begins with six short chapters written in a style suggesting oral narrative. The tale is set soon after 300 B.C. and blends "facts, where they were known, with imagination, where it seemed justified" (p. 125). It centers around a set of eight tuned, cast-bronze Dongson (Dong S'on) kettle-drums: the taking of the set, by a king of Java, from the captain of a ship from an unidentified mainland Southeast Asian kingdom that tried unsuccessfully to invade; the establishing of the set in the Javanese king's palace; and the initial processes of developing a musical repertory significant to life in his palace. Thus Hood ascribes to the spoils of war the introduction of an advanced Bronze-Age culture into neolithic societies in Indonesia, claiming that "there is a high probability that some such incident actually took

1. James Michener, *Hawaii* (New York: Random House, 1959).

place" (p. 127). Immediately following his tale, Hood states that during centuries of retelling, details were changed until "the real origin . . . became transformed into a godly act of creation" (p. 121)—a statement that allows a reader to rationalize the differences between his story and the traditional Javanese legend, which may be found in Hardja Susilo's "Indonesia: Central Java, Classical Music" in volume 9 (p. 190) of *The New Grove Dictionary of Music and Musicians*.

The tale includes a passage in which some of the Javanese king's men learn from the surviving invaders how to cast small bronze objects, and realize that they will not be able to cast large bronze drums. The latter is important to Hood's theory that it was because of frustration with this inability that, after some six hundred years of experimentation, the Javanese invented the process of hand-forging large kettles such as those in the three-toned gamelan Munggang (which he considers the oldest type of gamelan in Indonesia). Hood's belief in a continuity from the events as described in his tale to present-day Javanese performance practice is apparent in several ways: the title of his book is based on the name of the gamelan Munggang in the palace of the Sultan of Jogjakarta, "His Royal Excellence The Venerable Roaring Sea"; the name "Lokananta"—the only repertory item played on this gamelan and only on very sacred occasions—is incorporated in the name he gives to the captured cast-bronze drum set in his tale; and the music for that drum set is obviously derived from that of "Lokananta."

In a long chapter (45 pp.) following his tale, Hood provides a critique of it, comparing its details to data in published sources. As cited (bibliographic data are provided only in footnotes), the publications range in date from 1902 to 1977; however, the two dated after 1970 are current editions of earlier publications, Jaap Kunst's *Music in Java* (1949)² and Hood's own 1954 work, *The Nuclear Theme as a Determinant of Patet in Javanese Music*.³ It would have been helpful to have cited W. H. Rassers's study on the Javanese kris in its English translation (1959)⁴ rather than the 1938 original in Dutch, and Andrew Toth's translation of the study on gong manufacture

2. Jaap Kunst, *Musica in Java: Its History, Its Theory, and Its Technique*, 3d ed. (The Hague: Nijhoff, 1973).

3. Mantle Hood, *The Nuclear Theme as a Determinant of Patet in Javanese Music* (Groningen, 1954; reprint ed., New York: Da Capo Press, 1977).

4. W. H. Rassers, *Pañji, the Culture Hero: A Structural Study of Religion in Java*, Koninklijk Instituut voor Taal-, Land- en Volkenkunde, Translation Series, vol. 3 (The Hague: Nijhoff, 1959).

by Jacobson and van Hasselt (1975)⁵ rather than the 1907 original in Dutch and German.

Music of the Roaring Sea, most of the published sources for which were written by Europeans, may be a precursor to an expanding interest in the bronze drum stimulated by recent archaeological work in northern Thailand, northern Vietnam, and southern China. To my knowledge, at least two important books that report work by Chinese scholars have been published since 1980: *Yün-nan ch'ing t'ung ch'i lun ts'ung*⁶ contains twelve articles on excavations in Yunnan (Yün-nan), two devoted entirely to bronze drums and a section of another devoted to the music and dance of the people of the Lake Dainchi area; and *Ku tai t'ung ku hsüeh shu t'ao lun hui lun wen chi*,⁷ described in its English-language synopsis as "a useful reference book for researchers in archaeology, ethnology, history, music, art and metallurgy," contains twenty-six of the forty papers presented at the 1980 national forum on ancient Chinese bronze drums.

Archaeological work in progress in Vietnam is being reported in Vietnamese journals, and in an article in the April, 1984, issue of *Scientific American* that presents the design on the head of a recently excavated bronze drum (possibly dating back to 400 B.C., give or take 150 years), part of the design is described as "a row of four drums of increasing size and, seated above them, four drummers."⁸

The eight illustrations, all photographs taken from other publications, are necessarily small (the book measures $7\frac{1}{8} \times 4\frac{1}{4}$ in.), and some are not very clear. Of the eight, four are different views of a second-century B.C. bronze artifact excavated in Yunnan, which Hood refers to both as a ceremonial drum (pp. 150 and 154) and as a money coffer (p. 211). This object, which is ornamented with a three-dimensional representation of a scene that includes a set of sixteen bronze drums, is shown in many publications, including Hood's "The Effect of Medieval Technology on Musical Style in the Orient,"⁹ several books on Chinese arts, and (in an artist's ren-

5. Edward Jacobson and J. H. van Hasselt, "The Manufacture of Gongs in Semarang," trans. Andrew Toth, *Indonesia* 19 (1975): 127-52.

6. *Yün-nan ch'ing t'ung ch'i lun ts'ung*, compiled by "Yün-nan ch'ing t'ung ch'i lun ts'ung" pien chi tsu (Beijing: Wen wu ch'u pan she, 1981).

7. *Ku tai t'ung ku hsüeh shu t'ao lun hui lun wen chi*, compiled by Chung-kuo ku tai t'ung ku yen chiu hui (Beijing: Wen wu ch'u pan she, 1982).

8. C. F. W. Higham, "Prehistoric Rice Cultivation in Southeast Asia," *Scientific American* 250, no. 4 (April, 1984): 146.

9. Mantle Hood, "The Effect of Medieval Technology on Musical Style in the Orient," University of California at Los Angeles, *Selected Reports* 1, no. 3 (1970): 156.

dition) Wilhelm G. Solheim II's "New Light on a Forgotten Past."¹⁰ The photograph of the gamelan Munggang also appears in the article "Indonesia" in *The New Grove Dictionary* (vol. 9, p. 194).

Neither glossary nor map, both of which would have been helpful to nonspecialist readers, is provided. For a scholarly work, the book has an unusually large number of errors in quotations and references as well as in spelling (most of which are only briefly disconcerting, although a few could cause misunderstanding), suggesting poor editing or typesetting, and certainly inadequate proofreading.

A reader interested in an imaginative presentation of a speculative theory of the origin of the Javanese gamelan and its music will enjoy this book; a reader interested in a concise, factual presentation is advised to refer to Hood's "Indonesia: General, Historical Perspective" in *The New Grove Dictionary* (vol. 9, pp. 169–71).

BARBARA B. SMITH

10. Wilhelm G. Solheim II, "New Light on a Forgotten Past," *National Geographic* 139, no. 3 (March, 1971): 336.

Corrigendum. The following typographical error in vol. 10 (1984) of this *Journal* should be corrected: on p. 137, the word *justly* should be deleted from line 29, so that the passage reads "(instead of "therefore they could be called inexpensive quiet, soft crumhorns")."