In general, the system of pairing sections on subjects such as the composition of committees, juries, and prize winners with alphabetically organized syntheses of individual figures' activities works quite wellalthough in some cases one must take the time to look at the contents of both sections in the pairing. For example, those interested in Maurice Ravel's involvement at the conservatory might first consult his profile in the alphabetical index and see that he figured among those invited to take part in the composition juries of 1921-1923 and 1925-1930 (p. 274). If, however, one consults the members of composition juries (p. 201), one finds a more nuanced account of Ravel's record as a juror: he was present in 1921 and 1922, excused in 1923, present in 1925 and 1926, absent in 1927 and 1928, and excused in 1929 and 1930. This observation is not a reproach, for the difference in data between the two sections is quite clearly indicated in the "fine print" detailing their compilation, but rather a recommendation that the reader take time to familiarize themselves with the organization of this somewhat complex reference tool to be able to fully exploit the information it contains with accuracy.

This volume's contents will effectively prepare visiting researchers interested in the conservatory archives conserved in the F²¹ and AJ³⁷ series of the French national archives, and according to the researchers' needs, may even render such consultations unnecessary. Even in cases where further archival research remains necessary, basic knowledge of the contents of this volume will transform the apprentice researcher's potentially daunting first visit to the French national archives into a walk through familiar territory. The work of Bongrain and her colleagues will surely prove essential to researchers whose topics involve French musicians active as teachers of students at the conservatory during the early twentieth century, not to mention the evolution of the institution and its instruction; since it addresses the period before the conservatory's division of musical and theatrical sections into separate institutions in 1946, this volume is no less a valuable resource for scholars of French theatrical history. One of its principal merits is the emphasis on the constant reforms in the conservatory's statutes (reforms that affected practical matters such as the nomination of professors, the creation and modification of classes, and other changes in instruction), which ought to bring nuance to research on French musical life and correct perennial misconceptions about how the conservatory functioned, particularly for those of us who do not have an insider's familiarity with French traditions of musical and theatrical instruction. Perhaps the next step in the process of chronicling the Paris Conservatoire and its archives would be to integrate Constant Pierre and Anne Bongrain's publications in a single and open-ended digital reference tool.

> CHRISTOPHER BRENT MURRAY Université Libre de Bruxelles

INSTRUMENT RESTORATION

The Conservation, Restoration, and Repair of Stringed Instruments and Their Bows. Edited by Tom Wilder. Montreal: IPCI-Canada; London: Archetype Publications, 2010. 3 vols. [1,587 p. ISBN 9781904982418. \$1,395.] Illustrations, CD-ROM, diagrams, bibliography, index.

By the year 1800, recent major physical changes to the violin and bow became predominant: the positioning of the neck at an angle, the increase in the height of the bridge, the consequent increase in string tension, the insertion of larger bass bars, and thicker sound posts combined to allow for the use of a bow designed for greater force and sound projection. That violinfamily instruments could accommodate such technological adaptations of the instrument design has fostered their prevalence up to the present. Indeed, this adaptability allowed for the violin to figure prominently in the musical canon coalescing at that very time, around 1800. Concurrent with those seeking to acknowledge a museum of musical masterpieces, figures such as Cozio di Salabue (1755–1840) strove to amass the finest examples of violin making of the receding golden age of the Amatis, Guarneris, and Stradivaris. Yet, not unlike Felix Mendelssohn-Bartholdy who made drastic revisions to the *St. Matthew Passion* in an effort to make it relevant to his contemporaries, Cozio also instigated not just the refitting of necks, bridges, and bass bars, but also the thinning of the plates of instruments to modify their tonal characteristics. The remaking of historical objects reflected the enthusiasm for the march of progress signaled by the quickening pace of European life in the spreading wake of the industrial revolution.

Of course, the early nineteenth century also witnessed the great upheavals of revolutionary politics and engendered, in possibly equal measure, a nostalgia for a simpler time embodied in historical objects. In this spirit a growing public sought and gained access to princely art collections. They also championed the collecting of folk songs (cf. Herder), fairy tales (cf. the Grimm brothers), and the completion of monuments (e.g., the Cologne Cathedral). The emergence of history as an academic discipline, along with philology, and eventually musicology, coincided with the emergence of great libraries and museums. The loss of a sense of connection with a continuous past engendered a surging effort to preserve its relics.

The concept of historical preservation developed during the nineteenth century and assumed the mantle of scientific procedure in the twentieth century. The application of these ideas to musical instruments, however, has only recently begun to find form in a body of substantive literature. The fact that musical instruments assume their most obvious significance through use in performance has compelled many individuals to ensure that prized historic instruments remain active tools for musicians. But, in doing so, the historical or artistic significance of the objects may become imperiled. Moreover, the rapidly increasing monetary value of high-quality violin-family instruments in playing condition has compelled many people to sublimate concerns for historic preservation in favor of financial gain. Few, if any, instruments by the great violin makers of the seventeenth and eighteenth centuries survive in anything like their original state. Finally, violin making has long perpetuated the preservation

of the trade secrets of its craft tradition. The balance of utility over history, the lack of pristine historic models, and the protection of expert knowledge has impeded the development of a strong body of literature and practice in the conservation and restoration of string instruments.

One volume, by Hans Weisshaar and Margaret Shipman (Violin Restoration: A Manual for Violin Makers [Los Angeles: Weisshaar-Shipman, 1988]), has long served as the standard text on matters relating to violin restoration. Tom Wilder's project seeks to complement, rather than duplicate, the content of this earlier manual. R. L. Barclay, an advisor and contributor to the present work, has also provided a discussion of the major conceptual issues in the conservation of musical instruments in his The Preservation and Use of Historic Musical Instruments: Display Case and Concert Hall (London; Sterling, VA: Earthscan, 2005). Otherwise, the literature in this field is sparse and usually confined to specialized journals.

In the context of this legacy and given the topic's expansive treatment here, The Conservation, Restoration, and Repair of Stringed Instruments and Their Bows, edited by Tom Wilder, represents a truly monumental advance in the state of this art. In its nearly 150 articles by an equally large number of contributors, current thinking about and techniques for documentation and treatment of instruments and bows receives extensive elaboration. The contributors include many of the most esteemed names in the violin and bow world, including Benoît Rolland, Matthew R. Wehling, Charles Beare, Stewart Pollens, Gregg T. Alf, John Montgomery, Peter Moes and Wendela Moes, and Christopher Germain. The idiomatic texture of much of the writing highlights the significance of the achievement of capturing this knowledge. This expertise is almost always more kinetic and intuitive than academic. Wilder, a violin maker and scholar, performed many careful acts of editorial assistance to ensure that text, illustrations, and terminology aligned to convey, meaningfully, arcane and highly technical information on materials (woods, glues, varnishes, and metals), old and new craft techniques, documentation procedures (including laser scanning and computed tomography), and wood and insect genera. Photographs and extraordinary technical drawings illustrate nearly every article. A CD-ROM accompanies volume one and contains detailed forms for use in documenting the condition of instruments and recording repairs and restoration performed on instruments. An editorial board advised on the scope and quality of the articles.

The Conservation, Restoration, and Repair of Stringed Instruments and Their Bows is organized into three volumes, comprising together nearly 1,600 double-columned pages. The first volume treats "General **Issues Concerning Stringed Instruments** and Their Bows" across seven narrower groupings of articles. These articles consider "Pernambuco and Its Conservation," "Conservation, Restoration, and Repair," "History, Collections, and Connoisseur-"Documentation," "Materials," ship," "Infestations," and "Surface." Volumes 2 and 3 treat the techniques for conservative restoration and repair of stringed instruments and bows, respectively. In the volume focused on instruments, the articles are organized into the following areas: "Basic Maintenance, Setup, and Preventative Procedures," "Counterforms, Moulds. and Casts," "Surface Interventions," "The Body," and "The Scroll and the Neck." The volume on bows treats the following topics: "Basic Maintenance and Preventative Procedures," "The Stick," and "The Frog." The primary audience, as described in the "General Introduction" to the three-volume set, remains professional restorers. Some articles assay such deceptively simple concepts as "The Faster and More Precise Patch," discussed by Peter and Wendela Moes, and "Recambering and Straightening Bows," discussed by Sylvain Bigot. Others describe more clearly perilous procedures like "Restoring a Shortened Instrument to Its Original Size Using Thin Shavings of Original Material," proposed by Gregory Walke, and "Rebushing a Violin Bow," described by R. David Tamblyn.

Deploying any of the techniques described in these volumes should only follow carefully supervised training. As the editor observes in the "General Introduction": "The cliché that a little information is worse than none could hold true: unqualified amateurs might well feel emboldened to take on procedures beyond their technical or artistic capabilities" (p. xxi). This remains especially true as historic instruments and bows become the object of treatment. However, these volumes do offer string players a point of reference when faced with needing repairs for an instrument or bow and can serve as a tool to develop understanding for those who must contemplate the many kinds of treatments that might be proposed. In addition, the articles often suggest, within themselves or between each other, a number of equally viable solutions to problems.

Even when considering the very high cost of the three-volume set, this tool should be available and publicized in all academic institutions supporting a string program and in public libraries supporting sizable music establishments. The entire project began out of a desire to raise awareness and money in support of tropical forest restoration, especially in those areas where the Pernambuco wood essential for bow making grows. As stated on the Web site promoting the book: "All profits from the sale of the books will support the ongoing research, reforestation, and educational activities of the International Pernambuco Conservation Initiative" (http://www .ipci-canada.org/home, accessed 26 June 2013). Moreover, the production quality of the set represents the finest in modern bookmaking and is documented at length in the colophon of the first volume. This publication possesses tremendous potential for supporting an important information need among string players, serves a good cause, and will wear well as it graces a reference collection. It is the perfect candidate for purchase using special acquisition funds. It would also be worth reaching out to local violin dealers and prominent local musicians to seek contributions toward its purchase.

For *The Conservation, Restoration, and Repair of Stringed Instruments and Their Bows* I can only offer the most fervently enthusiastic endorsement. Any library that can manage and justify the expense must add these volumes to their shelves.

DANIEL F. BOOMHOWER Library of Congress