

Jarausch, Konrad H., and Kenneth A. Hardy. *Quantitative Methods for Historians: A Guide to Research, Data, and Statistics*. Chapel Hill, NC: University of North Carolina Press, 1991. xv + 247 pp. Appendices, index. Hardcover, ISBN 0-8078-1947-6, \$45.00. Softcover, ISBN 0-8078-4309-1, \$14.95.

Historians have always counted things. Until fairly recently, however, overt quantification did not play a central role in historians' data collection and analysis procedures. This has not been the case for many other types of researchers. Scientific research began with the Ancient Greeks, if not earlier, and developed rapidly during the Renaissance. Well-defined scientific models and methods came into common use during the late nineteenth century. Today, the various scientific approaches, which rely heavily upon quantification, remain in vogue among researchers in a wide range of fields.¹

Historical research, or historiography, began even earlier than scientific research. Generally speaking, early historians wrote narrative accounts of political history that focused on power elites. They tended to eschew quantitative analysis, and they came to see their reporting mode as more literary than scientific. However, at least as early as the seventeenth

¹Jere T. Humphreys, "Precursors of Musical Aptitude Testing: From the Greeks through the Work of Francis Galton," *Journal of Research in Music Education* 41 (Winter 1993): 316-318.

century, historians began to adopt some attitudes and borrow methods from the scientific community.

During the nineteenth century, when scientists developed sophisticated research models, historians came under the influence of the famous German historian and teacher Leopold von Ranke (1795–1886). Ranke adopted more scientific approaches than previous historians, especially his insistence on meticulous objectivity in the verification of sources. However, he also insisted on retaining the narrative account and on not employing specialized research procedures and jargon-laden reporting language. He reasoned that ordinary people should be able to read historical accounts easily, which would enhance their knowledge and insights and thereby facilitate citizen participation in the political discourse associated with the emerging European democracies.²

Ranke's model served reasonably well during his day, but modern-day historiography has become much more diverse in response to heightened social sensibilities, so much so that "the universe of historians has been expanding at a dizzying rate."³ Over time, some historians have come to value the study of a wide array of subject areas—an enormous expansion in scope from the almost exclusive emphasis on European political history of Ranke's era.

Different subjects lend themselves to different research techniques and reporting styles. Hence, increasing numbers of historians now experiment with non-traditional sources, research methods including quantification, and reporting styles to help them grapple with new research questions. In short, historians as a group no longer confine themselves largely to male European political history; they no longer employ the literary-style narrative account exclusively; and they no longer utilize written documentary source material to the exclusion of other types of sources.

²Georg G. Iggers and James M. Powell, *Leopold von Ranke and the Shaping of the Historical Discipline* (Syracuse, NY: Syracuse University Press, 1990), xv, xvi. The authors discuss the inherent tension between what they call qualitative humanistic and quantitative social science approaches, and the fact that some Enlightenment scholars routinely used both approaches. For example, a progressive Göttingen historian called statistics "frozen history" and history "statistics come alive" (p. 10).

³Peter Burke, "Overture: The New History, Its Past and Its Future," in *New Perspectives on Historical Writing* (Cambridge, UK: Polity Press, 1991), 1.

Jarausch and Hardy's *Quantitative Methods for Historians* does not tell this story of how and why quantification evolved. The authors do state that quantitative techniques transformed economic historiography during the 1950s and 1960s, and that historians now use quantification extensively and successfully in historical demography, human health and disease history, and several other fields including political history. They also point out that quanto-historians are achieving some of their most important results in the new social history. According to the authors, "this recent and most dynamic sector of historical inquiry shifted attention away from political elites to the often mute masses and addressed the power of social structures or customs rather than of political events" (p. 6).

Background aside, the minimal goal of *Quantitative Methods for Historians* is to help readers understand the growing body of published quantitative historical research; the maximum aim is to inspire readers to apply statistical methods in their own research. The authors claim they are responding "to a much lamented training deficit," and that they seek "to render research design transparent, to help with establishing data bases, and to provide enough statistical information so that analytical procedures can be applied responsibly" (p. xiii).

In the first and last few chapters of the book, the authors tackle the maximum aim of inspiration by addressing traditional historians and some of their perceived sensibilities. These chapters deal with such issues as justifications for quantification in history, the use of computers by historians, concepts and problems related to the selection of research questions, quality of source material, very large and very small sample sizes, and hypothesis testing and model building. They even make some practical suggestions for overcoming traditional historians' resistance to quantification.

The authors admit to a number of inherent weaknesses in the method, but insist that most of the strident "criticisms of numerical antiquarianism or statistical dehumanization are groundless, since they invalidate the misuse of quantification rather than its proper application . . ." (p. 2). They note further that although many of the criticisms of quanto-history relate to inflated claims made by early advocates, the method can accommodate

larger data sets and therefore can provide greater precision, identify more causative variables, and produce more generalizable results.

As for the quality of source material, the authors assert that "the criteria of traditional source criticism apply to quantitative work, perhaps in an even more stringent way" (p. 26). The authors view quantification "as an additional tool of historical research" (p. 4) that can help correct certain source material problems in traditional historiography, such as missing and unrepresentative data. These inequities in source material often occur because original categorizations of data resulted from qualitative decisions made by historical elites, and because data on elites are more likely to have survived than data on the poor. In a further attempt to parry a common source-related criticism of quantification in history, the authors note that "[v]irtually all historical records are less complete than a scholar might desire" (p. 73).

Most of the intervening chapters consist of clear, straightforward presentations of some basic concepts and how to's of statistical analysis from descriptions of mean, median, and mode; through chi-square, correlation, regression, analysis of variance, and multiple regression; and on to an overview of time series analysis, factor analysis, cluster analysis, LISREL (linear structural equation modelling), and nonlinear models. Appropriately for causal historical analysis, the authors discuss multiple regression techniques in some detail, including interaction analysis, and provide brief discussions of important techniques like discriminant function and frequently encountered artifacts like categorical variables as predictors in multiple regression analysis.

This book represents an improvement over the fairly numerous quanta-history books published since the early 1960s. It is much stronger in advanced statistical explanations and examples than earlier books. Indeed, most of the statistical explanations are clearer than those found in the general run of non-historical education and psychology statistics books, in part because it does not emphasize computation methods. Furthermore, the authors give sound advice about procedures, such as their admonition to keep a record of small decisions relative to categorizations of subjects, because numbers tend to mask such decisions made early in a study. They

recommend listing doubtful cases "so that they can be resolved [later] in a uniform way" (p. 43).

Despite its strengths, it is difficult to imagine using this book as a textbook for music education classes, and not only because graduate music education departments typically do not offer an entire course on a sub-specialty like *quanto*-history. Unfortunately, because the authors conceived the book both as an introduction to quantification in history and as a guide "to scholars who have some prior quantitative experience" (p. xiv), portions of it are too simple for advanced scholars (e.g., the discussion on backing up computer files), while other parts are too advanced for novices.

Instead, the book could serve as supplementary reading material for students and as a reference manual for more advanced researchers. Even in that role, the book would be more useful to music education researchers if it had included a wider range of examples from the *quanto*-history research literature. Most examples in the book come from a quantitative study of a former United States Army fort, for which researchers obtained data on such phenomena as property ownership by officers and enlisted personnel stationed at the fort. The authors return repeatedly to the army data set to provide examples of research questions and analysis techniques. The authors also discuss how other *quanto*-historians were able to augment and partially overturn a conclusion reached by traditional historians: that support for the Nazi movement in Germany came in large part from the lower middle class. *Quanto*-historians demonstrated that, "while lower middle class occupations are somewhat overrepresented, early Nazi membership depends more on sex, age, or religion" (p. 29).

These examples from the *quanto*-history research literature help a great deal, but in some ways the book still comes off as a method in search of a subject. The pedagogical device of returning over and over to the same data set results in the authors sacrificing what music education researchers interested in *quanto*-history need most: ideas about what to study. Some examples of the many successful published applications of *quanto*-history techniques from other fields might stimulate the formulation of new research ideas on the part of music education researchers. After all, the music education research stable is fully stocked with individuals skilled in

statistical analysis, but the literature contains only a few examples of quantification in history. This is not a criticism of the book *per se*, because the authors could not have been expected to produce a book for music education researchers alone. Rather, it is simply an observation about the book's potential usefulness to the field of music education.⁴

On the technical side, a few editing problems appear to have resulted from the fact that two people wrote the book. For example, the authors state that it is unnecessary to assign numbers to nominal data categories, but in another place they advise the readers to do just that. Also, the authors recommend using microcomputers, while placing much emphasis on mainframe software commands in other portions of the book. In fact, much of the material on word processing, electronic mail, computerized library services, data storage and management, memory requirements, and statistics software was not current when the book came out in 1991, and very little of it remains so now.

A curious omission is the authors' failure to discuss textual and artifactual (including photographic) analysis, an approach music education and other fields have used and which should be included under the rubric of *quanto-history*. They also fail to treat sampling techniques adequately, although they appropriately recommend sampling instead of studying entire populations in some cases.⁵

As the title suggests, Jarausch and Hardy's book is more for traditional, non-quantifier historians than for non-historian quantifiers. Despite this orientation, however, the authors caution researchers against spending too much time on mechanics and not enough on hypothesis development and interpretation of data.

⁴For some examples of studies from various fields, many of which employed quantification, see Jim Sharpe, "History from Below," in *New Perspectives on Historical Writing*, ed. Peter Burke (Cambridge, UK: Polity Press, 1991), 28-36.

⁵A statistical analysis of photographs in textbooks appears in Julia Eklund Koza, "Females in 1988 Middle School Music Textbooks: An Analysis of Illustrations," *Journal of Research in Music Education* 42 (Summer 1994): 148-171. In addition, Jere T. Humphreys, "Sex and Demographic Representation in Two Music Education History Books," *Bulletin of the Council for Research in Music Education* (in press), uses statistics in an analysis of photographs and text content.

The authors discuss the accomplishments of quonto-historians in some fields, but they also note that psycho-history, intellectual history, political biography, and diplomatic history "have hardly been touched by quantification" (p. 7). With a few exceptions, the same is true of music education history. Paradoxically, despite the fact that the authors of most of the extant quonto-history studies in music education are primarily quantitative researchers, they failed to empty inferential statistics in their analyses. The neglect of sophisticated quantitative methods in music history and music theory research is even more remarkable due to the length of the research histories in those fields.⁶

Quantification will not replace traditional techniques in music education history, but quantification could help selectively enlarge and enhance past and future findings. This book, the most recent in a long line of books on quonto-history techniques, could serve as a reminder to music education historians to consider the use of alternative approaches, especially approaches that might lead to different interpretations of the past.

Four examples of such work in music education include statistical analyses of doctoral dissertations on music education and music therapy history, sex and geographical representation in music education history books, the demographics of a research journal's editorial committee

⁶In addition to Koza, recent examples of published historical studies that incorporated descriptive but not inferential statistics include John W. Grashel and Anne Lowe, "Contribution of School Music Educators to the Research Literature as Published in the *Journal of Research in Music Education*, 1953-1993," *The Bulletin of Historical Research in Music Education* 16 (January 1995): 122-135; Steven K. Hedden, "Music Education Research: A Dozen Conventions and a Dozen *JRME* Volumes," *The Bulletin of Historical Research in Music Education* 15 (September 1993): 17-30; Steven K. Hedden, "Research Sessions at MENC Conferences: 1970-1990," *The Quarterly Journal of Music Teaching and Learning* 3 (Spring 1992): 80-85; George N. Heller, "Historical Research in Music Education and Music Therapy: A Quarter-Century of Research, Writing, and Publication," *The Quarterly Journal of Music Teaching and Learning* 3 (Spring 1992): 56-62; John Kratus, "Subjects in Music Education Research, 1961-1990," *The Quarterly Journal of Music Teaching and Learning* 3 (Winter 1992): 50-55; John Kratus, "Eminence in Music Education Research as Measured in the *Handbook of Research on Music Teaching and Learning*," *Bulletin of the Council for Research in Music Education* 118 (Fall 1993): 21-32; Duane Sample, "Frequently Cited Studies as Indicators of Music Education Research Interests, 1963-1989," *Journal of Research in Music Education* 40 (Summer 1992): 153-157; Charles P. Schmidt and Steven F. Zdzinski, "Cited Quantitative Research Articles in Music Education Research Journals, 1975-1990: A Content Analysis of Selected Studies," *Journal of Research in Music Education* 41 (Spring 1993): 5-18; and Cornelia Yarbrough, "A Content Analysis of the *Journal of Research in Music Education*, 1953-1983," *Journal of Research in Music Education* 32 (Winter 1984): 213-222.

membership, and membership demographics of a professional organization during the organization's early years. All four of these studies are recent, all incorporate both descriptive and inferential statistics, and all deal with measurable changes over time.⁷

Thus, music education researchers have just begun to employ quanto-history techniques, and only for descriptions and analyses of data related to the research literature, textbook content, and professional demographics. Nevertheless, music education professors who wish to add quantitative expertise and insights to their graduate students' arsenal of historical research tools could assign these studies, selected studies from other fields, and portions of Jarausch and Hardy's *Quantitative Methods for Historians*.

Music education historians who adopt quantitative analysis should not face at least one of the obstacles encountered by quanto-minded historians in other fields: a lack of empathy and knowledge on the part of other researchers. The fact that most music education researchers already use quantitative techniques bodes well for the acceptance of high-quality quantitative historical studies by the research community. However, historians must pose the research questions and not rely exclusively upon their quantitative colleagues. Before that happens, music education historians who have eschewed quantitative methods in the past would have to embrace them for some types of analyses.

It is probably safe to say that most of the important research questions in music education history are not amenable to quantification. However, some are, and Jarausch and Hardy's book provides a starting place for any researcher who wants to accept that challenge.

Appropriately, the authors make their strongest case for quantification in history on methodological grounds: "while numbers can seldom represent human feelings adequately, they do help resolve the bothersome issue of representativeness which undercuts much textually oriented

⁷Jere T. Humphreys, David M. Bess, and Martin J. Bergee, "Doctoral Dissertations on the History of Music Education and Music Therapy," *The Quarterly Journal of Music Teaching and Learning* (in press); Humphreys, "Sex and Demographic Representation"; Jere T. Humphreys and Sandra L. Stauffer, "Demographic Characteristics of *JRME* Editorial Committee Members," unpublished manuscript; and Jere T. Humphreys and Charles P. Schmidt, "Demographic Characteristics of Early MENC Members: 1912-1938," unpublished manuscript.

research" (pp 190–191). Indeed, music education historians have written a great deal about the profession's leading individuals, programs, and organizations, but far less about ordinary music teachers and students and the cultures from which they came. Quantitative analysis, applied appropriately and skillfully, could help broaden and deepen the profession's knowledge of its past. *Quantitative Methods for Historians* could provide some support for that effort.⁸

—Jere T. Humphreys
Arizona State University

⁸Jere T. Humphreys, "Expanding the Horizons of Music Education History and Sociology," *The Quarterly Journal of Music Teaching and Learning* (in press).