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“Windows” of Time: Memory, Metaphor, and Storytelling as Documents

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Introduction

A recent exploratory study with music practitioners of various traditions explored, among other areas, how these musicians view knowledge building and sharing. As these music practitioners discussed knowledge building practices and musical experience within their traditions, memories, metaphors, and stories emerged as powerful devices; they served as documents to support practitioners' views on time, knowing, and music making.

Memories, metaphors, and stories contain properties of documents when employed by musicians to share culture-specific information (Weissenberger, 2015b). Drawing from Frohmann's (2004) informativeness of documents, and building on more recent work by Turner (2007), these "alternative documents" contain materiality, reproducibility, institutionalization, and structure to support these practitioners' temporal epistemologies. Weissenberger (2015b) discussed memory, metaphor, and storytelling as documents within apprentice – master musician relationships. The study described here, conducted with musicians from various world traditions, demonstrated additional value of these alternative documents: their ability to provide evidence of changing epistemic perspectives over time.

Literature Review

From early emphasis on textual materials to one that embraced a multiplicity of what is meant by "documentation" and "document" through the work of Otlet (1934), Briet (1951), and Ranganathan (1963), Library and Information Science has embraced both narrow and broad ideas related to what, exactly, could be considered within our disciplinary scope (Buckland, 1997; Burke, 2007). Buckland summarizes "the evolving notion of 'document' among Otlet, Briet, Schürmeyer, and the other documentalists increasingly emphasized whatever functioned as a document rather than traditional physical forms of documents" (1997, p. 808).

Otlet, from Buckland's historical account of documents and documentation, ascribed what anthropologists might term "material culture" with document status (Buckland, 1997, p. 807). Briet (1951) took an information-as-sign approach, preferring the definition offering her definition of a document: "any concrete or symbolic indexical sign [indice], preserved or recorded toward the ends of representing, of reconstituting, or of proving a physical or intellectual phenomenon" (2006, p. 10). She also offers another definition: "A document is evidence in support of a fact" (2006, p. 9). This same treatise, titled "What is a document?" makes the famous argument for an antelope-as-document in certain contexts.

Frohmann (2009) questions the need to define “document” and “documentation,” preferring to study documents without the need for consensus on definitions. In an earlier paper, Frohmann describes what he terms the “informativeness” of documents, based upon practices and “what shapes and configures them...the materiality of documents studied, their histories, the institutions in which they are embedded, and the social discipline shaping practices with them” (Frohmann, 2004, p. 405). For these musicians, their memories, metaphors, and stories give materiality, reproducibility, institutionalization, and structure (Frohmann, 2004) to their ongoing practice of music-making and temporal epistemology.

As a construct, time is discussed to a limited extent in Ethnomusicology literature; for example, Rice (1995) is noted for his model that incorporates time, space, and metaphor to account for musical experience. Reducing the numerous philosophical approaches to time as it relates to human experience, Rice deems one approach “chronological and historical; the other is experiential and phenomenological” (1995, p. 162). Taking a phenomenological perspective, Rice explains musical experience in the present moment “is partly conditioned by inveterate previous experience” and, citing Heidegger (1927) argues “time doesn’t simply pass in a straight, measured line, but in fact is a fundamental aspect of our being and experience in the world” (1995, p.163). While Rice argues for a more holistic view of time as it informs musical practice and experience, his discussion does not specifically venture into the realm of epistemology.

Method

The purpose of the study described here in part, was to examine the nature (what music is), description (how music is described), representations (how it is manifest and perceptions of representing music), and theoretical ideas related to Music Information Objects (more on Music Information Objects can be found in Weissenberger, 2015a). This exploratory research investigated Music Information Objects in order to better understand their differences and unique considerations, as described and defined trans-culturally by knowledgeable musicians from a variety of traditions. According to these music practitioners, the following research questions were explored:

- Q1: What are Music Information Objects?
- Q2: How do music information objects (MIOs) appear represented in their many forms?
- Q3: How are the terms “music,” “information,” and “knowledge” perceived and characterized?

- Q4: What might these perceptions, characteristics, and music information object (MIO) representations say reflexively about the nature of music information?
- Q5: What are the implications for Information Science, and specifically the sub-field of Music Information Retrieval?

Semi-structured, ethnographic interviews took place with eleven music practitioners, selected purposively by the researcher because of extensive musical knowledge within a music tradition. Interviews took place either in-person, through Skype, or over the telephone. Considerable effort was made to diversify study participants as much as possible, from musical tradition practiced to gender and age. Although no quota was imposed on the sample, every attempt was made to create as diverse a sample as possible. Study participants varied in musical traditions, age, gender, background, and nationality. Five participants are female and six are male; five participants ranged in age from 50 to 70, and six participants ranged in age from 25 to 49. All participants except two reside in the United States of America. All participants met or exceeded the sampling frame criteria, especially in the expertise area; all are highly-respected musicians in their respective areas and enjoy considerable success as performers, teachers, composers, arrangers, music competitors, and/or as ambassadors of their music.

While eleven practitioners were interviewed as a part of the overall study, practitioners of the five following traditions are represented in this discussion: Ugandan Baganda music; Clare-style Irish fiddle; Indian Carnatic and Hindustani music (sitar and tabla); Chinese zheng and guqin music; and classical harp. Stories, memories, and metaphors from five music practitioners are used to illustrate how these documents are situated in various musical contexts. Although this study's research questions were designed to elicit epistemological insights from participants, they were not developed with temporal aspects in mind, instead focusing mostly on how terms like "information" and "knowledge" are perceived and characterized. As described in the following section, the importance of time emerged through data analysis and the documents used to support epistemological viewpoints (memories, metaphors, and stories) through time became powerful devices.

Findings

The relationship between time and epistemology emerged as a significant part of this research. According to Dick, epistemology is the "theory of knowledge...a branch of philosophy concerned with a general treatment of the nature, origins, scope, and limits of human knowledge, its presuppositions and basis, and that investigates the methods by which it is acquired... [and is] traditionally devoted to

the study of the justification, or, more generally, the evaluation of the beliefs we have on the basis of some given body of evidence” (1999, p. 306). As participants discussed music making, learning, and knowledge-building practices, they described temporal aspects to knowledge, and how salient contextual elements (perhaps distant in time) are to immediate music-making activities.

Temporal Epistemology is a term offered to account for this ongoing process, and can be defined as ways of knowing and coming to know that vary over time, marked by memories, metaphorical relationships, and stories – which act as alternative documents that provide evidence. Temporal epistemology incorporates music practitioners’ non-linearity of time within musical experience and as an ongoing process of music making. Practitioners discussed time’s relationship to musical knowledge in several ways: within music performance contexts, within teaching contexts, and to mark the ongoing process of self-discovery.

Some of the practitioners – the classical harpist, the Clare-style Irish fiddler, and the Indian classical musician, especially – seemed to measure their changing temporal epistemology through their students. They spoke of measuring their own progress as a teacher by the students’ progress and the types of students, how they learn, what they have done within the tradition and how the practitioners marked their own prowess and knowledge as a teacher. This way of discussing their own progress as a teacher/knower/practitioner could be due in part to an unspoken avoidance of being egotistical, something referenced by the Clare-style fiddler and the Indian music practitioner. The Indian music practitioner said at one point in her interview: “I was known for that [musical ability]... I suppose I can say that now [laughs] without sounding boastful.”

Chinese Zheng and Guqin Music

Alternative documents contributed to these music practitioners’ underlying perception of time and the knowing process, such as the ability to embody experiences in different periods of time simultaneously as well as separately. For example, the Chinese music practitioner spoke about memories associated with a time in her life or with certain people that manifest when she’s playing a piece of music in the present moment, as well as when she is not playing the piece:

Another level is the personal feeling, you know... a lot of pieces are associated with memories...for myself...when I play it doesn’t communicate to other people but it communicate[s] with me. Like, there’s one piece I play that – every time I play – I will think of my teacher, in middle school/high school, my first teacher, you know, and we are still very good friends. I have very deep feeling with her, and we’re like sisters. So, I remember when I was younger, when I first learned this piece, I just listened to her CD again and again and again... and cry...you know, it was very

emotional...and still it strikes very deep within me. So definitely, my memory with this music involves a lot with this personal feeling with her.

This piece allows her to be in two dimensions of time simultaneously – both in her memory, and in her present performance. The memory is encompassed by the present but the memory lives beyond the present.

Classical Harp

The classical harpist also spoke of Grandjany's Children's Hour Suite in a similar manner:

...the time I saw Marcel Grandjany playing at the Eastman School of Music, what a wonderful experience that was...to hear him play his own compositions as well as repertoire...he and Salzedo were basically the last of the harpist-composer tradition. I mean, they were highly-educated musicians and could compose their own music, and he played his own Children's Hour Suite, and it was an *illuminating* experience to hear how well he painted the pictures. They were basically Tone Poems...And how *well* you could visualize what he was doing, what he was trying to *communicate*...the picture he was trying to paint, and that was a remarkable experience for me.

The term “tone poem” is commonly used in Western Classical Music and refers to a specific type of musical composition that contains extra-musical, story elements. The music is meant to depict and illustrate, hence the practitioner's use of phrases like “picture he was trying to paint” and “visualize...what he was trying to communicate.” She noted as well that this memory encompasses that piece of music for her, whether she is playing it or teaching it to her students. In another section of the interview, she discussed how she draws upon her memory of this exceptional performance to inform how the piece should be played as well as how Grandjany's hands “really” looked while playing (the technique and hand shape attributed to Grandjany is a topic of debate in the harp community, she noted). As a document, this memory functions to inform not only her own musical interpretation, but also her teaching of the piece, and her physical technique on the instrument or “embodied” knowledge.

Indian Classical Music

An extended story told by the Indian music practitioner described her experiences as a younger woman learning from her second guru (teacher). Her reflections on temporal aspects of teaching and learning music within her guru karavas (like an

extended, intensive apprenticeship) serve to reflect her tradition's approach to time and knowledge building practices:

Our training is more like *guru karavas*. “Guru karavas” means you’re living and breathing the guru’s house. You eat there, you spend... In those days, many years ago, they would leave kids in the guru’s house and go away. The children trained there for many years. It’s like a conservatory or whatever you call it. And they do little chores in the house and the teacher feeds them and does everything...this was in olden times, not now. Probably centuries ago. And yes, so they stay in the guru’s house, they learn everything, and finally when they get ready to perform the guru takes them with him and allows them to perform in their concerts, and gives them the experience, and finally lets them go...you know, and then they go home, do whatever they have to do, and flourish. But, pretty much mine was [like a *guru karavas*] and my daughter, she’s a dancer...she had the same kind of experience, I mean...I would pretty much go in the morning...my class were only once a week on Sundays, and started at 10 in the morning and finished at 7 in the evening. Pretty much I was in their house but I would help – me, and there were 2 or 3 senior students, and we would, um...that was our job, to go in the morning. We served the guru; devotion. And, we would go there, clean all the instruments, and all the little juniors [younger/less experienced students] would come, and we would teach them. Then the next level would come: teach them. Then the next level: teach them. Up until this point, we haven’t even seen our guru! We do everything. And then, by which time it’s lunch time, and our guru’s wife used to cook for everybody on every Sunday, and we used to eat there. And, of course, me and the other students, we would discuss ragas – it was our time...to share, you know, notes and what we felt about the scale, and I think then – THEN he would come, after lunch and everything. And then maybe 2 o’clock, 3 o’clock he would come. And there would be some sub-seniors, and then next, next...and by the time our time would come, it would be almost 5:30/6 in the evening. And THEN we learn. Because by which time we have warmed up so much and we’re ready to go. And we played with every possible...you know...level. And, so...he would just play, and we would just follow. And, if you missed something, you missed it. There’s no spoon feeding, no recording in those days, right? So what you grasp is what you grasp. So you have to be exceeceedingly alert in the class, and try and absorb every little movement of the finger, and every little bend. Ok? So, we would sit at the guru’s feet, and we would learn...[hushed voice] just...watch...[normal voice] and keep following, keep following. So, if you have missed something and you stop him – stop the guru – and say, “Could

you please play that and show me again?” [pause] You missed it. The next time, you’ll be more alert. So, that’s the way we learned...very difficult learning. Actually, I did only two ragas for five years. If I went in the morning, I did Bhairav, and if I went in the evening, I did Puriya Dhanash. [Note: These ragas are specific to the time of day in which they are played, and should not be played at other times of day.]

Her first guru’s teaching approach was also one of slow, exploration of raga scales at the expense of quick progress. This practitioner’s temporal epistemology is further explored in this comparison between her first guru’s approach and the epistemic approach her American students want her to take with their sitar or tabla lessons:

Fortunately, none of my teachers rushed, ok? A lot of students nowadays feel that they must have a book FULL of ragas; a book full of compositions. Only then do you know you have learned a lot. I...ah, thankfully, my teachers were not like that. So if you picked a scale, we did it very well for almost a year or two, I mean, we’d still just dwell on it. So I learned the [raga] for one and a half years. That’s all we did. Explored the scale...did a lot of Alaps. Which – alaps means the very slow exploration of the scale. Very slow. Then you get into the absolute, under-the-skin of every note, and you play it. ...So, I learned that for one and a half years with him, and – to this day – I don’t think I have forgotten a nuance of that scale that he taught me.

Her memory of a particular scale, learned slowly and in detail, serves as documentary support for this approach to learning Indian classical music. Using metaphorical language like “under-the-skin of every note” denotes the importance of time in musical learning, and the importance of knowing something in great detail over learning many things without that level of detail. With this approach, time becomes the most important factor in growing musical knowledge slowly and thoroughly. She remarks on the dissonance between the temporal epistemologies of her American students versus her own temporal epistemology, built through extended periods of intensive, detailed study and a performance career in India.

Ugandan Baganda Music

The Ugandan practitioner emphasized that music is a process, not a structure, and also described outputs of his musical process as affected by time: “And all of the original compositions that I’ve composed for this class have all come out of the way I feel toward them at a specific time, you know.” He went on to tell a story about one of his compositions based on a classroom experience with the university

music ensemble he directs:

In the classroom, I look beyond Ugandan sounds, or Indonesian sounds, or all that kind of stuff; I look at experience. Experience is one of my primary areas of inspiration. Experience... I don't mean my *personal* experience, but – every time I walk into the classroom, I spend five minutes trying to study the students' moods; what they are going through. I pay attention to “where are we in the semester?” And all of the original compositions that I've composed for this class have all come out of the way I feel toward them at a specific time, you know. For instance, last semester I composed a piece about love. And, I walked in there, and these young ladies were very frustrated because some of them were getting their parts and others were not getting their parts but they were playing different instruments, and I was like “I think this is like comparing apples and oranges – you're playing harp, but you're jealous because one person is... you know, is playing better than you, but you don't even realize that you are as slow as your fastest runner [Note: the following sentences indicates he likely got slow/fast reversed] because this is an *ensemble*. Without the harp part, or the lyre part, or without the xylophone part, we can't put a performance on. So, I composed a song about love, and they didn't even know until they had learned the entire piece – in this song, you know, I was talking about how love cannot come... you cannot talk about negativity and talk about love... to begin with, you have to be very positive. Everything that you're thinking of has to be positive. And the story kept developing and developing...

The story above documents the time in his performing and teaching practice that his students needed to be reminded about collaboration. He explains that you cannot be consumed with negativity and separateness when dealing with the emotion of love – the composition served to bring students together; to make them compatible musicians instead of competitive musicians.

Irish Traditional Music

The Clare-style Irish fiddler also viewed music as an ongoing process, describing it as a “journey” where even the teacher never escapes being a student of the music themselves:

So as you go along, gathering information, in turn building up your own musical knowledge, educating yourself... Because, we're students – you, and me – we're students of the music we study and play, and in your case you've had other fields of study that you've done in your life. And you become a better student of the music you're playing – *you're* a better student

than you were twenty years ago; *I'm* a better student today than I was twenty years ago.

At another point, this same practitioner explained the slow change of temporal epistemology as follows:

...I think over time, windows open to you, where you can put yourself into the tune. I really believe that. And, I think that there are windows you [the player as an ongoing student of the music] can open, you just have to keep mashing the stuff around in your head.

His use of opening “windows” as a metaphor served to provide evidence for the process of how knowledge is built over time. An extended metaphorical story, told by this Clare-style Irish fiddler, described the approach he uses with technique and musical styles in Irish traditional music. The metaphor is used by this practitioner to teach students this approach:

You reminded me of this thing about technique. So, let's say...If me and you are standing...let's imagine it's in the Old West, let's say, and it's kind of desert-y, it's hot and dusty, and there's a train track right along where we're standing, and we can see off in the distance [one direction] and off in the distance [the other direction], and we can see the old train [sound effects] and it's coming along... And, as it's getting closer to the two of us, and the train is [name of Irish fiddler that isn't ideologically aligned with this practitioner], and you and I – we have to jump on the train. So we have to make adjustments to ourselves, physically, to jump on the train. So we've made those adjustments, we're on the train, we've changed our technique, our muscle memory and how we do this and that, and then we get down the track a bit and hop off, and we get back to where we were [originally] and then *another* train comes down the track, and it's [name of renowned Sliabh Luachra-style Irish fiddle player] – now we have to adjust again. We get down the track; we get off. The next train that comes down, that's [name of renowned Donegal-style fiddle player] – now we have to physically adjust again, and change our attitude, our approach... it takes a tremendous amount of technique to be able to know how to change our approach to bring in the flavors of this person or that person to our music.

With this metaphor, he urges students to adapt personal techniques, creativity, and musical voice of those musicians they both feel is kin to theirs, as well as those they feel are more distant from their own voice, by “jumping on their train” for a short while. Ideology of the musicians, with names redacted, serves only to underscore

the inclusivity of approach he wishes students to take with other fiddlers' music; both the Sliabh Luachra and Donegal-style players are personal musical favorites of this musician, along with being friends of his family, making them more ideologically and musically aligned with his own playing.

Future Research

In Library and Information Science literature, some scholars such as Dick (2006) argue against a rigid interpretation of time as it informs models, structures, and practice in the discipline. When Savolainen reviewed conceptual understandings of time in Library and Information Science literature, he does so by examining “temporal factors as contextual qualifiers” of information seeking (2006, p. 112). Hartel (2010) contextualizes the measurement of time within the hobby of gourmet cooking, using arcs to denote units of time as described to her by her gourmet cooking practitioners. She also described music as “a most temporally-aware discipline” (Hartel, 2010, n.p.), although that paper does not explore temporal aspects of music as it relates to the hobby of gourmet cooking. More research into the temporal influence on epistemology, both inside and outside the study of music or musicians, would be beneficial to Library and Information Science.

Herndon offers “a full study of the learning process [of musical traditions and their musicians] might include...metaphors, proverbs, similes used by the teacher(s)” (1974, p. 249). Future research into the temporal epistemologies espoused by these practitioners might take place within teaching contexts. Care might be needed to mitigate the researcher's presence in the teaching environment, a typically intimate space between individuals, and the potential effect of an outsider on the behavior and words of both practitioner(s) and student(s). However, valuable insight into these alternative documents could be gleaned from examining them within a wide variety of music practitioner–student contexts, and comparing them with master musician–apprentice contexts discussed by Weissenberger (2015b) and those discussed here.

Conclusion

Although this research initially focused on other aspects of knowledge building, information, and musical traditions, the idea of temporal epistemology emerged. Memories, metaphors, and storytelling become powerful cultural documents within music traditions. As documents, they provide a different kind of evidence to the construction of musical knowledge that doesn't rely upon scores or written sources of information at all times. Most of the practitioners interviewed within the study described themselves as primarily or exclusively aural learners and instructors. While the memories, metaphors, and stories might be expressed in an oral medium,

these documents exist at a conceptual level within each practitioner, serving as “windows” into points of time in their musical experience and throughout the ongoing creation of musical knowledge. These documents became a significant aspect of negotiating these views over time, creating a kind of temporal epistemology for each practitioner.

In addition, memories, metaphors, and storytelling document human experience – this may consist of individual experience or may extend beyond the individual to a collective (or imagined collective) experience. The notion of experience is increasingly relevant to Library and Information Science, as more and more “everyday” practices become subjects of study. As phenomena, time and experience are inextricably linked. Practitioners of music traditions demonstrated how they experience knowledge through time, using memories, metaphors, and stories to document their experience.

Early documentalists Otlet and Briet’s viewpoints of physical-objects-as-documents (Frohmann, 2009) demonstrated an encompassing view of what might be considered evidence of being informative, and therefore a document. Buckland’s (1991, 1997) scholarship reflected the desire to re-open these discussions in the 1990s, and more recently continued by Furner (2004), Frohmann (2004) and most recently Turner’s work with orally-based information and oral documents (2007, 2010). Extending the document’s scope into conceptual territory is not new; the idea of devices like memory, metaphor, and storytelling as evidence for epistemological dynamics is a new perspective offered on a diverse and complex subject. Through the perspectives of these five music practitioners, cultural knowledge building is seen as an ongoing process, emerging and shifting as perspectives and experiences change – these documents are the windows into that process.

References

- Briet, S. (2006). *What is documentation?* (R. Day, L. Martinet, & H. Angheliescu, Trans.). Lanham, MD: Scarecrow Press. (Original work published 1951)
- Buckland, M. K. (1991). Information as thing. *Journal of the American Society for Information Science*, 42(5), 351-360.
- Buckland, M. K. (1997). What is a “document?”. *Journal of the American Society for Information Science*, 48(9), 804-809.
- Burke, C. (2007). History of information science. *Annual Review of Information Science and Technology (ARIST)*, 41(1), 3-53.
- Dick, A. L. (1999). Epistemological positions and library and information science. *The Library Quarterly*, 305-323.
- Dick, A. L. (2006). Whose model, what context?: Cultural bias and the nested model of context stratification for information seeking and retrieval.

World Library and Information Congress: 72nd IFLA General Conference and Council, 20-24 August 2006, Seoul, Korea

- Frohmann, B. (2004). Documentation redux: Prolegomenon to (another) philosophy of information. *Library Trends*, 52(3), 387-407.
- Frohmann, B. (2009). Revisiting “what is a document?”. *Journal of Documentation*, 65(2), 291-303.
- Furner, J. (2004). Conceptual analysis: A method for understanding information as evidence, and evidence as information. *Archival Science*, 4(3-4), 233-265.
- Hartel, J. (2010). Time as a framework for information science: Insights from the hobby of gourmet cooking. *Information Research*, 15(4), 19.
- Heidegger, M. (1962). *Being and Time*. (J. Macquarrie and E. Robinson, Trans.). San Francisco, CA: Harper and Row. (Original work published 1927)
- Herndon, M. (1990). *Analysis: The herding of sacred cows?* In K. K. Shelemay (Ed.), *The Garland Library of Readings in Ethnomusicology: Cross-Cultural Musical Analysis* (Vol. 5, pp. 259-302). New York, NY: Garland Publishing. (Original work published 1974)
- Otlet, P. (1934). *Traité de documentation*. Brussels: Editiones Mundaneum.
- Ranganathan, S. R. (Ed.). (1963). *Documentation and its facets*. London: Asia Publishing House.
- Rice, T. (2003). Time, place, and metaphor in musical experience and ethnography. *Ethnomusicology*, 47(2), 151-179.
- Savolainen, R. (2006). Time as a context of information seeking. *Library & Information Science Research*, 28(1), 110-127.
- Turner, D. (2007). Conceptualizing oral documents. *Information Research*, 12(4). Available at <http://www.informationr.net/ir/12-4/colis/colis32.html>
- Turner, D. (2010). Orally-based information. *Journal of Documentation*, 66(3), 370-383.
- Weissenberger, L. K. (2015a). Toward a universal, meta-theoretical framework for music information classification and retrieval. *Journal of Documentation*, 71(5), 917-937.
- Weissenberger, L. K. (2015b). Traditional musics and ethical considerations of knowledge and documentation processes. *Knowledge Organization*, 42(5), 290-295.