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Collecting Abstractions: Music in the Library

Amanda Maple The Pennsylvania State University, alm8@psu.edu

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From SEP to SEPIA ...

The move towards firm long term funding for the SEP does much more than guarantee open access for readers. It has already freed the SEP's developers to start thinking about how the project can contribute to digital humanities needs in general. Instead of writing grant proposals simply to cover basic operations, it has been possible to turn to research projects that will enhance the functionality and utility of the encyclopedia, and that may have broader applications to other digital reference works.

Again, IU has placed itself firmly behind this research with a \$40,000 grant awarded through its New Frontiers in the Arts and Humanities Program supported by the Lilly Endowment. The project, titled "Automatic Metacontent Management for Dynamic Reference Works," seeks to develop tools and software that can ensure that rich and accurate metadata is always available for the SEP.

The scale, complexity, and dynamic nature of the SEP provide unique opportunities for digital humanities research. For instance, each time a new entry title is added to the database, a new entry comes online, or new research leads to an update of an existing entry, the SEP's metacontent must be modified to remain current - metadata, cross-references, themes for navigation and archival relationships may change and must be updated accordingly. To keep the SEP project economical, this metacontent management must be automated to the greatest extent possible.

The goal under the **IU** grant is to build tools for automatically maintaining a formal ontology for the subject domain of philosophy. This will allow improvements in several areas, including better methods for cross-referencing entries and enhanced search and navigation. Fortunately, the problem of getting philosophers to agree on how to represent the structure of their discipline can be sidestepped to a large degree given the practical objectives at hand. The development of effective methods for automatically managing the SEP's metacontent requires interdisciplinary collaboration between computer scientists, who understand the technological issues, and philosophers, who understand the needs of humanities scholars and students. The grant from IU is supporting two graduate students, one from philosophy and the other computer science, for the coming academic year; they, with Colin Allen, will be pursuing additional opportunities for external funding in order to further develop this line of research.

The Libraries have also reaped benefits from the New Frontiers Program. In fall 2005, the Libraries, in collaboration with IU's sister campus in Indianapolis, decided that it was important to discuss the local implications of the draft report of the American Council of Learned Societies' Commission on Cyberinfrastructure for Humanities and Social Sciences¹² and for faculty to participate in this national dialogue. The joint application by the Libraries was successful, and funds will be used to host a two-day seminar (with fol-

low-up discussions) on "New Models of Scholarly Communication: Defining the IU Perspective." By bringing together campus opinionmakers, the Libraries hope to challenge faculty, to give them the opportunity to think about and articulate their needs in humanities computing, and to consider how computing can serve the very specific research needs of historians, philosophers, art historians, students of literature, and other humanists at Indiana University.

The librarians and faculty of Indiana University see the Stanford Encyclopedia of

Philosophy and its supporting association. SEPIA, as part of the University's larger contribution to the transformation of scholarly communication. SEP and SEPIA return the funding and management of the products of scholarship back to their rightful home in the academy. By using technology appropriately and husbanding scarce financial resources wisely, scholars and librarians can ensure that the work of scholars remains a public good, freely available to readers throughout the world.

Endnotes

- 1. Stanford Encyclopedia of Philosophy. http://plato.stanford.edu/. [accessed 16 June 2006].
- 2. SEPIA. http://www.libraries.iub.edu/index.php?pageId=4189. [accessed 16 June 2006].
- 3. Brancolini, Kris R. "Indiana University Digital Library Program." Indiana Libraries 18:suppl. 1 (1999): 25-26.
- 4. "The Frank M. Hohenberger Photography Collection." http://www.dlib.indiana.edu/collections/ lilly/hohenberger/. [accessed 16 June 2006].
- 5. "The Hoagy Carmichael Collection, 1899-1981." http://www.dlib.indiana.edu/collections/hoagy/. [accessed 16 June 2006].
- 6. "U.S. Steel Gary Works Photograph Collection, 1906-1971." http://www.dlib.indiana.edu/collections/steel/. [accessed 16 June 2006]
- 7. "Variations2: The Indiana University Digital Music Library Project." http://variations2. indiana.edu/. [accessed 16 June 2006].
- 8. "Wright American Fiction, 1851-1875." www.letrs.indiana.edu/web/w/wright2/. [accessed 16 June 2006].
- Film Literature Index. http://webapp1.dlib.indiana.edu/fli/index.jsp. [accessed 16 June 2006].
- 10. Letopis' Zhurnal'nykh Statei. http://webapp1.dlib.indiana.edu/letopis/index.jsp?lang=en. [ac-
- 11. Rhind-Tutt, Stephen. "What a Tangled Web We Weave: A Review of Pricing Models and the Forces That Drive Them." Against the Grain 10:1 (Feb. 1998): 24+.
- 12. "American Council of Learned Societies. Commission on Cyberinfrastructure for the Humanities & Social Sciences." The Draft Report of the American Council of Learned Societies' Commission on Cyberinfrastructure for the Humanities & Social Sciences. November 5, 2005. [accessed 16 June 2006].

Collecting Abstractions: Music in the Library

by Amanda Maple (Music Librarian, The Pennsylvania State University; Phone: 814-863-1401) <alm8@psu.edu>

"Music is an abstraction, realized in sound or on paper or wherever." As an abstraction, music presents special challenges in library collections: the physical challenges of acquiring and housing its various realizations (in sound or on paper); the intellectual challenges of defining the "work" or "text," describing its realizations, and tagging them for later retrieval. Works of music exist in many versions (editions, formats, parts of a whole) and often in complex relation to other works. Music is realized by performers: libraries acquire performing versions of notated music ("parts"), conducting and study "scores," and multiple recordings by different performers of the same version of a work, as well as many versions of that work.

Music on Paper

Kevin Kelly in "Scan This Book!" described his vision of the near-future "universal library," in which every work ever created is available (some for free, others for a price) in digital form, as texts without physical carriers.2 The physical carrier is important to musicians, who read from scores and parts during rehearsals and performances. For hundreds of years, music has been printed on paper, and paper is still prominent in the digital music world. Scores stored as digital files can be accessed and printed on demand. Many scores are now born digital, created with notation software that enables musicians to input, edit, and print music using a computer keyboard or mouse, or by playing an electronic musical instrument connected to a computer with MIDI (Musical Instrument Digital Interface, a protocol for data exchange between electronic instruments and computers). Collections of printed music digitized by libraries are proliferating, prompting the formation of the Sheet Music Consortium of libraries, whose goal is to build "an open collection of digitized sheet music using the Open Archives Initiative: Protocol for

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Metadata Harvesting."3 Many libraries and archives have digitized their specialized collections and made them available on the Internet.4

Commercial online vendors of digital sheet music (such as SheetMusicNow, Free HandMusic.com [formerly Sunhawk.com], Virtual Sheet Music, Sheet Music Direct, My Sheet Music) sell to customers over the Internet. SheetMusicNow is marketed to libraries through Naxos Music Library, the streaming audio product of recording publisher Naxos. Alexander Street Press has released its digitized Classical Scores Library, marketed specifically to libraries. Music libraries acquire many formats and editions of notated music (full scores, miniature scores, vocal scores, performance parts, scholarly editions, performing editions) according to the needs of local user communities, and music librarians examine closely the scope and quality of the commercial sources and their cost, compared to the cost of local digitization.

In our digital world, printed books remain popular, still preferred to eBooks that can be read on the screen. Recent alternatives to paper for music are digital music notation viewers such as MusicPad Pro and eStand. These are tablet computers with touch screens that display music and are designed for use on music stands. With features for easy page-turning, adding annotations, accessing digital score libraries, and accepting locally scanned music files, they can store a large amount of music and serve as a musician's personal performance library. Competing file formats are an issue, but as technology improves and costs go down. print scores may become less dominant. More music publishers are likely to devise models for distributing scores as digital files.

Music as Sound

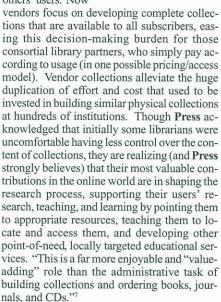
Sound recordings are another mainstay of music library collections. CD sales continue to drop while online sales of downloads are rising sharply, up 83 percent and comprising 14 percent of all U.S. music sales in early 2006.5 In the United States, sales of classical "albums" on CD dropped fifteen percent in 2005, but digital downloads grew ninety-four percent.6 A number of commercial digital audio collections are marketed to libraries, most along the model of streamed access via annual license (examples include Naxos Music Library, Classical Music Library, Smithsonian Global Sound, Database of Recorded American Music, African American Song). A non-licensed example is American Memory at the Library of Congress, which makes several of its audio collections available over the Internet. The world of music publishing is in flux, and it is likely that libraries will continue to acquire a variety of audio formats, tangible and digital, based on content (foremost), cost, and accessibility.

The Role of Libraries

Roger Press founded Classical Music Library, a streaming audio service, in 2000 with the objective of making the recorded cultural heritage available to the widest possible audience. A pianist and record industry executive. he has extensive experience in the recording industry. In an interview with the author, he said the digital world has brought an interesting shift in the roles of libraries, publishers, and vendors across all disciplines. Libraries have traditionally been local repositories of knowledge focused on building their own discrete collections, tailored to their own users. The digital world of information has pushed the role of collection building to both large- and smallniche vendors, who now make decisions about what comprises complete collections and how to build them in partnership with librarians.

Press mentioned, as an example, the former practice of

consortial libraries to share music collection development, each library concentrating by agreement on certain composers, or genres, with mutual borrowing privileges for each others' users. Now



Partners

Regarding the role of libraries, Press also mentioned the Cylinder Preservation and Digitization Project at the University of California, Santa Barbara. Their Department of Special Collections holds thousands of early cylinder sound recordings, and they are digitizing the audio and making it freely available over the Internet. Press said that because the University of California, Santa Barbara has taken on this digitization and access project and the audio files are available to everyone, other institutions no longer need to duplicate this collection locally to provide access for their users. Many of these materials may also be added to collections of vendors, whether commercial or not, who are building collections for the benefit of everyone, and roles are shifting.

Press stated that ideal collection building is very much a partnership between vendors and librarians, whose feedback (based on needs of their own library's users) is crucial to collection development and database design. Publishers' and distributors' decisions are refined as they listen to librarians and modify their products to meet the needs of library users. Press noted that rather than one huge database containing everything, librarians are interested in databases tailored to specific purposes, rich with links to other relevant information sources. An example he gave is the Garland Encyclopedia of World Music, whose content Alexander Street Press has licensed to develop as a database, with plans to enhance the print encyclopedia with links to audio examples, to relevant

terms throughout the encyclopedia, and to information in other

databases through

third-party contracts or additional licensed content. "With open URL and similar initiatives, we need to connect the dots between silos of information, and that's where we make our

main investment, making it easier for users to get related information, whether audio, image, or text, from within one database and across other databases."

As the universal library of music evolves as music publishers produce and distribute born-digital scores and recordings, and as older scores and recordings are digitized and redistributed online — libraries play an important role by ensuring access to that subset of the universal library that best meets the needs of their local user communities — they assess what content is available as well as its accessibility and affordability. In these early days of the universal library, content from commercial publishers and aggregators does not always entirely match user needs. According to a recent study at one university, three commercial music audio databases provided only about one third of the works needed for teaching and learning. Will the content of audio databases meet user needs well enough, or will libraries need to supplement by purchasing CDs of content lacking in the databases?

Another big question for libraries is cost; will annual license fees for aggregated audio databases be feasible for library budgets in the long term? The funding for music in most libraries will not sustain any model that requires a lot more dollars per year than are available to us now. Roger Press affirmed that it is very imporant to have appropriate prices for different markets and targeted institution groups, keeping the content affordable to as broad a range of libraries as possible. He is concerned that the users of many small public and academic libraries have not yet been able to take advantage of online music databases.

We could explore with music's creators, publishers, and vendors the development of pricing models that let us select individual titles for purchase when that best meets our needs; and collaborate with library administrators and tech-

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nology units to figure out how to acquire, store, organize, retrieve, and circulate digital music files. We should focus on the educational use of music in libraries, our budgets, and our mission to educate new generations of music consumers who will continue to acquire music the rest of their lives. According to the Recording Industry Association of America's 2004 Consumer Profile, classical music comprised two percent of their sales in 2004, jazz less than three percent, and ethnic music was part of the "other" category at less than nine percent.10 These categories are very important to libraries, including academic libraries whose collections must meet the curricular and research needs of their faculty and students. The library market is a small piece of this already small market. Far from a threat to producers of music, public and academic libraries foster the future market for music through their educational missions. Many libraries will want to support publishers, distributors, and others who are developing alternative models for music distribution - for example, Creative Commons (http:creative commons.org/), which offers a set of licenses that let creators share their works with others on generous terms, including options for "some rights reserved" or "no rights reserved" rather than always "all rights reserved;" the Magnatune record label (http://magnatune. com), which distributes its music under a Creative Commons licensing model, uses the open source concept in its distribution and business models, and returns 50% of all payments to the artists (much more than typical record label contracts); CD Baby (www.cdbaby.com), an online store that sells CDs by independent musicians, who earn \$6-\$12 per CD; and the Future of Music Coalition (http://www.future ofmusic.org/index.cfm), a not-for-profit collaboration between the music, technology, public policy, and intellectual property law communities to promote innovative business models that help musicians benefit from new technologies.

Problems Finding the Stuff

Works of music are complex to describe and access. Even when all music, in all formats, is eventually digitized, users will not be able to locate and access what they want unless we pay careful attention, and improve our current approaches to metadata and findability. Current library catalogs are organized around the physical carriers of music, rather than music works themselves. For optimal access to digital scores and recordings, users need to "navigate digitized representations of music works," and both description and access points must be centered on the actual work of music, rather than focusing on the carrier that houses it.11 Users want to search by form, genre, instrumentation, title or number of a part or section of a larger work, title of the larger work itself, key (for example, C major), language, and status as an arrangement of another work. Relationships between a larger work and its parts, and between various editions and formats of a work, need to be displayed and searchable. Facets such as track

Endnotes

- 1. During a recent email debate among music librarians about more user-centered, but less accurate, terminology for describing music in library catalogs, D. W. Krummel wrote, "Alas, Plato's lurking in there. Always was, always will be. Music is an abstraction, realized in sound or on paper or wherever. Music is what you perform and what you listen to. Tennis is what you play and what you watch..." Email message to MLA-L (Music Library Association email discussion list), 26 May 2006.
- 2. Kevin Kelly, "Scan This Book!" New York Times Magazine (14 May 2006): 42-49, 64, 71.
- 3. http://digital.library.ucla.edu/sheetmusic/.
- 4. Examples, just a few of many, include Chopin Early Editions at the University of Chicago; the Jean-Baptiste Lully Collection at the University of North Texas Music Library; Beethoven-Haus Bonn Digital Archives; 19th-Century American Sheet Music Digitization Project at the University of North Carolina at Chapel Hill; 19th-Century California Sheet Music; Music for the Nation: American Sheet Music 1870-1885, at the Library of Congress; and the Digital Sheet Music Collection, University of Colorado at Boulder.
- 5. Steve Knopper, "Digital Music Sales Up 83 Percent," Rolling Stone 1000 (18 May- 1 June
- Anastasia Tsioulcas, "Classical Takes Digital Leap," Billboard 28 (January 2006): 44-45.
- Roger Press, Editorial Director, Alexander Street Press, in a telephone interview with the author, 22 July 2006.
- 8. Press telephone interview.
- 9. Amanda Maple, "Online Music Services and Academic Libraries," ARL: A Bimonthly Report on Research Library Issues and Actions from ARL, CNI, and SPARC, 244 (February 2006): 12-13.
- 10. http://www.riaa.com/news/marketingdata/pdf/2004consumerProfile.pdf.
- 11. Harriette Hemmasi, "Why Not MARC?" presented at ISMIR 2002, Third International Conference on Music Information Retrieval, Paris, France, October 2002, http://variations2.indiana.edu/ pdf/hemmasi-ismir2002.pdf.
- 12. Ibid.
- 13. Jonathan Gruber, vice president of new media for classics and jazz at Universal Music Group International, as quoted by Anastasia Tsioulcas (see note 6 above).
- 14. Harriette Hemmasi, "Community-Based Content Control," in Metadata in Practice, Diane I. Hillmann and Elaine L. Westbrooks, eds. (Chicago: American Library Association, 2004), p. 195.
- 15. "Functional Requirements for Bibliographic Records," IFLA Study Group on the Functional Requirements for Bibliographic Records (Munich: K. G. Saur, 1998), http://www.ifla.org/VII/s13/ frbr/frbr.pdf.
- 16. Press telephone interview.

descriptions, timings, and page numbers should be navigable, and types of "author" such as composer, soloist performer, ensemble performer, conductor, and editor need to be distinguished, displayed, and searchable. One work of music can have different titles in different languages and common or popular titles as well as the title that was assigned originally by the composer, and can have different titles for various parts of the work. Dates important to users include date of performance, copyright, composition, and digitization. Logical and flexible displays of search results are crucial for music; users need to sort by format, edition, uniform title, or performer, in addition to other titles, composer or other authors, and dates.12

Some current library catalogs help users with some of these complexities; for example, help with variant titles is provided by supplying "uniform titles" and references to them from variant titles, though not all systems allow for logical searching on or display of this aspect of metadata even when it exists in the database. Searching for music in library catalogs continues to be difficult in the pre-digital world, and finding digital music via commercial audio databases is in general even less satisfactory. Many databases supply indexes only for "album," "track title," and "artist," and do not coordinate or standardize terminology or display results logically. Searching involves quite a bit of guesswork. An executive in the recording industry

remarked, "Digital business means a theoretically infinite amount of stock space, but there's a downside to that limitless space. You have to be able to find the stuff you're looking for."13 Compounding the problem is the user's need to choose among many audio databases, with different search designs, hoping to find the music they seek. Federated searching would help, but even the most sophisticated federated search is only as effective as the underlying metadata and indexing of every database in the pool. "Disparities in naming conventions and incomplete or inadequate identification of roles and relationships among the composer, work, and performers continue to be major barriers to successful music information retrieval."14 IFLA's "Functional Requirements for Bibliographic Records" (FRBR) provides for links among the sorts of complex relationships that exist among works of music. It has great potential, if implemented, for meeting users' access needs in the universal music library, and our profession is best positioned to make this happen. 15

Long-term Access

The archival role of libraries, preserving information for future users, is impacted by the current development of the universal library. When libraries acquire music via license agreements for streamed audio, we are not acquiring tangible items to house and preserve, nor can we guarantee long-term access. Most commer-

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wants, and increase the amount we spend on materials that are actually needed. Not every library could do this in equal degrees, of course: there are some libraries, like Harvard's, or the New York Public Library, that have missions (and budgets) specifically oriented towards creating and preserving comprehensive, permanent collections. Such collections are not just practical resources for the everyday user, but also monuments to Western civilization, and those collections serve an important purpose in society.

But they are also very much exceptions to the rule. Most libraries, whether public or academic or corporate or "special," have missions that are much more narrowly targeted, with budgets and physical space to match. For the average library to attempt to collect comprehensively and permanently on a "justin-case" basis makes much less sense in 2006 than it did in 1956 — or even in 1990, before it was clear that the World Wide Web was about to turn the information economy upside down.

Almost all libraries now struggle to house and manage the collections they already have; at the same time, budgets are stagnant, serials inflation flirts with double digits, and new and expensive titles continue to proliferate. The implication seems obvious: when you're out of room and you're out of money, you're going to have to start buying less. Instead of figuring out how to ratchet down the activity of our current acquisition model, perhaps the time has come to move towards a different model altogether. It may well be that the very idea of a comprehensive and permanent library collection has outlived its usefulness.

Endnotes

1. Except, of course, in those cultures where it was stored mentally and transmitted orally, rendering it even more expensive and obscure, if quite a bit more portable.

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cial services, for now at least, provide access to digitized versions of music which started life on CD or vinyl or paper. Libraries could theoretically collaborate to locate, acquire, house, and preserve all or selected recordings represented in these databases, given adequate time and money, regardless of their digitized existence in a commercial database. However, with born-digital music, new techniques to ensure preservation and long-term access will need to be developed. The Database of Recorded American Music is an example of the JSTOR licensing model. Its content comprises the catalogue of the label New World Records, supplemented by music from other labels whose focus is American music. Funded initially by the Robert Sterling Clark Foundation and by ongoing support from The Andrew W. Mellon Foundation, its market is academic institutions and libraries. Another model is Alexander Street Press's "Digital Music: Collections to Own," which offers libraries the option of an annual license for streamed access, or one-time purchase of audio files from participating record labels' entire catalogues that the library agrees to stream to one user at a time. The purchase includes a hard disk containing an archival copy of the audio files.

Though acknowledging some uncertainty about whether librarians will trust commercial vendors to preserve content and provide access for the long term, Roger Press is optimistic about the future. With so many efforts, commercial and non-profit, by Google and many others, to digitize the world's information, "one way or another, the information won't disappear off the planet."16 We need to develop mechanisms for collaborating as librarians, publishers, and vendors to justify Roger Press's and Kevin Kelly's optimism about the universal library.

Will libraries need to collect music at all, if all music is digitized and part of the universal library? As they have for centuries, libraries acquire music and make it available to their users, including those who cannot otherwise afford it or who lack the required technology to access it. Librarians know how to describe music, organize it for subsequent retrieval, and teach their users to locate and access it. Librarians understand the importance of preservation and longterm access. Until the universal library is truly populated with all the music needed by our user communities... until everyone has affordable, easy access to the universal library and can find what they need when they need it... until we can guarantee that the music will always be available to our users, there will continue to be a role for libraries. 🐨

ATG Interviews Patrick C. Kindregan

Associate Director, Better World Books, www.betterworldbooks.com

by Jack Montgomery (Western Kentucky University) < jack.montgomery@wku.edu>

ATG: Patrick, how did you come to work with Better World Books?

PK: I heard about Better World Books from a college friend, Dustin Holland (our current Director). Dustin was recruited in 2004 to jump start the Better World Books' Library Discards and Donations Program. I continually followed the incredible progress of the program, and in early 2005 I received word from Dustin that he was interested in speaking to me about joining the library team. In early April, I attended the ACRL conference in Minneapolis to learn more about Better World Books and the library industry. My new career officially started two weeks after the conference.

ATG: Can you tell us a little bit about the company's history, its founder and it's overall business philosophy?

PK: The Story — Better World Books began with a single book drive at the University of Notre Dame in 2001. Organized by re-

cent graduates, the book drive benefited the Robinson Community Learning Center in South Bend. Drop boxes placed on campus were soon full of books that would otherwise have been wasted, thrown away in dumpsters, or hauled off to landfills.

Those recent graduates who ran the book drive, Christopher "Kreece" Fuchs and Xavier Helgesen, along with another of their college friends, Jeff Kurtzman, realized two important things with that first book drive. First, there was a huge market for unwanted textbooks to be sold online. Second, college students and members of the community were more interested than ever in making a difference. These three friends seized on the opportunity and began to work spreading literacy locally, nationally and around the world. They founded the social venture that is now Better World Books. Their company began to convert unwanted, wasted books into funding for nonprofit literacy partners.

The Cause — Worldwide Literacy. One-seventh of the world's population is illiterate (nearly 900 million people). Over 2.6 billion people in the world live on less than \$1 per day. BWB is committed to breaking the cycle of poverty and dependency through promoting literacy and education around the globe "one book at a time." BWB's core nonprofit literacy partners include: Books for Africa (www.boooksforafrica.org); Room to Read (www.roomtoread.org) and The National Center for Family Literacy (www.famlit.org). Better World Books has contributed over \$750,000 in total funding to over 38 literacy partners.

In addition to active book drives on over 600 campuses nationwide, Better World Books has expanded our business model to include libraries and secondhand stores. Since the program's inception in late 2004, over 500 libraries across the U.S. have partnered with Better World