



In search of the item: Irish traditional music, archived fieldwork and the digital

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Abstract

In the past ten years, a growing number of digital projects have emerged within archives, and they have placed a focus on using Linked Data to facilitate connections to be made between music related materials across the World Wide Web. Projects such as Linked Jazz exemplify the possibilities that can be achieved between researchers, digital experts and archivists. Recent developments for Irish traditional music at the Irish Traditional Music Archive (ITMA) in Dublin, Ireland mean that the genre can also now be described using an extensive ontology, LITMUS (Linked Irish Traditional Music). In 2019, we engaged this ontology within a digital project entitled Connections in Sound, exploring the challenges and possibilities for Linked Data based on audio collections of Irish traditional music from the American Folklife Center (AFC) at the Library of Congress in Washington DC. The project adapted an experimental approach to enriching metadata from audio materials of Irish traditional music, song and dance at the AFC by creating and working with proof-of-concept resources. Using the project entitled Connections in Sound as a case study, this paper will demonstrate the challenges, opportunities and particularities related to engaging a range of fieldwork and transcribed metadata as Linked Data. This paper suggests that the work of experimenting with certain types of non-commercial digital audio material for use in datasets and digital infrastructures informs ways to represent diversity of musical traditions in the archive and across the World Wide Web.

Keywords Irish traditional music · Metadata enrichment · Diversity · Ethnomusicology

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Introduction

“Listening to multiple versions of an Irish folk song posted by many different fieldworkers over many different regions and years - and programmatically denying priority to any single one - will go a long way toward providing a ... sense of the song’s many-sided, irreducible character. eAccuracy is like a video continuously being shot and (re)-edited rather than a photograph filed in a shoebox (Foley 2012 p.18).

Irish traditional music is a diverse, vibrant musical tradition that has historically been practiced in Ireland and has now become popular worldwide. The author is a digital humanist, web developer and ethnomusicologist, but also a tutor and recording artist who has performed within this tradition for over thirty years. The genre itself has enjoyed a resurgence since the 1960s, and this continued renewal is now supported by a number of thriving music communities and a plethora of archival materials that have been recorded and preserved both within Ireland and throughout many parts of the world. This resurgence has been brought about with the continued support of a wide range of communities – of singers, musicians and dancers, artists, revivalists, and various other enthusiasts—who have ensured that Irish traditional music has evolved as a tradition that is shared in a wide variety of settings and performance spaces. It now includes both amateurs and fully-fledged professional artists, who interact in formal and informal groups, seamlessly crossing boundaries of professionalism.

Whilst the genre has often included many authoritative written, audio-visual and audio sources for the transmission of its music, sensibilities about approaches to the tradition also continue to be shared with enthusiasm through face-to-face or peer-to-peer interaction. In the world of Irish traditional music, listening to and performing multiple versions of musical pieces is critically important for the development of a musician’s musical sensibility during their learning of the music and the culture surrounding the tradition. One archivist, themselves a performer within the tradition, explains that “having one authoritative version of the tune [for retrieval purposes] denies the individuality, uniqueness, and personalization that is a part of Irish traditional music” (Weissenberger 2014). In communities of Irish traditional music, the activity of developing unique settings of tunes or songs is often accompanied by constant interaction with a diversity of perspectives and approaches to the music with family, peers and mentors, at both amateur and professional levels (Cawley 2020, p. 1). As a result, the ability to develop a sensibility about the tradition is dependent on immersion with a range of versions of musical pieces, immersion in cultural understandings and interaction with a wide variety of people.

This article is about the ongoing use of digital resources and the development of digital infrastructure for representing aspects of this immersion in the world of Irish traditional music. It examines technology’s current potential to play a key role in supporting and representing a diversity of performers, both in terms of groups from different socioeconomic and cultural backgrounds, but also different

linguistic and gender groups. Fostering such diversity has a particular importance for the status of Irish traditional music in recent times, because the genre has become ever-increasingly embedded in communities on a global scale. I focus on the current role that technology has to play in representing multiple perspectives, the attitudes and also the geographical background of the people who have performed the music since the first audio recordings were made in the early years of the twentieth century.

Technology has often played an important role in the transmission and learning of music for the great number of communities who play Irish traditional music. In the past, thousands of both commercial and non-commercial audio recordings of Irish traditional music were made and preserved in North America through the efforts of recording companies, fieldworkers, archivists and musicians themselves. Commercially, this is evidenced by the number of important textual collections of tunes, such as *Ryan's Mammoth Collection* (1883) and *The dance music of Ireland: 1001 gems* (1907) which were published in North America and have become hugely influential in Irish and Irish American communities where they continue to be widely used to this day (Smith and Wells 2009). The first audio recordings made of Irish traditional music on wax cylinders in the early 1900s also had a profound impact on both traditional performance practices and modes of transmission amongst communities in the United States and Ireland, and subsequent formats such as 78 rpm shellac discs and LP (Long Playing) records also had a great transnational impact on these communities (Spencer 2010). In the digital age then, the role of technology is even more pronounced, as digital versions of music are shared, learned and disseminated at an immediate pace throughout the world.

Whilst there has been a proliferation of scholarly critique about these commercial text resources and audio recordings in successive generations of musical communities, the role, impact and engagement with uncommercial fieldwork audio and metadata is unclear. For example, the historic and indeed continuing relationship of archival content to the collective memory of the communities they represent on the North American continent and beyond is still largely underexplored. These materials continue to be preserved within archive collections and it could be argued that similar materials have had some impact on Irish traditional music in Ireland.¹ I will demonstrate the importance and possibilities involved by engaging both commercial and non-commercial recordings in Irish traditional music.

Digital infrastructures continue to evolve for Irish traditional music and access is becoming increasingly democratised for musical communities via the internet.

¹ In Irish traditional music, some examples exist that support the claim that archival audio recordings can contribute to the performance of music within the tradition. For example, in the 1950s in Dublin, Ireland, a number of acetate disc recordings were made of traveller uilleann piper Johnny Doran and it may be argued that these recordings held by the National Folklore Commission in Dublin have made quite an impact on the piping styles of many musicians within Ireland and beyond. This material contributes to the claim that archival field recordings can play role in musical traditions, even though direct connections between the archive and these communities have not been made explicit. This may occur as a result of the ways that archival materials are utilised, for example during process by which they are packaged and issued as part of the commercial recordings made by traditional musicians.

This emerging situation has seen scholars explore the ways by which the archive, the internet and oral traditions can more fruitfully intersect. As described by Myles Foley, “Despite superficial differences, both technologies [oral traditions and the internet] are radically alike in depending not on static products but on continuous processes, not on “What?” but on “How do I get there?” (Foley 2012). In other words, instead of placing importance on the single and static product, the experience of the internet or oral tradition is more akin to how we think in terms of continuous processes, within a network of ideas.

For communities of traditional music then, emerging infrastructures that produce the ways and means of accessing digital content have the potential to impact and broaden upon the ways that the tradition is understood in collective memory. It could be argued that now in the digital age, we are experiencing an extended period of transition with digital technology that allows us to continue to reimagine how we work with data in this new medium. As described by Scully, just as the Gutenberg printing press experienced an incunabula (or a fifty year period of transition), the current digital transition is in a “digital incunabula” (Scully, 2018). In the past twenty years, the emerging presence of Irish traditional music on the World Wide Web has been constructed by professionals, amateurs and enthusiasts in a variety of ways. The first projects such as TheSession.org and IrishTune.info mentioned above, grew out of a plethora of Web 1.0 developments, where data concerning musical pieces was added by enthusiasts to repositories across the internet in the spirit of open access and by using open-source software.² Today, in a Web 2.0 world, other transitions are occurring with the creation of digital infrastructure and resources are intersecting with the virtual engagements of community members from oral traditions on social networking websites such as Facebook and through the ever-increasing digital footprint of archive websites such as The Irish Traditional Music Archive (ITMA 2021). The way that this digital transition occurs and our understanding of it is critically important and can aid archivists in understanding the nuances and particular needs of musical communities. As with nascent technologies and argued by boyd and Crawford about Big Data, ‘we must ask difficult questions ... before they crystallize into new orthodoxies’ (boyd and Crawford 2012). Throughout these transitions, we can gain a deeper understanding of the impact of how these technologies are implemented. We can also ask: what do these developments mean for the representation of the performers and their narratives within these collections?

In this paper, I focus on aspects of the current digital representation of these communities, and what the medium represents for oral tradition Irish traditional music. By using a case study I will explore what is currently being represented and what aspects of oral tradition are neglected. I will look at ways in which the experimental approach to fieldwork collections can inspire developments for this digital

² Some grass roots projects grew out of the Web 1.0 movement in the mid-1990s. For example, the 1850 Irish traditional music melodies were transcribed from book form into electronic format by a group of musicians under the leadership of Dan Beimborn and John Chambers, using the ABC music notation language. Their work has since been made freely available on the Internet, now accessible only via The Wayback Machine. Others include “The Fiddler’s Companion” by Andrew Kuntz, which includes lore alongside item descriptions.

infrastructure. My aim is to highlight the possibilities and insightful limitations that are uncovered by engaging with archival materials from a region outside of Ireland, on the fringes of a tradition. I will do this by first describing the approach of metadata (or content) enrichment, an activity used during the development of a project, *Connections in Sound (CIS)* at the American Folklife Center in 2019. I will then describe the process involved with developing the CIS project, which focuses on North American fieldwork across a number of audio collections at the Library of Congress. From there, I will examine a number of issues that seem pertinent to the ways by which humanities scholars and musical communities can inform the applications of digital technologies. I draw upon literature in ethnomusicology, folklore studies, digital humanities and archival science, viewing the development of digital infrastructure and content as a complex problem not just for archivists, but for humanities scholars, performers and community members alike.

Metadata enrichment

The primary activity involved within the CIS project was metadata enrichment (or content enrichment). The activity has been described by Alemu as, “the continuous process of adding, enhancing and improving metadata content”, where the purpose of the activity usually involves collecting a wide array of metadata to facilitate diversity (2018). An ever-growing activity in the archive, it provides a greater means for improving access. As noted by Kumar, “content enrichment improves the user’s ability to locate and evaluate specific titles of interest, enhances the precision of resource sharing, and improves access to underutilised portions of the collection” (2018). Kumar also contends that,

Conceptually related information, such as places mentioned in the title or the subject of the document, can be semantically linked to disparate and distributed destinations over the web. Eventually, users may benefit with richer data collections and new search possibilities. Thus, enrichment will further establish inherent relationships between media, metadata, and external information sources (2018).

The main aim of the CIS project was to experiment with enrichment in order to generate new possibilities for fieldwork metadata. For example, it was predicted that the benefits of enrichment would allow audio collections across the AFC to be united in terms of musical pieces of Irish traditional music. The aim was to link under-represented material across these collections, and to connect this material with items that were available from across the World Wide Web. The aim of this engagement was to bring attention to the results of an attempt to make audio metadata more accessible, to discover what aspects of oral tradition can be brought to the surface, but also those aspects that are hidden as a result of using an emerging digital infrastructure.

Interdisciplinary approaches to audio collections are becoming more frequent in ethnomusicology. The area has been explored by a number of scholars in an applied manner and this is apparent especially with projects that have focused on

repatriation of audio collections in various cultures around the world. For example, by writing about metadata and memory, anthropologist and ethnomusicologist Peter Toner has demonstrated the additional possibilities that arise for the researcher when digital audio is repatriated to communities whose ancestors were once recorded by fieldworkers (2004). Toner shows how the communities themselves may contribute to the development of access to digital audio material in metadata, through memories, community understandings of kinship or musical change and continuity. This engagement is also reflected in the reciprocal sharing of ethnographic knowledge led by Ridington and Ridington with the Dane- Dane-zaa first nations at University of British Columbia (Ridington & Ridington 2006). It is also demonstrated by a repatriation project at Columbia University led by ethnomusicologist Aaron Fox, which focused on a high level of reciprocity with the Hopi community (Reed 2009). Other scholars, such as ethnomusicologist Noel Lobley, have discussed the significance or continued relevance of connecting older archival materials with current communities and questioned the original agendas and approaches of previous fieldworkers who attempted to “codify” traditions (2011). These are important insights into ever-changing relationships with oral traditions that could be used fruitfully in the development of new systems and digital resources for archives of audio material across the World Wide Web. By enriching material with the aid of insights from recordings of community members and scholars, constructive engagements between archives, scholars and oral traditions can result in meaningful interactions that are sympathetic to how all sides understand the material that has been preserved and made available.

Engagements with metadata enrichment are often seen as an aid to information professionals and what are sometimes referred to as “end users”, but the challenges of representing music communities continues to contribute to a sense that this activity can also contribute bias (Burns 2019). I demonstrate in this article that the activity can be engaged in a more nuanced manner to attune the process to the types of musical communities that archives represent. The continued research into whether amateurs and professionals can collaborate with a view towards more relevant metadata demonstrates the lengths that the GLAM sector is moving towards new possibilities for interactions with content (Simon 2010). Alemu states that, “rather than considering the community of users as passive consumers of the services, they can be considered as proactive collaborators, actively engaged” (2018). Not only then is the enrichment of content by amateurs and professionals alike seen to improve access to material, but as argued in this article, applying enrichment to fieldwork material allows a number of other aspects of the experience with archive collections to develop, such as diversity and the inclusion of underrepresented communities. The continued engagement with this material may become a most valuable part of the intersection of the activities of the institution and musical communities, contributing much needed input into how communities experience the archive and cultural artefacts.

In ethnomusicology, applied activities and what has become known as “proactive archiving” have been explored in order to understand how archive materials can be made more relevant to diaspora communities, such as Landau and Fargion’s study of this activity with Moroccan immigrants in London (Landau and Fargion 2012).

However, less is known about the significance of the activity of metadata enrichment within the archive, or how during this process of enrichment, archivists and other digital creators (scholars, archivists and community members) have focused on certain aspects of audio material over others. Even though (as demonstrated by the ITMA's outreach activities) some archives continue to resonate with and represent musical communities, much of the publication of digital projects (such as Linked Jazz) have focused on professional artists who had already published material. When replicating this with more well-known performers in traditions such as Irish traditional music then, a risk emerges of enriching certain aspects of the genre over others. The following description of CIS exemplifies a number of lessons that are learned from engaging with archives in a way that attempts to include material and performers more on the margins of a musical genre.

Connections in sound

Metadata enrichment and linking of archival collections is particularly well suited to the wide range and variety of material relating to Irish traditional music. This is demonstrated by the extensive collecting and documentation that has been carried out by professionals and amateurs in countries around the world throughout the 18th, 19th and 20th centuries, and the large-scale digitisation that has taken place in recent times. In the United States, a number of local and regional archives continue to be preserved and developed, which are rich in content from these eras. Some of the more well-known such digital collections include the Séamus Connolly Collection of Irish Music in Boston (<https://connollymusiccollection.bc.edu> accessed 4 Jan 2021), the Ward Irish Music Archives in Wisconsin (<https://wardirishmusicarchives.com> accessed 4 Jan 2021) and the wide ranging resources that are housed in various locations at the Library of Congress (<https://www.loc.gov/folklife/guides/Ireland.html> accessed 4 Jan 2021). More specifically, the highly diverse collections of traditional music, song and dance at the AFC in the latter contain an immensely rich cross-section of professional and amateur collections. They exemplify a most eclectic array of materials, and were mostly created in fieldwork situations by folklorists, ethnomusicologists, anthropologists, and other cultural enthusiasts around the United States. The collecting activities of these amateurs and professionals captured and now reflect some of the broad range of communities that have constituted emigration to the North American continent during the 19th and 20th centuries. Thus, the materials relating to Irish traditional music in these collections represent a broad diversity of music-makers, whose professional and amateur lives in music were documented within wide ranging fieldwork approaches and practices.

In 2019, the author embarked on a ten-month research fellowship based in the AFC that would form the foundation for the CIS project. The aim was to reveal and unite hidden audio recordings of Irish traditional music by means of metadata identification, collection and representation using the activity of enrichment, and by experimenting with the recently developed Linked Data ontology, LITMUS (Linked Irish Traditional Music). The word “hidden” referred to previously unpublished or unidentified material, and audio that was mis-named or had yet to be catalogued.

The LITMUS ontology was developed at the ITMA in order to improve search and access to web-based Irish traditional music, song and dance resources. It's author, Dr Lynnsey Weissenberger based this development as an extension of both the FRBRoo and SKOS ontologies. LITMUS does not borrow from the Music Ontology (Raimond et al 2007). Through enrichment, descriptions of this material exposed and connected recordings, and a series of digital prototypes were developed in order to demonstrate findings throughout the project life cycle.

Data collection for the CIS project involved an ongoing collaboration with reference librarians, as material, though well described, lay dispersed amongst many of the collections. For example, a typical digital search of the collections at the AFC can be carried out by keyword searching through the digital catalogue (<https://catalog.loc.gov> accessed 23 Jan 2021). However, this activity was combined with regular consultation with Library staff as Irish traditional music has also been identified through the Library of Congress subject headings, commencing with examples such as “*Irish Americans–Music*”. By working closely with reference librarians on a regular basis, it became possible to identify a great range of collections within these subject headings. In all, over thirty-seven collections of audio material were identified with subject headings, and also through manual operations such as the exploration of catalog cards and keyword search. Through the act of combining these collections, material emerged that had been preserved in formats such as wax cylinder, acetate disc, reel-to-reel, audio cassette tape and digital. Searches of these collections also exposed over a century of collecting and documentation by fieldworkers and recordists in the United States, Canada, and Ireland. Due to time constraints, it was not possible to explore each of the thirty-seven collections. However, a total of seventeen of these collections and in one collection in particular–The Philadelphia Céilí Group (Lib of Con AFC 1995/003), containing a number of yearly festival concert performances–were documented and transcribed by the author, a process that was carried out with the support of two interns at the Library.

This data collection activity resulted in an extensive dataset which ultimately allowed the team to document over 2500 recordings or individual pieces of songs, tunes, and dances. In some cases a significant amount of metadata was gathered through the transcription of interviews, allowing in-depth information to be gathered relating to the musical pieces and a host of other people, places and historical data. During the process of data collection, in order to evaluate progress, a number of open-source prototypes were developed by the author using the open-source resources such as D3JS (<https://d3js.org> accessed 4 Jan 2021), Leaflet (<https://leafletjs.com> accessed 4 Jan 2021) and Glitch (<https://glitch.me> accessed 4 Jan 2021) to demonstrate how connections were made (Fig. 1).

The development of this dataset allowed metadata to be enriched from across audio collections at the AFC. This dataset was then developed with digital expert Matt Miller, digital expert with the Linked Jazz project (<https://www.linkedjazz.org> accessed 4 Jan 2021). The dataset was prepared for the creation of Linked Data triples that would link to resources across the World Wide Web, using the newly developed LITMUS ontology from the Irish Traditional Music Archive. Code was developed and refined by the author and the digital expert in the Python programming language, resulting in the production of a number of proof-of-concept Uniform

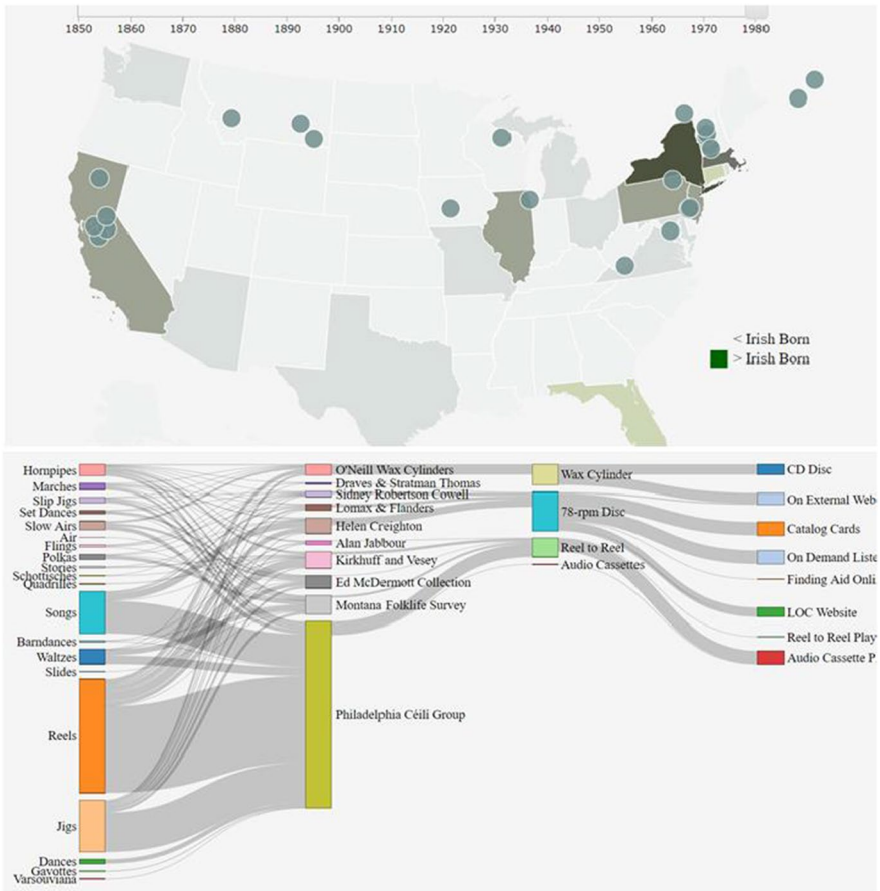


Fig. 1 Data visualisations of metadata relating to some audio material discovered during the development of the CIS project

Resource Identifiers (or URIs). This resulted in the development of a set of triples that were then used to link the AFC audio material with resources from other collections in North America such as the Séamus Connolly Collection in Boston using the online resource, Data.World (<https://www.data.world> accessed Jan 4 2021). The connections that were made between collections at the Library of Congress and the Séamus Connolly Collection of Irish Music highlighted the ability of Linked Data technology to connect both archives across collections of Irish Traditional Music in the United States.

It emerged from the evidence gathered in the resultant dataset that a wide range of possibilities existed for connecting items across collections and with other resources on the World Wide Web. In order to unite audio items across collections at the Library and to demonstrate that a large number of items were relatable by title, a digital prototype was developed to geographically map some of the most

The screenshot shows a SPARQL query interface with the following query:

```

1 PREFIX items: <https://patrickegan.linked.data.world/d/linked-data/>
2
3 SELECT ?performer_in_Connolly ?performer_in_AFC ?tunes ?pid
4
5 WHERE {
6   ?music items:col-loddataset-no_performance_of ?tunes .
7   ?music items:col-loddataset-foaf_name ?performer_in_Connolly .

```

The results table displays 39 query results with the following columns: performer_in_Connolly, performer_in_AFC, tunes, and pid. The first few rows show results for Billy Clifford, and the last two rows show results for Jane McBride Orzechowski.

performer_in_Connolly	performer_in_AFC	tunes	pid
Billy Clifford	Martin Wynne	Jackson's	No data
Billy Clifford	Martin Wynne	Jackson's	No data
Billy Clifford	John Whelan	Jackson's	No data
Billy Clifford	Brian Conway	Jackson's	No data
Billy Clifford	Martin Wynne	Jackson's	No data
Billy Clifford	Martin Wynne	Jackson's	No data
Billy Clifford	John Whelan	Jackson's	No data
Jane McBride Orzechowski	Carol Hendricks	Sandy's Reel	No data
Jane McBride Orzechowski	Carol Hendricks	Sandy's Reel	No data

Fig. 2 Visualisation of RDF triples that connect music from the Séamus Connolly Collection with archived fieldwork across collections at the American Folklife Center, using the LITMUS ontology. Visualisation created using the resource www.data.world

popular songs and tunes, with preference placed on those that were discovered five times or more. This prototype is currently available on the Glitch website (<https://rural-satellite.glitch.me> accessed 4 Jan 2021). Finally, the resultant dataset and prototypes were also made available on popular code repository, GitHub (<https://www.github.com/rootseire> accessed 4 Jan 2021). The findings of these activities proved the hypothesis that a wide range of hidden audio material could be united across collections, time, place and media format by using enriched metadata, and by engaging with LITMUS, it was possible to generate RDF triples to link material externally across the World Wide Web (Fig. 2).

Some insightful issues arose when attempting to document items. Firstly (and as assumed), older wax cylinder and acetate disc materials yielded less information than later fieldwork and recordist audio from reel-to-reel tapes. Secondly, no single substantive URI resource currently exists for Irish traditional music on popular internet resource WikiData (<https://www.wikidata.org> accessed 4 Jan 2021). Instead, two resources—an internet community website The Session (www.thesesession.org accessed 4 Jan 2021) and a curated index of traditional music (www.irish-tune.info accessed 4 Jan 2021) contain indexes of tunes by unique URLs. Both websites, whilst not strictly built for machine-reading, are extremely valuable to music communities involved in learning and sharing knowledge about Irish traditional music. Though the latter was used extensively by a process of web scraping in the CIS project, interoperability with Linked Data was limited to a certain extent due to its structure. Furthermore, the popular Linked Data resource WikiData.org contained only a small amount of well-known entries for data relating to the tunes and songs found within the AFC audio collections.

Other limitations, whilst not entirely obstructive, did make it more difficult to interlink data and demonstrated the ways that internet and archival resources have been developed since the 1990s. Throughout the process of attempting to connect

data from with the AFC to resources on the World Wide Web, it became evident that it was only possible to identify and document Library of Congress authority files for performers who had published a commercial music album during their lifetime. However, a very large number of amateur performers did not feature on MusicBrainz.org, WikiData or Wikipedia.org (<https://www.wikipedia.org> accessed 4 Jan 2021) websites unless they had become known or published media such as a commercial music album as recording artists.

The presence of these limitations demonstrated that the content that is used for the creation of digital infrastructure is linked to published recordings. Discovering such limitations revealed a number of key problems that are encountered for representing fieldwork materials, and demonstrate that non-commercial recordings could be more well represented on the Internet. Other projects such as SNAC (Social Networks and Archival Context) have focused on helping users discover biographical and historical information about people who have been documented in historical resources and their connections to one another (Larson 2014). Since 2019, the work of LITMUS has been used to design a conceptual model for contra dance in the United States, demonstrating the applicability of the ontology to related genres of music and dance (Coladangelo 2020).

Fieldwork and oral tradition

The CIS project raises questions of why non-commercial recordings are important in the first place. As described in the introduction to this paper, Irish traditional music is mainly practiced as an oral tradition and is transmitted primarily through face-to-face interaction which plays a key role by informing sensibilities about performance. Through enculturation, or the learning of the music, song, story and dance, tuition for some typically takes the form of master to student, whilst others are self-taught. Like many oral traditions, this tradition also uses immersive processes to develop knowledge—where unwritten rules, intuition, and memories form understanding (Ward 2016; Cawley 2020). Part of the enculturation process involves widening the awareness of a pupil's understanding of the multiformity of the tradition. This is also done through the passing on of etiquette, humour and story in an informal manner. As noted by Kearney (2009, p 29), “the stories concerning musical traditions are integral in understanding and constructing place, region and tradition.” Interaction with these narratives thus leads to broader understanding and awareness about the various strands of the tradition.

Why, then is a balance between these strands of the tradition important? The modes of interaction that have been established within the community in general dictate that Irish traditional music as a folk tradition, “permits change by the individual, but is controlled by the community”, and it “utilises selection by the community as to what they wish to retain, or what they consider worthwhile.” (Valley 2011a, p 281). As outlined in the introduction to this paper, the system circumvents the reliance on any single, authoritative version of a musical piece or any singular narrative. Even though a great number of professional artists have emerged in Irish traditional music over the past century, it is only in the relatively recent past

that the genre has seen an increased professionalism amongst its most accomplished practitioners. In more recent times, full-time professional artists engage it to build careers in music. In some ways this has altered how music is learned and generated an increase in the demand for hearing music played by experts, as described by Sommers Smith (2001, p 116). However, through the continued strength of grassroots community activities both in Ireland and worldwide, particularly in diverse communities in the United States. The wider oral tradition continues to avoid processes of hegemony, the primacy of the single individual artist or the superiority of any one authoritative publication even though this is impacted by commercialisation (Sommers Smith 2001, p 117). As a result, the continued vitality of community can be seen in the amount of amateurs who continue to perform Irish traditional music and the diversity of approaches that allow the everyday performer to remain part of these communities.

Internet technology can be used to support this diversity and promote an understanding of the tradition as a continual process of learning and not merely an end-goal. As noted earlier, both can exist side-by-side. Rather than being seen as a threat to the tradition, some scholars have described that even when new technologies are introduced in practice, over time they often become add-ons, or as one scholar puts it, “all roads lead back to the tradition” (Ward 2016). The use of the internet as an “add-on” for people communicating within a largely oral tradition has positive consequences, particularly on a global scale. As noted by Ward, it allows for a democratization of the transmission of music, with the potential to “collapse hierarchies” (Ward 2016, 45). He describes that, “Oral tradition only exists in its enactment, and another challenge in attempting to represent oral tradition online is to effectively represent its multiformity” (Ward 62). In a sense then, when attempting to represent this multiformity, the practitioner values the *process* of learning over its *product*, something which the digital is particularly well suited.

Archivists and scholars of traditions (who are sometimes also performers) have recognised the possibilities of digital infrastructure and have built upon the ways by which the knowledge organization community can accommodate community worldviews (Toner, Weissenberger). Such developments have been aimed at evolving digital frameworks that are attuned to these communities’ needs, as often some of these needs are overlooked. For example, in some parts of Ireland, the rise in popularity of Irish traditional music has been met with the demise of the Irish language as described by Ó hAllmhuráin (2016, p 8). In his seminal publication on music in county Clare, Ó hAllmhuráin notes that throughout the twentieth century this became part of a process of musical forgetting and amnesia, brought on by a cultural “fallout” in some regions Ó hAllmhuráin (2016, p 17). Indeed, today most internet websites are presented in the English language, in some cases with little or no Irish language content. As a minority language, Irish continues to occupy a marginal position in the musical tradition with which it is most strongly associated. As the first ontology written for Irish traditional music, the LITMUS project includes descriptions that are written for the Irish language. It perhaps signifies a movement towards incorporating more diverse linguistic material for this tradition in the online space, where previously this had been absent.

As support for oral tradition and minority languages evolve in online spaces, scholars and archivists are refining these developments further through engaging and experimenting with fieldwork materials. By documenting a variety of types of evidence from fieldwork, CIS demonstrated sensitivity towards the embodied knowledge of practitioners within these musical communities. For example, gathering metadata from transcriptions of concert performances added rich context to the dataset and musical items by representing musicians and singers from diverse backgrounds. By documenting a wide range of audio metadata, the project succeeded in combining Irish and English language material from both professional artists and amateur performers. In many cases, informal conversation and humorous tales were captured, which served to add important folklore to the dataset. In the process of documenting this informal content, CIS expanded beyond focusing on items and artists to gather information relating to wider ideas regarding community values and knowledge, enabling new ideas to emerge from material that exists at the periphery of tradition.

A number of pertinent examples of fieldwork expeditions exist in the AFC with varied approaches of those researchers who documented these various traditions and demonstrate the types of material that could support oral traditions. In many cases, these collections reflect attempts that were made by these collectors to capture wider aspects of traditions, moving the focus of conversation beyond musical items or musical performance. For example, the work of Sidney Robertson Cowell was focused on the social purpose of music during the depression of the 1930s, whereas collecting practices by Alan Lomax in the 1960s have been described by Mancini as, “giving an avenue for those people to express themselves” or, “the immanent expression of a silenced folk” (2004, p 224). In the responsibilities outlined for fieldworkers within another collection, The Montana Folklife Survey, the terms were given that the responsibility of the fieldworker was to, “conduct a survey of the existing manifestations of traditional thought, life, artistic expression and work” (Lib of Con AFC 1981/005 af014005). Such varied collecting methodologies, whilst not focused specifically on the gathering of Irish traditional music, contain insightful evidence concerning the lives of people whom they had encountered and their descendants in America, enriching the CIS dataset. Alternative narratives about the Irish experience in America were included in the Philadelphia Céilí Group Collection (Lib of Con AFC 1995/003), in which a number of festival events concerned with an organisation entitled, “The Philadelphia Céilí Group” were documented. This collection contained hundreds of hours of recordist fieldwork from concert performances during the 1970s, 80 s and 90 s. The CIS dataset captured a great number of anecdotes about such musical pieces, Irish history, jokes and humorous tales, and the ways by which knowledge about the tradition is shared. Not only did these transcripts enrich the CIS dataset, but a number of valuable narratives were connected for musical pieces and held potential to generate Linked Data triples.

Story and humour attached to Irish traditional music are a common part of the performance of the music, informing sensibilities. For instance, Ward (2016, p 306) has explored how moods of communication from oral traditions can be transferred onto digital spaces, through the use of textual commentary. As noted by Kenny this “insider” behaviour “creates a sense of belonging, define identities and relationships

or very often act as tools for learning” (2016, 115). The point I am making here is not to criticize the lack of digital infrastructure (much of the work being done is most comprehensive for item description), but rather that communities, archivists and researchers can go collaborate further—that the act of including narrative material within digital resources and infrastructures can allow us to explore what it means to contribute more value with story. For example, during the CIS project, the LITMUS ontology was complemented by including an ontology description from the American Folklore Society Ethnographic Thesaurus, a folklore ontology that includes a descriptor for verbal arts, including stories (<https://id.loc.gov/vocabulary/ethnographicTerms.html>. Accessed Jan 28 2021). As a part of the ephemeral nature of the oral tradition then, story and humour could play a key role in the digital space for Irish traditional music.

Supporting digital orality

As digital infrastructure enables projects like CIS to build upon the endeavours of fieldworkers who contributed to the AFC, the possibility emerges for a particular type of digital orality with Irish traditional music and archives. Metadata can play a key role in this process. To borrow a description from Papacharissi (2015), Digital Orality is the term that best captures the blending of new modes of data capture and information analysis with traditional narrative and storytelling conventions. It renders data, small or large, into new modalities of storytelling, where knowledge is created and constantly evolves as it is created (1099). Papacharissi claims that,

Where primary orality emphasized voice, digital orality propagates voices while preserving their atomized subjectivity. A digital orality ... drives a digital form of storytelling, derivative of the blended conventions of both a primary and secondary orality.

Such voicing of different versions of content is documented by Ward’s thesis on the popular online community for Irish musicians, TheSession.org, where multiple versions of tunes and memories exist. Contributors to this resource (both amateur and professional alike), are enabled to upload different settings and versions of melodies from commercial albums but also they add their own knowledge. In this way, Ward describes digital oral traditions as “multi-authored”. Instead, a number of individuals are responsible for change to occur, with a “plurality” occurring within the tradition (Ward 2016, p 61).

If plurality is an important part of this digital orality, a number of ideas emerge for the digital space. The performance and constant renewal that is experienced within the tradition can be viewed as a continuum of these multi-authoring voices, who both preserve and innovate with sonic material in real-world contexts. With this in mind, the forging of a path for the development of digital infrastructure becomes illuminated, where the multiple strands and mechanisms of oral tradition can be recognised.

In some ways the CIS project does go some way to suggesting ways of supporting digital orality. By allowing fieldwork evidence to influence our thoughts about

digital infrastructure, with audio collections it may become possible to further mimic aspects of oral traditions using this lens of digital orality. With adequate digital infrastructure, fieldwork from archives could be further developed as extensions of the default face-to-face interaction that occur within the tradition. This need is not unique to Irish Traditional Music, or even to just minority communities.

Expanding diversity

Irish traditional music has often been the site of struggles for power. It is seen as a diverse cultural activity, but as stated by Talty on canonicity or repertoire, “authoritative efforts to codify it will invariably be contested and potentially divisive” (Talty 2020, p 5). Others, such as O’Shea and also Slominski, have highlighted the limiting and devaluing of participation within the tradition due to issues of nationalism and gender (O’Shea 2009; Slominski 2020), or as explained by Ward, the exclusion of certain tune types through gatekeeping on websites such as TheSession.org (Ward 2016, 298). The resulting impact of these activities has the continual reframing of popular narratives within the tradition. This impact may be generated not only through a musical canon, but also through the backgrounds that have been attached to the populations who have performed it. This is important for those who brought it elsewhere, in particular Irish emigrants in North America.

In the history of emigration of Irish people to North America, the popular narrative has often been told in terms of migration of large populations of Irish people to the urban centres, primarily on the east coast. This narrative often relates the stories of thousands of emigrants who sought a better life in the New World (Moloney). However, as noted by Malcolm Campbell, there are also stories of Irishness that go beyond conventional narratives of immigration. A great number of these hidden histories have been exposed in more recent times, demonstrating that the awareness of alternative stories of Irishness have not always been readily available (Campbell 2014, pp 1–13). By continuing the exposition of these stories, scholars have diversified the understanding of the Irish experience in countries such as the United States, Canada and further afield.

Such unusual, hidden narratives abound in the collections of the AFC. For example, Mae Mulcahy and her musical companion John Harrington from the Montana Folklife Survey provided lengthy interviews concerning their experience in the Rocky Mountain West region of the United States, the music and songs that they performed and their travels back and forth to Ireland (Lib of Con AFC 1981/005). Mae was a concertina player who often performed Irish traditional music for dancers in her hometown of Butte. When she was recorded by Gary Stanton for the Library of Congress in 1979, she recounted numerous stories of the experiences of Irish in the United States. John Harrington (Lib of Con AFC 1981/005) was an accordion player who was recorded by fieldworkers in Butte, Montana on a number of occasions. During the 1970s he also related his complex biographical trajectory—his early life in Utah, a relocation to Ireland, and a return to the United States later in life.

Some accounts of individuals that were discovered in the AFC run against the grain of popular narratives of emigration and complicate the often-simplified narrative of emigration from Ireland to North America during the 19th and 20th centuries. In the history of Irish traditional music, the stories of these musicians have not been included. Reintroducing these unknown musicians into digital infrastructures and resources of Irish traditional music through fieldwork evidence has the potential to include many more diverse histories. As a multiplicity of experiences, such fieldwork has the potential to widen understandings of those who lived beyond institutions, commercial recording and popularity.

For the CIS project, however, it was not readily possible to include lesser-known performers within current digital infrastructure, in particular authority files from the Library of Congress. As noted in the description of the CIS project, it was possible to link metadata regarding professional artists who had recorded commercially between websites across the World Wide Web, but this option was unavailable for amateur performers. In a number of online resources, such as MusicBrainz.org, the categorisation system is clearly focused on published works. The language used “artists” and “albums”, indicates a bias towards professional artists, usually associated with popular music. This issue has the potential to exacerbate hierarchy if used within oral traditions such as Irish traditional music. It has the potential to favour the popular performer and exclude those such as Mae Mulcahy and John Harrington who lived on the fringes of the tradition but are no less important. The exploration of material from the CIS project therefore highlights these and other limitations when engaging with digital infrastructure, and how this may impact upon gender and socioeconomic diversity, as well as meaningful representations of musical traditions.

Discussion

In the CIS project, the activity of engaging current digital infrastructure with audio collections that contain fieldwork revealed a number of insights from an interdisciplinary perspective. The activity allowed a range of understandings to emerge when thinking about the intersection of archives with oral traditions and the internet. Linked Data projects such as Linked Jazz highlighted the ways by which selection of certain collections of audio material may influence the ways that digital infrastructure represents musical material. The LITMUS project at the ITMA also demonstrated the need for customised digital infrastructure that was aligned with the values and expressions of Irish traditional music. The CIS project added to this alignment by demonstrating that the exploration of non-commercial audio material in a digital environment can contribute to a more diverse representation of material and communities relating to the tradition as it exposed both professional and amateur-based performers.

Although the CIS project did incorporate Authority File information from the Library of Congress, due to the limitations of the project the dataset entries linked only to professional artists who were documented in collections across the Internet. Future work may involve the creation of authority files for lesser-known performers

within the AFC collections. The development of resources on open-source websites such as WikiData.org would enable a central resource of machine-readable content that could link musical items together alongside stories that are related to them.

The practice of including the voices of communities is also mirrored in the concept of digital orality and much progress is also being made in the area of reconciling research between scholars and archivists with musical communities. As described by McKemmish, reconciling research “validates multiple sources of knowledge and promotes the use of multiple methods of discovery, implementation, and dissemination of knowledge” (McKemmish et al. 2011, pp 211–239). The continued development of archival audio with Indigenous communities leaves valuable lessons for scholars of oral traditions on how representation of communities can be treated in a more nuanced way. By developing these approaches to the ways by which these communities are represented, digital infrastructure can evolve to foster the diverse values and experiences of all participants within these communities.

Conclusion

To conclude, much work is yet to be done in improving current digital infrastructure for Irish traditional music, and the archive has a key role to play in this development. I have argued for the benefit of experimenting with certain types of non-commercial digital audio material for use in datasets and digital infrastructures. This can inform way of representing the diversity of approaches to various traditions in the archive, in communities and across the World Wide Web. For the CIS project, the experimentation and enrichment of metadata within the AFC allowed insightful limitations to surface. The discovery of these limitations demonstrated that the use of fieldwork material for inclusion in digital infrastructures are in some ways under-developed. This points towards the need for extending the focus of metadata enrichment and the selection of audio materials for representing music. It also suggests an extending of the ways that we develop our current digital infrastructure, within institutions and on the internet.

I have also argued that the use of fieldwork collections alongside the development of digital infrastructure enables more diversity and representation. The title of this article “In Search of the Item”, is a play on words from the popular Irish traditional music book, “In Search of the Craic”, which outlines the humour and everyday narratives that are a vital ingredient in the sensibilities surrounding the performance of the musical tradition. The humour that is attached to Irish traditional music is part of a way of life, and it produces its own set of characters and culture. In this book, Irwin sets about journeying to Ireland in search of craic, which is a modern Gaelic translation of the English word “crack”, denoting enjoyable or fun conversation. The title also appeals to the overemphasis that has often been placed on the item within archives, when separated and described as an artefact. In the performance of Irish traditional music the presence of humour allows the item (or musical piece) to be understood as something to be “played”, “sung” or “danced”. The focus of an oral tradition is very often not in the correct performance of a piece, but how that performance happens in the moment. Irish traditional music as an oral tradition defies

its own categorisation when it shifts and changes as a set of malleable forms, rather than the narratives associated with national chronicles.

This paper demonstrates that these traditions and communities can be supported by engaging metadata enrichment not only for search and retrieval, but also for developing the concept of digital orality, to mirror more closely the activities that are fundamental to music and all the activities that this encompasses. This digital orality can be used as a lens to understand how fieldwork materials can play a role in the representation of under-represented parts of an archive. The theme also has the ability to connect with the important work that is currently being carried out by scholars of Irish traditional music and traditional music in general in gender studies and post-colonial work. The approach to the CIS project described in this paper could diversify how we experience archival material alongside commercial recordings, with full consideration for the sources within archives alongside material that exists on the World Wide Web.

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