Trove the key: building, discovering and sharing our online music collections
What you were listening to as you came in is a recording made by someone who isn’t a musician, but has a passion for Australian culture and a desire to share it. Trove, and the digitised collection of Australian sheet music, have helped him do just that.


http://youtu.be/tmMds0QLTq4
Meet Hamish, aka Trove user plumber. He’s a vocational trainer from the tertiary sector in Western Australia who is also an amateur director with his local repertory. One day he was looking for music to be performed in a play he was directing, and came across Trove.

We entered his story when Hamish contacted us to ask whether he was doing the right thing by adding comments to sheet music records in Trove. The comments were links were YouTube videos and SoundCloud files. After looking at them, we were delighted by what we found and told him to keep going!

Hamish was not just adding random links to YouTube videos and SoundCloud files, they were links to files which had audio of the sheet music found in Trove, as created by Hamish.

One of the perks of the job is seeing fantastic, and unanticipated, uses of the collections in Trove. Hamish has linked the sheet music and the sound it produces in a Trove list of the sheet music that he has recorded on YouTube and SoundCloud as a way to highlight National Library’s collection of out of copyright digitised music. If you’d like to know more about Hamish, we’ve shared his story in the Trove blog, which include details about the tools he, as a non-musician, used to translate the
Using the Trove tools of comments, tags and lists to add value to our collections is something we encourage all Trove users to do. When you do add a comment, a tag or create a list, these can be searchable in Trove and can help other users with their research. These additions provide a better Trove experience for all. Communities are springing up around use and reuse of collections.
Trove has four basic functions:

1. It’s an aggregator of collections from research, cultural heritage and community organisations.

2. It’s a digital collections host – most known for digitised newspapers but more recently expanded into hosting other types of digitised content particularly journals and books, but also a range of unpublished content, as well as born digital content. So, as Catriona will talk about a little further on, it includes the NLA’s sheet music collection and items from our poster collection.

3. It’s a platform to research and build – with some basic tools in the interface and a number of APIs to make the data freely available.

4. It’s a community – who research, make connections, correct and enrich the data for others and there are partners who provide content.
Just to provide you with a little bit of history. As some of you would probably already be aware, the National Library has, for decades, aggregated Australia’s collections. These metadata aggregations were primarily in use by librarians on behalf of users, finding items in other libraries.

In the late 90s the Library first put out a free service for researchers and the general public, to discover Australia’s collections themselves. Over time, there were multiple services (one of these was Music Australia) – for different types of formats and structures. It was evident that these services combined would be even more powerful. There would also be more space and resources and ability to innovate, with a single data corpus.

So Trove was born and grows to this day – a collection of collections, taking in all sorts of different information, discoverable to a user in one location, with more context, and added ability to engage and interact with the data.
We know lives and events aren’t exclusively represented in the collection of one institution – and with Trove we have the ability to tell stories across multiple data sets. Someone who grew up in one state, worked at an organisation in another, left trails across the country, can be seen and collected and re-discovered in their connected context within Trove.
Not only does Trove cross geographic boundaries in its collection of records, but geography is not the barrier to collection access it once was, as items can be searchable, and accessible, online.
Trove is a platform to research and build. It has basic tools in the interface for all users to curate their research, to make links between items, make new discoveries and share their findings. Trove offers the capacity for users to curate lists, and add tags and comments to material in Trove. Hamish Darby, whose work we’ve already talked about, has used this functionality to enrich Trove. (To date, over 5 million tags, over 170,000 comments and almost 70,000 publicly available lists have been added to Trove.) (In the newspapers zone, there are over 242 million lines of text corrected equating to 622 years of work or $42 million.) There are also a number of machine-readable APIs that make the data freely available for re-use – to conduct new research, to build new tools, to enhance collections at other cultural institutions. Later on we’ll talk about how one researcher has used Trove’s API to analyse the occurrence of the words ‘recital’ and ‘concert’ in the first half of the twentieth century.
I wanted to say a few words about our Trove Community. And this is the exciting part, as different people interpret the data that’s available on Trove differently, adding more data, creating new perspectives and then sharing them with others. Trove provides the ability for this to happen. Trove provides cultural institutions and universities with the opportunity to expose their collections to researchers. Researchers then, in turn promote these collections through their research.
Trove has just been out on the road – very literally, talking with over a thousand people in capital cities and regional centres around Australia, about Trove. We’d like people to know that ‘it’s their Trove’ and we certainly feel that this sentiment is out there in the community with many organisations keen to share their collections with us. One of the key messages that resonated with all audiences was on the unknown benefits of sharing their collections more broadly. Many Roadshow attendees let the Trove team know about significant items they would love to share online. As a result of the Roadshow, we’ve had considerable interest from digitisation partners and a number of new projects are now in the planning stage. For its digitisation projects, the National Library generally does the digital capture and content processing, delivers the material on Trove, and stores or hosts it in the Library’s digital repository. To date, over one hundred organisations have partnered with Trove to digitise and deliver content. Now Catriona will provide you with a bit of an overview of the music collections you can find in Trove.
I’m now going to give you a bit of a tour of the wonderful music and related collections you can find in Trove. These include digitised items hosted by Trove as well as items in collections from across the country that organisations have shared on Trove. They include objects in museum collections, like the one pictured from the Australian Jazz Museum, digitised sheet music, biography, posters, performance and more.

Trove links us to some great music collections, which are delights in and of themselves. But the real value, we believe, is how all the aspects of Trove come together to tell stories, like Hamish’s. Aggregator, host, platform and community – aspects of each of these work together to compose our history.
Stop one on our tour is an example of Trove as Host in the Music, Sound and Video zone - the National Library’s digitised sheet music collection. The digitised music in Trove is chiefly music which is out of copyright, by Australian songwriters or at least published in Australia between 1840 and 1939.

When searching the Music, Sound and Video zone the filters under ‘Refine your results’ are your friends. Type your keywords into the search box, run your search, and then filter. For instance, search by theme such as World War, 1914-1918 or World War 1939-1945, and sort by ‘printed music’, ‘decade’ and ‘freely available’.
The formats you can see here give you an indication of the music related resources you’re going to find in the Music, sound and video zone: Printed music, microform, recorded music and video.

**A caveat for sheet music - If you’re looking for sheet music to perform, Trove possibly isn’t the place for you. Our facets will take you as far as printed music, but if you want to find a set of ‘I still call Australia home’ arranged for SSAA to borrow for your local girls choir, Trove isn’t going to make it easy. You’ll be trawling through 71 results, with no further filtering options.

However, there is still a wealth of music information to find, both in primary and secondary source material.**

What I’m showing you here is two ways to get to the National Library’s digitised music collection (and this works across all of the Library’s digitised content). Type N L A DOT O B J in quotations marks, followed by the keywords of your choice, and you’ll find our hosted digitised material. You can also use the advanced search form. Add your keywords, any other filters you need and choose ‘Trove Digital Library’ from the Library drop down menu.
Once you’ve found the music you seek, a couple of clicks and you’ll be opening it in our digital viewer, allowing you to page through it, download it, cite it, buy it and share it.

The digitised sheet music is findable because where there is significant textual material within the piece of printed music, as you can see on the example above, it will have been run through optical character recognition.
Stop two on our tour is the Pictures zone. In this zone you’ll find examples of Trove as both Host and Aggregator. We have a wealth of music related ephemera, from concert posters we’re aggregating from organisations like:

- Monash University Archives
- State Library of Victoria

And posters digitised from the Library’s own collection.
You can find music programs from the Ipswich Library Service...
Artworks of musicians, including this favourite of mine from the National Gallery of Victoria.
You’ll find a wealth of pictures.

One of the ways Trove as Community manifests most noticeably is the number of images people from around Australia contribute to the Pictures zone. By adding their images to Trove’s Australia in Pictures group they’re helping us see everyday Australia, including our musical life.
Another stop in our tour is in the Diaries, Letters and Archives zone, where you will find both aggregated and hosted content.

Gems from the National Library’s own collection include collections and papers belonging to conductors such as Richard Divall, Eugene Goossens, Richard Bonynge, and Dobbs Franks.

What you’re looking at is the Finding Aid for Miriam Hyde’s papers. The finding aids were redeveloped as part of the project which has transformed the digital management and delivery of the Library’s collections. Within them you can easily identify what the collection holds, jump to the items which have been digitised and locate the ones which haven’t. As we’d all be aware, while digitised content is growing at a rapid rate, most of the world is still analogue. In this instance what Trove does is be your locator beacon to their existence.

Some other highlights of non or only partially digitised collections include the Australian Music Centre Archive and Symphony Australia Collections: these are comprehensive collections of manuscript works of Australian composers of the 20\textsuperscript{th} century (including advertising jingles and music for radio, television and film).
Our final stop on the whistlestop musical tour of Trove is the under-appreciated People and Organisations zone. This zone aggregates biographical, relationship information and resources about the people and organisations who shape Australia. This zone includes:

- Libraries Australia authority records
- Biographies from services like Obituaries Australia, the Australian Dictionary of Biography and Australian Women’s Register
- And the wonderful AusStage database

Within each record you’ll have their name and dates, where known, short biographies with links to more information on the contributing organisation’s website, related people and organisations, curated lists of resources by and about the person or organisation, and canned searches of Trove for other mentions of them. In the top left-hand corner you’ll see all the organisations who are contributing information about them.

If the organisation contributing the data to Trove has included it, you’ll also find the person’s Field of activity. Each term listed here can be used to search Trove for other records with that term. In the Miriam Hyde record you’re looking at, if you wanted to
find other composers, click on the first link in Field of activity.
If your keyword searches aren’t getting you where you need to go and some browsing is in order, I recommend mining the metadata in this way. This is true across all zones – if, within the record, there’s a blue link, that will link you to anything with that bit of metadata.

Each time you do this you’re getting a subset of data, rather than the broad search of ALL collections, but it can be a useful way in. **This is both the blessing and the curse of Trove as Aggregator. We do not mandate the use of any format or standard, or any data apart from Title, identifier, and type or format. As a former boss once said, ‘Standards are like toothbrushes – everyone thinks they’re a good idea but no one wants to use the same one’. When you use the subjects either within a bibliographic record or the Field of activity in the People zone, you’re getting only the records which have that subject, which may or may not cross collections. As I said, though, it’s a way in.**
Making resources available in Trove is only a useful activity if those resources can be found and used to inspire, delight and create new knowledge.

That’s just what Fiona Fraser, a music and history PhD candidate at the ANU, has been doing. She has been exploring the history of community music making in Sydney in the early twentieth century. During her research she stumbled upon the following information.

In 2012 the Sydney Symphony Orchestra celebrated its 80th birthday, dating its beginnings from the establishment of the Australian Broadcasting Commission (ABC) on 1 July 1932. Yet a body of instrumentalists called the ‘Sydney Symphony Orchestra’ began holding regular subscription concerts as early as 1908. She wrote an article for Australian History that explores the early history of the orchestra and argues that it was part of a broad-based community drive to promote civic values and claim the perceived benefits of the ‘civilised’ world for a growing urban community, laying the groundwork for the development of modern musical institutions.

She attributes the discovery of this information to her Trove searches. Her search was simple: just “sydney symphony orchestra” in the newspapers zone, and she
found this “hidden” and fascinating history.

Fiona didn’t in fact conduct her simple Trove search in Trove’s interface. She used a web tool built using Trove’s data, and is a wonderful example of Trove as Platform.
This is the QueryPic tool. Built on Trove’s data by Dr Tim Sherratt using Trove’s API. It performs analyses of word prevalence across the digitized newspapers – suddenly making it very clear when certain events happen, when language changes, when society changes. It allows a new kind of research. And this is what Fiona is doing. One of her searches is using QueryPic to look at the prevalence of the terms ‘recital’ and ‘concert’ in Sydney during the first half of the 20th century.

Each plot point on the graph tells you how many newspaper articles were found. If you click on one, the articles will be returned in the same interface. You can then click on the article and read them in Trove.

Queries in QueryPic are saveable and shareable through a persistent url.

As Trove’s API is developed and the range of collection metadata that is exposed through the API grows, more can be built on Trove. If you’re interested in exploring the sorts of things that have been created using the API, go to Trove’s Help Centre and choose the Building with Trove section. There’s an application gallery to explore and you never know, you might be inspired to learn how to use the API and start building new things with the music resources in Trove.
We’d like to finish with another story about how Trove is being used, in this instance as the inspiration to create music.

The cemeteries of East Perth tell stories of tens of thousands of lives; from 1829 to 1899 almost all the people who died in Perth were buried there. The National Trust (WA) wanted to bring these heritage places to the community’s awareness as places of profound significance. The Sound from the Ground project was born out of the National Trust’s artist in residence program; classical guitarist Dr John Fitzgerald, a member of the Perth Guitar Quartet, immersed himself in the history of the cemeteries and the people buried there and created a musical response. The resulting performance, Sound from the Ground, was part of the National Trust of Australia’s Western Australian Heritage Festival, which ran during April and May last year.
Members of the Quartet were unaware of the state’s rich past. Dr Fitzgerald and composer Duncan Gardiner used Trove to find the funeral notices of people buried in these cemeteries; they read about their lives, what they did and who they knew, and, importantly for their project, what music was performed at their funerals. Previously unknown pieces of music were uncovered in Trove, and their digitisation meant that they were available immediately, with no time-consuming inter library loans necessary. Perth’s musical history found new life in arrangements for guitar made by this group and performed at this concert.

Trove continues to inspire the creativity of this group of musicians, all of whom say that this concert and many of their private endeavours would not be as rich and meaningful without Trove.
And here is the Perth Guitar Quartet performing one of the pieces from Sound on the Ground.

https://youtu.be/ykRImLMV6XU
Before we listen to some of the beautiful music they have created, I’d like to let you know that Trove is always very keen to get feedback on how we can improve Trove or what sort of services you want out of Trove. Please let us know if you have any comments or suggestions.
Here are the details on how to contact Trove for anything we’ve mentioned today.