Scholarship in Cyberspace: Music Research in the Digital Age

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Abstract

Digital resources for humanistic research have expanded dramatically in the last two decades. Scholars can browse libraries and archives located around the world and read digitized documents on networked computers in the comfort of their university offices and private homes. This essay identifies and discusses several electronically accessible archives and bibliographic sources in the field of music theory, and goes on to briefly describe the usefulness of digitized resources in research on the reception of composer Anton Bruckner’s symphonies and music theorist Heinrich Schenker’s early education.

Keywords
digital scholarship, digital archives, digital library, open-access scholarship, music bibliography, music theory, Anton Bruckner, Johannes Brahms, Eduard Hanslick, Heinrich Schenker

Beginning in the early 1900s, each successive generation witnessed significant cultural and sociological transformations linked to advances in technology. Consider the emergence and rapid growth of radio broadcasting on a broad scale in the 1920s, of television broadcasting in the 1950s, of commercial air travel in the 1920s, revolutionized by jet travel in the 1950s and 60s. From the late 1970s on, the most potent transformational force in all aspects of society, private, public, and professional, has clearly been the computer in both the personal and commercial domains. Computer technology in all of its dimensions has become utterly indispensable for business, government, and educational institutions. From the 1980s on, academic scholarship, too, has come to depend vitally on the ever increasing power and versatility of computers. Beginning in the early 1990s, even the revolutionary role of computers in society was itself revolutionized by the Internet. The advent of the World Wide Web has made massive repositories of digitized literature, ancient and modern, as well as searchable bibliographic databases readily available at the click of a mouse in libraries around the world, or even in the comfort of our homes. For those of us who learned and began practicing the craft of humanistic research before the age of computers and the World Wide Web, it is a scholar’s dream come true.
The perspective offered here on this evolving scholarly cyberspace is that of a music theorist specializing in the intersection of intellectual history and thought about music over the centuries, with particular emphasis on writings of the eighteenth and nineteenth centuries. However, the tools and digital resources described herein are in some cases essential for research in other humanistic fields, and have counterparts, often in greater number, in non-humanistic fields (e.g. social and natural sciences).

The journey of scholarly research begins with searches in general reference works and in discipline-specific bibliographies, which lead to key primary and related secondary sources. In the field of music, the most widely used general reference in the English-speaking world is Grove Music Online [1].

Citations there lead to searches for secondary literature in the online bibliographic database known as RILM [2] and RIPM [3], which focuses on eighteenth, nineteenth, and twentieth-century periodical literature on music. Both are available through individual and institutional subscription. Equipped with citations gleaned from those sources, the process continues with searches for primary and secondary literature in digitized form, when available.


For digitized secondary sources in music and many other fields, JSTOR [4] offers a rich repository of digital texts that include, according to its website, "more than 2,000 academic journals, dating back to the first volume ever published, along with thousands of monographs and other materials". Here, all of the major journals in music scholarship are available electronically through institutional subscription. Access to digitized primary sources, particularly for literature from ancient times up through the nineteenth century, is often free of charge and available, in multiple editions and languages, through various Internet portals.
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One of the best-known digital libraries of humanistic literature, covering a broad range of disciplines across many centuries, is the HathiTrust [5], "a partnership of academic and research institutions, offering a collection of millions of titles digitized from libraries around the world". As an example, a search in the HathiTrust repository for works by and about the eminent nineteenth-century music journalist and aesthetician, Eduard Hanslick (1825-1904), yields links to texts of 7,594 items, including the full text of his celebrated treatise, Vom Musikalisch-schönen (1854), of his two-volume autobiography, and of book-length collections of his numerous concert and opera reviews. Other important collections of digitized texts in music, and in the humanities generally, include Zeno.org (2,432 books by 927 authors); Archive.org (over 6 million public-domain electronic books); and, of course, Google Books (books.google.com). In those digital libraries we find the full text of treatises by major eighteenth and nineteenth-century authors in music theory (for example, among others, Johann Mattheson, Jean-Philippe Rameau, Johann Philipp Kirnberger, Heinrich Christoph Koch, Moritz Hauptmann, and Simon Sechter).
Formulated in 1998, the Center for the History of Music Theory and Literature (CHMTL) brings together various research activities and projects in the fields of music theory and musical historiography centered at the Jacobs School of Music, also in collaboration with other institutions in the United States and abroad.

Our aim is to serve the scholarly community by gathering, researching and disseminating documents relevant to the history of musical thought. While primarily focused on music theory, our work also aims to document the deep links between music and the other arts and sciences, which have influenced intellectual life from the medieval era to the present. Our current projects, in fact and foremost the Thesaurus Musicarum Latinarum, make pioneering use of technology and the internet by making freely available hundreds of music treatises in Latin dating from the Late Antiquity. In the twenty-first century, CHMTL aims to continue to be at the forefront of research in computer-assisted studies of the music of the past.

CHMTL currently hosts projects managed by scholars based at Indiana University and elsewhere. We welcome suggestions and proposals from institutions and individuals engaged in research on any aspect of the history of music theory and literature, and in applications of digital humanities to musicology and related disciplines.

The launch of our new institutional website (November 2012) coincides with the start of a new phase of expansion of the Center. Current projects are being modernized and redeveloped (access to existing resources is still available via the old website while new sub-sites are under construction). We are pleased to embark on new research and editorial initiatives, hosting workshops and conferences, and making available occasional fellowships for visiting scholars. As these plans develop, notices will be posted in our News page. Updates are also available via subscription to our mailing list and on Twitter.

Figure 3. Center for the History of Music Theory and Literature at Indiana University website.

Of special interest for music theory is the archive of electronic texts maintained by the Center for the History of Music Theory and Literature at Indiana University [6]. Through their portal, we have access to three major collections, the Thesaurus Musicarum Latinarum [7], which includes treatises in Latin dating from the Late Antiquity; saggi musicali italiani [8], embracing major treatises in Italian; and the Traitésfrançaissur la musique [9]...
focusing on major treatises in French. In those three collections, scholars have access to significant portions of music-theoretical literature of the past in Latin, Italian, and French, in its relation to "other arts and sciences which have influenced intellectual life from the medieval era to the present". A second important source of primary literature in music theory is located at the International Music Score Library/Petrucci Music Library [10]. There, we find over 420 writings on music from the sixteenth through the twentieth century, from Gioseffo Zarlino (1517-1590) to Paul Hindemith (1895-1963), amid numerous other influential authors.

The above-mentioned digital collections are broadly conceived, encompassing works across many centuries and nationalities. By contrast, some archives are highly specialized in limiting themselves to a single, significant author. One such archive, still in progress, is devoted to Renaissance composer and music theorist Johannes Tinctoris (1435-1511), of the Netherlands [11]. The site is intended to make available Tinctoris’s major treatises, which were quite influential in the late fifteenth and sixteenth centuries, particularly regarding questions of compositional technique in works of three and more voices. The life and works of Arnold Schoenberg (1874-1951) are the subject of another such dedicated website [12]. Of particular significance is the searchable database
of selected writings [13], which covers a broad range of topics [14]. Also available (as PDF files) are a complete catalog of Schoenberg’s writings, and separate annotated lists of books and periodicals in his library. It is sites such as these, and others mentioned above, to which we music scholars have come to rely so heavily for our primary and secondary-source study in preparing publications and public lectures. Enterprises such as the California Digital Library [15], whose mission is to facilitate the “pursuit of scholarship and to extend the University’s public service mission” are indispensable to modern-day scholarship. The CDL’s mass digitization projects [16] and others like them at other institutions constitute the foundation of future scholarly endeavors in all fields of research.


After addressing a number of general digital resources for humanistic academic research, I turn now to two of my own projects that involve readily available digital texts which I was able to study at my desk in Santa Barbara, California, instead of traveling thousands of miles to study printed texts in libraries in Poland and Austria. One of the projects deals with the lack of musical understanding of the symphonic works of the Austrian composer Anton Bruckner (1824-1896), as illustrated in published reviews of late nineteenth-century Viennese music critics,
particularly those of Eduard Hanslick, mentioned earlier, but of several others as well (Gustav Dömpke, Richard Heuberger, Max Kalbeck). The other project deals with the primary and secondary-school education of Viennese music theorist Heinrich Schenker (1868-1935) as a basis for understanding his later musical tastes, cultural identity, and political commitments.

Figure 6. ANNO - AustriaN Newspapers Online website. Source: AustriaN Newspapers Online [online], 2014 [access: 2014-09-15]. Accessible at World Wide Web: http://anno.onb.ac.at.

The concert reviews of Hanslick and his critic colleagues in Vienna are published in a variety of that city's newspapers and journals. Were it not for digital texts, it would be necessary to spend time in the Austrian National Library, in Vienna, in order to locate and study the reviews. Fortunately, the digitization project known as ANNO [17], the "virtual newspaper reading room of the Austrian National Library", allows free electronic access to all of the major newspapers and journals of the late 1800s. As of August 2014, there are 12.5 million pages available for online reading. Full-text searches apply to three million pages (24%) published in 300,000 issues that appeared in the years 1700-1875 and 1914-1918. The ANNO website provides a link to an alphabetic listing of all represented...
periodicals, and provides for each a month-by-month, day-by-day display for each publication year. Consequently, it is possible almost instantly to access the exact issue and pages of a desired article. Through the computer interface, it is possible, further, to enlarge the print of the digital images for easy reading, to download pages in PDF format, and to send pages by email.

With ANNO, I was able to locate and read, and in some cases print most of the major reviews by Hanslick and other critics of performances of Bruckner’s symphonies, to compare the reviews, and to draw some conclusions about the different ways in which people heard and understood (more often misunderstood) the music. The study of the reviews contributes substantively to my broader study about the differences between the compositional techniques and structural characteristics of Bruckner’s symphonies and those of Johannes Brahms (1833-1897), whose works were much more favorably received by Viennese critics and audiences. Bruckner’s first successes came, notably, after performances outside of Austria, for example in Germany.

The second project for which I have relied extensively on digital texts available through the Internet is the study of Heinrich Schenker’s secondary education (middle and high school) in the late 1870s and early 1880s in Lvoy and Berezhansky, located in what was at the time Galicia, after 1772 a province of the Austrian Empire, later (after 1867) a Crown Land of the Austro-Hungarian Empire. I learned from secondary sources that middle and high schools (Gymnasien) published annual reports, and that the reports contained information about the curriculum of each grade (fifth through twelfth), about themes of study during the year, about the student population (size, nationalities, ethnicities, religious association, and languages spoken), and about the faculty. Luckily – because I do not read or speak Polish – I came across the Polish title of an annual report of one of Schenker’s schools, and used it in an Internet-wide search in hopes of locating the reports in libraries. My search led to the Pedagogical Digital Library [18], to the Podkarpacka Digital Library [19], and finally to the Digital Libraries Federation [20]. I quickly discovered that almost all of the annual reports were available digitally, all fully searchable. With the help of Dorota Witczak, a key staff member and contact person at the Pedagogical Digital Library, I was able to locate digital copies of the remaining annual reports, including one which Schenker was not supposed to have attended but did because of special circumstances (building renovations). In the end, I was able to completely sketch out Schenker’s secondary education, which included several hours of weekly instruction in Jewish religion about which no one had previously known. Without an archive of Internet-accessible digital texts such as the one maintained at the Pedagogical Digital Library, my work on this subject would have been far more difficult and time-consuming, not to mention expensive.

As exciting and as transformative as the above-mentioned resources have been in the academic world, they are but initial surges of a sustained series of mounting waves of digital resources currently in development and emerging on the horizon. Under the rubric “eScholarship”, for example, the ten campuses of the University of California, have implemented policies of “open access” [21] for scholarly products produced by UC faculty, aimed at the open dissemination to the public of research for the benefit of society in its cultural and commercial spheres. Such scholarly production falls under the general heading of “scholarly communications” [22]. Other major universities have developed and implemented similar open-access policies on scholarly communications (Harvard, Princeton, and Columbia Universities, among numerous others). When fully developed, this open-access approach will make a broad range of scholarly research available on a worldwide scale, for instance monographs, journal articles,
single-author essay collections, multi-author essay anthologies, and various categories of reference works (topical indexes, bibliographic databases, etc.). To find a comparable momentous event in the world of scholarly publishing, we would have to look back to Johannes Gutenberg’s invention of mechanical movable type and the printing press in the fifteenth century. That revolution in the dissemination of knowledge has profoundly influenced and shaped society and the individual from Gutenberg’s time right up to the present. Similarly, and perhaps even more profoundly, the digital revolution and scholarship in cyberspace will shape our intellectual and social world for centuries to come.

Footnotes:


[14] According to the website, the categories include “pedagogical writings, literary and compositional models, commentaries, writings about music criticism, analysis, and theory, about philosophy, religion, Judaism, politics, and contemporary history; lectures, interviews, open letters, memoranda, notes, testimonials, and diaries.”


Biographical note: