

*Journal of the
American Musical
Instrument Society*

VOLUME IX • 1983



Copyright by the [American Musical Instrument Society](#).
Content may be used in accordance with the principles of fair
use under [Section 107 of the United States Copyright Act](#).
Content may not be reproduced for commercial purposes.

BOOK REVIEWS

John Henry van der Meer. *Verzeichnis der europäischen Musikinstrumente im Germanischen Nationalmuseum Nürnberg*. Vol. 1, *Hörner und Trompeten, Membranophone, Idiophone*. Quellenkataloge zur Musikgeschichte, ed. Richard Schaal, vol. 16. Wilhelmshaven: Heinrichshofen's Verlag, 1979. 220 pp.; 80 plates. DM130.

Carel van Leeuwen Boomkamp and John Henry van der Meer. *The Carel van Leeuwen Boomkamp Collection of Musical Instruments: Descriptive Catalogue*. Amsterdam: Frits Knuf, 1971. 190 pp.; 80 plates. \$25.

Herbert Heyde. *Katalog des Musikinstrumenten-Museums der Karl-Marx-Universität, Leipzig*. Vol. 1, *Flöten*. Leipzig: VEB Deutscher Verlag für Musik, 1978. 158 pp. (incl. 22 pp. diagrams); 16 plates. M25.

Herbert Heyde. *Katalog des Musikinstrumenten-Museums der Karl-Marx-Universität, Leipzig*. Vol. 3, *Trompeten, Posaunen, Tuben*. Leipzig: VEB Deutscher Verlag für Musik, 1980. 264 pp. (incl. 44 pp. diagrams); 48 plates. M55.

What are the possible uses and limitations of a catalogue of musical instruments? The four volumes at hand each exemplify styles and methodologies that are uniformly excellent and coherent within themselves but address different audiences and are therefore quite different in content. I suggest at the outset that perhaps the best catalogue achievable would possess the graceful format and humanism of the Nuremberg catalogue, the readability and pictorial excellence of the van Leeuwen Boomkamp-van der Meer work, and the factual, historical, and analytical detail of the Leipzig volumes. In studying these as a group, collectors and conservators will confront for themselves questions that must be addressed in preparing the catalogues of other collections in the future.

The collection of the Germanisches Nationalmuseum, dating from the 1850s, is doubtless the best known to readers. Here we meet again old friends frequently depicted in books on musical instruments, particularly the trumpets and trombones of early Nuremberg makers—the Ehes, Hainlein, Haas, and others; but many of the less glamorous instruments with valves or keys from their earliest period of employment

will be new to readers. And the extensive group of historic European drums, which takes up a quarter of the volume and includes some significant specimens, is quite unexpected.

J. H. van der Meer states explicitly that his catalogue is to be exactly what the word denotes: "No more should be expected of it than a descriptive list should contain." Rather than a systematic classification, "this catalogue is a product of the practical involvement with museum matters many years in duration and out of which a description was to be made whereby individual pieces should be rather easily accessible" (p. 13).¹ Only about a third of the total collection is shown in the plates, which makes the lucid and disciplined verbal descriptions of each instrument a boon for the user. Van der Meer's sequence of observations moves along the length of an instrument, revealing how the parts are joined to each other, how long and of what shape each is, and, in a general fashion, what ornamentation has been applied. There is information as needed about the builder, the instrument's acquisition, and (for many entries) its disappearance. Such notes about holdings formerly present but no longer extant are to be commended from the standpoint of scholarship.

Carel van Leeuwen Boomkamp is a Dutch violoncellist of considerable reputation. Since the 1940s he has devoted much of his time to the performance of old music and has assembled at his home in Bussum a collection of bows and select musical instruments dating generally from 1675 to 1850. In the catalogue of his collection, items 1–10 are viols, fiddles, and a viola d'amore; items 17–21 are members of the violin family plus a hurdy-gurdy by Lambert of Paris; items 23–54 are bows (here alone there are conscious duplications—all other items are unique examples of a form or structure); there follow pianofortes by Clementi (London), Meyer (Amsterdam), and Pape (Paris); and last, almost as a lovely afterthought, come items 86–103, early woodwinds. The plates show each instrument just slightly askew: tuning pegs, for example, seem deliberately turned to display differing profiles, creating a vividly three-dimensional effect. They are placed in groups close to the related text, which is in an excellent, flowing English idiom that, while including technical details, evokes the spirit of the collector himself explaining specimens item by item to an attentive listener. Interspersed are short essays on instruments; the one on bows is the best, for here most of the comments are original rather than derived from

1. The translations of passages from the German texts in this review are my own.

readings. The historical vignettes are, nevertheless, pithily informative. In all, this is a catalogue that can be read as a book. Indeed, it leaves one with the lingering feeling of having made a memorable visit to the collection with the curator as guide.

That the texts of Herbert Heyde constitute a notable departure from the preceding volumes is not simply a product of their being the most recent. As early as thirty-five years ago, Hans-Heinz Dräger, in his *Prinzip einer Systematik der Musikinstrumente* (Kassel: Bärenreiter Verlag, 1943), revised the seminal work of Curt Sachs and Erich von Hornbostel many years before, attaching central importance to behaviorism and functionality. Herbert Heyde's *Grundlagen des natürlichen Systems der Musikinstrumente* (Leipzig: VEB Deutscher Verlag für Musik, 1975) proceeds from this point. The projected eight-volume catalogue of the Leipzig collection at the Karl Marx University (based on the collection of Wilhelm Heyer, Cologne) will not be the first, but is certainly the most copious demonstration of his system.

Heyde practices a type of systematics that is extremely hierarchical and based on an organic view of instruments in society. But even for those who find the systematics too Hegelian for their taste, there are still treasures to be found in his Leipzig catalogue. Heyde treats, to the smallest detail of construction, all physical features of an instrument, down to the form of screws, the decorative outline of braces and bumpers, ferrules and key levers, and the generation of noncylindrical portions of the bore, for which he has included extensive technical drawings. Whereas van der Meer (*Verzeichnis*, p. 15) has made no attempt to describe in such detail that instruments may be copied, this seems to be exactly one of the possible uses of Heyde's entries. The two scholars are of quite opposite opinions about the usefulness of detailed critical measurements. It is impossible to read Heyde's descriptions, nevertheless, without first mastering the introductory material that comprises about twenty percent of the text of each volume. With the efficiency of a technical manual Heyde presents numerous measurements, many identified by an idiomatic set of sigilla. Often these stand for the products of measurements treated by formulas or equations or at least by symbolic simplification and compression. Despite the probability that most of us will never see the Leipzig rarities, there remains little that we may wish to know about them that we cannot learn by a careful reading of the entries in the catalogues. For this, Herbert Heyde deserves our plaudits.

There are two features in Heyde's methodology that organologists

should carefully evaluate, for they hold considerable promise. One is his retention of the units of measurement common to the region and time period when an instrument was built. He does not mean to replace the now-universal metric system; his descriptions are clearly metric. But the simultaneous use of a historical system of measurement moves us a giant step closer to the craftsman's workbench and offers us new understandings of the time, place, and manner of an instrument's genesis. This leads to the second revelation, a contribution concerning the importance of proportionality as a tool for research. This applies primarily to the various measurements of length and width that determine an instrument's form, acoustical effectiveness, and ultimately its sonorous impact in the making of music. He calls the concept *Mensur*.

For woodwinds the idea of *Mensur* is most visible in his term "relative diameter": the symbol ${}^d_{rel}$ stands for the numerical value of the proportion between the width of a tone hole and the width of the bore at that point along the bore; ${}^{\bar{a}}_{rel}$ is a composite relative diameter of a group of tone holes on a given segment of the bore. Such expressions permit the numerical comparison of any two or more woodwind instruments. Although the concept of relativity is not novel, what is novel is Heyde's use of it to form a degree of abstraction for the comparison of instruments.

Another application of proportionality pertains to the engendering of brass-instrument bells. This involves comparing measurements taken at selected points along the rotational axis of a bell cone. These points proceed away from the plane of the bell rim in an arithmetic progression which is itself a function of the diameter (D) of the bell, and are laid out as: $\frac{1}{4}D$, $\frac{3}{8}D$, $\frac{1}{2}D$, . . . D, . . . 2D, etc. Multiplication of a constant (which is supposed to have been known in traditional terms to early craftsmen) by the terms of another arithmetic progression produces the required widths of the bell at each point along the axis. By this schema a hyperbolic cone is generated. This model has been applied to each of the 216 brasses listed in *Trompeten, Posaunen, Tuben*. One result is to reveal a hiatus between the working methods of makers in the last two centuries and those of centuries that went before. "In contrast to empirical, experimental, and practical tendencies of the eighteenth and nineteenth centuries, the older schema is, contrary to that, derived from the rationalism of the Renaissance and makes itself evident by means of a numerically expressed, clear, and fixed connection between the horizontal and vertical measurements which are, for their part, more or less strict series of numbers" (p. 14). Although this was the basis for

the forming of mandrels for bells over several centuries (Heyde's statistics appear to substantiate this), the relationship of process and material did in fact change over succeeding decades for the man at the workbench. *Mensur* is found to have essentially distinct values in groups of instruments from differing ages. The demonstration of this alteration is one of the more exciting contributions within Heyde's first two volumes of the Leipzig catalogue, and I for one look forward to his further application of the methodology in the volumes still in preparation.

It is worth remarking that, although all of the catalogues discussed here provide about fifty lines of type per page, each conveys a different mood because of choices of typeface, paper, and layout. The Nuremberg catalogue was printed on small folio pages of paper with a good rag content, and the type is spaced comfortably across the page, free of crowding. The other volumes are in quarto. The Dutch publication, done throughout on glazed paper, is much crisper in appearance, with a delicate typeface, unblurred characters, and exact register of straight margins. It conveys its own kind of prim elegance. The Leipzig catalogue uses a less expensive, softer paper on which the type seems fat and at a loss for room. The tabular succession of technical entries creates a crowded, restless impression perhaps not untrue to the intensity of the author's presentation. The plates in all are as good as half-tone representations of musical instruments can be; and I have already commented on the aesthetically pleasing poses of van Leeuwen Boomkamp's instruments. The German volumes are, because of the need to pass from index to plate, and so on, and because of the coexistence of several historical systems for measuring the specimens, somewhat difficult to use. The presence of sub-headings at the top of each page is a definite help, however. I am particularly grateful for the biographical sketches Heyde includes for all makers; in the indexes devoted to this there is much original information about little-known makers. To American readers this provides a fine opportunity to learn of a group of craftsmen whose work is generally unrepresented in collections in the U.S.A. On the other hand, I was disappointed to find little material that would tell us more of the European careers of makers who immigrated at some time to this country; I found references only to Klemm and Weygandt of Philadelphia, G. Penzel of New York, and possibly to Couturier of Indiana, though other readers may find more. The information on many Dutch makers in van Leeuwen Boomkamp's volume should not be forgotten.

A final comparison may be instructive. For the answer to a question as simple as "What is the lowest note on this instrument?" we may find three quite different answers. Van Leeuwen Boomkamp adopts an eminently musical method—he provides a small staff on which appears the lowest note sounded by the instrument, which he calls the fundamental. For the many string instruments he provides a tuning diagram, again in score. To deal with problems of relative pitch he occasionally adds the words "about a quarter-step higher." This implies that he thinks of his staff notation as based on $a' = 440$ Hz. For the lowest note of clarinet no. 102 by Dölling, which is stamped B/A, he gives d and c sharp as alternate fundamentals, but does not mention that either would be played with the low E key. Van der Meer, for instance, in describing bugles with keys in the Nuremberg collection, gives e' as the lowest note of no. MIR 56 (anon.) in the following manner: " f' (= e')," which presumably means an instrument in high pitch; for the lowest note of no. MIR 55, he gives: " c' (= h')," and again we suspect high pitch. Of course the note is produced by closing the open low B key of both horns. He does take the intended performing pitch into consideration, however, for ophicleide no. MI 250 by Andreas Barth, which he says is in B flat with the lowest note, A , sounded by the key for B . For many instruments he indicates the concert pitch of the second harmonic, which makes good sense, but for baritones and tubas, the first harmonic is designated. Any modern horn or trumpet player knows that first harmonics—i.e., pedal notes—are no longer considered (as many orchestration books persist in saying) the private domain of the trombone. They are, however, very hard to sound on large tubas.

Heyde, as one would by now expect, has a technique that avoids all of these ambiguities. For slide trombone no. 1895 in the Leipzig collection, for example, we find: "Key of B flat now according to $a' = 439$ Hz. Built in Chamber-tone tuning (see sect. 8)." It is very clear once you have learned how to understand it!

I find all of these books pleasing, and I had read them in detail even before deciding to prepare this review. I particularly appreciate van der Meer's common-sense solutions, although I feel that the catalogue of the collection in Bussum would be of greatest usefulness to lay readers. I cannot deny, though, that my heart lies closest to the systematics of Herbert Heyde when looking to the future of the field of preserving and understanding musical instruments.

Fivos Anoyanakis, *Greek Popular Musical Instruments*. Translation from the Greek by Christopher N. W. Klint. Athens: National Bank of Greece, 1979. 414 pp.; 178 technical diagrams, 202 color and black-and-white plates. \$95.00.

Fivos Anoyanakis's monumental book, *Greek Popular Musical Instruments*, originally published in Greek and now available in English translation, joins the ranks of such prominent works as Laurence Picken's *Folk Musical Instruments of Turkey* (1975) and Nicolas Bessaraboff's classic study, *Ancient European Musical Instruments* (1941), as a significant contribution to organological literature. Not a mere imitation of either Picken's or Bessaraboff's works, Anoyanakis's study combines their best scholarly elements and then goes a step further through the aggressive use of technically precise, artistically arranged color photography. More than 200 photographs (some plate numbers include several related photographs), plus 178 technical diagrams, illustrate and amplify the text of this extraordinarily well-organized and powerful statement concerning the instruments associated with a musical culture that, after centuries of foreign influence, finally came into its own and blossomed for perhaps a hundred and twenty years or so, only to find its very existence threatened in our day by the relentless advance of Western musical and technological influence.

The musical instruments photographed for this study are all from the author's private collection of some 300 specimens. In addition to the technical photographs of musical instruments, which are grouped in several sections paralleling the text, the author also includes, both throughout the book and in a special photographic essay at its end, numerous examples of historical iconography and contemporary photographs of instruments used by Greek musicians. Of particular interest are two series of action photographs, taken on location in the workshops of two noted Greek bell makers, which document the step-by-step construction of both forged and cast bells. Technical line-drawings enhance the photography. They include sketches of tools used in instrument making; sketches of patterns and designs commonly used on various instruments; sketches indicative of the diversity of shapes of instruments such as bells, the *semanteria* ("a long and narrow piece of wood or sheet-metal which is sometimes used instead of a bell in monasteries and chapels"), and the *lira* (piriform fiddle); and, finally, specific sketches of the *lagoúto* (lute) and *lira*, with all parts identified in both Greek and English.

In addition to the photography and line-drawings, other supportive material greatly enhances the text and the overall usefulness of this reference work. The general index is superbly organized, with all instruments listed by their generic type (such as: drum; drum, frame; drum, friction; drum, pottery; drum, small; drums, kettle; etc.) in bold-face type. Every Greek instrument name discussed is included under this generic name, along with almost every type of cross-reference imaginable. An index of authors' names, an index of geographical names, a two-page selective discography, a two-and-one-half page bibliography, and 468 endnotes complete the list of back matter.

Only one minor, but nonetheless notable, discrepancy blemishes this otherwise well-conceived and outstanding work, a discrepancy which may very well not be the fault of the author, but rather of the English translator or even the publisher. Both the dust jacket and the spine of the book give the title as *Greek Folk Musical Instruments*, while it appears on the title page as *Greek Popular Musical Instruments*. Ironically, the author discusses the interchangeability of the terms "folk" and "popular" in regard to Greek music and musical instruments on page 25:

In Greece, the category of "folk song" includes all those songs created before the 1821 War of Independence. . . . That of "popular song" extends to cover all the more recent songs. . . . The same two terms also apply to Greek musical instruments. Despite this distinction, the term *popular musical instruments* has acquired a certain predominance in usage, regardless of the age of the instruments in any given instance.

Anoyanakis rejects the use of the alternative phrase, "ethnic musical instruments," as a solution to this semantic problem, because of the fact that the Greek adjective *ethnikos* translates most closely as "national" and does not imply "ethnic" in the same sense in which it is understood in English and French. In terms of their actual coverage in this book, the instruments which Anoyanakis singles out as belonging to the "popular" category, such as the *violi* (violin), the *klarino* (clarinet), and the *kithára* (guitar), receive noticeably less attention than the traditional Greek folk musical instruments.

Until the appearance of this work, the entire field of literature concerning the various instruments used in Greek folk music amounted to a scant handful of books and articles; most of them are in Greek, and no English translations are available.¹ Now, however, according to a

1. Anoyanakis claims that all of these works are cited in his notes and bibliography. See also my article, "The Modern Greek Lyra," this *Journal* 5-6 (1979-80): 144-65.

statement made in the forward to Anoyanakis's book, we have the "first synthetic attempt towards a comprehensive study of the entire range of Greek popular musical instruments—from the simplest sound-producing devices to the most complex technical achievements of the art." Following the standard four divisions into which musical instruments are commonly classified, Anoyanakis discusses to varying degrees each instrument's construction, terminology, folklore, and social history. The text is so well organized and cross-referenced that one can read any one division as a single unit. Idiophones are represented by no less than twenty-one different types, ranging from hand-clapping, Greek worry-beads, and wine glasses, to bells, the *semanterion*, and cymbals. Eight distinct types of membranophones are discussed, including the commonly found *daouli* (a cylindrical rope-tension drum), frame drums, pottery drums, and friction drums. Fourteen aerophones documented by the author include a variety of flutes and pipes, the shawm, bag-pipes, and the clarinet, as well as the conch-shell, bull-roarer, and a variety of whistles. Among the chordophones discussed are the *tambouras* (plucked instruments of the lute family), the *laghoúto*, the *lira*, the *kementzes* (bottle-shaped fiddle), and the *sandouri* (dulcimer). Anoyanakis makes no pretense or attempt to present more than a fundamental yet scholarly introduction to the numerous instruments included in his study; however, he hopes that his effort will stimulate further specialized studies of each of the instrument types, particularly the musical repertory for each instrument, an area not covered in this work.²

Perhaps one of the greatest benefits which can be derived from an English translation of a work such as this is the insight into the abundance and wealth of primary source material that is otherwise unknown, inaccessible, or unapproachable for the English-speaking scholar. A native Greek, Anoyanakis has drawn his information concerning musical instruments from various sources, including the texts of numerous Greek folk songs, centuries of travelogues written by visitors to Greece, interviews with Greek folk musicians and instrument makers (in Greek folk culture, instrument makers and players are often one and the same

2. Anoyanakis cites several works in progress. Among these are his monograph in preparation entitled "Neohellenic Idiophones—the Bell, Sound-Producer and Musical Instrument" and a monograph by musicologist Despina Mazaraki concerning the matching of the shepherd flute (*floyéra*) with the bells of the shepherd's flock; according to Anoyanakis, other works "awaiting publication" at the time of publication of this book included studies of the drum, the pear-shaped *lira*, and other instruments.

person), as well as years of personal observation and experience. As an aid to the scholar who desires to investigate further some of Anoyanakis's published sources, the titles of all Greek publications cited in the endnotes appear first in Greek, and are then translated into English. It would certainly be useful for the advancement of our field if more studies like this were made accessible to Western scholars through translation.

Of particular interest to many AMIS members is a list (p. 47) of the most important existing collections of Greek musical instruments. In addition to Anoyanakis's private collection, these include the Greek Folklore Research Centre of the Academy of Athens (64 instruments), the Musical Folklore Archives of Melpo Merlier (45 instruments), Simon Karas's Society for the Dissemination of National Music (80 instruments), and the collections of pipes belonging to Despina Mazaraki (150 instruments) and Maria Kinigou-Flamboura (84 instruments).

An underlying theme throughout Anoyanakis's study is the need to document Greek folk musical culture in light of the rapid decline of traditional Greek folk music and musical instruments in favor of Western replacements. The story of the *floyéra* (an end-blown flute) is typical of the fate of so many Greek instruments. Anoyanakis writes (p. 163):

Nowadays, the *floyéra* has begun that gradual descent into oblivion that has overtaken many other traditional popular musical instruments in Greece, yielding pride of place to the transistor radios that many young shepherds have taken to carrying around with them as they work during the last few years. As for the *floyéres* now sold in tourists' souvenir stalls alongside the traditional Greek shepherd's foot wear (*tsarouúchia*) and a motley collection of "national costumes" designed for tourists' consumption, such "instruments" are turned out by the dozen with identical, lifeless decorative motifs, much as any other mass produced consumer item.

Anoyanakis's study leads one to question whether such technological "progress" is worth the cultural price.

Although this book is expensive, it is certainly well worth the monetary cost as a valuable reference work and as a model of high standards for future organological publications.

MARGARET ANNE DOWNIE

Jennifer Lindsay. *Javanese Gamelan*. Kuala Lumpur: Oxford University Press, 1979. xi, 59 pp.; 32 color, 18 black-and-white plates. \$8.95.

Haags Gemeentemuseum. *Traditional Musical Instruments of Japan*. Foreword by Onno Mensink. Buren: Frits Knuf, Ltd., 1979. 64 pp.; 4 color, 24 black-and-white plates; plus a 7-in. 45-rpm recording. Hfl 30.

Jennifer Lindsay, who learned to play gamelan from teachers who are among the most respected in Java, and who played gamelan among Javanese for five years, wrote this small book primarily for visitors to Indonesia who desire some understanding of Javanese gamelan music to enhance their listening pleasure. Overall it is a very good introduction for laymen, presenting brief information on historical background, the instruments, tuning and notation, the structure of gamelan music, and the gamelan in Javanese society. This is supplemented by a list of recordings, notes on pronunciation, a glossary, and suggestions for further reading. The quality of the plates is adequate; that of the drawings of instruments, together with their measurements, is excellent. In the opinion of this reviewer, Lindsay's most notable achievement is in presenting the viewpoints of the bearers of the tradition without being patronizing.

In comparison to the good features, the weaknesses are relatively minor. There are a few technical inaccuracies, probably owing to simplification for a nonprofessional readership. The statement that in "the soft-playing ensemble . . . the *bonang* is not used" (p. 6) is an overgeneralization, for in the majority of "soft-playing" ensembles available on recent commercial recordings (including both discs issued in the United States and cassettes issued in Java) the *bonang* is used. The description of the tone quality of the female singer as "very nasal" (p. 37) is an impression from an English speaker's viewpoint. The description of the *suling* (p. 17) lacks essential detail, and that of the *saron* as "a xylophone with bronze bars" (p. 11) could have been worded to avoid the inherent contradiction with the meaning of *xylos* (wood).

A few items will be confusing to the intended readership: the use of two different names (*siyem* in fig. 3 and *suwukan* in the text referring to it) without mentioning that both names are commonly applied to the same instrument; some inconsistencies in orthography; and the italicizing of the English plural suffix *s* when applied to Javanese nouns. The reference to "the photographs . . . Chapter 1" (p. 13) should be to

color plates 5, 6, and 7 in chapter 2. The spelling of *ngrasakke* as *nra-sakke* (p. 39) and *serat* as *cerat* (p. 40) are probably typographical errors.

* * *

Traditional Music Instruments of Japan is a special-interest museum catalogue. The twenty-nine instruments shown in good-quality color and black-and-white photographs are all from the holdings of the Haags Gemeentemuseum. Onno Mensink states (p. 6) that they were selected for the beauty of the instruments themselves and/or their decoration, rather than for a representative survey of traditional Japanese instruments (ten books for further reading are suggested for the latter). He acknowledges that the material on historical background and genres is based largely on *Japanese Music and Musical Instruments* by William P. Malm (Rutland, Vt.: Charles E. Tuttle Co., 1959). Eight quotations from *The Pillow Book of Sei Shōnagon*¹ are included to give the reader a perspective on the perception of music and musical instruments in the Heian Period (794–1185). Mensink suggests that the book be read in conjunction with another in the Haags Gemeentemuseum's picture-book series, *Japanese Woodcuts with Music* (Buren: Frits Knuf, Ltd., 1975), which presents an Edo Period (1615–1868) perspective.

A limited-edition 7-inch disc recording, intended for 45-rpm playback (though this is not indicated on the disc or in the book) and bearing the Nonesuch Explorer Series logo, is housed in a flap in the back cover. It is included to give "an idea of how traditional Japanese music sounds" (p. 7). The six bands are of four of the instrument types pictured (*koto*, *shamisen*, *shakuhachi*, and *biwa*—the latter with voice) and two ensembles (*sankyoku* and what is labelled "folk music ensemble," though it sounds more like a modern arrangement or composition than traditional Japanese folk music). All six examples are excerpts from longer compositions, though no indication is given of title, genre, performer's name(s) or *ryū* (school). Except for the *biwa* example, in which the beginning is too soft unless the volume control is raised, clarity and ambience are satisfactory.

Not all the instruments included in the book are considered "musical instruments" by the Japanese, though all are valued in relation to their

1. Ivan Morris, trans. and ed., *The Pillow Book of Sei Shōnagon* (New York: Columbia University Press, 1967). Not published by Oxford University Press, as stated by Mensink on page 7.

context (religion, theater, music) and all but one (a dancer's prop listed as an "imitation drum," p. 45) for their timbre.

The text is written in Dutch and English. Neither the occasional awkwardness in the English wording nor the misspelling of common words will cause readers much trouble. However, the English-language designations for instrument types which do not follow scholarly practice—e.g., the longest of the lutes, the *biwa*, is designated as "short lute" (p. 49) instead of short-necked lute; and both shorter lutes, the *shamisen* and *kokyū*, are called "long lutes" (p. 53) instead of long-necked lutes—limit the book's usefulness to some potential readers. Nevertheless, it is recommended for scholars interested in the ornamentation of instruments, in museum collections per se, or in owning a complete collection of books about Japanese sound-producing instruments.

BARBARA B. SMITH

Bjørn Aksdal. *Med Piber og Basuner, Skalmeye og Fiol: Musikinstrumenter i Norge ca. 1600–1800* [With pipes and trombones, shawn and fiddle: musical instruments in Norway, ca. 1600–1800]. Trondheim, Norway: Tapir, 1982. 159 pp. Kr. 85.

The author's stated intention in producing this handbook is to give a systematic overview of Norwegian musical instruments in use until 1800. The book is organized conventionally by type of instrument: stringed instruments, wind instruments, and percussion. The various subdivisions within each classification (e.g., under wind instruments: bagpipe, shawm, oboe, bassoon, clarinet, recorder, flute) are treated briefly, first from a historical perspective, and then with a glance at individual specimens. There is little new information about the instruments themselves, but Aksdal's discussions are well documented and provide a good introduction to the subject.

The value of this book lies in its inclusion of iconographical and historiographical data. Aksdal has examined a number of original sources in Norwegian libraries, including seventeenth- and eighteenth-century descriptions of local history, culture, and musical life. References to these sources are interspersed in his text and make for interesting reading in conjunction with his summaries of recent scientific studies of Norwegian instruments. Aksdal also provides photographs of musical instruments, as well as many illustrations of painting, sculpture, and folk art—generally borrowed from works on Norwegian art and iconogra-

phy—that depict musical life in Norway during the period in question. The illustrations are of good quality, with the exception of some poorly reproduced photographs, taken from earlier books, showing bone flutes and horns, recorders, and violins.

The last forty pages of the book are devoted to sources and bibliography. Aksdal lists chronologically 117 sources of musical iconography that he has discovered in Norway, beginning with five thirteenth-century church portals and ending with eleven paintings and drawings from the first quarter of the nineteenth century. An index of Norwegian musical instruments in European museums contains about 300 entries, as well as many short references to instruments made after 1800. An extensive bibliography is also included.

The fact that the book is written in Norwegian will cause difficulty for most non-Scandinavians, but the illustrations and references to source material are of value for anyone interested in the history of musical life in Norway.

JOHN G. JOHNSTONE

Hubert Henkel. *Beiträge zum historischen Cembalobau. Beiträge zur musikwissenschaftlichen Forschung in der DDR*, vol. 11. Leipzig: VEB Deutscher Verlag für Musik, 1979. 182 pp. M30 (paperback).

This volume is an abbreviated and slightly reworked version of the first part of the author's dissertation of 1976, and as such, it describes the construction of Italian and Flemish harpsichords in a highly systematic way. The second part of Henkel's dissertation is a compilation of his findings made in the course of his study of the Italian and Flemish harpsichords in the Musikinstrumenten-Museum of the Karl-Marx-Universität in Leipzig. An abbreviated form of this second part has appeared as *Katalog des Musikinstrumenten-Museums der Karl-Marx-Universität, Leipzig*, vol. 2, *Kielinstrumente* (Leipzig: VEB Deutscher Verlag für Musik, 1979).

In his introduction to the present volume, the author points out that the Museum in Leipzig owns thirty-four harpsichords: twenty Italian, eight German, three Flemish, two English, and one French. Because there are only about 200 signed and dated Italian instruments and forty-five German ones extant today, Leipzig's collection represents a respectable proportion of the total. Using this collection as the basis for his work, Henkel has studied these instruments in the greatest possible

detail and compared his findings with published results of similar studies. His purpose was twofold. First, he has attempted to refine and even correct information about dates and provenance of instruments listed in older catalogues, mainly that of Georg Kinsky.¹ Second, Henkel hopes that by making his findings available in published form, he will improve the knowledge of curators and restorers at institutions which hold other old instruments. Because Henkel has done his work at a major university, he has been able to draw on the findings of scholars in other disciplines—art history, physics, chemistry, medicine, and criminology (!)—to help him with his work.

Henkel approaches his subject in a rigorously systematic manner. In his introduction he says, "In the design of this work I have proceeded just as a builder would in making an instrument." Thus he starts with an examination of the materials, beginning with four pages on wood, then four more on the various kinds of metals used, followed by an eight-page review of the historical sources about the manufacture of wire. This in turn is followed by sixteen pages of stringing lists and wire gauges. Tuning pins, hitch, bridge, and balance-rail pins, nails, springs, and rosettes (when made of metal) all receive due attention, though Henkel admits that he has not been able to uncover much information with respect to hitchpins and balance-rail pins. This section concludes with a detailed discussion of various other materials, such as quill and leather. The author then moves on to a discussion of the workshop and tools (one might argue that from a logical point of view, the discussion of the shop should precede the discussion of materials—surely one does not go out and acquire materials before one has a shop in which to work them). The section on the shop is followed by a section on construction methods, and finally, the last and longest section is about the specifications of the instruments themselves.

In some cases, the text consists of a bit of history of medieval technology followed by quotations from primary and secondary sources: the section on lumber, for example, quotes Hubbard and Russell on Parisian and Italian (Christofori) practice. Though such compilations of secondary materials often lead to conclusions that are generally well known (e.g., that instruments made of cypress usually come from Italy), Henkel has in fact assembled all manner of valuable information on a num-

1. Georg Kinsky, *Musikhistorisches Museum von Wilhelm Heyer in Cöln*, vol. 1, *Besaitete Tasteninstrumente* (Leipzig: Breitkopf & Härtel, 1912). Leipzig University, now Karl-Marx-Universität, acquired a large part of the Heyer collection in 1927.

ber of topics. The section on iron and steel provides data about the amount of carbon typically present in these metals from the period in question, while that on brass presents information on the typical composition of that metal. Most important in this section is Henkel's systematic discussion of the problems associated with relating old wire sizes to modern ones and his inclusion of some twenty stringing lists. These lists are given, to be sure, in the old wire sizes, about which we know tantalizingly little. Towards the end of his monograph, Henkel returns to the question of strings, admitting that he knows of no stringing list from the sixteenth, seventeenth, or eighteenth centuries containing string thicknesses which can be understood exactly in modern terms. In fact, even modern stringing lists for instruments said to have very old (pre-1800) wire are extremely rare.

Henkel has had to depend extensively on other sources (Hubbard, Russell, van der Meer, and others) in part because of limitations on his travel, but perhaps more importantly because it would have been senseless for him to examine and measure the hundreds of instruments already examined and measured by reliable specialists. English and American readers may find themselves annoyed with the seemingly endless citations of Hubbard and Russell, but it must be remembered that many museum curators, especially ones whose collections include only a few musical instruments, know nothing of these works. Henkel makes good use of his sources, citing them extensively as he goes.² By bringing together materials from secondary sources and his own study of the Leipzig collection, Henkel has been able to present not only the stringing lists noted above but also a list of all dated Italian harpsichords and virginals known to him (pp. 120–27), as well as numerous tables comparing certain aspects of Flemish instruments with Italian ones. These include such things as thicknesses of case walls, locations of balance points in key levers, lengths of key levers, thicknesses of bridges and nuts, typical distributions of key widths in the octave, and the typical locations of pluck points. These lists are taken in the main from the instruments in the Leipzig collection—instruments which, we might add, are relatively inaccessible to all but the most persistent western-European and American scholars.³

2. The review copy of this monograph arrived with pages 153–68 overprinted three times, rendering footnotes 36 to 340 illegible.

3. The interested reader may find considerable additional detail in Henkel's *Katalog des Musikinstrumenten-Museums*, which contains minutely detailed descriptions of a number of the harpsichords in Leipzig. The catalogue includes graphs and tables of pluck points,

Henkel continues the debate about the possible use of leather plectra in the manufacture of harpsichords in the sixteenth, seventeenth, and eighteenth centuries. He quotes the late Frank Hubbard's diffident suggestion that Italian makers may have used leather, and goes on to say that the Leipzig collection does in fact have a number of Italian instruments in leather. Nonetheless, Henkel points out that a strikingly large number of the instruments in leather have jacks which are not original; and in cases where the jacks seem to be very old, the tongues seem to have been reworked. In no case has Henkel seen an old instrument in leather which looks as though the leather was original.

This monograph lacks both bibliography and index, and while the highly systematic organization of the book makes an index more of a convenience than a necessity, a bibliography is sorely missed. I found myself hunting backwards through footnotes (there are 551 of them) to find the facts of publication of books which had aroused my interest. In one or two cases, I was unable to find the full citation of a work referred to with the German equivalent of "loc. cit." (*a.a.O.*). In some cases the citations are so inexact that a user might have difficulty in identifying the work cited. That said, it must also be said that this monograph certainly belongs in the library of every serious organologist.

HOWARD J. SERWER

Peter Williams. *The European Organ 1450–1850*. Bloomington and London: Indiana University Press, 1966. 336 pp.; 99 black-and-white plates. \$32.50.

For over five hundred years, the organ has been the subject of more writing, probably, than has been accorded any other musical instrument. From at least the time of Henri Arnaut de Zwolle in the mid-fifteenth century, writers have described in many languages all aspects of the so-called King of Instruments. However, until the work under consideration appeared, one was hard pressed to find a comprehensive

sounding string lengths, and string tensions—though one must consult the present monograph to find out the meaning of the mathematical symbols used by Henkel in his formulas. In addition, it contains plates, some in color, and cross-sectional drawings of key wells, soundboards where they meet the case sides, and some twenty other aspects of the Leipzig instruments.

survey in English of the development and refinement of the organ in western Europe. By 1450, the instrument had already attained sophistication of construction; in the succeeding centuries it would command one of the most significant repertoires in Western music. By 1850, nevertheless, it was well into a period of technical change which would reach its nadir when the organ became a machine more noted for its electrical wizardry than for its musical quality.

The scope of Peter Williams's work is large: the history of the organ throughout the stated period in the Netherlands; southern Germany, Austria, and Czechoslovakia; northwest Germany and Scandinavia; north-central Germany, Silesia, and Poland; France; Italy; and Spain and Portugal. Each of these areas, grouped here as the author treats them, is given a substantial chapter, complete with map and many specifications. That Great Britain is not included is intentional; the author cites his debt to Clutton and Niland's *The British Organ* (London: B. T. Batsford, 1963), but does not duplicate their work. A lucid introduction covers such technical details as broken and short octaves, key and chest actions, bellows, and cases. Included is a useful comparison of slider chests and the two systems of spring chests.

In the main chapters, Mr. Williams discusses each political area chronologically, tracing significant developments as they spread from builder to builder. A liberal use is made of primary source material from contemporary musicians and builders, ranging from Schlick and Praetorius through Dom Bédos and Burney to Vogler and the young Cavaillé-Coll. This technique of description is particularly helpful in shedding light on performance practices, such as the registrational directions given by French organists, and in clarifying details of chorus development and mixture composition, as in instruments by the German builders prior to the time of Bach. Representative full stop lists are given, often as a side-by-side comparison of several instruments, and many additional specifications are included in abbreviated format. The documentation is both liberal and accurate, although the notes are annoyingly placed at the conclusion of the book.

Because the work is written as an account of historical development, it is sometimes difficult to extract individual facts quickly. The two indexes (general and organs), although adequate, are insufficiently detailed in many respects. The writing style, however, is clear, commanding, and colorful: it is difficult to resist simply opening to any chapter and reading for the pleasure derived from the interestingly detailed account. A glossary of stop names aids the reading and provides a con-

densed history of individual stops; I know of no other source where one can so handily find descriptions of, say, *Baarpijp* and *Bärpfeife*, or of *Bourdon*, *Rohrflöte*, and their many derivatives. Except for this section, the book is better for gaining an overview than for ready reference. It can also be a useful guide when touring organs in Europe, although that is certainly not its primary intention. A full bibliography is included.

The wide-page layout and printing are handsome, and the reproduction of the plates is generally good. The emphasis of the plates is on the cases. A work of this kind, which lays the groundwork for future study, is bound to have errors, especially when there is a necessary reliance on secondary sources, but there seem to be remarkably few errors in this instance. It is apparent throughout that the author has personally examined many of the instruments and has a musician's appreciation of their sounds.

Peter Williams's *The European Organ 1450–1850* was first published in 1966 by B. T. Batsford, London. The same author's recent *A New History of the Organ* (Bloomington and London: Indiana University Press, 1980) in no way invalidates it, since the new book is a relatively brief survey from antiquity to the present and does not contain the detail of this study. The present edition of *The European Organ*, with the imprint of Indiana University Press, is identical with the original Batsford edition. It remains the most valuable work of its kind currently available; if one could own only one book on the organ, it should be this one.

ARTHUR LAWRENCE

James Tyler. *The Early Guitar: A History and Handbook*. Early Music Series, vol. 4. London: Oxford University Press, 1980. 176 pp.; frontispiece plus 29 plates. \$22.95 (paperback).

The publication of this book is noteworthy for several reasons: it is the first serious volume addressed solely to the thorny and circuitous histories of the vihuela, the four-course guitar, and the baroque guitar; it combines musicological research and invaluable source listings with practical solutions for performance; and it is written by a contemporary lutenist-guitarist whose reputation as a scholar and performer give it immediate credibility.

Roughly one-third of the book is devoted to historical discussion, while the remainder is a handbook of performance notes and technical in-

formation. Tyler sets forth his goal in the short introduction: "It is the aim of this book to provide a useful and practical guide to the background, roles, and playing styles of the early guitar, and to present a survey of surviving guitar music from c. 1546 to the end of the eighteenth century."

This weighting of material in favor of practical matters is exactly what is needed, since much of the disparate information currently available on them remains academic. A case in point involves the tuning of the four-course guitar, specifically the tuning of the *bourdons* (extra basses). According to Daniel Heartz,¹ the bourdons were tuned an octave lower than their companion strings, which gave the instrument an enormous range of two octaves and a whole tone. Tyler asserts (pp. 25–34) that the main tuning was actually a "re-entrant" one which made the bourdons fall considerably higher in pitch and put the instrument's tuning in a logical sequence of evolution leading to the tuning procedures of the five-course guitar. While Heartz's conclusions may be true for some instruments, probably the larger ones, Tyler's information is more convincing and works for a greater body of the repertoire. His experimentation with this instrument in performance has enabled him to translate the confusing treatises of the sixteenth century into viable language onstage. The fruits of Tyler's years of wrestling with problems of transcription and performance are manifest throughout the book.

The Early Guitar is divided into nine chapters. The first three constitute "Part I: History" and are devoted respectively to the vihuela, the four-course guitar, and the five-course (or Baroque) guitar. These chapters are not exhaustive treatments, but carefully worded summaries of the latest research. There are footnotes to assist the avid reader who may wish to delve deeper.

The last six chapters cover the critical items of tuning and stringing, tablature, technique, ornaments, the guitar as continuo instrument, and other guitars and related instruments. This information falls under the general heading of "Part II: Handbook." I consider this part of the book to be its strongest suit. It is an invaluable listing and codification of essential material. Again, its aim is to be adroit, rather than comprehensive. Occasional quotes from treatises or instruction books appear, showing exactly how a statement was made. Distinct and legible musical examples are given to illustrate certain of Tyler's explanations.

1. Daniel Heartz, "Parisian Music Publishing under Henry II: A Propos of Four Recently Discovered Guitar Books," *Musical Quarterly* 46 (1960): 448–67.

The presentation is clear, orderly, and most helpful.

Four appendices and a bibliography, totalling together forty pages, conclude the book with impressive data. The first appendix is an extensive list of primary sources containing music for solo guitar up to ca. 1800. The second appendix is a list of composers who published books of *alfabeto* for accompanying vocal music. The third appendix is a list of sources for eighteenth-century vocal music accompanied by guitar. The fourth appendix lists available facsimile editions of guitar tablatures. Concluding the work is a fourteen-page bibliography which includes all the important articles and texts on Tyler's subjects.

Tyler's book is a pioneer effort bringing together a refined sampling of the latest research and thinking about early guitars. His investigations bring us closer to the shrouded repertoires of these little-known instruments, enabling us to make much more sense out of the music and to develop performance techniques which should help to vindicate their previous popularity. As one reads through the work, it becomes more and more obvious that a twentieth-century guitar is no vehicle for this music. The tablatures and performance techniques of previous times were tailored to fit those instruments specifically. While the title, *The Early Guitar*, is completely appropriate for the book, indicating a generic kindred among types, this overview cannot, and should not, obscure our perception of each instrument's individuality. I suspect that instrument makers will delight in the new orders for vihuelas, four-course, and five-course guitars which a practical application of Tyler's book necessitates.

The Early Guitar is essential reading for serious guitarists and is also highly recommended for historians and devotees.

CLARE CALLAHAN

Malou Haine. *Adolphe Sax (1814–1894): Sa vie, son oeuvre et ses instruments de musique*. Brussels: Editions de l'Université de Bruxelles, 1980. 283 pp.; numerous illustrations. 480 FB.

Malou Haine's book brings together an impressive amount of material about the life and career of Adolphe Sax. It is certainly the most all-inclusive study of Sax to date, and should help future researchers greatly in evaluating the work of this innovative, versatile, and controversial man.

In her introduction Mlle. Haine describes the difficulties in gathering

information about Sax. It is not that material is scarce—quite the contrary, as her extensive bibliography attests. But she points out that much of what has been published, especially by Sax's contemporaries, is unreliable in one way or another. A lengthy biography of Sax by his contemporary Oscar Comettant, for example, is highly detailed but often inaccurate and lacking in adequate references. François-Joseph Fétis, in his *Biographie universelle des musiciens*, devoted a substantial article to Sax, but his information is also somewhat under question, although he may have relied heavily on material provided by Sax himself. Since Sax evidently aroused strong feelings in both his supporters and his detractors, there are conflicting accounts of his work, especially in the numerous articles that appeared in journals of the time. Friends such as Fétis, Comettant, and Hector Berlioz portrayed him as a genius beset by jealous enemies. In contrast, writer Adrien de La Fage and rival instrument maker Gustave Besson, for example, described him as overly ambitious, even unscrupulous.

To overcome these difficulties, Malou Haine went back to the original sources. She consulted the patents that Sax was granted, the legal documents associated with the suits in which he was involved, catalogues of exhibitions where he showed his instruments, official documents of organizations (such as the Paris Opéra and Conservatoire) with which he had dealings, and even many civil documents concerning the Sax family. The sheer number of sources is impressive, and if the resulting absorption with detail makes for slow going in the text, it also helps make the book a valuable reference tool.

The book consists of five chapters of text plus a number of appendices. The first two chapters concern the Sax family and Adolphe's early career in Brussels. Several family members besides Adolphe were involved with instrument making, notably his father, Charles-Joseph, and brother, Alphonse. While still working in his father's shop, Adolphe obtained his first patent, for a bass clarinet, and started the researches that led to the saxophone (first demonstrated in 1841 but not patented until 1846). Chapter 3, which begins with Sax's move to Paris in 1842, covers the many inventions, both musical and nonmusical, for which he obtained French patents. These include the families of saxhorns (1843), saxotrombas (1845), and saxtubas (1849), and a system of six independent valves for various brass instruments. In the patent the saxhorns are referred to only as "un nouveau système d'instruments chromatiques"—the name by which we now know them was given to them later. In applying the independent valve system, Sax devised some very cu-

rious instruments having seven separate bells. Among Sax's other patents were those for a system of kettledrums that could provide all the notes in a scale, a new design for a concert hall, and (in a nonmusical vein) an air purifier. In this chapter Mlle. Haine also describes the acceptance of Sax's instruments in orchestras and military bands and discusses his thirteen-year career as teacher of saxophone to military musicians in classes associated with the Paris Conservatoire. When musicians in the Paris Opéra objected to the use of Sax's bass clarinet in their orchestra, Sax and Berlioz organized concerts featuring ensembles of Sax's clarinets, saxophones, and brass instruments. For the French military bands, Sax proposed an ensemble based on a choir of saxhorns, from soprano to contrabass, instead of the woodwind-based band in use at that time. When others objected to his plan he arranged a contest between his band and the more traditional ensemble. The listeners preferred the more powerful and homogeneous sound of Sax's band, the French military adopted his instruments, and Sax received a virtual monopoly. Not surprisingly, other French instrument makers protested this decision. Later a group of four of them filed a suit challenging the validity of Sax's patents for saxhorns, saxotrombas, and saxophones.

The fourth chapter focuses on Sax's commercial activities. The author follows the ups and downs of Sax's instrument manufacturing business (established in 1842 and continued by his son, Adolphe, after Sax's death in 1894) and of a music publishing firm that he operated from 1858 to 1878. The high quality of Sax's work becomes especially apparent as one reads of the instruments he showed and the prizes he won. He was consistently awarded the highest honors, and both his woodwind and brass instruments were much praised by contemporary critics. At the 1851 "Exhibition of the Works of Industry of All Nations" in London, Sax was the only one out of twelve French instrument makers to receive a Council Medal, the highest award.

The closing chapter is devoted to the many legal proceedings in which Sax was involved as he sought to defend his patents. Sax actually won most of the cases, both those filed by other makers and the counter-suits he filed in return, but he derived little benefit from the favorable decisions.

The material described above makes up less than two-thirds of the book. Over 100 additional pages are devoted to "documents," bibliography, and notes. Among the documents are such useful items as a complete list not only of Adolphe Sax's patents (from Belgium, France, and England) but also those of his father, Charles-Joseph, and two of

his brothers, Alphonse and Joseph-Edouard. The text of the protest by other makers over the introduction of Sax's instruments into the military bands is also included. The bibliography is admirable (though I noticed a few minor errors, mainly in listings of English sources), and the notes, of which there are over 700, are almost excessive. Many interesting illustrations have been provided, including photographs of Sax's instruments now in the Musée instrumental in Brussels, illustrations from his catalogs, views of his *ateliers* from contemporary journals, and photographs of Sax and members of his family. The reproduction of these illustrations, unfortunately, is only fair.

Though Mlle. Haine appears to have been both thorough and precise in collecting information, less care seems to have been taken with the finishing of the book. A serious flaw is the lack of an index, which makes it particularly hard to locate the scattered references to Sax's fellow musicians. Also, the appendices could have been arranged in a more logical order, and various documents are crowded together, making it difficult to find any particular one. Finally, I think the book would have benefitted from a more thorough editing. Information is sometimes presented in a scrambled fashion (Adolphe's children's lives are discussed before his father's, for instance) or is needlessly repeated (that Adolphe was christened Antoine-Joseph is mentioned a number of times in the first two chapters).

These annoyances aside, Malou Haine's study is valuable and interesting. Though I rather hoped to find more evaluation of Sax in relation to his contemporaries, that kind of analysis is probably beyond the scope of a biography of this sort. What is needed now is a comparative study of nineteenth-century wind-instrument makers, and Mlle. Haine proposes to write such a study herself. I hope she does, and I shall look forward to reading it.

CAROLYN BRYANT

Gary M. Stewart. *Keyed Brass Instruments in the Arne B. Larson Collection.* The Shrine to Music Museum Catalog of the Collections, ed. André P. Larson, vol. 1. Vermillion, S.D.: The Shrine to Music Museum Foundation, 1980. 34 pp.; 31 plates. \$6.50.

Duncan Phillips, who assembled the superb collection of recent art works in Washington, D.C., that today bears his name, often spoke of what he had around him as "an embarrassment of riches." It may well also

be a fitting description of the world-class collection of instruments that the Larson family has brought into a permanent home in Vermillion. For, whereas many museums or collectors feel privileged to own just a few specimens of this class—the bugle/serpent family provided with keys—the Shrine to Music is able to devote an entire volume in its new catalogue series to them. This encompasses sixteen bugles, seven ophicleides, and eight serpents/bass horns—thirty-one in all. Among makers, Charles Pace of London is best represented, with five instruments. Other makers with one each are Bilton; Firth, Hall & Pond; Goodison; Graves & Co.; Guichard; Harding (the sole signed serpent); Key; Metzler; Otterburn; and Piana (a bass horn). Six serpents are unsigned, as are seven bugles and three ophicleides. These instruments are all presented in plates, many in both front and back views, which are so crisp and clear that occasionally repair patches can be seen. Since receiving my copy I have been able to correlate entries with two unsigned instruments of my own with a sure sense of identification.

Those who attended the 1976 AMIS meetings in Vermillion gained first-hand knowledge of some of these instruments and heard a detailed presentation by Gary Stewart, long-time curator of this portion of the collection. His written commentary in the catalogue does not reveal the full depth of knowledge he has of these instruments. The information he gives is generally restricted to total lengths (but not bell width or internal measurements), materials of manufacture, engravings and accessories, and dates. A key-note is given for each entry, too, and herein lies a problem: in reading about bugles, for instance, one gets the impression that they are essentially C instruments. They are, of course, in that pitch only before crooks are added. A double terminology such as “C/B flat,” which some recent authors have employed, would be clearer. This would have avoided the inconsistent designation of the smallest bugles as in E flat instead of in F; better yet would have been “F/E flat,” as suggested above. There is plenty of white space on each page where additional material could have been printed, so that all of the descriptions would be as informative as the one concerning no. 2562, a bugle by Charles and Frederick Pace: commenting on similarities to other Pace bugles in the book, Stewart says “but [it] has some differing details, such as contoured tone-hole sockets and key covers and a double-articulated linkage on the B key.” If subsequent volumes of the series have entries that approach this detail, their usefulness will be increased.

The urban centers where most American collectors live are some dis-

tance from South Dakota. For those living at a distance, this new catalogue of our largest collection will serve at least as a guidebook that may generate letters of inquiry to the museum. In his prefatory remarks André P. Larson, editor for the series, explains that the intention has been to provide plates that are good enough to speak for themselves, in order to avoid the use of terminology that can sometimes be ambiguous or confusing. He invites requests for specific details, and my experience has been that the museum is indeed generous and prompt in writing about specific instruments. I want to suggest, however, that even a simple catalogue should include the following aids to research: 1) indexes or tables that demonstrate mechanical affinities (key arrangement, for instance) between instruments, as these are not evident in entries organized by other criteria, such as makers' names, as is the case here; 2) for those instruments that are playable, the fundamental should be given as a number of vibrations (Hz.) rather than a letter name (C, B flat), which tells nothing about the relative pitch or tuning system in which the instrument is built; and 3) some basic scheme for coding the division of keys between right and left hands and for showing what notes are produced by each tone-hole. Even in its brevity, though, I enjoy this catalogue and feel that its ample photographs make my small collection seem to grow larger.

One final caviling comment about my preference for the term *key bugle* as opposed to *keyed bugle*. We consistently speak of string bass and keyboard instruments, and we distinguish between valve and slide trombones and trumpets; yet just as easily we use such terms as fretted strings and keyed bugles. Music dictionaries vacillate between the two, and as yet we have no statistical count to show that one or the other is historically more common in America as compared with England. I personally feel that *key bugle* is good American. It is not only the more logical form, but it also is more grammatically correct and even seems more stylistically elegant.

LLOYD P. FARRAR

Barra Boydell. *The Crumhorn and Other Renaissance Windcap Instruments.* Buren: Frits Knuf, 1982. xxi, 458 pp.; 78 black-and-white plates, 24 figures. Hardbound, Hfl 165; paperback, Hfl 140.

The crumhorn has not been the subject of comprehensive research since the articles by Curt Sachs¹ and Georg Kinsky² appeared years ago. Since that time, however, modern reproductions of crumhorns have become more widely available than the originals were in the sixteenth century. Their use and misuse have suggested for some time that a new examination of the historical sources is appropriate, a task which Barra Boydell has assumed admirably. Clearly this is not easy when four hundred years and many catastrophes separate us from the instrument's historical environment. Boydell presents as much of the evidence as he was able to uncover, which is a considerable amount, and concentrates his commentary in the annotations rather than in the briefer summaries that draw the data together. He focuses on the firmest kinds of evidence: fifty-five known surviving crumhorns, iconography, inventories, accounts of musicians and performances, and theoretical sources that discuss crumhorns. While more documents will certainly come to light, Boydell's assembly of more than four hundred is evidence of considerable labor. The seventy-eight black-and-white plates in the book are generally quite clear, and they illustrate many of the surviving instruments and represent a significant portion of the historical depictions. The author's emphasis is on the historical data, and he mentions acoustical considerations and construction techniques only in passing.

The physical layout of the book is rather annoying. Notes are placed at the end of each chapter—not only must the reader turn pages to find a note, but he must also find the end of the chapter to locate the correct series of notes. This could happen frequently, for the translations of a considerable body of foreign-language citations are in the notes. Since the notes contain only abbreviated bibliographic entries, in many cases the bibliography must be consulted as well. The plates are grouped together in the center of the book, while the figures are scattered throughout the text. Boydell makes several references to figures well separated from the text without indicating where they might be

1. Curt Sachs, "Doppione und Dulzaina: Zur Namensgeschichte des Krumhorns," *Sammelbände der Internationalen Musikgesellschaft* 11 (1909–10): 590–93.

2. Georg Kinsky, "Doppelrohrblattinstrumente mit Windkapsel: Ein Beitrag zur Geschichte der Blasinstrumente im 16. und 17. Jahrhundert," *Archiv für Musikwissenschaft* 7 (1925): 253–96.

found. These features, combined with frequent cross-references to related documents, make a supply of bookmarks necessary!

The bulk of the text is an annotated list of the data Boydell has assembled concerning crumhorns and related instruments. Chapter 2 chronologically presents references whose association with crumhorns is clear. The earliest is a painting by Lorenzo Costa dated 1488, and the latest is the article "Tournebout" in Diderot & D'Alembert's *Encyclopédie* (1765–67). Italian references to *corne mute* are presented in a separate chronological series within chapter 2. Boydell presents the relevant excerpt from each original source as faithfully as possible and includes a critical comment and a translation. Chapter 3 contains references that, for one reason or another, are doubtful. These include ambiguous iconographic sources, references in secondary sources that lack sufficient documentation, and several well-known references that are clearly erroneous. Some of Boydell's categories of data are smaller and include additional analysis at the end of the chapters. These are found in chapter 6, concerning the French *cromorne*, and in part 2 (chapters 8–10), on the related windcap instruments: the *cornamusa*, windcap shawms, and the rarer types (*doppione* and *kortholt*).

In chapter 4 Boydell lists fifty-five surviving crumhorns according to their location, with comments about their type, condition, size, markings, and museum identifications. In addition he describes four known instruments that were lost or destroyed in recent times, as well as two instruments of doubtful authenticity. (He recognizes as fakes the instruments that came from the Franciolini workshops and which are identified in several collections as seventeenth-century *tournebouts*.) Because of his personal examination of the instruments, this is a truly valuable presentation. We know that the printed measurements consistently represent the same specific features, which facilitates comparisons of instruments from various collections. But the author notes that as his experience grew he was able to make more detailed observations, and it seems unfortunate that he chose not to report additional information on some instruments in favor of a more limited consistency.

Boydell distinguishes five types of crumhorn design. Type I, represented chiefly by the crumhorns in the Accademia Filarmonica of Verona, is the earliest, based on datable iconographic evidence. The probable point of origin is in northern Italy. Type II is a transitional design represented by one or possibly two surviving instruments; it is quite similar to type III, which Boydell describes as the classical crumhorn design. The majority of surviving instruments fall into type III, and

Boydell tentatively dates them from the second quarter to the middle of the sixteenth century. He places the crumhorns in the Musikinstrumenten-Museum of the Staatliches Institute für Musikforschung Preussischer Kulturbesitz in Berlin in a separate category as type IV. Boydell characterizes these as superficially similar to type III, but of inferior or inexperienced workmanship and design. Type V contains another unique instrument, the tenor crumhorn with a detachable bell in the Kunsthistorisches Museum in Vienna.

Some remarkably original and fine work is found in chapter 5, which is devoted to Jörg Wier of Memmingen, the only maker whose name appears on surviving crumhorns. Memmingen crumhorns were highly valued in the sixteenth century, and nearly half of the surviving instruments can be attributed to the Wier workshop. The evidence is scanty: twenty-five known instruments, some correspondence by August of Saxony, and a dozen documents in Memmingen that Boydell has uncovered. From this evidence he postulates that as many as three Wier relatives named Jörg may have lived in Memmingen. The author's Jörg Weir II was the maker whose signed fontanelles are known. Jörg II's father, *Jörg I (the asterisk indicates that no documents prove his existence) probably worked in the same shop. Melchior Wier, either Jörg II's brother or son, and Jörg III, possibly Jörg II's son, may or may not have been crumhorn makers.

Chapter 7 traces the history and use of the crumhorn in the Renaissance. Boydell argues that the bladder pipe was not a simple direct ancestor of the crumhorn. He suggests that crumhorns were developed in south-central Germany or northern Italy during the latter part of the fifteenth century. From the start, crumhorns were strongly associated with professional musicians in the cities and courts. They were soon found throughout the German-speaking regions, but in Boydell's opinion, they were very rare in England and perhaps unknown in France; he indicates that conclusive evidence for Spain has yet to be discovered. Crumhorns apparently were used occasionally into the mid-seventeenth century in some parts of Germany, but were considered old fashioned by that time. In the sixteenth century crumhorns were expensive instruments used only by town or court bands with four or more musicians, but in that context they may have been used quite frequently.

The most serious flaw in Boydell's work is in his understanding of what was expected of crumhorn players. Boydell notes on page 35 that Martin Agricola gives four extra notes to the lower range of the bass crumhorn in the fingering chart in *Musica instrumentalis deutsch* (Wit-

tenberg, 1529). Agricola clearly labels these notes for *die kromphörner*, specifying fingerings that duplicate the four lowest notes on recorders, and instructing the player: *blas mehlich* ("blow gently"). Thus, on a bass crumhorn, fingering *F* and blowing gently should produce a *BB flat*. Agricola notes similar correspondence between *G* and *C*, *A* and *D*, and *B* and *E*. Boydell feels that Agricola misunderstood crumhorn technique, and that he was in fact trying to explain a bass crumhorn with two keys and two sliders. While we know that Agricola's printer reversed the labels of the fingering charts for discant and tenor instruments, one should be wary about discounting information that could not be a printer's error. Agricola is the only writer who published a fingering chart that specifically describes crumhorn technique. When we examine the repertoire for crumhorns we find that Agricola's instructions are substantiated. Boydell correctly notes (p. 32) that Thomas Stoltzer's setting of Psalm 36 (1526), written specifically for crumhorns, should be transposed down a fourth from its notated range. Two passages in the bass part drop below *F*, but cannot be accommodated by a two-keyed bass crumhorn with sliders. Either both Stoltzer and Agricola misunderstood crumhorns, or bass crumhorns could play diatonically below *F* by underblowing. The anonymous six-voice setting of "Hoc largire" in the partbooks belonging to the Danish court band in Copenhagen (Kongelige biblioteket, Ms. 1872) is another case. A notation in the discant part, probably written by the trumpeter Jörgen Heyde, indicates *auff krumhörner*, yet, as written, only three parts fit crumhorns. Boydell suggests a mixed ensemble of crumhorns and trombones, but when the piece is transposed down a fourth, all parts can be played on crumhorns. The *vagant* and *bassus* parts will both have passages below *F* that cannot be accommodated by extended bass mechanisms; by underblowing they both will work, though the *bassus* would require a rather accomplished player. In this indication of suitability for crumhorns yet another mistaken sixteenth-century suggestion? I find that a modern crumhorn with a suitably adjusted cane reed will readily sound a fifth lower than normal when underblown.

Boydell relegates his discussion of the *dolzaina* and *douçaine* to an appendix because he does not accept them as windcap instruments. In doing so, he has omitted or has failed to uncover sixteenth-century French references to *douçaines*. The kinds of published documentary studies that facilitate research on sixteenth-century Germany are not available for France or Spain. Therefore, other types of evidence need to be examined: literary and historical references can be traced through ety-

mological dictionaries, and sixteenth-century or early seventeenth-century polyglot dictionaries can add clues as well. These types of evidence show that an instrument called *douçaine* was used in France into the middle of the sixteenth century in a social context similar to that of crumhorns. Even when describing events in areas where crumhorns were used, French writers name the soft-toned reed instrument as *douçaine*.³ Boydell also indicates (p. 388) that in areas where both French and Germanic languages were used, the sounds of *douçaines* and crumhorns were considered quite similar. While this evidence may not prove that crumhorns were known in France, or that the *douçaine* might have used a windcap, Boydell missed the conclusion that the cumhorn can be considered as a type of *douçaine*.

A short "concluding summary," which is given in English, French, and German, presents Boydell's findings concisely (chapter 1 does much the same for the crumhorn in an expanded manner, but omits discussion of the other windcap instruments). The short glossary is superficial, but the index is useful. Boydell's exposition of the evidence more than makes up for the book's shortcomings, and his conclusions present a more accurate picture of the crumhorn in its historical context.

KENTON T. MEYER

The following communication has been received from Douglas Leedy.

I wonder if interested readers of my review of historical tuning and temperament manuals in volume 7 (1981) of this *Journal* (pp. 121–29) would be so gracious as to accept a revised version of the next-to-last paragraph in the review (p. 128), several details of which were garbled by my overzealous attention to detail. The substitute paragraph is as follows:

There is an interesting feature in Kellner's presentation of the Werckmeister III temperament too: he tunes eight pure fifths in a cycle from C around the flat side to E (really F flat). The resulting C–F flat is equal to the interval of a pure major third (C–E) minus a schisma (2 cents); he then divides C–F flat in the usual way into four equally small fifths, which he calls "Werckmeister fifths," since they are a quarter-schisma, or about 0.5 cent,

3. François Rabelais, "La Sciomachie," *Les oeuvres de Maître François Rabelais*, ed. Ch. Marty-Laveaux (Paris: Lemerre, 1868–93), 3: 406, describing events in Rome in 1549. Also note payments to players of *doulcennes* in Ulm in 1454, though this may be somewhat early to be certain that they were crumhorns; see Boydell, *The Crumhorn*, p. 386.

smaller than the quarter-comma fifths (Kellner calls them "meantone fifths") of meantone or Kirnberger III. Kellner unfortunately does not explain this terminology, nor the fact that by this neat trick—which this reviewer cannot recall having encountered in any other tuning scheme for Werckmeister III—he has divided the ditonic comma here rather than the syntonic. Kellner is also not clear about whether this tuning scheme is his own, or if it comes from Werckmeister's own tuning instructions.

One further addendum: *gleichschwebende Temperatur* is quite a bit more interesting a term than is represented in footnote 3 on pages 124–25. *Schweben* does not mean "to beat," as one might assume, but rather "to hover, to be suspended or in suspense; to be unsettled or unresolved." What a perfect description for an interval whose tuning has rendered it unsettled—in the case of *gleichschwebende Temperatur*, equally unsettled.