

REVIEW ESSAY

Digital Sources for Nineteenth Century Music in Spain: The Digitization Project of the National Library in Context

The National Library of Spain (Biblioteca Nacional de España, BNE) is the head of the Spanish library system. It holds all books published in Spain, and also several collections of different types, including the Music and Audiovisuals Department's sound recordings and sheet music. Its Department of Bibliographic Control of Periodicals catalogues both newspapers and magazines. In addition, the BNE offers a number of online services including the Hispanic Digital Library (Biblioteca Digital Hispánica, BDH) and the Digital Newspaper Library (Hemeroteca Digital, HemD). The BDH, was created in 2008 and currently provides free and open access to more than 220,000 digitized documents, including recordings and scores. In contrast, HemD, which is part of the BDH, focuses on the public dissemination of the digital collection of Spanish historical presses. It currently offers around 2,500 titles and more than 70,000,000 pages. Newspapers and magazines are available in PDF format and searches are facilitated by OCR (Optical Character Recognition).

The two repositories combined constitute one important digital library freely accessible on the internet. Users have unlimited access to the digitized documents, most of which are downloadable. In May of 2021, according to data available on the BNE site, there were 92,234 books, 46,612 images, 31,280 scores, 20,122 sound recordings, 24,863 manuscripts, 12,032 maps and 2,033 newspaper and periodicals. These figures are far behind those offered by other repositories, such as Gallica, 5

We are most thankful to the staff of the Music and Audiovisual Department of the Biblioteca Nacional de España for their availability and patience in answering our questions and for their invaluable help in writing this review. All websites cited in this review were accessed during December 2021 and January 2022.

¹ January 2020 data, BNE, www.bne.es/es/Catalogos/BibliotecaDigitalHispanica/Acercade/.

² Lola Rodríguez Fuentes, 'Hemeroteca digital de la Biblioteca Nacional: tres claves de su éxito', *Métodos de Información (MEI)* 2 (2011): 21–7. http://www.metodosdeinformacion. es/mei/index.php/mei/article/view/IIMEI2-N2-021027/860.

³ September 2020 data. Hemeroteca Digital – Catálogos, Information, www.bne.es/es/Catalogos/HemerotecaDigital/MasInformacion/.

⁴ May 2021 data, BNE, www.bne.es/es/Catalogos/BibliotecaDigitalHispanica/Acercade/.

⁵ Michel Duchesneau, 'Gallica: The Online Digital Library of the Bibliothèque Nationale de France', *Nineteenth-Century Music Review* 11 (2014): 337–47.

which also houses musical sources related to Spain. The size of the repository, with regards to the musical sources, is not due to unsystematic digitization campaigns, but rather to the characteristics of musical media production in Spain during the nineteenth century. The volume of activity of the publishing market in Madrid and Barcelona was much lower than in Paris, which, throughout the same period, was the main reference point for all kinds of musical gatekeepers, including publishers, editors and producers. Nevertheless, compared with the poor production of the eighteenth-century, the Spanish sheet music market bloomed significantly between 1800 and 1936. During this period, over 500 music publishing companies operated in Spain, and over 50,000 editions were produced in the country, a considerable part of which are kept in the collections of the BNE.

The researcher interested in the history of Spanish music must complete his or her search for sources by going to other digital archives. This is because the administrative organization of the Spanish state is strongly decentralized. Its structure is reflected in a network of virtual libraries maintained by the Autonomous Communities (Comunidades Autónomas) in which documents relevant to musicology can also be found. In terms of volume, however, they are far from competing with the BNE. Other institutional repositories dependent on different administrations are located, like the BNE, in Madrid, where historical sources related to music can also be found. We will refer to some of these digital archives below, but their systematic discussion is beyond the scope of this article due to their dispersion and the variety of documents they contain.

Music in the Hispanic Digital Library (BDH)

Conceived as the Spanish contribution to European digital library projects such as Europeana, the BDH was created in 2008 with very clear objectives, among which the contribution to the international digitization projects, the diffusion of Spanish cultural heritage and the preservation of the collections of the BNE are in preferential position. The strategic plan of the BNE for the period 2011–2015, describes in its point number 6 the protocols to be followed for the digitization of the collections of the institution, establishing the priority in the digitizing of the collections kept in the different departments. The digitization project was financially supported by Telefónica, a Spanish multinational telecommunications company.

As part of the development of this massive digitization project, in May 2010 the BNE undertook the digitization of the collections of the Department for Music and Audiovisuals, creating a comprehensive manual with the guidelines for the digitization and revision of the cataloguing of the musical collections.⁸ However, the

⁶ Even with the limitations, the virtual dissemination of the BNE's holdings has made it a highly significant institution in Latin America. See José Manuel Izquierdo and Fernanda Vera, 'Digital Humanities and Nineteenth-Century Music: Some Perspectives and Examples from Latin America', *Nineteenth-Century Music Review* 18/1 (2021): 123.

María Teresa Delgado Sánchez, 'Hacia una biblioteca digital musical: el caso de la Biblioteca Nacional de España', Boletín DM 16 (2012): 31. For general reference, see José Carlos Gozálvez, La edición musical española hasta 1936: guía para la datación de partituras (Madrid: Aedom, 1995).

⁸ The 'Manual de Música Notada', produced by the Workgroup for the Collective Catalogue for Bibliographic Heritage, was published in the site of the BNE, although in recent years it has not been available.

historical development of the collections of the BNE has meant that a considerable amount of materials related to music are not kept in the Music and Audiovisuals Department. To address the apparent dispersion of the sources, the digitization project included sources kept in other departments of the BNE, such as the Cervantes Room (Old Collections), as well as in external institutions, like the Service for Bibliographic Heritage. The aim of this decision was to try to provide coherence and cohesion to collections which were scattered in different institutions and/or departments. The creation of the BDH and the development of the digitization of the collections was used as the ideal context for the BNE to locate and catalogue unidentified materials in its collections, which were also included in the digitization process. The result was the cataloguing of over 31,265 pretwentieth-century scores.

Another previous project developed by the BNE that was included in the BDH is the digitization of the collection of theatrical texts related to genres such as the zarzuela and the genero chico, which enjoyed remarkable popularity in Spain during the nineteenth century. In 2007, in connection with the preparation of an exhibition of the library's masterpieces, the BNE developed a web portal called Teatro Lírico. ¹⁰ This portal contributed 499 items published between 1800 and 1915 to the BDH; these items can be easily consulted by selecting the tab of the corresponding collection in the search interface of the BDH.

In parallel with the preparation of the materials for their digitization, the Department of Music and Audiovisuals carried out a complete revision of the cataloguing of its collections. Of special interest was the revision of the cataloguing of the music score collection – both printed and handwritten – which in 2017 contained 26,334 printed sources and 4,920 handwritten nineteenth-century scores, for a total number of 30,895 documents. In addition there is a corpus of about 6,000 scores from the period between 1800 and 1899 that were already catalogued, which for various reasons have not been included in the digital library, but it is to be hoped will be digitized in the coming years.

⁹ María Jesús López Lorenzo and María Teresa Delgado Sánchez, 'La gestión y difusión del patrimonio musical de la Biblioteca Nacional de España', *RUIDERAe: Revista de Unidades de Información* 12 (2017), https://revista.uclm.es/index.php/ruiderae/article/view/1645.

¹⁰ In 2007 the musicologist and art-historian Antonio Gallego compiled a selection of works to be included in the exhibition 'Biblioteca Hispánica: obras maestras de la Biblioteca Nacional de España', which was held at the BNE in Madrid, from 17 October 2007 to 20 January 2008. The curators of this exhibition were María Cristina Guillén Bermejo and Isabel Ortega García. A digital version of that exhibition can be visited on the website of the BNE, www.bne.es/es/Actividades/Exposiciones/Exposiciones/Exposiciones2007/BDHvisitavirtual/expo.htm. An interesting description of the musical items included in the exhibition can be found at www.bne.es/es/Actividades/Exposiciones/Exposiciones/Exposiciones2007/BDHvisitavirtual/artic/artic05.pdf. See also Teresa Delgado Sánchez, 'Hacia una biblioteca digital musical: el caso de la Biblioteca Nacional de España', Boletin DM 16 (2012): 33.

¹¹ María Jesús López Lorenzo and María Teresa Delgado Sánchez, 'La gestión y difusión del patrimonio musical de la Biblioteca Nacional de España', *RUIDERAe: Revista de Unidades de Información* 12 (2017): 1. A selection of the nineteenth-century musical collections can be viewed in the exhibition catalogue Nieves Iglesias Martínez and Isabel Lozano Martínez. *La música del siglo XIX: una herramienta para su descripción bibliográfica* (Madrid: Biblioteca Nacional de España, 2008).

¹² María Teresa Delgado Sánchez, 'Hacia una biblioteca digital musical: el caso de la Biblioteca Nacional de España', Boletín DM 16 (2012): 33.

In order to obtain an up-to-date view of the musical collections included in the BDH we carried out different searches in the web interface using the term 'music' ('música') as a search item. The results for the period between 1800 and 1915 included a total amount of 24,147 printed scores, 2,655 handwritten scores and 803 books of music or about music. ¹³ Together with the music collections of the Madrid Royal Conservatory of Músic (Real Conservatorio Superior de Música de Madrid, RCSMM), ¹⁴ the BNE's holdings constitute the world's most extensive collection of Spanish musical print editions. In addition to that, there was a market for manuscript music, which is also represented in the BDH.

The composers with the highest number of works in the list of musical sources of the nineteenth-century include authors who enjoyed notable success at the time, among others, Verdi, Lecocq, Gounod and Donizetti (see Table 1). There are additional sources in the heterogeneous corpus of the Barbieri papers, which will be discussed later.

The BNE holds another notable collection, the so-called Personal Archives. This collection contains a sub-collection of materials produced by musicians – both professionals and amateurs – and associations (see Table 2). Among the private collections produced by music professionals, the most relevant is the one generated by the musician and musicologist Francisco Asenjo Barbieri (1823–1894). Besides his own musical production, Barbieri also donated to the library his collection of musical documents, known as the Barbieri documents' (Papeles Barbieri'), which have been catalogued and digitized over the last few years. Another highly remarkable collection is that of the pianist, teacher and

¹³ In her 2012 article, Teresa Delgado gives the total number of digitized nineteenth-century scores as 30,895. The comparison of this number with the results of our search leads us, therefore, to think that not all the digitized materials are included in the BDH. See María Teresa Delgado Sánchez, 'Hacia una biblioteca digital musical: el caso de la Biblioteca Nacional de España', *Boletín DM* 16 (2012): 33.

https://rcsmm.eu/fondos-digitalizados?aid=fondos-digitalizados.

A general description of the personal archives of the BNE can be found at www.bne. es/es/Catalogos/ArchivosPersonales/.

¹⁶ Since March 2010, a database specifically designed to process materials and media from different types of archives, based on the international archival standard ISAD(G), can be accessed from the Library's website.

¹⁷ The 'Barbieri documents' are part of the subcollection of archives of music professionals and music organizations. A description of that subcollection is available at www.bne.es/ es/Colecciones/ArchivosPersonales/Subcolecciones/arch_musica.html. Regarding the Personal Archives with musical holdings, see José Carlos Gosálvez Lara, 'La Biblioteca Nacional: bibliotecas y archivos de música particulares integrados en el Servicio de Partituras' in El Patrimonio Musical Español de los siglos XIX y XX: estado de la cuestión (Madrid: Fundación Xavier de Salas, 1994): 85-101; see also Isabel Lozano Martínez, 'La documentación musical en la Biblioteca Nacional. Historia, estructura y tipos de documentos' in El archivo de los sonidos: la gestión de fondos musicales. ed. Pedro José Gómez González, Luis Hernández Olivera, Josefa Montero García and Raúl Vicente Baz (Salamanca: Asociación de Archiveros de Castilla y León, 2008), 353-76. I. Lozano Martinez also presented a comunication entitled 'Los archivos personales y de entidades musicales del Departamento de Música y Audiovisuales de la Biblioteca Nacional' at the Quintas Jornadas de Archivo y Memoria: Extraordinarios y fuera de serie: formación, conservación y gestión de archivos personales (Fifth Conference on Archive and Memory: Extraordinary and out of series: formation, conservation and management of personal archives), Madrid, 17–18 February 2011, www.docutren.com/ArchivoyMemoria/ ArchivoyMemoria2011/pdf/5J_Com_26_Lozano_web.pdf.

Table 1 Composers between 1800 and 1900 with the greatest presence in the corpus of music printed in the nineteenth century in the BDH

Composer	Documents in the BDH
Giuseppe Verdi	546
Charles Lecocq	346
Charles Gounod	345
Francisco Asenjo Barbieri	340
Gaetano Donizetti	332
Gioachino Rossini	320
Renaud de Vilback	304
Vincenzo Bellini	284
Ludwig van Beethoven	275
Isidoro Hernández	274
Joaquín Gaztambide	262
Jacques Offenbach	241
Wolfgang Amadeus Mozart	233
Joseph Rummel	217
Martín Sánchez Allú	204
Giacomo Meyerbeer	201
Emilio Arrieta	189

Table 2 Sub-collection of archives of nineteenth-century music professionals and organizations included in the BDH

Archive	Main musical activity	Covered period
Barbieri, Francisco A.	Composer	1792–1894
Biblioteca de la Sociedad Barbieriana de Madrid	Musical-Association	1851–1914
Borbón, María Cristina de, Queen	Music-lover	1725–1855
Borbón, Infante Francisco de Paula	Music-lover	1701-1864
Bretón, Tomás	Composer	1868-1921
Chapí, Ruperto	Composer	1869-1909
Guelbenzu, Juan María	Pianist	1588-1931
Manrique de Lara, Manuel	Composer	1851-1924

composer Juan María Guelbenzu (1819–1886). It comprises his personal library, with around 1,200 printed scores and some 50 manuscripts, most of them available at BDH. In the category of amateur musicians, the music archive of the Infante Francisco de Paula (1794–1865) stands out. It contains more than 700 scores (mainly Italian vocal music and piano music) and around 20 theoretical works. Besides these personal archives, it is worth mentioning the Gómez Imaz collection, which contains 40 pieces related to the Peninsular War (War of Independence for Spaniards) that can also be consulted at the BDH.

Digitization of the Sound Collections

In addition to the printed and handwritten scores, the digitization project undertaken by the BNE included audiovisual materials kept in the collections of the Department for Music and Audiovisuals. The digitization of sound documents

started in 2011 with the so-called historical media (slate discs, perforated discs and pianola rolls), which are more prone to deterioration. ¹⁸ These materials are of most interest to users interested in the music of the nineteenth century. At the beginning of 2013, part of the collection of perforated cardboard and metal records from the Ariston, Ariosa, Herophon and Symphonium companies dating from 1880 to 1905 was digitized. For digitizing these materials, the company Liquid Service developed an image processing software in collaboration with the BNE capable of generating an audio file from each digital image. 19 Some years later, in 2016, the digitization of the collection of over 6,000 of the BNE pianola rolls was accomplished.²⁰ To digitize this collection, the BNE collaborated with the Department of Art and Musicology of the Universidad Autonoma de Barcelona (UAB) and the Computer Vision Centre, using software created by those institutions.²¹ The revision of these collections has been carried out in parallel with the growth of Matriz, a database developed by the Spanish Association of Musical Documentation (AEDOM). This database contains information on the record catalogues published prior to 1959 that are located in different collections of libraries, archives and museums of the Iberian Peninsula, including the BNE.²²

As part of the design of the digitization project, the management of the copyrights arising from the reproduction of the sound recordings was one of the first concerns of the Music and Audiovisuals Department. In 2010, the BNE signed an agreement with the Sociedad General de Autores (SGAE) to enable the reproduction of the sound recordings in the digital platform, but these recordings cannot be downloaded.

The BDH includes 4,885 entries which correspond to musical sound recordings. A relatively small number of those recordings, only 1,011, correspond to the years between 1800 and 1915. The search interface of the BDH allows the application of further filters to this corpus of musical sound recordings of the nineteenth-century. The above-mentioned 1,011 entries contain two main categories according to the type of physical medium the record is kept in: the first group comprises the collection of piano rolls, with a total of 692 entries. The second slightly smaller corpus, of 222 records, comprises the wax cylinders. It is obvious that the sum of the given amounts does not correspond with the 1,011 records. We must suppose, therefore, that the remaining 97 entries belong to other types of media, such as the slate discs, although this collection is not included in the tabs available in the search engine.

The Digital Newspaper Library and Other Additional Repositories

The vast collection of digitized newspapers available in HemD is a valuable resource for musicology. New practices of sociability that became widespread in

¹⁸ María Jesús López Lorenzo, 'El papel de la Biblioteca Nacional de España en la preservación y digitalización del patrimonio sonoro', *Documentación de Ciencias de la Información* 43 (2020): 67.

¹⁹ María Jesús López Lorenzo, 'El papel de la Biblioteca Nacional de España', 67.

²⁰ On the production of pianola rolls during the nineteenth century in Spain, see Jordi Roger González, *Els sons del paper perforat: Aproximacions multidisciplinàries al fenomen de la pianola* (PhD diss., Universitat Autònoma de Barcelona, 2017).

María Jesús López Lorenzo, 'El papel de la Biblioteca Nacional de España', 68.

²² The database has been hosted on the AEDOM website for the last few years (https://aedom.org/matriz), but the association is currently considering new possibilities in terms of its location or publication.

the late eighteenth century explain the regularity of music-related information that began to be published in newspapers from that time. As the volume of newspapers increased during the following decades to the mass journalism of the late nineteenth century, information about music also multiplied. It does not seem necessary to explain the new conditions for research offered by optical character recognition systems applied to many digital pages, which, according to the National Library of Spain reached a total of 72,488,324 pages in 2,413 titles in September 2020.²³ The most relevant newspapers published in Madrid during the period to which this essay refers, from the Diario de Madrid (1788-1925) to El Heraldo de Madrid (1890-1939), can be consulted in the HemD. During the reign of Ferdinand VII, when liberals were persecuted, the journalist and critic José Carnerero was editor of El Correo Literario y Mercantil (1828–1833), where musical performances were regularly reviewed.²⁴ After the monarch's death, the process of establishment and consolidation of the modern liberal state became unstoppable. It was founded on the multiplication of media that, among other topics, paid particular attention to music. Thus, despite its generalist title, La Revista Española (1832 and 1836), a daily newspaper, included opera criticism in its 'folletín' (feuilleton) in 1836. However, it was not until the 1840s that the identification of the 'folletín' with the 'musical magazine' became widespread. El Español, one of the most prestigious and modern newspapers of its epoch, did so in its second period (1845–1848). After 1848, newspapers such as La Época (1849–1936), El Imparcial (1867-1933), El Liberal (1879-1839), La Correspondencia de España (1859-1925) and magazines such as La Ilustración Española y Americana (1869-1921) continued to give notable attention to music. This strengthened the influence of critics specialized in commenting on musical events. The HemD is thus a reference repository as far as generalist newspapers are concerned. However, anyone who wants to have a panorama of the musical activity in Spanish cities other than Madrid will have to complement their consultations using digital repositories that depend on other institutions. Among others, the Virtual Library of Historical Press (Biblioteca Virtual de Prensa Histórica), managed by the Subdirectorate General for Library Coordination of the Ministry of Culture and Sport, stands out.²⁵ In addition, reference newspapers which also contain relevant musical information, such as the historical collection of the Gaceta de Madrid (sometimes spelled Gazeta de Madrid, 1661–1959)²⁶ or the large-circulation newspapers La Vanguardia (Barcelona, 1881–)²⁷ and ABC (Madrid, 1903–),²⁸ have their own repositories.

The limitations of the Spanish publishing market during the nineteenth-century are evident in the small number of magazines specializing in music. Hence, it is convenient to broaden the focus of research to include contemporary newspapers on literary, artistic and theatrical themes. In the HemD we find around 50 nineteenth-century periodicals in which music is a prominent theme. Slightly less than half were exclusively or predominantly devoted to the subject and gave music criticism a prominent place. None of them lasted very long, and, in some cases, the different titles correspond to different series of the same publication.

²³ www.bne.es/es/Catalogos/HemerotecaDigital/MasInformacion/index.html.

²⁴ The journal was initially known as *El Correo Literario y Mercantil*, but from 1829 it was known as *El Correo: periódico literario y mercantil*.

²⁵ Available at https://prensahistorica.mcu.es/es/inicio/inicio.do.

²⁶ Available at www.boe.es/buscar/gazeta.php.

²⁷ Available at http://hemeroteca.lavanguardia.com/login.html.

²⁸ Available at https://www.abc.es/archivo/.

Table 3 Music-theme periodicals available in HemD

Title of Publication	Life of Publication	Years avail- able in HemD	Location of Publication
La Iberia musical: periódico filarmónico de Madrid	1842	1842	Madrid
El Anfión matritense	1843	1843	Madrid
Gaceta musical de Madrid: redactada por una sociedad de artistas: bajo la dirección de Hilarión Eslava	1854–1856	1855–1856	Madrid
La Gaceta musical barcelonesa: semanario artístico	1861–1865	1863–1865	Barcelona
Gaceta musical de Madrid	1865–1866; 1875–1878	1865–1866 1877–1878	Madrid
La Escena: revista semanal de música	1865-1867	1865-1867	Madrid
Revista y gaceta musical: semanario de crítica, literatura, historia, biografía y bibliografía de la música	1867–1868	1867–1868	Madrid
La Propaganda musical: revista quinquenal de bellas artes	1872	1872	Madrid
Crónica de la música	1878-1882	1878-1882	Madrid
La Ilustración musical: periódico semanal ilustrado	1883–1884	1883–1884	Barcelona
Ilustración musical hispano-americana	1888–1896 or 1897	1888–1895	Barcelona
La Música ilustrada hispano-americana: revista quincenal de música, literatura y teatros	1898–1902	1898–1902	Barcelona
Fidelio: revista de música y teatros	1902-1903?	1902-1903	Madrid
Revista musical	1908-1909?	1908-1909	Madrid
Revista musical: publicación mensual	1909-1913	1909-1913	Bilbao
Revista musical hispano-americana	1914–1917	1914-1917	Madrid
Lira española: periódico musical quincenal	1914–1917	1914-1915	Madrid
Arte musical	1915–1918	1915–1918	Madrid

In Tables 3 and 4 we distinguish music magazines from those which combine musical contents with others of a literary, artistic, theatrical or even social or political nature.²⁹ The years indicated in both tables correspond to publication periods for which copies are available. In other words, the years indicated do not necessarily correspond to complete series.

The consequences of this limitation will become clearer with an example. The relevance of *La Iberia musical y literaria* for the history of music in Spain justifies our choice as an illustration of the process of research that must be followed in many cases. We can consult in HemD the PDF of *La Iberia musical: periódico filarmónico de Madrid*, founded in 1842, which happens to be the first periodical

²⁹ Data concerning the life of the publications was extracted from Jacinto Torres Mulas, *Las publicaciones periódicas musicales en España (1812–1990): estudio crítico-bibliográfico* (Madrid: Instituto de Bibliografía Musical, 1991). Torres Mulas inventories 240 periodicals published between 1800 and 1918, so that, on the basis of the list of 36 titles in Tables 3 and 4, we can estimate that only 15 per cent of this total is digitized.

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Table 4 Literary or artistic magazines with musical content available in the BDH.

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Title of Publication	Life of Publication	Years avail- able in HemD	Location of Publication
El Artista	1835–1836	1835–1836	Madrid
Revista de teatros: periódico semanal de literatura, sátira y bellas artes	1841–1845	1841–1845	Madrid
La Iberia musical y literaria: semanario de los literatos, de los artistas, de las sociedades y de los teatros	1842–1846	1842	Madrid
Gaceta literaria y musical de España	1843-1844	1843-1844	Madrid
La Zarzuela: periódico de música, tea- tros, literatura dramática y nobles artes	1856–1857	1856–1857	Madrid
La Zambomba: gaceta musical de teatros, literatura y nobles artes	1857	1857	Madrid
La España artística: gaceta musical de teatros, literatura y nobles artes	1857–1858	1857–1858	Madrid
El Arte: periódico semanal de literatura y bellas artes	1866	1866	Madrid
Revista de Bellas Artes: crítica teatral, pintura, música, escultura, arquitectura.	1866	1866	Madrid
La España musical: semanario artístico, literario, teatral	1866–1874? 1876?	1866–1867	Barcelona
El Artista: música, arte, salones	1866-1868	1866-1868	Madrid
La Propaganda musical: revista quinquenal de bellas artes	1872	1872	Madrid
El Arte: semanario lírico-dramático	1873-1874	1873-1874	Madrid
La Alhambra: revista decenal de letras, artes y bibliografía	1884–1885	1884–1885	Granada
La Alhambra: revista quincenal de letras, artes y bibliografía (this is a continuation of the above)	1898–1924	1898–1924	
La España musical: revista político-artística literaria	1886–1887	1886–1887	Madrid
La España: revista político-artística literaria	1887	1887	Madrid
Aragón artístico	1888-1890	1888-1890	Zaragoza
Álbum salón	1897-1907	1897-1907	Barcelona

dedicated to music criticism in Spain. Its second series, under the title *La Iberia musical y literaria: semanario de los literatos, de los artistas, de las sociedades y de los teatros*, clearly showed the weight that literary criticism had in its pages, but Hemeroteca digital only offers us the 1842 issues. For the 1843 volume, the HemD provides a link to an external repository of the Complutense University of Madrid. However, since we know that issues of this journal were published at least until 1846, the research must necessarily continue outside the virtual space of the BNE. In this case, it is necessary to complement the HemD with the Digital Library Memoir of Madrid (Biblioteca Digital Memoria de Madrid), where we can find PDF documents held in archives and libraries located in Madrid Autonomous Community, particularly the Hemeroteca Municipal de

Madrid, which depends on the City Council. In the Digital Library Memoir of Madrid, we can consult the issues that *La Iberia musical y literaria* published in 1844 and 1845.³⁰ The issues published in 1846 are not available in any digital repository.

Another example could be taken from the Archive of Old Catalan Magazines (Arxiu de Revistes Catalanes Antigues, ARCA), where we can find, among other prominent publications, the generalist *Diario de Barcelona* (1792–1984, not completely digitized) or gems such as the Wagnerian *Arte y letras: revista ilustrada* (Barcelona, 1882–1883), an example of cultural fin-de-siècle publications. For its part, the Virtual Library of Andalusia (Biblioteca Virtual de Andalucía) contains digitized documents kept in different institutions, including the Musical Documentation Centre of Andalusia (Centro de Documentación Musical de Andalucía). For instance, this virtual library includes *La Alhambra*, a scientific, literary and artistic magazine, which was published in Granada between 1839 and 1843. The news of Liszt's and Pauline Viardot's stays in this city were published in this magazine. Unfortunately, none of the lyric-dramatic magazine *El Orfeo Andaluz* series, which, like *La Iberia musical*, was first published in 1842, can be found in this repository, nor in any other maintained by a Spanish institution.

Research Tools

The new version of the web interface of the BDH, which was developed in 2011, includes many interesting new features, such as the incorporation of 2.0 functionalities and the integration of the collections of the Hispanic Digital Library (BDH) and the Digital Newspaper Library (HemD) into a single general search tool. The search interface enables the user to search by text and apply various filters to the obtained results. The main filters included in the result screen are: Subject, Type of material, Featured collections, Author name, Language, Access rights of the material and date of production (Fig. 1).

In addition to the catalogue description of the sources, the search engine offers a link to access the digital version of the sources, which allows you to view the content and download all or part of the document in pdf or jpg format (Fig. 2). HemD allows a global search of the entire collection of digitized journals, offering a menu in which the user can select various parameters, such as the year of production, the city or the title of the publication (Fig. 3).

A further development of this search interface was undertaken by the BNE in 2012 with the aim of adapting it to the international standards of OAI (Open Archives Initiative) and the European Digital Library (Europeana). The new search application allows different kinds of searches: either by a specific title or by a set of publications published at a given date or location. The user can access the digital version of each entry directly by clicking in the link included in the result screen. The application of OCR on the PDF documents allows the user to perform text-based searches within the document, streamlining the search for information and significantly reducing the time needed for viewing each document (Fig. 4).

 $^{^{30}}$ www.memoriademadrid.es/buscador.php?accion=VerFicha&id=315746.

³¹ https://arca.bnc.cat/arcabib_pro/ca/inicio/inicio.do.

www.bibliotecasdeandalucia.es/web/biblioteca-virtual-de-andalucia/.

³³ The first six issues of 1842 are available at https://archive.org/details/ElOrfeoAndaluz.



Fig. 1. Result screen of the BDH obtained with the search term 'Música'.



Fig. 2. Example of the content of the documents in the web interface of the BDH. The image shows page 2 of 10 Clavier Etuden für den Unterricht auf der Mittelstufe: op. 209 by Louis Köhler (1820–1886), Braunschweig: Henry Litolff, 1900(?).

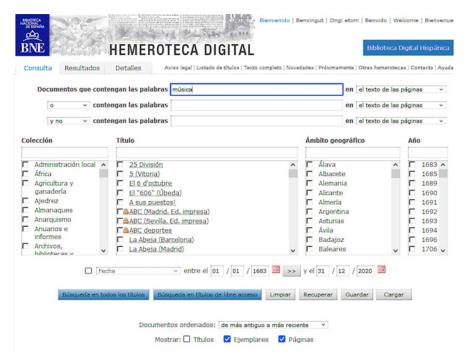


Fig. 3. Search interface of the HemD where the user can select the various parameters.

Concluding Remarks

In a world where digital environments occupy a growing space, the development of digital libraries, like the BDH and HemD projects, contributes to establishing a new relationship between libraries and users, musicians, musicologists and researchers. The digital library and the search tools developed by the BNE are valuable tools for research and offer access to a wide range of holdings related to nineteenth-century Spanish music. Leaving aside projects such as the availability of audio versions of music scores, which still seems far from materialising, this corpus of sources has allowed for a revitalization of music studies. Let us hope that, in the coming years, the BNE will be able to digitize the extant score collection not yet included in the BDH, expanding the corpus of nineteenth-century music sources available online.

The creation of the BDH is a milestone in the digitization, preservation and diffusion of the Spanish bibliographic heritage. It makes its collections available to the general public regardless of where they are consulted. Nevertheless, a new challenge looms for the existing digital libraries and other institutions which preserve musical collections. Adopting the new RDA standard, developed to describe and give access to resources in a digital context, will force these institutions to undertake a new revision of their collections.

In this respect, it is worth noting the digital libraries developed by several Autonomous Communities, universities and other institutions in recent years that have followed the path of the BNE. Naturally, it would be most beneficial to



Fig. 4. View of a digital source in HemD with transcription of the contents. The image shows page 357 of *El Mercurio Histórico y Político*, n 8, August 1765.

integrate the digital collections of the BNE in projects such as Hispana,³⁴ which includes the digital resources available in other institutional repositories. However, all these digital collections can be researched in Europeana, which contains items related to nineteenth-century Spanish music from other European institutions. We hope that over the next few years, other significant institutions holding nineteenth-century music sources, such as the Madrid Royal Conservatory of Músic, follow the example of the BNE and contribute with the complete

³⁴ Hispana is the online portal of Spanish digital heritage and the national aggregator of content to Europeana. Available at https://hispana.mcu.es/es/inicio/inicio.do.

digitization of its collections to the creation of a comprehensive digital corpus of nineteenth-century Spanish music.

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