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Independent Study

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Ethnomusicology Research Data Management

With the growing call for open data, open access, and data management plans in research there has been a parallel call for discipline-specific management and sharing practices. Even as more institutions are advocating for open data and funding agencies like the NIH and NSF require data management plans and data publishing, others are citing the need for a more careful analysis of what role open data and open access will play in different disciplines depending on existing methods of data sharing and reuse and the data management support needed to facilitate this new data network.[1] While best practices and principles and data publishing infrastructures have been robust in quantitative disciplines, qualitative researchers have often been left out of these solutions. At the same time, humanities and social science researchers amass large collections of digital objects during research that they are then tasked with curating and stewarding. Data management plans developed for quantitative scientific data offer little guidance for these researchers and lack of management training can mean this valuable data is often lost. It is important that we carefully consider the nature of data collected in the humanities, how it is curated, shared, and reused to build solutions that ensure the long-term availability of these data sets. Ethnomusicology, a discipline that collects sensitive cultural heritage data and that has a tradition of depositing that data into archives for reuse, poses an important case study in the importance of domain-specific considerations.

Ethnomusicologists seem to disagree on exactly how to define their discipline. In his Oxford Bibliography, Bruno Nettl offers the frequently used definition "The study of music in relationship to the rest of culture, and the study of the musics of the world from a comparative perspective."[2] The term ethnomusicology places the discipline at the intersection of ethnography and musicology. It is by nature an inter-disciplinary field that often questions its own identity in relation to and apart from those disciplines. Margaret Sarkissian and Ted Solis recently conducted interviews with ethnomusicology researchers about how they would position themselves in the field and recorded a similar range of responses. While some researchers criticized the centrality of Western musical theory traditional to musicology, others questioned ethnographic traditions that risk exoticizing other cultures' music. Still others considered themselves musicians who study a diverse range of music making. One aspect that is common in many of these responses goes back to Nettl's definition- researchers are interested not only in music theory, but in the cultural contexts that helped form that music.[3].

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[1] For example, Carlson, Samuelle and Ben Anderson. "What *Are* Data? The Many Kinds of Data and Their Implications for Data Re-Use" *Journal of Computer-Mediated Communication* 12, no. 2 (2007); Faniel, Ixchel M. and Elizabeth Yakel. "Practices Do Not Make Perfect: Disciplinary Implications for Repository Data Curation." *Curating Research Data* 1 (2017); Atici, Levent et al. "Other People's Data: A Demonstration of the Imperitave of Publishing Primary Data". *Journal of Archaeological Method and Theory* 1, no.3 (2012)

[2] Nettl, Bruno. "Ethnomusicology" *Oxford Bibliographies* November 29, 2017. DOI: 10.1093/OBO/9780199757824-0224.

[3] Sarkissian, Margaret and Ted Solis "Self-Positioning in and Reflections on the Field" *Living Ethnomusicology: Paths and Practices* University of Illinois Press, 2019. DOI: 10.5406/j.ctvhrd1nb.

In 2009, Janet Topp Fargion published an article advocating for better management of ethnomusicology field recordings. She identified the ways that recordings were useful both for reuse by ethnomusicologists who need to understand the historical context of music tradition and for source communities who can use these recordings to reestablish cultural traditions. At the same time, she highlighted the persistent practice of researchers creating recordings for their own research purposes. This meant they did not consider the metadata and formats which would enable long-term preservation and access. Her article called for more active care of these recordings throughout their lifecycle and better training in best practices so that researchers can take on this work in the field. This can be understood within the context of a growing movement for digital curation and open data in social science and the humanities. It was published three years after the American Council of Learned Societies released a report titled "Our Cultural Commonwealth" calling for an investment in cyberinfrastructure for the humanities which "will benefit the public and the specialist alike by providing access to the breadth and depth of the cultural record."[4] Also in 2006, the Open Context repository debuted to encourage archeologists to publish their field notes, maps, and other data on the web. Eric Kansa, who helped establish Open Context, later argued in a publication with Sarah Whitcher that in archeology, "lack of information sharing not only inhibits scholarship, but also represents a tragic loss of irreplaceable cultural and historical knowledge."[5] The same year Topp Fargion's article was published, Purdue University Libraries shared their data curation profiles project, which asks the question "Which researchers are willing to share data, when, with whom, and under what conditions?"[6]. In 2010, the DIPIR project sought to understand more about how social scientists, archeologists, and zoologists used contextual information to determine how they reused data created by colleagues in their fields.[7]

Like archeology, zoology, and social science, ethnomusicology has a history with the reuse and preservation of its data. Like other ethnographic research methods, however, this history is also tied to complicated colonial legacies. The field began in the late nineteenth century as comparative musicology- the invention of the phonogram allowed Western European archivists and researchers to travel to other cultures and record their music, hoping to trace the evolution of the human expression of musical culture from its more "primitive" forms.[8] Central to this study was the field recording, which acted as the raw data from which ethnomusicologists formed their theories. Ethnomusicologists have acknowledged their field's relationship with colonial ideologies, and many are considering how they can actively work against them in their practice. As Topp Fargion points out, this can translate into a hesitation to deposit or share field recordings, "Depositing recordings made in Ghana, for example, in an institution in the UK, could be construed as a colonial or imperialist act…The claim that recordings were being made for one's own research purposes and were not being deposited in archives was a way of

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[4] "Our Cultural Commonwealth". *American Council of Learned Societies Commission on Cyberinfrastructure for the Humanities and Social Sciences* (American Council of Learned Societies, 2006), 2.

[5] Kansa, Eric C. and Sarah Whitcher Kansa. 2013. "We all Know That 14 Is a Sheep: Data Publication and Professionalism in Archaeological Communication." *Journal of Eastern Mediterranean Archeology and Heritage Studies* 1, no. 1 (2013), 90.

[6] "Overview" Data Curation Profiles*,* 2009, http://datacurationprofiles.org/overview.php.

[7] "Dissemination Information Packages for Information Reuse (DIPIR)". *OCLC* https://www.oclc.org/research/areas/user-studies/dipir.html, Accessed December 15, 2020.

[8] Ames, Eric "The Sound of Evolution" *Modernism/ modernity* 10, 2 (April 2003): 297-325. DOI: https://doi.org/10.1353/mod.2003.0030

avoiding such labelling."[9] Ethnomusicology researchers who do engage with open initiatives, therefore, do so with caveats. As Muriel Swijghuisen Reigersberg states, "The importance of sharing ethically and perhaps, therefore, selectively is not always fully understood by other open access supporters, some of whom lobby for the open sharing of all academic content, including data…"[10] It is not simply a lack of data management training that prevents the curation and sharing of ethnomusicology data, but concerns around how access to data relates to a broader reform of research practice.

It is still common practice for ethnomusicology researchers to deposit their research data in archives, but many archives are still faced with deposits that were collected without care for metadata and preservation-quality formats. These collections have only grown more complicated with the introduction of digital formats and digital data. It is now about ten years after the publication of Janet Topp Fargion's article and there is still uncertainty around data management in ethnomusicology. What needs to be explored is how debates around open access, open data, and increasing volumes of digital content affect the way that ethnomusicologists collect material associated with their research, share it, and deposit it into a collection. As a start, I have conducted semi-structured interviews with ethnomusicologists and professionals working with ethnomusicology data inspired by the basic format of Purdue University's data curation profile interview. Recruitment was through an email sent out to members of the Society for Ethnomusicology and to department heads at ethnomusicology programs in the United States. Interviews were conducted with seven participants including senior ethnomusicologists, graduate researchers in ethnomusicology, and professionals managing ethnomusicology data both in archives and at research institutions. They represented seven different institutions in the United States, Germany, and the UK. Data Curation Profiles are time-intensive interviews that ask researchers to describe their data management process, their data lifecycle, and their attitudes towards sharing and preserving their data. However, to avoid overwhelming participants with a long-format structured interview and to better address my research questions at this stage, my shortened interviews used lines of inquiry from the profiles to focus on the three following areas of inquiry:

What is Ethnomusicology research data?

- Are recordings still the primary form of data being created and collected?
- How has the nature of data changed as the field has adopted to new research methodologies and digital information networks

How is it being shared or discovered?

- What motivates researchers to make their data available for discovery?
- Who is using ethnomusicology research data?

How is it managed?

- What best practices and training do researchers use?

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[9] Topp Fargion, "For My Own Research Purposes?", 81.

[10] Swijghuisen Reigersberg, M.E. "Ethical Scholarly Publishing Practices Copyright and Open Access: A view from ethnomusicology and anthropology." *Whose Book is it Anyway? A View from Elsewhere on Publishing, Copyright and Creativity*, edited Janis Jeffries and Sarah Kember. Cambridge, UK: OpenBook Publishers, 2019, 40.

- How do researchers manage their large collections of data as they are collecting it?
- What support do researchers want from repositories?

What is Ethnomusicology data?

Even as the field has changed, Ethnomusicology largely remains concerned with recording different processes of making music through ethnographic fieldwork and collaborating with musicians to capture the context within which the music is created. The field recording remains the dominant data produced during research. In 2009, when Janet Topp Fargion wrote her article about research data management practices in ethnomusicology, she stated "Making recordings in the field is, seemingly, a methodology taken for granted."[11] This was confirmed during my research, with almost all participants listing field recordings as their primary form of data. The contents of these recordings vary somewhat between participants. Of the seven individuals interviewed, all referenced interviews as an important aspect of their work. One researcher stated, "I think most of our most of our data is actually discussions about music. And then maybe some recordings of examples and things, but we're much more concerned with how people talk about and think about the music that they're doing." As this researcher notes, recording performance is also a prominent form of data. Some researchers mentioned leaving their recording devices running during performances, cultural festivals, and music rehearsals so that they could have a record of the event to reference later. One more senior researcher mentioned that creating good-quality recordings of performances he felt were especially historically significant was a central part of his research practice. Over half of the participants also mentioned that they had private reference collections of commercial recordings, some of which are considered rare or important.

Reinforcing the importance of context, researcher data includes a large volume of photographs and video recordings. Field notes further record details of context, information that would not otherwise appear in a recording or photograph. Along with capturing external contextual information, ethnomusicology researchers are also concerned with the internal experience they have as participants in musical culture. Field notes act as ways of organizing data and assigning metadata at the end of a day of fieldwork, but many of the participants also emphasized the importance of recording their own affective experience of the performances or traditions they witnessed. One researcher mentioned extensive field notes reflecting on his experience, he characterized his field note method as "I'd start taking notes about everything I remember that happened there, from my point of view, because I'm in my own body." Another researcher, who also helps manage ethnomusicology data, mentioned the importance of tacit knowledge in some research methods. She frequently has researchers who are unsure how to describe their emotional experience in terms of "data", "if they say We're playing music myself with learning an instrument myself. Then the next question is difficult to answer, like what is the data then?"

Interviews and in initial research revealed some emerging changes in research methodology and a corresponding shift in ethnomusicology data. In some ways, the traditional method of traveling to a community and recording their performances is changing. One ethnomusicology researcher, who now works at an ethnomusicology archive, stated that when he was a graduate student "there were a lot of hesitation on the parts of graduate students back then, and I shared the idea, of going out and being the expert in the field and making the recordings and then coming back and deciphering the music culture

[11] Topp Fargion, Janet. "For My Own Research Purposes", 77.

and publishing about it and being the expert." This shift is related to the emergence of Applied Ethnomusicology in the 1990's as a subfield of the discipline. Jeffrey Titon, among others, called for a shift away from a researcher as passive observer of a community to active collaborator. Applied Ethnomusicology involves a field method that directly benefited communities through helping to change policies that would benefit the artists they work with, advocating for cultural traditions, and assisting in educating community members to preserve those traditions.[12] This methodology can be understood within a growing movement in qualitative research methods away from the researcher as expert, to a practice that acknowledges subjectivity and invites collaboration. Anthropologist Eric Lasseter called for collaborative ethnography, which he defines as "The collaboration of researchers and subjects in the production of ethnographic texts"[13] Building on feminist principles and the concepts of applied and public anthropology, Lassiter explains the importance of recognizing interlocutors as collaborators, which could mean co-authorship in published texts. Researchers are thus more aware of communities as stakeholders in research products, meaning that their needs and concerns should be factored into how they are curated. It also means that any published version of those products may need to recognize multiple co-authors, thus complicating Intellectual Property and copyright concerns.

Digital networks have, in many ways, made this collaborative research practice more feasible. As opposed to limiting interaction with communities to time spent in the field, researchers can interact with communities throughout their research process through online tools. One PhD researcher noted less travel and more interaction and collaboration with community members online, including accessing recordings they had made themselves, "many of the other people you're studying have ways to record and document themselves. And that information, sometimes it's even more interesting than what you can get yourself." It is in many ways fitting that research took place during the Coronavirus pandemic. Travel restrictions have forced many researchers to consider how they can continue fieldwork through digital environments in lieu of traditional ethnographic methods. Beyond collaboration with interlocutors, researchers are finding a wealth of contextual information about musical cultures online. This includes websites, social media posts, and tiktok videos. Researchers mentioned printing out websites, taking screenshots of facebook comments or Instagram posts, and collecting website URL's. Social media platforms also enable long-distance research collaborations between different disciplinary researchers and communities. For example, a research project presented at the 2017 International and Inter Disciplinary Conference on Arts Creation and Studies involved conservationists, ethnomusicologists, and performers connecting over social media to research, conserve, and revive interest in the bundengan instrument from Indonesia.[14] This type of ethnography has been labeled "Hybrid ethnography" by Liz Przybylski who has an upcoming publication with that title.[15] Born-digital data and collaborative research practices continue to complicate an already complicated data management process in ethnographic methods. Researchers may consider websites, social media

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[12] Titon, Jeff and Svanibor Pettan. "An Introduction to Applied Ethnomusicology". *The Oxford Handbook of Applied Ethnomusicology.* Oxford University Press, 2015. DOI: 10.1093/oxfordhb/9780199351701.013.2 .

[13] Lassiter, Luke Eric. "Collaborative Ethnography and Public Anthropology." *Current Anthropology* 46, No. 1 (2005): 83.

[14] Cook, Rosie H., et al. "Bundengan: Social Media as a Space for Collaboration in the Conservation and Revival of an Endangered Instrument." *Proceedings The 2nd Annual of International and Interdisciplinary Conference on Arts Creation and Studies* Institut Seni Indonesia, 2017.

[15] Przybylski, Liz. "Hybrid Ethnography, Online, Offline, and In Between". *Qualitative Research Methods* 58. Sage Publications, 2020.

platforms, texting or team collaboration threads as data, but preserving data created using proprietary software is notoriously difficult. User agreements specify different levels of ownership over material created on these sites, meaning researchers may not have total ownership over their data. Companies tend to limit API capabilities and options to download content from websites, often meaning some aspect of the look or feel of content is compromised and the data is in a format that is difficult to preserve. Comments and websites may be taken down by platforms after a period and even non-proprietary websites need to be carefully maintained. Finally, researchers using online recordings created by interlocutors or collaborators from communities must be even more cautious to obtain permissions and to record creator, rights, and ownership metadata. While these recordings may be a vital part of research, ownership of this content legally belongs to its creator- or, more often- to the platform on which it was created. With increasingly digital ethnographic and collaborative research methods come new concerns for data management practices.

While ethnomusicologists do not often reuse the work of their colleagues, revisiting historic collections marks another recent shift in methodology. Most researchers interviewed did not initially use other researchers' recordings or visit archives. One participant stated, "I mean we do have a lot of historical traditional stuff. But I guess we're interested in how it's being performed now, or very recently." Another researcher, when asked if he used other researchers' data or recordings in an archive, said it hadn't been a part of his research practice, explaining "…it's also very much a solitary endeavor. So there's a lot of expectation that you have done all your own field work, that you have written the whole thing yourself. It's all by you." Carolyn Landau and Janet Topp Fargion noted in 2012, "Ethnomusicologists made their own recordings in the field and often considered recordings made by others to be of less importance or interest."[16] In this publication, however, they support a growing interest in researching existing collections and making them accessible. This is important for a revival and reinvention of comparative musicology, but also for the partnership with source communities advocated by applied ethnomusicology. The second researcher quoted above also mentioned that he has transitioned away from working in the field and is currently working on researching, describing, and making accessible archived folkson musical scores with the hope that it will revive interest in the tradition he researches. There is also growing interest in the kinds of data analytics that could be applied to digitized or born digital ethnomusicology data. One researcher I interviewed is conducting most of her research through using available online datasets and performing social scientific analysis on them. In a 2014 research paper titled "Big Data for Musicology", researchers from the University of London listed ways in which widely available, aggregated recordings could be analyzed to explore how performance changes over time and between different cultures, questions central to the fields of comparative musicology and ethnomusicology.[17] As previously noted, however, historical lack of data management in ethnomusicology and resulting messy collections mean there is much data cleaning labor to be done to enable this work.

How is it being shared and discovered?

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[16] Landau, Carolyn. "We're All Archivists Now: Towards a more Equitable Ethnomusicology." *Ethnomusicology Forum* 21, 2 (2012). DOI: 10.1080/17411912.2012.690188

[17] Weyde, Tillman et al. "Big Data for Musicology" *DLfM '14: Proceedings of the 1st International Workshop on Digital Libraries for Musicology* (2014), 1.

Even as more researchers are attempting to work with existing ethnomusicology data and to make collections accessible, many still hesitate when it comes to sharing their data. In many ways, this is due to precedents in ethnomusicology research that do not support sharing and using field recordings, as one researcher noted "the nature of the ethnomusicology discipline, researchers tend to be very individualistic, you know, it's like they collect their data, but there's not usually a desire to share in particular." A researcher who has published his field recordings as LPs noted that this type of access is unusual, "they (ethnomusicologists) might write about them and they might make printed musical transcriptions of some of them, but you never get to hear the stuff. Nobody else does until it finally goes into an archive and a lot of them are frankly not very well-recorded." Another researcher currently working on a dissertation mentioned that he would eventually deposit all of his material into an archive to be accessed, but not for 30-40 years when the material is already considered old. He explained that this was the existing model for him to follow. This practice was echoed by more senior researchers that I interviewed, who confirmed that most of their field recordings had not been shared, that they had been waiting until retirement from research to determine which archive they would donate material to. Beyond a lack of precedence, some participants noted a fear that sharing too early could harm their careers. As one researcher stated, "… it's kind of like the scientists sharing their data, that's their work, they have to publish stuff that's unique in order to get credit, same thing goes for data in our field… I'm not going to release a lot of my materials until I've written about it and publish what I can from it". Another participant had worked with younger ethnomusicology researchers with rich private archives who had no intention of sharing because they have no professional reason to, "They have splendid private archives that nobody knows about, and they don't talk about it because they think they're not getting credit for what they're doing."

Beyond personal, professional barriers to sharing is the growing emphasis on honoring partnerships with performers and communities and concerns about how access to recordings could impact those partnerships. This is particularly sensitive for some researchers who work with indigenous groups, as with one of the researchers interviewed who stated, "ethical concerns are not so much around making money and who owns that money, but around cultural identity property and the good or in some cases damage you could do by sharing things that may or may not be shareable with particular communities". For one researcher, remuneration was an aspect of concern when it came to allowing access to his recordings. He created commercial recordings from his field work and had built networks of trust with his community by giving performers a share of royalties. He explained, "I wanted to share the material, the problem is that of course there's an awful lot of unauthorized use of material these days…things that are in print just get reused without attribution, photographs are put on the internet, recordings wind up on YouTube, and no royalties are paid or no credit given, it's just a really a bad situation." Beyond concerns with intellectual property, researchers were worried about sensitive content in their recordings that may cause harm. The nature of some researchers' field methods, of simply leaving recording instruments on during informal jamming sessions, meant that participants were recorded saying things they would not otherwise share "so you can imagine... Five or six guys sitting around in a circle in chairs, playing music and taking long breaks between songs, talking about all kinds of stuff and gossiping." Another researcher confirmed what he referred to as "inter-community issues" that could be caused by what some community members divulged during interviews or informal conversations. Ethnomusicologists also think about the complex history with community access to recordings. One participant with experience in archives mentioned that open access may only be a painfully ironic reminder of a long history of barring community members from using their own material,

"…in the past, people couldn't come and listen to a recording of their grandmother because they weren't a researcher… am I really going to be the person to.. say, now we want to put them online for free for everyone to listen to".

For some researchers, however, dedication to these partnerships is what motivates them to provide better access to their data. As researchers have noted, many ethnomusicologists take issue with the practice of recording cultural heritage without any systems of reciprocity built into field work. Not only does this mean giving copies of their recordings to communities or community archives, but it involves assisting in making existing archival collections more accessible. One researcher notes her frustration that while the archive she partners with is able to provide some access to the source community, it's limited "there is this problem of how do people get access to this. The communities I'm working with have contacted the archive, but if people really want to see my whole collection, they have to travel to (the archive)… that's a problem." Like other humanities scholars, many of the ethnomusicologists I interviewed believed access to their work was also beneficial to the general public, "You know, I don't publish just for my professional colleagues or students and I don't write just for them, I write for anyone that's interested in the music." Another researcher stated, "I think a lot of us look at our work as being useful not just for our own academic endeavors, but potentially also useful for the communities that we work with, or also the general public." Researchers mentioned the belief that preserving recordings was important because it preserved a vital aspect of human history, "I just feel that way about my own data, but also about my colleagues, because otherwise, why are we doing this if it's not... If we don't think it's important, and we're trying to preserve a snapshot in time of musical culture." This language echoes some of the advocacy around the open access movement such as the 2006 "Our Cultural Commonwealth" report, which advocated for ways in which digital access to cultural heritage would benefit both scholars and the general public.[18] Jeffrey Titon uses the language of commonwealth on his sustainable music blog, advocating for expressive culture to become more of a shared resource, "What folklorists can contribute to the discussion of a cultural commons, then, is based in part on this longstanding concern, where the advantages for a community of shared resources are plain: acceptance by, and accessibility to, anyone and everyone."[19]

While several participants reinforced the individualistic nature of ethnomusicology research, they also mentioned networks of collaboration with researchers that they had already participated in or would like to. While this rarely involved sharing raw data, many researchers explained that it was important to share some resources with other scholars working in their area or to be in contact with them. One participant explained,

> "There's two other researchers that I have kind of shared with but .. it's very limited about we actually shared with each other…what we shared was older recordings that are just harder to find, and digitized kind of more like archival material… we went to different repositories and different people and shared everything that we were allowed to share with each other."

Another researcher advocated for the benefits of more collaboration between researchers, "Like if I'm going to study a community in China, for example. Oh, it will be great to know that some people already

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[18] "Our Cultural Commonwealth". *American Council of Learned Societies Commission on Cyberinfrastructure for the Humanities and Social Sciences* (American Council of Learned Societies, 2006), 2.
[19] Titon, Jeffrey. "The Commonwealth of Culture". Sustainable Music, 2013. https://sustainablemusic.blogspot.com/2013/

went to that community in China… I already can have data from those experiences, data that can be shared and public and then that can give me a foundation in order for me to conduct my own research and guide my own research." Most participants stated concerns about sharing recordings too early, or sharing certain types of recordings, but one researcher relayed a positive example of how sharing her recordings enabled new scholarship, "I gave all my audiovisual recordings to a bandleader in… the village where I work. And he published a blog, but he didn't publish my material because people also have some ethics, they make something new out of it." Interestingly, some researchers mentioned that they wanted to share their interviews in service of transparency and trust, "I think that people reading my work, they should be able to access the original files to see how much I divert or how much things could be different." Another researcher stated, "When I do deposit it in an archive… people do have access to the recording itself. And so they can go back to that section and actually hear the person speak for themselves and they hear what they say on how to get permissions."

A few of the researchers actively supported open access. For these participants, one of the main reasons they believed ethnomusicology should engage in this movement was a fear that the discipline could be left behind when important infrastructures and policies are created. They stated that better support for managing digital data was going to disciplines that more readily participated in open access, "Our needs, in terms of support, are less-understood than the sciences, because they have been running the show as far as data management- they were the first to prioritize open access, so there is still a lot of catching up that we need to do in the arts and humanities." Another researcher believed that not only does participating actively in open access enable better support, it allows researchers to determine themselves what aspect of their data to make open, "if you want a good management of your data. You also need to be open to publish at least not open to publish everything or to make everything open data, but to make a decision on what could become open data, even if it's just the metadata." The researcher who works with aggregated ethnomusicology data and is excited about more collaborative work expressed her frustration that fewer humanities disciplines were working to create their own data repositories,

> "numbers are the core for quantitative research, obviously we're gonna find way more repositories that provide numerical data than ones that are mostly based on observations or qualitative data. So, that is why, sadly, you know, so many sciences are ahead of the humanities. I believe we have not done enough because it's not that we cannot do more… but we still have a lot of work to do to close that one gap in the ways you can create repositories."

For these researchers, open access represents not only the potential to expand ethnomusicology research, but an increasingly expected and accepted aspect of scholarship. Avoiding engagement with this practice may deny researchers access to vital support and resources, not only in terms of data management, but in government funding as more agencies require depositing data.

How is it managed?

One of the open access advocates made the argument that while the recordings or field notes may not be open, metadata about these collections should be discoverable, "Metadata, then, is more important than raw data. If people know where metadata is, they then know where to find the data and can decide for themselves whether they need access to the raw data." Metadata was not a part of the field methods training most participants received. Many admitted that they neglected organizing and

labeling their data until it was too late and the contents were even indecipherable to the researcher, "I didn't take field notes back then, but I would still want to provide some metadata... Yeah, on some of the recordings where I don't have any field notes, I go back and listen. Who was that guy? I recognize his voice, but... Who's that again?" or, as another researcher recalls, "And it was just kind of like… this mishmash of stuff. And I was like, I guess I can only use these interviews really and sort of my own, like, practice recordings, because I don't know where everything is." Many researchers did not realize how important it was to curate their data until they were attempting to deposit it and their lack of metadata or their data format created a barrier. In addition to organization and data formats, ethnomusicologists must be careful about obtaining permissions from individuals in their recordings and they must make it clear how these recordings will be used and where they will be stored. As one ethnomusicologist and data manager explains, "In order to manage my data well I should have thought of it at the start of my project not just in terms of who should have access to it, but also what technological format should I be recording stuff in, who should be ethically made aware that I'm collecting this information and tell them where I'm storing it so that if they want to access it, they can know where to look in order to ask."

Interestingly, a few researchers mentioned the individual nature of ethnomusicology research as an explanation for a lack of preparation for organizing and describing their field data. One researcher expressed frustration that when he sought examples of systems of tracking and organizing data and metadata, he was told "It was always like do something that works for you and actually frustrating because I felt there was lack of examples of what that meant." When asked her thoughts about the discoverability of ethnomusicology data and metadata, another researcher explained, "They have like their own system individual systems that they use for data management and collection… we have to get the community to come together in order to define parameters for that as well." Topp Fargion pointed to this in her own publication about ethnomusicology data management. She explains that many ethnomusicologists only receive very general training, the assumption being that most field conditions will be unique and thus specific practices could not apply to all of them.[20] Among the researchers I interviewed, the amount of training they received varied. Some had been trained on recording equipment and had some knowledge of permission forms and documentation, but most were left to figure this out on their own by reaching out to colleagues and mentors or learning what not to do in the field through experience.

Many researchers mentioned a desire for more training in ethnomusicology data management. Knowing that I have a background in Library and Information Science, a few participants stated that they wanted more guidance from the archival community on how they should be preparing their collections for donation. Two researchers mentioned wanting archives to specify what data they wanted to collect, what metadata was important to include with that data, and what formats metadata should be in in order to easily deposit data, "…(how) archivists could also do a service for these academic fields, by yeah, giving them a little guidance is that in terms of metadata, here would be an excellent format that we could just import right into... Translate to Marc format or whatever the library and used to do their work, so that when you did go to deposit it in an archive will already be pretty much ready to go.." Another researcher, when asked whether he wanted more training in data management answered, "how would be like an acceptable way and easiest way for people to Intake documents and things and just kind of like a guideline." At the same time, other participants who had experience in archives

[20] Topp Fargion, Janet. "For My Own Research Purposes"?: Examining Ethnomusicology Field Methods for a Sustainable Music." *The World of Music* 51, no. 1 (2009): 84.

cautioned that it was important for archives and policy makers to account for the specific needs of ethnomusicologists as data management policies are being formed. When asked what support ethnomusicologists would want from a repository, one participant answered, “Ideally, staff who are prepared to have that conversation with us about what we need on a project-specific basis and not to assume that we are either like all ethnomusicologists out there and not just like the sciences – some rules that apply to the sciences do not apply to us, and that we may not want to deposit our work in the University archive but could potentially deposit elsewhere.”

Archives and ethnomusicology have a long history. Ethnomusicology archives are almost as old as the discipline itself- the phonogram archive in Berlin was founded in 1900 and was used by the founding members of comparative musicology.[21] For many ethnomusicologists, and for all of the researchers I spoke to, depositing their research materials into an archive is an expected part of their research process. Even still, most researchers in ethnomusicology do not interact with archives until the end of their career, when they are ready to deposit their work. As indicated above, ethnomusicology researchers seem unsure of the archival process: what they should include in their collection, what metadata needs to accompany it, and what formats and quality the archive will accept. This leaves archives to deal with historically messy researcher collections to process and a huge back log of work. One participant, a current ethnomusicology archivist, shared that “I'm also hesitant to take very much right now because I already have such a huge backlog, it’s again kind of unethical to keep taking collections and just letting them sit..” When asked what ethnomusicologists prioritized when considering a repository to donate their collections to, several brought up the issue of accessibility again, “they'll (archives) just prioritize whatever people want and they'll just digitize those things and then other things will be left because you know there's not enough time and money… Yeah, so just accessibility. I guess I would want to check up on that.” However, with the evident lack of curation practice in the field, processing deposited ethnomusicology collections to prepare them for broader access is often a labor-intensive task. While ethnomusicologists seem willing to learn more about managing data and using metadata, archives and repositories seem cautious about prescribing metadata formats and practices that are too technical and may not apply to the needs of researchers, “people Have come to the library and ask for help with a digital project have just been inundated with metadata standards and sometimes I think you know what they don't need that.” And while it seems that more archives are prioritizing access through digitization, they share a concern about harm that could be caused by unrestricted access to collections, “There are a lot of recordings that I currently oversee that I shouldn't even listen to them and I'm supposed to take care of them.” What both archives and researchers seem to agree on is that there needs to be more communication between them in the service of better access to collections. This means working together to determine how to provide better data management training and communication at every stage of the data lifecycle.

Discussion:

There is increasing interest in fostering collaboration between ethnomusicology researchers, renewing tradition through community use of recordings, and treating ethnomusicology collections as a commonwealth for the public through broader accessibility to data. Several online projects and repositories have already begun to explore how to enable this accessibility. As a part of his exploration of the benefits of open access in musicology as a PhD student, Darren Mueller cofounded Provoke!

[21] Ames, Eric “The Sound of Evolution”, 299.

Digital Sound Studies, an online repository for experimental scholarship centered around sound.[22] "Transforming Musicology" is a digital platform started in collaboration between several Universities in the UK that aims to digitize and provide access to musicology data in order to sponsor new projects in the study of music.[23] EVIA Digital Archive is a repository for ethnographic field videos, which makes them available for use by scholars and instructors.[24] PARADISEC is a digital archive for recordings of endangered languages and associated materials.[25] This reflects, perhaps, a broader trend in ethnomusicology away from the traditional model of collecting recordings and content from communities and depositing them in Western archives after a long embargo. Many researchers are more interested in working collaboratively with communities and each other, reevaluating and digitizing existing collections, and broadening the ways they collect and analyze data using new digital tools. These researchers are willing to consider ways to enable better discovery of ethnomusicology collections through metadata and linked networks. At the same time, there is more awareness about the potential harm of open access being universally applied to cultural heritage collections. Researchers who have long been working to foster trust with communities are wary of the call for sharing data that concerns their traditions. If ethnomusicologists want to join the open access movement, there must be changes to the existing model for depositing data, more and better training on data management throughout the research data lifecycle, and collaboration on best practices between researchers and archives and within ethnomusicology research networks.

When Janet Topp Fargion wrote her article advocating for better management of ethnomusicology recordings, it was in the context of a more sustainable music that would preserve these pieces of intangible cultural heritage for use by others. She stated the importance of being intentional about the purpose and lifecycle of these recordings from the start of a project, "To do this we have to have specific, carefully planned reasons and methodologies for making or using recordings".[26] If researchers want to participate in open access on their own terms, they must be clear about their intentions for sharing from the start of their project. They must carry this intentionality into how they manage their data. As one researcher stated, "how does my knowledge of research data management affect the way I do ethnography. It's interesting. Every step…the way you interact with People like you need to give them permission sheets and everything and from the beginning, you know that you need good quality data." This is especially important when applied and hybrid ethnographies mean complicated digital data formats with various co-authors and copyright concerns. Researchers must be especially careful about choosing what platforms to use for communication, how they plan to preserve websites and avoid broken urls, and whether their formats are open and non-proprietary. They must also be careful about recognizing collaborators and recording vital rights metadata specifying how this data should be accessed and whether it can be reused. It also means critically considering where this data should be deposited as it is being collected, conversations with community collaborators and archives about how to enable responsible access. This will make field work more difficult and

[22] "Provoke! Digital Sound Studies" Duke University, https://soundboxproject.com/index.html . Accessed November 4, 2020.
[23] "Transforming Musicology", an AHRC Digital Transformations project" Arts and Humanities Research Council, https://tm.web.ox.ac.uk/ Accessed November 4, 2020.
[24] "EVIA Digital Archive" Indiana University, http://eviada.webhost.iu.edu/Scripts/default.cfm . Accessed November 4, 2020.
[25] "PARADISEC" PARADISEC, https://www.paradisec.org.au/ . Accessed November 4, 2020.
[26] "For My Own Research Purposes?", 86.

researchers will need more support navigating the data management process. As Janet Topp Fargion argued in her publication, data management training must be a part of field methods courses in ethnomusicology. Library and archival professionals have been and could continue to be a source of this support. However, support and guidance will also have to come from within the profession. One participant stated, "I think people who are supervisors- people who, I guess, are early to mid-career researchers and have that relationship with their doctoral students, should be required to teach data management or to at least flag it at the time that researchers are doing work." As ethnomusicologists are beginning to support more collaboration in the research process, researchers should be more collaborative in sharing their data management strategies and building best practices from within the field.

Making ethnomusicology data more open will mean a reevaluation of the relationship between ethnomusicology researchers and archives. Archivists have experience with creating metadata for and providing access to collections. They could offer useful insight about what researchers can do at the beginning of and throughout their research process to facilitate better access once they are deposited. Researchers will have to be advised to reach out to archives about standards and expectations throughout their project instead of waiting until they are ready to deposit. In many ways, collaborative ethnomusicology requires researchers to think more about the archival process, which one participant pointed out to me "I think they will kind of and maybe they already are beginning to realize how important (archival processes) are. To the field in general… especially in this kind of giving back to communities. And making connections with other fans and researchers who are interested in this music." Researchers are considering how their recordings can be useful beyond their own scholarship, this requires a more careful curation of their collections. While library and archives staff can provide guidance on best practice for managing collections, researchers should advocate to staff members for how broad policies translate into their specific research process. They can provide insight about how ethnomusicology research is currently being done and their expertise can inform the development of policies about privacy, sharing, access, and preservation. These partnerships can ensure that broader access is done in a way that considers the unique nature of ethnomusicology data.

This attention to archival practice extends beyond preparing collections for traditional storage in an archive, but to a more proactive engagement with what depositing data could mean in an applied and open practice. As some participants have noted, more funding agencies are requiring researchers to create data management plans and deposit their research data. Discipline-specific and academic repositories have emerged in response to this change. While more common in quantitative sciences, repositories such as the archeology data repository "Open Context" represent domain solutions to needs in cultural heritage disciplines. Ethnomusicology data that is sensitive and has multiple co-authors may not be compatible with repositories that require an open or CC-By copyright policy. Heterogenous data sets that consist of audio-visual file formats require considerable storage space and specified preservation solutions. Ethnomusicologists stand to gain from advocating for the creation of their own domain repositories that address these needs. Even if depositing raw data into digital repositories is unrealistic for ethnomusicologists, the practice of making existing archival collections more discoverable should extend beyond digitizing collections to critical conversations about how collections should be accessed and how digital tools can aid in this work. Digitized collections do not have to mean uninhibited access. Library and Information scholars have developed tools specifically for navigating digitized cultural heritage collections in a respectful way. The Mukurtu Collections Management System,

for example, was created with non-Western cultural knowledge sharing protocols in mind and its mission is reflected in its metadata standards and software capabilities.[27] There are other solutions to providing better discovery of data. The SHARE model represents a tool that is not a repository, but an inventory of existing data in the sciences. Researchers record metadata about "what the data is; who created it and their affiliations; what organization and what program or grant funded its creation or capture (if any); where it is currently stored; who is funding the management of the data and how long that funding is guaranteed; and some notes on any access or use restrictions (e.g., embargoes, human subject constraints) that may apply to the data."[28] Investment in similar infrastructure for digitized ethnomusicology collections could allow broader discoverability while allowing researchers to determine what data they would like to deposit, where, and under what access conditions.

Conclusion

The current model for ethnomusicology data management largely leaves the organization and description of data up to the individual researcher. Due to the sensitive nature of recordings and the amount of work it takes to prepare them to be shared, these researchers wait to deposit their data in an archive until the end of their career. Once they are deposited, the bulk of responsibility for managing that collection and making it accessible falls to archivists. Open Access will mean that ethnomusicologists fundamentally change this model. Researchers will have to be conscious of curation at the beginning of their projects. They will have to consider who should have access to their work, the benefit of sharing material, what data is too sensitive to share, and how this access will affect the way they manage their data. This will make what is already complicated field work more difficult. Ethnomusicologists need to decide whether they feel the benefits are worth the challenges. While some researchers were interested in talking about data management and open access, other potential participants responded that it did not apply to their practice. One participant expressed frustration with increasing amounts of paperwork and policies already being added to the fieldwork process. There are compelling arguments for the benefits of ethnomusicology taking a more active role in data curation. There exist precedents for domain solutions to data sharing and repositories that allow for a more complicated model of data sharing. At this moment, it is up to ethnomusicology researchers to decide whether these benefits are worth fundamental changes to the existing model. They have an opportunity to engage in the open access dialog, make their specific needs known. They do not have to take part in this work alone. Archival and data management specialists have much to offer as partners in taking on these changes. Working with ethnomusicologists earlier and at more stages in the data lifecycle will also mean more work for professionals dealing with existing backlogs. At the same time, forging new and specific practices for data management in ethnomusicology will not only aid a shared dedication to access to ethnomusicology collections, but will facilitate faster and easier processing of collections in the future.

[27] Mukurtu.org, Accessed December 15, 2020.
[28] Lynch, Clifford. "The Need for Research Data Inventories and the Vision for SHARE." *Information Standards Quarterly* 26, no. 2 (2014), 29.

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