

The Sounds inside the Library Walls: An Examination of Three National Library Digital Sound Recording Collections

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National libraries are government institutions dedicated to acquiring, preserving, and making accessible information and heritage resources pertinent to the nation. Resources may include government documents, books, theses, audio and video recordings, and more. This paper will explore and compare the digital sound recording collections from three national libraries: Library and Archives Canada's [Virtual Gramophone](#); the Library of Congress' [National Jukebox](#); and [British Library Sounds](#). I have limited my focus to three national libraries to provide a sample representation whereby evaluation and comparison of digital sound recording repositories may begin. The paper will examine the scope of the collections, digitization methods, how the collections are developed and managed, an evaluation of their respective interface design and usability, the provision of reference services, and issues related to access. These digital collections provide remote access to sound recordings otherwise difficult to obtain. They are important resources for music libraries and institutions serving sound-related user needs.

Introduction

Human beings break sounds up into categories, such as music, spoken word, sound effects, and sounds of nature, but when considering sound is it possible to start with the premise that all sounds are sounds? The taxonomy in figure 1 provides a hierarchy, by no means exhaustive, of categories of sound with sound as the parent of the taxonomy. More broadly, music is sound, spoken words are sounds, dialects are sounds, the sounds of nature are sounds. People also speak of the sound of silence! Sounds are also used for varying purposes. For example, they may serve political agendas, have entertainment value, stimulate memories and emotions, provide warnings of nearby dangers, and even facilitate mating.

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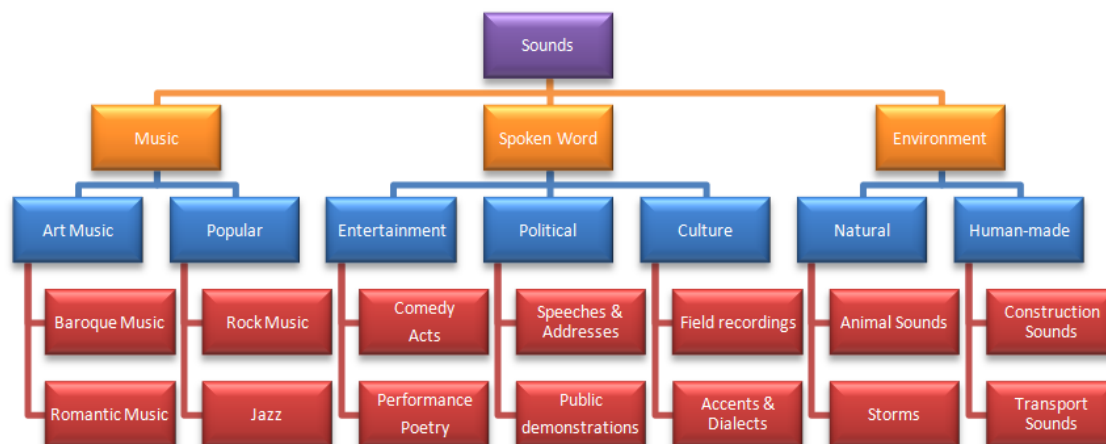


Figure 1. Sound taxonomy

As understood physiologically, sound is the “sensation produced in the organs of hearing when the surrounding air is set in vibration in such a way as to affect these.”¹ Sound is a phenomenon, and perhaps one of the most elusive and ephemeral. Yet, sound recordings have been able to capture sound: to take hold of that which is fleeting. Being able to capture sound also has a commercial value, and recorded sounds become commodities. They also become worthy of preservation because of their historic and cultural value. V. Elizabeth Hill explains that since Thomas Edison’s breakthrough in 1877, sound recordings have become an important medium for capturing cultural history. Since many sound recordings are not available commercially, Hill asserts that libraries and archives have an important preservation role.²

Music is a specific category of sound, yet even within the music tradition there is interest in a variety of sounds. Artists such as Messiaen found delight in replicating sounds of birds. I recall the repeated reference to the nightingale in German song texts during my studies as a vocal major. The question arises, “In what way would hearing the sound of that bird have helped inform my musical practice?” Can recorded sounds provide another layer of meaning and understanding to those served in music libraries and beyond?

Tom Moore argues that it may be more important for music libraries to make sound recordings accessible over the score since changes in musical ethos now regard the score as a blueprint for the actual realization of sound, represented by the sound recording.³ It may not be a question of either-

1. *Oxford English Dictionary*, s.v. “Sound.”

2. V. Elizabeth Hill, “The Preservation of Sound Recordings,” *Music Reference Services Quarterly* 15, no. 2 (2012): 89, doi: 10.1080/10588167.2012.675843.

3. Tom Moore, “Sound Recordings,” *Notes* 56, no. 3 (2000): 635.

or, but rather a recognition that sound recordings serve a variety of purposes, some of which may be compatible with scores, and others for purposes independent of the score. Each of these collections provides access to something of significant cultural value to people who have the tools to access them. Beyond tax dollars, there is no direct charge to access them, although there is a digital requirement. It is my purpose here to evaluate and compare these three collections to recognize the contributions of each, where they may fall short and potentially be improved, and ultimately to provide an overview for those serving sound related needs so that they may add these collections to their repertoire of resources.

Scope, development, and management of the collections

This section will focus on the content of the collections and the resources available for their maintenance and growth.

Virtual Gramophone

The *Virtual Gramophone*, which will be referred to as the *Gramophone* from here on, is Library and Archives Canada's digital sound recording site. The *Gramophone* is a multimedia web site with information and images for 15,000+ 78 rpm and cylinder Canadian recordings and foreign recordings featuring Canadian artists and/or compositions. It includes biographies of Canadian performers, short histories of Canadian record companies, background information, and digital audio reproductions. The Canadian focus of the site correlates to Library and Archives Canada's mandate to preserve the documentary heritage of Canada for the benefit of present and future generations. The recordings featured on the *Gramophone* are only a representation of the full audio collection at Library and Archives Canada. They include:

- Patriotic songs and sentimental ballads from the First World War
- Vaudeville, jazz, and dance band music of the 1920s
- Music from Quebec in the 1920s and 1930s
- Popular music of the era
- Classical vocalists and instrumentalists from the 1920s to the 1940s
- Berliner Gramophone of Montreal materials from 1901 to 1910.

To avoid copyright issues, all materials in the *Gramophone* are in the public domain, and there is a balance between French and English materials.

The *Gramophone* was suspended in 2006, though new material is being added as time and resources permit. Biographies, histories, and other non-audio content are no longer added. When browsing the audio, I discovered two different bibliographic displays of digital content: the Amicus Canadian National Catalogue Interface and another interface that was likely constructed for the *Gramophone*, since it includes other content such as histories and label views.

National Jukebox

The *National Jukebox*, which will be called the *Jukebox* from here on, is a digital sound recording collection of the Library of Congress. It includes recordings from the Library of Congress Packard Campus for Audio-Visual Conservation and other partners, including Sony Music Entertainment; the University of California, Santa Barbara; EMI Music; and the private collectors David Giovannoni and Mark Lynch.

At launch, the *Jukebox* consisted of 10,000+ recordings produced by the Victor Talking Machine Company between 1901 and 1925. Regular additions come from the Victor recordings collection and acoustically recorded titles made by other Sony-owned U.S. labels. The *Jukebox* relies on the generosity of Sony Music Entertainment, which provided the Library of Congress with a gratis licence to stream all of their pre-1925 recordings, including those of Columbia and Okeh. They have many foreign language recordings that were recorded in the United States because of a big push in the 1920s for foreign language, mostly spoken word, recordings. In a May 2014 telephone conversation, David Sager at the *Jukebox* explained that foreign language materials are a priority because of the library's interest in inclusiveness. The library is also bound by an acoustical requirement with Sony Music Entertainment; acoustical recordings have less market value than digital, thus the gratis licence.

The *Jukebox* does not contain histories or biographies to accompany the recordings. There are images of the record labels. It does include the 1919 Victrola Book of Opera, which stands on its own as part of the collection.

The *Jukebox* consists largely of U.S. recordings, but not because of any specific or imposed mandate. Of course, it may not be germane to compare Library and Archives Canada's decision to restrict digitization to Canadian content and the Library and Congress's seeming disregard of their cultural heritage. It can likely be taken for granted that a large percentage of the National Jukebox consists of American performers and/or recordings by the fact that a great deal of recordings took place in the U.S. One simply has to browse the "Place" category of the *Jukebox* to see that the bulk of the materials are from the United States. Canadian culture has often found itself in the shadows of its much more prolific neighbour and, consequently, has responded by mandating Canadian content. This same strict mandate may not be as necessary in the U.S. simply because there are fewer risks of American content being overlooked or disregarded.

Jukebox content is added regularly as a collaborative project involving the partners mentioned above.

Sounds

The largest and most diverse of the three collections, *British Library Sounds*, features 50,000 recordings and their documentation, of music, spoken word, and human and natural environment sounds from all over the world. The selection was taken from the 3.5 million sounds in the British Library's full audio collection. Selections were made during the Archival Sound Recordings project,

which ran from 2004 to 2009. Some interesting examples of the collection include *Disability Voices*, which provides an oral history of the lives of people living with a disability; the *Opie Collection of Children's Games and Songs*, a set of recordings made by Iona Opie between 1969 and 1983 that documents children's play, folklore, language, and literature; and the *Survey of English Dialects*. The British Library extends the parameters of the sound recording collection by including unconventional genres. *Sounds* also holds and features select BBC recordings, demonstrating how a partnership between a public broadcaster and a national library can bear fruit.

Another interesting category is *Sound Recording History*, which includes images of playback and recording equipment, early catalogue records, and interviews with engineers, musicians, and producers. This information could be valuable to archivists, audio engineers, collectors, scholars, broadcasters, and others.

Although the scope of *Sounds* is impressive, some of the content has restricted access due to copyright regulations. Items not restricted by copyright are available to the general public for online listening. UK higher and further education institutions have access to the full collection online and can download the majority of the audio for educational purposes. Institution libraries can gain access to restricted content by requesting a free licence through the Reference Team.

The original selections for the project, funded by the Joint Information Systems Committee, were made between 2004 and 2009 when it was known as ASR (Archival Sound Recordings). These recordings have been retained, and thousands more added since the web site underwent its makeover.

Sounds has significant digital content specific to British culture, but also includes sounds from all parts of the world.

My immediate response in examining the scope of these three collections was to favour *British Library Sounds* for its diverse content, and to fault the other two for their limitations. However, upon further reflection, it seems more constructive to recognize that each collection serves the public in its own way. It could be beneficial if these three national libraries formed partnerships, if only to increase awareness of available sound recordings.

Digitization and technical information

For many, what is most interesting in the digitization process is the choice of playback equipment, playback speed and the many other considerations involved when handling archival materials. Those working with these formats need to understand how to play and digitize them without harm, and how to achieve the best quality sound. Fortunately, all three digital libraries provide at least some detail about their process.

Virtual Gramophone

Under the heading “Technical Notes,” the *Gramophone* outlines the steps taken to create audio files, in particular, the consideration of groove widths and playback speeds. For example, groove widths decreased over the years, and the proper stylus was essential for optimum sound quality. However, the choice of stylus also depended on the condition of the physical item. The quality of a recording with significant wear or damage could be improved by the size of the stylus. The *Gramophone* also explains the analogue to digital conversion process, digital noise reduction techniques, digital recording and editing, and RealAudio encoding. It includes short excerpts to demonstrate the technical processes involved in digitizing archival audio recordings.

National Jukebox

The *Jukebox* has a slideshow entitled “Making the Jukebox” that provides a linear outline of its creation. Digitization is only a small part of a much larger process that involves curating, selecting the best copy; scripting the metadata from the disc; disc cleaning; searching and claiming in the project database; an explanation, in layman's terms, of the technical processes including playback speeds and stylus selection; the digitization process, which also includes storage information; scanning labels for each side of the disc; checking file names against the discs; and batch processing of audio files. While the slideshow provides a useful visualization of the process, it could be enhanced by including audio excerpts as does the *Gramophone*.

Sounds

Sounds provides little information about best practices for handling and playing recordings, though it uses and links to the Guidelines on the Production and Preservation of Digital Audio Objects from the International Sound and Audiovisual Archives. While this information is useful for institutions and possibly collectors, the addition of technical information suitable to the layperson, such as provided by “Making the Jukebox,” could increase the appreciation of archival recordings. *Sounds* does present a “Sound recording history” category, which provides rich historical information in textual, visual, and audio formats, but it doesn't provide specific information on the Library's process.

Why is this kind of technical information considered important? Should not the audio be sufficient for users without their needing to know the back end process? For some, technical information may be of little importance; but for others, this information provides an additional layer of understanding to enhance their listening experience.

Interface design and usability

This section will briefly examine the interface design and usability of the three sound recording web sites, most notably the search and browse options. It will not attempt to provide a full heuristic evaluation, although such an endeavour could be fruitful, especially for libraries planning to create their own collection.

The Virtual Gramophone

There are 36 descriptive elements used in cataloguing the *Gramophone* recordings. Of course, not all the elements apply to every recording, but clearly the *Gramophone* is interested in providing a granular description. However, the interface could better exploit that data and improve the discovery of its content. The *Gramophone* database is a subsection of Library and Archives Canada's Music and Performing Arts Collection. Library and Archives Canada is currently updating their web site, but the *Gramophone* does not seem to be included in the updates since it still sports older looking logo information. This may also have something to do with it being project funded. Despite the wealth of content and the rich metadata, the *Gramophone* interface is somewhat outdated.

The *Gramophone* is browsable and searchable, but unfortunately, these two functions do not work together. This is unfortunate since it has been found that digital libraries are more often browsed by users. The *Gramophone* has a basic search and an advanced search option. The basic search allows for searching a single index and a single search term. The Advanced Search allows the searching of multiple indexes and includes a variety of limiters, such as dimensions and province. Unfortunately, search terms are required which means that a user wanting to browse all the 7-inch recordings, or to find recordings specific to their province would have to include a search term with their limiter (see Figure 2 for a screenshot of the Advanced Search).

Advanced Search

Select one or more indexes and enter your search terms (required):

All Fields	<input type="text"/>	AND
All Fields	<input type="text"/>	AND
All Fields	<input type="text"/>	

Suggestion to discard requirement.

Optional limiters for searching:

Digital Content: Any

Genre: Any

Language: Any

Dimensions: Any

Release Year (YYYY): =

Province/Country: Any

Submit

Clear

Figure 2. Screenshot of the *Virtual Gramophone's* Advanced Search

It is possible to browse the *Gramophone* by selecting “Audio” from the left-hand column. The collection is sorted by:

- New titles added since January 2009
- Title
- Performer

The *Gramophone* provides an alphabetical list for browsing, which is found under the Audio subcategory. The biographies can also be browsed through a separate link. *Gramophone* could be improved by providing more categories for browsing and by employing faceted classification so that search and browse can work together. The alphabetical organizational structure is somewhat limited and onerous. Alphabetical lists are more useful for known item retrieval and don't always facilitate the greatest discovery for browsing. Browsing is best accomplished by providing a variety of options through which the user may discover content. Although the underlying metadata associated with browsing may be quite precise, the interface can facilitate greater discovery by exploiting that metadata. Another way to improve *Gramophone* would be to include more embedded hyperlinks within the record. The rich metadata is there and could serve discovery more effectively.

National Jukebox

The *Jukebox* interface is quite interactive and facilitates searching and browsing both separately and simultaneously. The basic search box is available on every page, and there is also an advanced search. When conducting a search, the results include faceted refinements on the left side of the page. The refinements can also be browsed under the “Browse all recordings” subheading. Categories for browsing include genre, performer, date range, place, and language. The *Jukebox* gives users greater control of display options as well. Users can select the gallery or list view and have some options to sort as well as refine their results. Results in the *Jukebox* are also tracked by way of breadcrumb paths. Elements in the paths can be removed so that users can effectively backtrack from the results page. There are no required fields in the advanced search.

Sounds

Of the three sound recording interfaces, *Sounds* is probably the most visually appealing and browsable. This collection is also significantly larger and the diverse content is organized into a broad range of categories for browsing. *Sounds* also facilitates browsing by giving it “centre stage” on their interface. Categories are labeled clearly, succinctly, and the visuals are eye-catching and serve as meaningful symbols (see Figure 3 for a screenshot of the *Sounds*' home page). It has many of the qualities of a helpful and interactive interface, such as the ability to mouseover many of the images to see descriptive text boxes. The whole collection may be searched at once or by category. It is also possible to create an account in *Sounds* so that users can tag, add notes, add to a favourites folder, and/or add to a playlist. Related items are presented to the right when a selection

is made. Neither the *Jukebox* nor the *Gramophone* provides such personalized services, although they do link users to social media tools with these services.

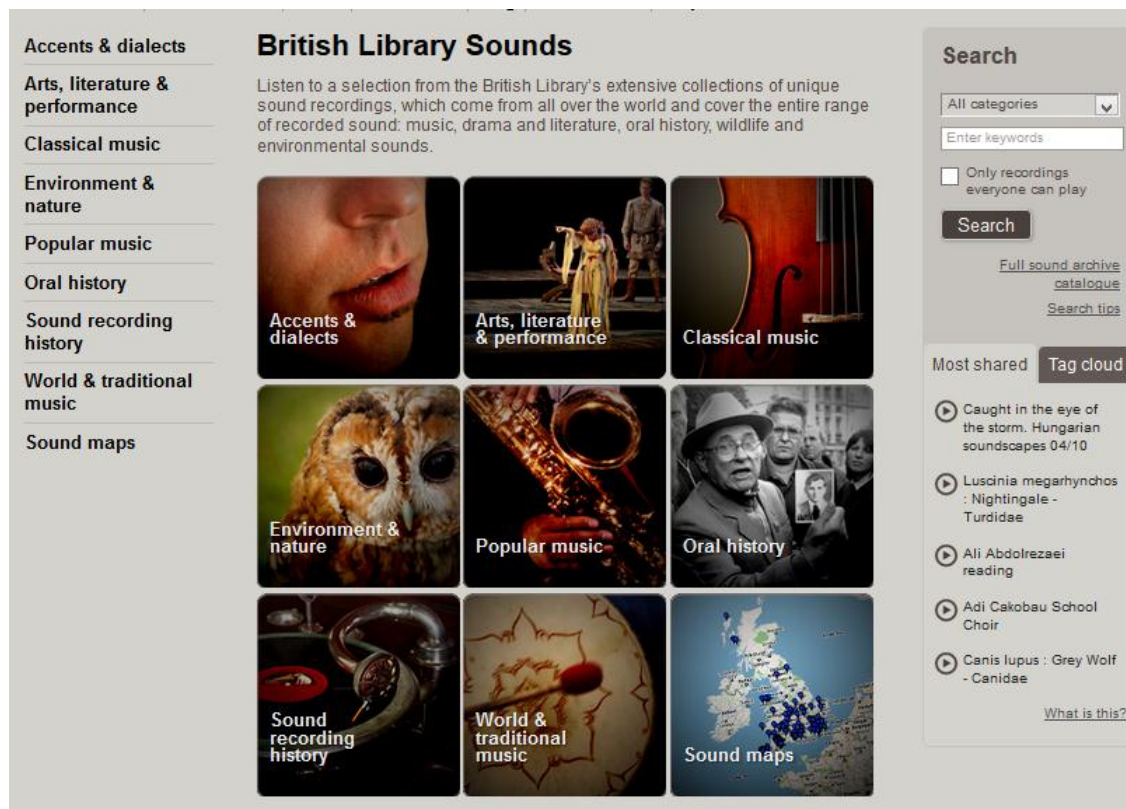


Figure 3. Screenshot of *Sounds'* categories

Provision of Reference and Instructional Services

Libraries have a longstanding tradition of providing reference and instructional services to their patrons. Digital libraries face a unique challenge in providing assistance, and these three national libraries do offer remote reference services. This section will explore how each library addresses patrons' reference needs.

Virtual Gramophone

There is a "Contact Us" tab on the global navigation bar featured on each page of the Library and Archives Canada web site. Since it is a global tab, it redirects users to contact information for Libraries and Archives Canada as a whole. There are online forms for general questions, genealogy questions, document retrieval, user card registration, and reproduction requests. Public inquiries can also be made in person, by telephone, fax, or mail.

The web site also serves as an instructional tool and provides videos as well as textual descriptions for conducting searches, links to thematic guides, how to cite sources, and copyright.⁴ They provide audience specific services, including services for the public, government, archives, libraries and publishers, and academic researchers.

Another interesting feature specific to the *Gramophone* is the educational resources category, which provides teaching strategies for exploring and discovering content.⁵ The educational resources are designed for use with elementary to secondary students. I did attempt to contact someone at the *Gramophone* by e-mail, but did not receive a reply.

National Jukebox

The *Jukebox* also provides a global “Ask a Librarian” tab on the top bar of its site and a “Contact Us” link at the bottom of the page. As with the *Gramophone*, selecting this tab takes users out of the *Jukebox*, although they remain on the Library of Congress web site. The “Ask a Librarian” page provides a selection of links for subject-specific “Reading Rooms.” Some of these rooms have chat capability, but most do not. Phone and fax numbers are also provided for some rooms. I used the inquiry form in the Digital Reference section to find the best way to ask reference questions. I received a reply from a *Jukebox* team member, David Sager, by e-mail. He shared his telephone number and we had a chance to speak. He explained that the Library of Congress uses Question Point, an OCLC reference service. Since many people don't realize that the “Ask a Librarian” tab is global, they often send questions with the assumption they are in direct contact with the *Jukebox*, so Library of Congress staff may struggle to place the question in the correct context.

The kinds of messages most commonly received by the *Jukebox* team are from people offering content, making corrections to content, wanting a copy of a recording, or asking questions about the electronic manipulation process. As an aside, people can get copies if they get permission from Sony Music, and the first five copies are provided free of charge. Many requests come from museums looking for incidental music and from relatives of the performers on the recordings.

Library of Congress has a reference correspondence policy that outlines their priorities, starting with members of Congress, followed by other government employees, other libraries, and members of the public. Library of Congress participates in a global network to respond to queries, so questions may not be received by Library of Congress staff. Library of Congress also provides a “Virtual Reference Shelf,” which is a listing of online resources for research, and a “Frequently Asked Questions” section.

4. “The Public: Introduction,” Library and Archives Canada, accessed August 24, 2014, <http://www.collectionscanada.gc.ca/the-public/index-e.html>.

5. “Educational Resources: The Virtual Gramophone,” Library and Archives Canada, accessed August 24, 2014, <http://www.collectionscanada.gc.ca/gramophone/028011-6000-e.html>.

Sounds

Telephone, mail, and e-mail contact information is provided for reference questions related specifically to *Sounds*, through a “Contact us” link in small font at the bottom of each page. The e-mail option leads to a web form. There is also a Help tab in the global navigation bar, which provides a list of commonly asked questions. Otherwise, *Sounds* is quite minimalist in how they describe their reference services.

I contacted the Reference Team via e-mail on May 13, 2014 to make some inquiries about *Sounds*' reference services. I received a reply within 48 hours. Rod Hamilton, with Sound and Vision Reference Service, explained that “most of the questions we receive relating to *Sounds* are about access, usually from researchers outside the UK who are unable to listen to a particular recording. There is some frustration that this wealth of material is online but not universally available. In fact, *Sounds* was never intended to be available universally, it was set up and funded with the intention of providing content to UK colleges and universities. Any public domain recordings that we can make available are a bonus.”

Providing contact reference points and instructional services for those using these online resources is part of the tradition of libraries. Of course, it is not enough to provide a contact point with no follow through. This may be more disheartening to the user than no contact information. Digital libraries can also benefit from connection with users. Since users often bring knowledge and history of the resources, conversation between the two parties also has the potential to enhance the content of the collection.

Conclusion

This paper provided an overview of select aspects of three national sound recording digital libraries. Copyright and issues related to accessibility were not explored here, and further investigation could provide a more detailed evaluation. Further research could also explore ways in which national libraries could collaborate. My goal for this paper is to stir some interest in digital sound recording collections, especially those offered without a focus on commercial gain. These collections, despite their respective limitations, have the potential to serve a variety of needs. Libraries would do well to consider them part of their repertoire of resources, especially since they come without hefty subscription costs and are managed and developed by those within the profession.