

## The Shifting Locus of Musical Experience from Performance to Recording to Data: Some Implications for Music Education

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### Abstract

*This paper provides a speculative history and theoretical exploration of the shifting locus of musical experience over the 20th century, from live performance to recorded and broadcast sound, and increasingly toward computer-mediated sound through new media—from performance to recording to data. The term locus is used as a placeholder for mediated networks of people, practices, institutions, and technologies. As the locus shifts from performance to recording to data, the author theorizes that habits are formed in new ways through participation in these different networks, resulting in important implications for educators. The paper also explores the subjective nature of musical experience through fiction, notably James Joyce's "The Dead" and Richard Powers' "Modulation." Viewpoints of musicians emblematic of each locus are presented through the writings of John Philip Sousa and Glenn Gould, as well as the music of producer Otis Jackson Jr., better known as Madlib. The author closes with a set of issues or questions that flow from consideration of the shifting locus.*

When stories of music in the 20th Century are told, the importance of sound recordings is central to their plots. Certain concerts are, of course, also remembered, such as the 1913 Paris premiere of the *Rite of Spring*, Marian Anderson's 1939 recital on the steps of the Lincoln Memorial, and the Woodstock Music and Art Fair of 1969. But it is impossible to think about music of the past hundred years without an essential place for recordings: Enrico Caruso's 78s, Louis Armstrong's Hot Five and Hot Seven recordings, the ten-thousand recordings made by Duke Ellington, and the Beatles and the British Invasion. Recordings also afforded musical realms built from recordings, such as hip-hop sampling and techno music. The more recent extension of recordings into new media represents the latest extension of the possibilities of circulation and creation via sound recording. One cannot credibly tell the story of our century's music without sound recordings, the emergence of which is the central concern of the present article.

Recordings are not merely a way to store music and make it more accessible, they are a catalyst for profound changes in music, musician, and audience. In this sense, *sound recording* is a blanket term meant to invoke both media and the networks that constitute them—media such as the gramophone, radio, and MP3; and the networks of each medium, assemblages of people, practices, institutions, and technologies. This understanding of sound media as contingent networks of recurring relations builds on work in sound studies, especially Sterne (2003, 2012a). This particular approach also resonates with educational efforts to study technological change from a pragmatic philosophical perspective, a Deweyan approach with a strong contemporary literature (Hickman, 2001; Waddington, 2010).

Before moving forward with an account of the shifting locus, it is important to acknowledge the many other writers who have considered technological shifts and their relationship to art, a rich intellectual heritage that informs the present account. Benjamin (1936/1968) provided a Marxist accounting of art in the rising age of technological reproduction, finding a withering of works with aura and a rise in a doctrine of art for art's sake. McLuhan (1962/2008, 1964/2003) theorized that each era was dominated by a particular sense, such as the dominance of the visual sense in the print age, or our current audile-tactile "field of electronic all-at-onceness" (1962/2008, p. 63). Heidegger (1954/1977) presented technology as a framework for being, within which humans were reduced to standing resources, with art as an antidote to this reduction of being. Borgmann (1984) following Heidegger, developed the *device paradigm* to convey the process by which technology reduces once-rich focal practices such as playing the piano, to always-available commodities—recordings provided by devices such as speakers. Attali (1977/1985) provides a sweeping account of shifting networks in the political economy of music, from the ritual and sacrificial origins through a network of representation made possible by sheet music, then to the repeating network of recordings, finally heralding a coming network of composition that he relates to free jazz.

While many writers explore change as a progression wherein technological changes and advances contribute to shifting practices, others, notably ethnomusicologists, have discussed these innovations without such directionality. Nettle (2005) discusses modes musical transmission: from aural, to written, to printed, to recorded; noting, “These could even represent a chronological order, valid for Western civilization, but it is also a continuum of relationships, from close to distant, among composer, performer, and listener” (p. 292). Turino (2008) presents a four field framework based on Peirce’s semiotics: participatory and presentational musical fields within live music practices, and high fidelity and studio audio art musical fields for recorded music. Like Nettle, Turino stresses the possibility for all fields to be present and active, to and flow, while noting a progression in places such as the U.S.A. and Zimbabwe, where the pressures of a capitalist system for commodification favor the easily commodified presentational and high fidelity fields.

While each of the previous accounts provide tools and conceptions for making sense of the profound changes in music over the past hundred years, central to educators are the experiences of young people in their daily lives, which are explored here through the gradual but profound shifting locus of musical experience. Figure 1 provides a visual overview of the basic argument. The ways that music was most-commonly experienced in the Western world shifted over one hundred years; from face-to-face live performance, to recordings (which we might refer to today as analog media), and currently to new media—perhaps most memorable when shortened to a shift from performance to recording to data. Whereas nearly all musical experience was once had in the physical presence of live performers, today nearly all musical experience comes through sound recordings experienced via new media. The Kaiser Family Foundation (Rideout, Foerh, & Roberts, 2010) estimates that school-age children in the U.S.A. spend nearly eight hours of each day engaging with media, and a recent survey by Nielsen Media (2012) found that “more teens listen to music through YouTube than through any other source (64%)” (p.1).

What makes the shifting locus compelling for educators is the relation of experience to habit formation in the educational process. Habit has been a central concern for pragmatic philosophers and psychologists discussing education, including James (1899) and Dewey (1938/1963). Turino uses habit to discuss learning, proposing, “a unitary framework for thinking about the concepts of *self*, *identity*, and *culture* in relation to each other—a framework based on the focal concept of *habits*” (p. 94). Habits both

flow from, and are shaped by, our experiences, and as Turino notes, habits are central for the richer notions of self, identity, and culture.

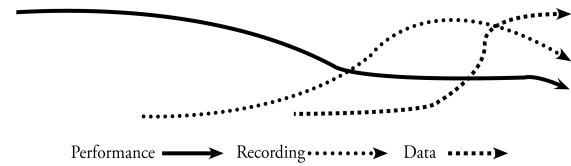


Figure 1. A conceptual visualization of the shift in the locus musical experience over the 20th century from performance to recording to data. Former loci of experience persist, but it is argued that musical habits are heavily influenced by the dominant locus, an influence that changes the context and meaning of older loci.

As the locus of musical experience has shifted from performance to recording to data, there has been a change in the ways in which musical experiences we had and the subjective meanings of musical experience. Attention to the locus brings attention not to the moment a technology emerges, but to when that technology has become a widespread component of experience. While sound recording can be dated back to the 1857 invention of the phonograph, this paper focuses on the early 20th century as the period when sound recording flourished, rapidly becoming more ubiquitous over several decades through innovations in the gramophone, phonograph, film, and broadcast radio. Technologies gain importance for consideration by educators as they become a part of everyday life, as they become a likely part of the experiences that habits.

The locus also reminds us not to focus on the technology in isolation, but as part of a larger network of people, practices, institutions, and technologies. Just as Benjamin (1936/1968) wrote of an *age* of mechanical reproduction, thereby indicating changes that would reach perhaps all aspects of art and not only the works that were reproduced, so we can find implications for the locus in areas that appear less technological. Even a concert choir should be understood as deeply enmeshed with the shifting locus: from new competition for audience time outside and inside the concert hall; to audiences who expect more of performers, having heard so much edited, perfected and now Auto-Tuned music; and to the social significance of that concert as the

world around it changes. This kind of attention to the shifting locus invites us to explore the implications of Marx's (1844/1988) famous words, "The forming of the five senses is a labor of the entire history of the world down to the present" (p. 108).

The shifting locus provides a fit for music educators who need to come to terms with technology without losing the social and educational dimensions, and who require richer causal accounts of technology that go beyond technological determinism (Smith & Marx, 1994). While there are many possible approaches to understanding the enmeshment of music, technology, and education, the particular needs of educators are here foregrounded by focusing on the enmeshment of people, practices, institutions, and technologies as they become ubiquitous enough to form the basis of habits. Whether one wishes to resist or embrace this shifting locus, the conceptualization presented in this article can help music educators organize action and begin to make sense of the fact that to perform in the world now involves different values and practices than to have done so when performance was the locus of musical experience.

The view of the shifting locus is derived here from two short stories where music plays a central but contrasting role, and the exploration of the careers of three musicians whose work is both held in high regard and emblematic, perhaps even a prototype, of each locus. The view of the performance locus comes through James Joyce's story "The Dead" (1914/1969). The skeptical resistance to recording is captured through an examination of John Philip Sousa's essay "The Menace of Mechanical Music" (1906). Glen Gould's writings and interviews allow a shift to the evangelistic adoption of the possibilities of recording, and the full extent of the data locus of today is achieved through an examination of Richard Powers' story "Modulation" (2008). Fiction provides not only rich accounts, but the opportunity to take into consideration the cultural and subjective side of sound from the perspective of those who lived within those cultures. As noted by Bijsterveld (2008), introducing her study of the problem of public noise, "Our challenge, then, is to historicize the sensory experience of sound and to listen to the sounds of technology through the ears of those people who complained about these sounds" (p. 26). This follows also the spirit of work by Schafer (1977/1994), whose World Soundscape Project created a database of thousands of accounts and mentions of sound in literature. The article closes with a recapitulation of the ways that music educators might begin to take

more seriously the reality of teaching and making music within the new media era.

### **Performance Locus as Depicted in James Joyce's "The Dead"**

James Joyce's "The Dead," the final story in his collection *Dubliners* (1914/1969), offers a glimpse of the world just before sound recording became a ubiquitous part of everyday life. Published in 1914, Joyce wrote "The Dead" in 1907, and set the story during a dinner held on Epiphany in 1904. To read Joyce's story is to be immersed in a time when music was nearly always experienced through face-to-face live performance.

In "The Dead," Gabriel Conroy and his wife Gretta attend the annual dance given by his Aunts Kate and Julia Morikin. Both sisters are singers and music teachers. The story is built around musical moments such as this one, where Joyce describes pianist Mary Jane's accompaniment of Aunt Julia (All quotes retain Joyce's unique spelling and punctuation):

A murmur in the room attracted his attention. Mr Browne was advancing from the door, gallantly escorting Aunt Julia, who leaned upon his arm, smiling and hanging her head. An irregular musketry of applause escorted her also as far as the piano and then, as Mary Jane seated herself on the stool, and Aunt Julia, no longer smiling, half turned so as to pitch her voice fairly into the room, gradually ceased. Gabriel recognised the prelude. It was that of an old song of Aunt Julia's—*Arrayed for the Bridal*. Her voice, strong and clear in tone, attacked with great spirit the runs which embellish the air and though she sang very rapidly she did not miss even the smallest of the grace notes. To follow the voice, without looking at the singer's face, was to feel and share the excitement of swift and secure flight. Gabriel applauded loudly with all the others at the close of the song and loud applause was borne in from the invisible supper-table. It sounded so genuine that a little colour struggled into Aunt Julia's face as she bent to replace in the music-stand the old leather-bound song-book that had her initials on the cover. Freddy Malins, who had listened with his head perched sideways to hear her better, was still applauding when everyone else had ceased and talking animatedly to his mother who nodded her head gravely and slowly in acquiescence. At last, when he could clap no more, he stood up suddenly and hurried across the room to Aunt Julia whose hand he seized and held in both his hands, shaking it when words failed him or the

catch in his voice proved too much for him. (1914/1969, pp. 244-245)

In “The Dead,” this performance is at the foreground of the party. The moment captures three key aspects of the performance era: house-music culture, the skills of performers who only knew music through performance, and the skills of listeners to appreciate performances. These aspects, emanating from the physical presence of the performers, draw the attention of the partygoers from even the supper-table in the next room.

House-music culture thrived throughout Europe until the rise of recording, a culture where amateur music making formed a central part of an evening’s entertainment (Philip, 2003). Now largely forgotten, the need and desire to make music in the home was filled through performances a mix of professionals and amateurs. Philip details how even the most accomplished composers arranged their music for amateurs:

Brahms himself understood the importance of this market as a way of enabling his public to get to know his works. He wrote more than twenty piano-duet arrangements of orchestral and chamber works, and also arranged the third and fourth symphonies for two pianos. (2004, p. 7)

Rather than today’s occasional performances, performers regularly made music. From the turn of Aunt Julia toward the audience, to her old songbook, Joyce portrays her comfort as a regular performer. She *connects* with her audience. She feels their appreciation, blushing at their applause. The bond between performer and audience, their unity in space and time, connects them in the way music was then experienced. The songbook’s appearance is a testament to heavy use, reinforced by Gabriel’s recognition of the tune from his Aunt’s previous performances.

The ephemeral nature of live performance encouraged attentive listening. Joyce details for the reader Gabriel’s attention to tone quality and “the smallest of grace notes” which allow him to “share the excitement of swift and sure flight.” The performance ends with Freddy’s compliments to Aunt Julia. The audience connects with the singer through listening but also socially and even physically. Julia’s performance is for this particular audience, with them, and comes and goes in a moment, echoing Karl Marx’s (1861/1975) statement:

The service a singer performs for me satisfies my aesthetic needs, but what I enjoy exists only in an action inseparable from the singer himself [sic], and once his work, singing, has come to an end, my enjoyment is also at an end; I enjoy the activity itself—its reverberation in my ear. (p. XXI-1323)

Given the unique and ephemeral realities of music in the performance age, memory is all-important for musical experiences to live on. In “The Dead,” talk around the table turns to voices remembered and those now gone:

—O, well, said Mr Bartell D’Arcy, I presume there are as good singers to-day as there were then.

—Where are they? asked Mr Browne defiantly.

—In London, Paris, Milan, said Mr Bartell D’Arcy warmly. I suppose Caruso, for example, is quite as good, if not better than any of the men you have mentioned.

—Maybe so, said Mr Browne. But I may tell you I doubt it strongly.

—O, I’d give anything to hear Caruso sing, said Mary Jane.

—For me, said Aunt Kate, who had been picking a bone, there was only one tenor. To please me, I mean. But I suppose none of you ever heard of him.

—Who was he, Miss Morkan? asked Mr Bartell D’Arcy politely.

—His name, said Aunt Kate, was Parkinson. I heard him when he was in his prime and I think he had then the purest tenor voice that was ever put into a man’s throat.

—Strange, said Mr Bartell D’Arcy. I never even heard of him.

—Yes, yes, Miss Morkan is right, said Mr Browne. I remember hearing of old Parkinson but he’s too far back for me. (p. 254)

Unlike Mr. Browne, it hardly makes sense to ask *where* good singers are today. Today, musical voices are always everywhere, digitally available at all times. For Joyce’s characters, the best singers were most commonly heard in centers of power and commerce. Ironically, Mary Jane longs to hear Caruso, who in 1904 was just beginning to record under his first contract, soon to become the most famous recorded voice. Unlike the disappeared voice of Parkinson, and while not as Mary Jane hoped, everyone today and forevermore can hear Caruso.

Joyce’s story evokes how performers and their efforts continued to exist within the memories

of the living. This aspect of music, the emotional memories that persist, is key to the central epiphany of “The Dead.” As Gabriel and his wife are preparing to leave, he sees her at the top of the staircase, transfixed by a singer he cannot hear over the din of the rest of the party. She is listening as someone sings *The Lass of Aughrim*. Back at their hotel, Gretta reveals that the song had been sung to her by Michael Furey, a past love who died when young. The final words of the story capture Gabriel’s thoughts as he looks at the snow falling outside his window:

It was falling, too, upon every part of the lonely churchyard on the hill where Michael Furey lay buried. It lay thickly drifted on the crooked crosses and headstones, on the spears of the little gate, on the barren thorns. His soul swooned slowly as he heard the snow falling faintly through the universe and faintly falling, like the descent of their last end, upon all the living and the dead. (p. 286)

The ephemeral nature of music in Joyce’s time provided an ideal metaphor for the ephemeral nature of life, something all his readers would intimately know. Every musician and every performance of that era became a shade, at best a memory in the minds of those who also must pass. For Gretta, the experience of hearing *The Lass of Aughrim* reconnected her to Michael Furey and the loving friendship they shared, his singing gone but for her memory. The experience of music was inseparable from the ephemeral nature of life. Performance was unique, live, in person, and unamplified in a way that encouraged close listening and connection. The work of learning and making music required teachers whose students apprenticed and worked together, and the party at Aunt Kate and Julia’s home in “The Dead” captures the friendship and pleasure that accompany this work, the social and physical connections that were inseparable from every experience with music. As Philip (2004) notes about music and audiences before the rise of recordings, “It did not come to them with the press of a button. Music was therefore not just an aural experience, as it has largely become. It was also a matter of physical presence, social interaction, and direct communication between musicians and audience” (p. 5).

“The Dead” brings us closer to a time today’s readers cannot know, a time when the experience of music was fundamentally different from ours, and a time when musical sensibility must also have been profoundly different. Although we still have recordings of performances from that time,

the network of music and social relationships that flourished when only live performance existed, it can be argued, is so changed as to be dead to us save for the collective memory and echoes of its existence. We can have Caruso’s voice, but not the experience of sitting around the table recalling voices forever gone save in our memories, nor can we listen with ears that know each performance is ephemeral. In place of the ephemeral nature of music in “The Dead” we have what Stanyck and Piekut (2010) refer to as *deadness*, a quality of music today that flows from recordings that allow a perpetual reengagement of the living and the dead exemplified through duets such as between Natalie Cole and her father after his death, about which the authors write, “We might even say that this is the only guarantee that sound recording offers: being recorded means being enrolled in futures (and pasts) that one cannot wholly predict nor control” (p. 18).

Music in “The Dead” required a physical communion, the presence of performers and an audience united within a moment that will never come again. Much of the poignancy in Joyce’s tale—the blushing cheek, the holding of hands, and the remembrance of past moments—derives from the uniqueness of the performance moment. Performance required constant social organization to learn, make, and share music. The scale was limited to the distance by which the music could be reasonably enjoyed, seldom more than an amphitheater for voices skilled at projection. Audiences always knew that each performance was a unique opportunity, and that to neglect it was to miss it forever. And audiences were limited to local performances, wishing to “give anything” to hear the voice of Caruso. While it is possible to regard this solely with nostalgia, it is also a reminder how scarce music was, and how it was often available to the powerful and wealthy.

For musicians whose wants, needs, values, and practices were shaped by the performance locus, the rise of recordings could be seen as a threat to central aspects of music as they knew it. No one wrote more passionately about what might be lost than John Philip Sousa.

### **Sousa as Skeptic of the Recording Era**

A year before Joyce began writing “The Dead,” John Philip Sousa wrote his infamous critique of recording technology and the potential threats to live performance, “The Menace of Mechanical Music” (1906). As Katz (2012) notes, “Given Sousa’s prominence in early twentieth-century American culture and the widespread discussion that his article generated, it is fair to say that he, more

than anyone else, set the terms of the debate about the value and influence of sound-reproducing technologies” (p. 462). Just as reading Joyce helps tell the story of the performance era, Sousa’s views allow us to better understand the apprehension and sense of imposition felt as recordings worked their way into the world and interacted with people to change the wants, needs, values, and practices around music. Sousa also clearly articulates versions of several key positions that live on in many music educators’ philosophies today.

Sousa dealt with *mechanical music*—player pianos as well as phonographs and cylinder players. Throughout his essay, he draws a sharp distinction between live music and recorded music. For Sousa, machine music could never convey the essential human component. From the opening sentence, machines are portrayed as displacing human thinking, interpreting, and performing:

Sweeping across the country with the speed of a transient fashion in slang or Panama hats, political war cries or popular novels, comes now the mechanical device to sing for us a song or play for us a piano, in substitute for human skill, intelligence, and soul. (1906, p. 278)

Sousa is at his most poetic when proclaiming the connection between live performance and musical value, championing experiences like those captured by Joyce:

Music teaches all that is beautiful in this world. Let us not hamper it with a machine that tells the story day by day, without variation, without soul, barren of the joy, the passion, the ardor that is the inheritance of man alone. (1906, p. 282)

For Sousa, soul, humanity, and intelligence can exist in music when made live, but not when bleached-out by machines that present music without any variation. He also located humanity in variations that naturally occur in each unique presentation of music. To estrange music from live performance separates it not only from human performers, but results in music devoid of all humanity, exchanging soul for the same story day by day.

Sousa predicted that musical taste would suffer should machine music proliferate its emaciated conception of music. He wrote, “I foresee a marked deterioration in American music and musical taste ... by virtue—or rather by vice—of the multiplication of music-reproducing machines” (p. 278). He saw the history of music in terms of the enhanced expression of the human soul, worrying that people’s

experiences would be limited to machines, “... which are as like real art as the marble statue of Eve is like her beautiful, living, breathing daughters” (p. 279). Seen from Sousa’s rich notion of musical connection, mechanical music and the ersatz experience it provided would naturally cramp and deaden living musicians. His examples evoke displacement and replacement across the range of musicians: infants put to sleep by machinery, love songs caroled by gramophone, soldiers rallied to battle by “a huge phonograph, mounted on a 100 H.P. automobile” (p. 282).

The envisioned decline in taste and the gradual displacement of human musicians led Sousa to predict problems for music education. These problems existed both through the damage machine music would inflict upon taste, as well as the continued displacement of amateur musicians in the face of the effortlessness with which music was recreated by machines; essentially, the decline of house-music culture. Sousa located a love of music among the working classes, evidenced by their purchase and study of instruments like the guitar, mandolin, and banjo. He goes on to declare:

The cheaper of these instruments of the home are no longer being purchased as formerly, and all because the automatic devices are usurping their places .... And what is the result? The child becomes indifferent to practice, for when music can be heard in the homes without the labor of study and close application, and without the slow process of acquiring a technic [sic], it will be simply a question of time when the amateur disappears entirely, and with him a host of vocal and instrumental teachers, who will be without field or calling. (p. 280)

Sousa worried that those who might continue to play would experience mechanical music to such an extent to cause irreparable harm. Sousa warned that real music would cease to exist, or that those attempting to make it would see their efforts hampered by exposure to music without humanity:

Children are naturally imitative, and if, in their infancy, they hear only phonographs, will they not sing, if they sing at all, in imitation and finally become simply human phonographs—without soul or expression? (p. 281)

Sousa’s sense of music grew from the ritual and spectacle of live performance, and Warfield (2011) argues that his approach to performance was heavily shaped by his work in the theaters of

Washington, D.C. Sousa so disdained recordings that he famously refused to conduct his band for any recording dates or broadcasts until 1929, three years before his death. He articulated strong beliefs and a coherent view of the ways recorded music might negatively impact the musical world he knew and loved. Today, as we begin to imagine how different music was for Sousa and Joyce, their writings allow us to imagine how strange our world would have sounded to them.

Anecdotally, working with preservice teachers and graduate students, most agree with Sousa. Their values emanate from habits of performance, and they continue to privilege their work within a network of practices built on performances with sheet music. I frequently hear comments about how one can't judge a performer or know a work until heard live, and that recordings often allow edits they consider a form of cheating. But few go quite as far as Sousa did. Most are thrilled and honored to participate in the recording sessions their ensemble directors have arranged. And though students may still favor live over recorded music, few would deny humanity and soul to recordings such as Louis Armstrong's "What a Wonderful World."

The first half of this paper presented views from those who lived through the rise of sound recording technology. Joyce and Sousa's ideas about music were born out of the performance locus, and they lived on through the emergence of recordings. Although recordings were immediately popular, it was not until the 1960s that musicians, born and raised in the recording era, did come to appreciate and understand the artistic and aesthetic possibilities of the recording era. Many began to appreciate and sing the praises of that which Sousa had feared so much, though none more eloquently than Glenn Gould.

#### **Glenn Gould as Evangelist of the Recording Era**

One can't find a more emphatic rejection of performance than by Glenn Gould, who in an interview in 1981 (Gould, 1984a) declared:

The concert has been *replaced*, you know ... Technology has the capability to create a climate of anonymity and to allow the artist the time and the freedom to prepare his conception of a work to the best of his ability, to perfect a statement without having to worry about trivia like nerves and finger slips. It has the capability of replacing those awful and degrading and humanly damaging uncertainties which the concert brings with it; it takes the specific personal performance information out of the musical experience.

Whether the performer is going to climb the musical Everest on this particular occasion no longer matters. And it's for that reason that the word "immoral" comes into the picture. It's a difficult area—one where aesthetics touch upon theology, really—but I think that to have technology's capability and not to take advantage of it and create a contemplative climate if you can—*that* is immoral! (p. 452)

Recordings completely replaced the concert for Gould in his work—he famously retreated from the stage forever in 1964, both as a performer and as an audience member. He spent the rest of his life making music in the studio. Fifty years after Sousa fought to keep performance alive in the emerging networks of recording, Gould completely rejected live music. Sousa, then, is the Cassandra of the early recording age, and Gould, with his complete embrace of recording, is a herald of a world where music can exist completely outside face-to-face performance. Their respective orientations toward recording expose fundamentally changed conceptions of music, musician, and audience as the locus of experience and habit shifted from performance to recorded networks.

Of course, attitudes toward recording changed in part due to advances in recording technology. Sousa's band had to arrange itself around a single microphone; Gould used multiple microphones for even a single piano. Sousa's band recorded using a mechanical process; Gould used the more sensitive electronic recording techniques that became available after 1925. Bands in Sousa's time could not splice together takes, while Gould artfully spliced. Stereo recordings replaced the monaural soundscape with a three-dimensional panorama for the listener. Finally, Gould had access to long-play records, allowing for much longer works to be captured and shared. As recordings became more prevalent, and as technical advantages expanded, wants, needs, values, and practices also evolved. Gould, perhaps better than anyone, understood and articulated a far-reaching new conception radically different from any that could have emerged through live performance alone.

Whereas Aunt Julia was in the room and intimately connected to Gabriel and Freddy as she sang *Arrayed for the Bridal*, had she made a recording she would have been separated from her audience. Recordings gained permanence while losing the traditional connection. As Benjamin (1935/1968) noted, this is analogous to the difference between an actor on stage and one in a film. On stage, an ephemeral connection exists between

audience and performer, and the performer can respond to the audience. By contrast, a film actor may be filmed in multiple takes, perhaps from multiple angles, and often out of sequence from the final film. For Benjamin, with regard to the final product of the film, "During the shooting [the actor] has as little contact with it as any article made in a factory" (p. 231).

Just as films found advantage in estrangement, Gould envisioned benefits Sousa did not. Two years before he stopped performing, Gould published the essay "Let's Ban Applause," wherein he stated, "... I have come to the conclusion, most seriously, that the most efficacious step which could be taken in our culture today would be the gradual but total elimination of audience response." (1962/1984b, p. 246). Given that the estrangement of recordings, it would seem that Gould supposed concerts and recordings could be brought into harmony by trying to import the estrangement of recordings into the concert hall via what he called GPAADAK, or the Gould Plan for the Abolition of Applause and Demonstrations of All Kinds (p. 248). Furthermore, Gould explicitly invokes the example of listening to a recording as a template for concert etiquette in countering the claim that applause is a natural response to a performance:

I reply that one may listen to a recording of a Beethoven symphony alone or in the company of friends and, though deeply moved at its conclusion, experience no more urgent need than a quick trip to the icebox for a soda water. (p. 247)

Gould's embrace of estrangement between audience and performer would have shocked Sousa, and this shift is a central ground for my claim that it is worthwhile to distinguish the performance locus from that of recording. To embrace estrangement in exchange for repeatability is not merely to create a new space for music; live, face-to-face performance is also consequently changed. Audience and performer come into a live situation with habits of estranged listening acquired through experience with recordings, and one may both speculate that they may be better prepared by knowing pieces, but also perhaps less attentive than those who knew each listening would be ephemeral and music scarce. Perhaps they want a similar experience to recordings, or perhaps they have never developed the habits of connection that were natural to Sousa and Joyce. The habits that shaped musical ideas were formed in experience with music that was live or recorded in consequential ways.

Isolated sound and the appreciation of a purely sonic object fills the void left by the estrangement of recordings. Without a connection between audience and performer or even the visual element of music in recordings, music increasingly became associated with the idea of a sonic object. Sousa's disdain for a story told the same way day by day naturally resulted in a focus upon the story's telling, the sound. Philip (2004) captures how musicians, left only with sound and their audible mistakes etched forever for all to hear, increasingly valued flawless and repeatable performances over spontaneity and surprise. As with estrangement, the new aesthetic worked its way into the live setting. Live performances increasingly aspired to match the perfection that recordings made possible.

What makes Gould valuable here is his ability to understand the positive potential within these changes. What were horrible problems for Sousa became amazing possibilities for Gould. In Gould's opinion, recordings allowed for the realization of a new aesthetic. By fully embracing the changed conception of music, recording became the locus of musical achievement, with performance a distant second, as he said in an interview:

From the moment I began broadcasting, *that* medium seemed like another world, as indeed it is. The moment I began to experience the studio environment, my whole reaction to what I could do with music under the proper circumstances changed totally. From then on, concerts were less than second best—they were merely something to be gotten through. They were a very poor substitute for a real artistic experience. (Mach, 1991, p. 90)

As Gould's prominence rose, he made real the opportunity to live life as a musician who never performed, focusing instead on the creation of edited and engineered recordings which are among the most celebrated in the history of the medium, with one of his recordings receiving intergalactic distribution on the Voyager space probe's Golden Record. He achieved a complete de-coupling of music from live performance, championing such aspects of recording as the tape splice and the deeper exploration of sonic spaces made possible by multiple microphones.

While Gould wished to ban applause, he had an expanded view of opportunities for the listener of recordings. Gould was attuned to the fact that, even through manipulation of the humble volume knob, listeners were able to interact with music as never before. He foresaw the techniques of the recording



studio engineer eventually becoming available to the listener:

At the center of the technological debate, then, is a new kind of listener—a listener more participant in the musical experience. The emergence of this mid-twentieth-century phenomenon is the greatest achievement of the record industry. (1966/1984c, p. 347)

Participant listeners, Gould foresaw, could be granted the same options that allowed engineers to mix multiple takes, to speed up or slow down a take, to add effects such as reverb and so forth. This was a gradual evolution that began with the binary ability to turn a recording on or off, followed by the ability to adjust playback volume, then to apply equalization. In the end, “There is, in fact, nothing to prevent a dedicated connoisseur from acting as his own tape editor and, with these devices, exercising such interpretive predilections as will permit him to create his own ideal performance” (p. 348). In fact, Gould’s prediction became a reality perhaps most famously through the work of Joyce Hatto, a pianist who, it was revealed, had released dozens of recordings that were lightly remixed and edited versions of other pianists’ recordings (Singer, 2007). Again, of course, the ideal performance consists of a sonic object, but Gould radically locates its genesis in the recompiling and manipulation of recordings by listeners who would participate in a new way. Out of the estrangement of the listener come new abilities to participate.

Gould was familiar enough with the musical world to know that the idea of a participant listener represented a substantial shift in power, “(the listener) is also, of course, a threat, a potential usurper of power, an uninvited guest at the banquet of the arts, one whose presence threatens the familiar hierarchical setting of the musical establishment” (p. 347).

The consideration of Gould’s views provided up to this point reveals the changes in music, musician, and audience made possible by the emergence of the recording era. The recording audience lost the connection of the performance era, but gained the ability to be a participant in a new way through participation with recordings. The estrangement of recordings that separated performer from audience helped to usher in the notion of music as sonic object, leading to a conception of music more sonic than social. This change in the status of music accompanied changes in musician akin to actors on the stage and in film. Sousa and Joyce exemplified the values of music in the performance

locus, while Gould saw the new conception of music and new relationships between performers and audiences made possible by recordings.

Gould also went beyond the recording era with his vision for music. The kinds of experiences he foresaw that listeners would be able to construct did not become widespread until the rise of music and computers. Happening gradually over the past 30 years or so, this rise represents the emergence of a new media era of music. Lev Manovitch (2002) defines the term “new media” as the convergence of computing and media technology. In his words, this represents “the translation of all existing media into numerical data accessible through computers—the result is new media—graphics, moving images, sounds, shapes, spaces, and texts that have become computable; that is, they comprise simply another set of computer data” (p. 20).

The rise of new media connected music to computers in ways that amplified and transformed aspects of music that originated in the recording era. Computers made the tools and experiences that had been limited to corporations and studios affordable and available to a greater audience, with a few thousand dollars enough to set up a good quality home recording studio. The Internet also provided an inexpensive distribution network by which artists can quickly connect to audiences without a record contract. But just as Sousa couldn’t foresee the ramifications of the recording era, it is likely that Gould would be surprised with the locus around new media that was only beginning to emerge when he died in 1982.

### **The New Media Era as Depicted in Richard Powers’ “Modulation”**

Just as James Joyce evoked the performance locus, Richard Powers’ (2008) short story “Modulation,” written one hundred years after “The Dead,” richly represents the dense network of music via the Internet and new media:

A Korean kid covering a Taiwanese kid whose arrangement imitated the video game *Pump it Up* whose soundtrack mimicked an old Brian Eno performance uploads an electrifying guitar video of Pachelbel’s Canon in D, already the most hacked-at piece of the last three hundred years, and immediately, people from Panama to Turkmenistan post hundreds of shot-perfect recreations, faithful down to every detail of tempo and ornament. (p. 98)

This quote captures much about the new media world: a drastic rate of change as connections

are made across the globe, mixing and mashing of music drawn from hundreds of years of history, and the rise of an amateur culture of creativity that blurs the line between their work and that of professionals, remaking the idea of house-music culture. The hundreds of re-creations posted by others point to participant audiences whose contribution rises to a level that blurs the distinction between creator and audience.

Powers (2008), formidable when writing about music as well as science and technology, presents, through “Modulation,” an extreme view of music in the new media era. The plot centers on the global dissemination and eventual synchronized activation of a musical computer virus. These events tie together four separate characters whose musical lives capture much about music in today’s world: Toshi Yukawa, a former music pirate, works with record companies to find other pirates; journalist Marta Mota writes about the uses of music by the American military in Iraq; ethnomusicologist Jan Steiner looks back on his life’s research through recordings; and DJ Mitchell Payne presents a set of “chiptune” 8-bit audio that satisfies his audience’s “nostalgia for the blips and bleeps of their Atari childhood” (p. 91). Music is nearly always experienced via mobile phones, iPods, laptops, and other computers. Echoing Sousa’s worries, Steiner notes that all of these are, “an instrument that everyone could learn to play without any effort” (p. 91).

Nearly all the music and audio experienced in “Modulation” is recorded and shared digitally. For example, Marta is embedded as a journalist to write about troops preparing for battle, and Toshi’s work focuses on investigating endless networks of pirates trafficking in downloaded music files. If one holds an expanded notion of what can constitute a performance, two examples are found in the story. One evokes a present day Aunt Julia, as Marta connects to her boyfriend via Skype to help rid her of an earworm:

And into his tinny laptop computer microphone in Bahrain, in a frail but pretty baritone she hadn't heard for way too long, he sang a few notes that re-materialized in her Frankfurt hotel as the theme song from Mission Impossible. (p. 95)

A song sung, the repertoire itself from broadcast media, filtered and mediated by tinny microphone and tiny speaker, virtually re-presented nearly three thousand miles away. The second instance of

performance is DJ Payne’s set for the Chiptune Blowout:

But as soon as he got the backing tracks looping, the MSX emulator bumping, and his Amiga kicking out the MIDI jams to the principal theme from the old blockbuster game *Alternate Reality*, he remembered just what Face-to-Face was all about, and why nothing would ever replace live performance. (p. 98)

DJ Payne’s live work consists of triggering loops and working with digital information via MIDI. He plays a role closer to conductor and composer, more of an invoker and gatekeeper than performer. However, for Payne, getting background tracks looping to a video game soundtrack *is* performance.

Joyce and Sousa’s vision of music exists for Powers as only a distant echo. There is irony in Power’s description of Payne’s work, Sousa’s machine music, as live performance. It is also likely that Sousa would have been not fully comfortable calling the singing of Marta’s boyfriend a performance. Gould as evangelist would have welcomed the world DJ Payne presents, but Gould never predicted just how far the culture would change. In Gould’s terms, Payne represents the rise of the participant listener come full circle, a participant listener as performer, and the triggering and playing of prerecorded and synthesized music as performance.

In place of traditional performance, music is presented throughout “Modulation” in a variety of modern roles: as a virus, as a means for exploitation, as a pharmaceutical, and constantly as a commodity. Toshi reflects on the corporate nature of the relationship between music and consumer:

There was pay what you want and genetic taste matching and music by statistical referral. Customers who liked Radiohead also listened to Slipknot. If you like Slipknot, you may also like the Bulgarian Women's chorus. The vendors had your demographic, and would feed it to you in unlimited ninety-nine cent doses or even free squirts that vanished after three listens. He owed his job to saltwater syndrome. Drinking made you thirsty. Buffets bred hunger. (p. 93)

Music is more commodity than experience; and in place of musicians performing, “Modulation” presents musicians via roles such as vendor, pirate, and trafficker. Instead of the organic connection between performer and audience, music fits more into the mold of producer and consumer, a role that

recalls the economic analysis of Jacques Attali in his book *Noise* (1977/1985), one that situates recordings as part of the overall rise of repetition in society:

Mass production, a final form, signifies the repetition of all consumption, individual or collective, the replacement of the restaurant by precooked meals, of custom-made clothes by ready-wear, of the individual house built from personal designs by tract houses based on stereotyped designs, of the politician by the anonymous bureaucrat, of skilled labor by standardized tasks, of the spectacle by recordings of it. (p. 128)

The climactic event of “Modulation” is the activation of a musical computer virus. The piece spreads across networks into every device capable of playing music. The virus synchronizes the playback of a single piece of music that is at once an unforgettable experience while simultaneously impossible to remember:

And here it was again, after an eternity away: a tune that sold nothing, that had no agenda, that required no identity or allegiance, that was not disposable background product, that came and went for no reason, brief as thunder on a summer night. (p. 102)

One reading of the role of the virus in “Modulation” is that it serves to show the profound shift in music. Whereas music was always ephemeral in “The Dead,” by the time of “Modulation” an ephemeral experience with music exists only as science fiction. Every sound worth hearing today is captured, recorded, shared, and sold. Like Powers, only with a feat of imagination or a leap of faith can we admit the possibility of a sound that will never be sold. It is this situation that “Modulation” helps us to mark, the distance between Aunt Julia and DJ Payne, from Michael Furey’s remembered song for Gretta to an ephemeral event provided made available through an anonymous computer virus.

The story presented thus far captures the shift in music, musician, and audience: the exchange of the ephemeral for a reproducibility that also estranges performer from audience, the rise of the concept of music as sonic object that favors unblemished recordings which feed back to put pressure on live musicians to create flawless performances. “Modulation” gives us, however tentatively, the ability to begin to understand how our habits of music, musician, and audience evolve as the

Internet and new media become the locus for musical experience.

The recording era was dominated by production and distribution systems owned by corporations that regulated what was released. For example, Gould worked with Columbia and the Canadian Broadcasting Corporation, among others. By contrast, corporate sites like YouTube allow musicians to decide what work to share. In fact, Powers’s story channels real events, as in his depiction of a Korean kid’s homemade guitar video, a real version of which was covered in the *New York Times*:

Last year Jerry Chang, a Taiwanese guitarist who turns 25 on Thursday, set out to create a rock version of the song, which he had been listening to since childhood. It took him two weeks. Others, like Brian Eno, had done so before him, and some listeners say his arrangement is derivative of one composed for the video game “Pump It Up.” But one way or another, his version, “Canon Rock,” rocked. (Heffernan, 2006, p. 10)

A search of YouTube on September 2010 found over 7,000 videos in homage or response to “guitar.” These participant-listeners-turned-performers capture another aspect of the new media era, that is, the incredible rise in the availability and promotion of publicly available creative works. The Internet has served not only as a place for individuals to post their content, it has helped to spur or reveal creativity that was unacknowledged during the recording era. The Pew Research Center’s Internet and American Life Project states that 38% of teens reported in the affirmative when asked if they, “share something online that you created yourself, such as your own artwork, photos, stories or videos.” (Pew Research Center, 2009). This development was something not understood in the earlier days of the Internet, as described by Virtual Reality pioneer Lanier (2011):

Many of the lectures I gave in the 1980s would end with a skeptic in the audience pointing out loudly and confidently that only a tiny minority of people would ever write anything online for others to read. They didn’t believe a world with millions of active voices was remotely possible—but this is the world that has come to be. (p. 101)

The consolidation of power in the recording era, then, gave way to what appears to be a

democratization of access to the means of creation and distribution. The inexpensive home studio, the personal website, and the ease with which art in digital form can be shared and enjoyed is perhaps the most fundamental change of the new media era, changes that closely align with the notion of convergence culture put forward by Jenkins (2006).

Another consequence flows from the ease of distribution as we transition from a recording era, namely, the rise of an overabundance of content. Recordings that were tangible were limited to the estimated commercial audience; but in the digital world, copies are created on demand. Reviewing a recent biography of Keith Richards that locates access to then-scarce blues records as critical for the creation of the Rolling Stones, Dan Chiasson (2011) captures this transition:

The experience of making and taking in culture is now, for the first time in human history, a condition of almost paralyzing overabundance. For millennia it was a condition of scarcity. ... Nobody will ever again experience what Keith Richards and Mick Jagger experienced in Dartford, scrounging for blues records. The Rolling Stones do not happen in any other context: they were a band based on craving, impersonation, tribute: white guys from England who worshiped black blues and later, to a lesser extent, country, reggae, disco, and rap. (p.19)

As with the rise of music as commodity, this overabundance is part of a broader trend that extends to other areas including academic scholarship (Jensen, 2007). Chiasson captures the sense of both something gained and something changed, in his formulation, something lost. In the context of Chiasson's review, the Stones emerged, in part, due to recordings. However, it was not enough that they lived in a time when recordings existed; they lived in the recording era when scarcity created a yearning that does not exist in a new media era replete with content. We might agree, or imagine that as Gould foresaw new vistas of possibility, begin to imagine the new ways that young people will find opportunities to distinguish themselves to create new music that resonates.

The new media locus can therefore be distinguished from the recording locus in increasing the availability of the means of production and distribution. The locus is also characterized by the further rise of the participant listener to roles that could be considered, in an earlier era, only within the realm of producers, creators, and performers. More members of society are taking advantage of the

means to make and share their ideas globally via the Internet (whether poems, stories, or songs), and this has combined with the digital availability of historic and corporate content, with a resultant overabundance of creative content available. Although a more nuanced understanding of this era will certainly emerge, it is not too early to begin to make sense of the possibilities and opportunities for music education in a new media era.

### **Madlib as New Media Artist**

To better understand some of the values and practices of the new media era, this article now considers as an emblematic example Otis Jackson Jr., who performs under many monikers but is best known as Madlib. His name aptly recalls Mad Libs, the fill-in-the-blank games that originated in the 1950s, an approach Jackson uses in his music and even in his fictional biography, which samples heavily from that of Redd Foxx ("Madlib | Stones Throw Records," n.d.a.). His work illuminates many of the avenues by which musicians are expanding their horizons, creating in new ways, and using samples of music to connect with audiences beyond performance.

Madlib, like many musicians today, does much of his recording and music making from a home studio, profiled in the book *Behind the Beat: Hip hop home studios* (Raph, 2005, pp. 99-105). His home studio is emblematic of new media music production: it is filled with tens of thousands of records from which he draws samples, beats, and ideas. Also visible are many traditional instruments: drum set, double bass, various percussion, and piano keyboard. Additionally, one can see a host of production tools such as mixers, microphones, turntables, and sample trigger hardware.

The rise of the home studio can certainly be seen as part of the larger trend of the democratization of tools and means of distribution previously limited to corporations. Previously, most distributed music came about through studios such as Abbey Road or Motown, what Cogan captures with the title of his book *Temples of Sound* (2003). The rise of the home studio is made possible by the lowered cost of computing and recording equipment. As a consequence, this equipment has become a central part of the creative process. Whereas Gould would go to a studio to record, Madlib and others' work relies on constant access to studio tools that supplement or replace more traditional instruments as the vehicle for musical creativity. In short, a studio *is* his primary instrument. Frere-Jones (2008) notes how the studio-based musician has become the emblematic musician of the new media locus, writing of producer Flying

Lotus, "His setup is typical of the twenty-first-century musician: a collection of laptops, keyboards, and processing units, none of them large and most of them portable" (p. 2).

Madlib's voice is extended using technologies, for instance through his work under the alter ego Quasimoto. As Quasimoto, he raps with a voice pitched higher than Madlib's voice. This is achieved by first making a beat, then rapping atop a slowed-down version, then returning the combined recording back to the original speed. This higher voice is mixed into the final recordings alongside Madlib's voice at the original pitch, allowing for contrasts and conversations.

In another creative approach Madlib began releasing recordings in 2001 under the name Yesterday's New Quintet, which consisted solely of Jackson recording all the instruments while listing fictitious collaborators with colorful names like Malik Flavors, Monk Hughes, and Joe McDuphrey. In some instances, he samples previous recordings of himself, and subsequent recordings made through the same process were released under a further list of new group names like The Jazzistics, The Young Jazz Rebels, Suntouch, The Last Electro-Acoustic Space Jazz & Percussion Ensemble, and The Yesterdays Universe All-Stars. The use of real instruments but a host of pseudonyms creates a link to the obscurity hip-hop producers prize, the delight in finding recordings of forgotten and failed musicians who might have left behind a few seconds that can be looped or recombined to be given new life.

Similar to a jazz musician who intentionally inserts quotes of other songs into their solos, today's producers weave webs of significance that combine a knowledge of songs and how they have been used by producers. Joseph Schloss (2004) presents an example from Madlib that must be quoted at length due to the richness of connections:

An unusually overt example of this philosophy can be found in a cover version of the song "Daylight" that appears on the 2001 album *Angles without Edges* by Yesterday's New Quintet (a pseudonym of the producer Madlib). The original version of the song was recorded in 1977 by RAMP up on their album *Come into My Knowledge*. It is best known among producers because a two-bar sample of its melody provided the basis for the classic hip-hop song "Bonita Applebaum" by A Tribe Called Quest on their 1990 album *People's Instinctive Travels and the Paths of Rhythm*.

As a result of being sampled, the previously obscure RAMP album became highly prized by hip-hop producers, sometimes selling for hundreds of dollars, until was reissued on vinyl in the late 1990s. On the Yesterday's New Quintet album, Madlib constructs a cover version of "daylight" from samples of *other* songs (augmented by his own keyboard work). Moreover, the rhythm of Madlib's drum track is not based on the rhythm of the original version of "Daylight," but on the drum loop that A Tribe Called Quest combined it with to make "Bonita Applebaum," taken from the blues-rock band Little Feat. In short, Madlib's version of "Daylight" is a virtuoso demonstration of production technique and knowledge, referencing the social and economic history of a commodity (the RAMP album), its use in the hip-hop community ("Bonita Applebaum"), and Madlib's relationship to both. (pp. 158-159)

Madlib completes a cycle: the 1977 album has a short portion sampled, numerous producers use it in combination with other samples for their own work, and Madlib comes along and incorporates samples of their songs, along with his own instrument playing, to produce a cover of the original song that is aware of the numerous other uses. For a listener steeped in hip hop, Madlib creates a work that acknowledges the recording as only the beginning of a creative process of reinterpretation. This process has even been welcomed by record labels, with Madlib invited by Blue Note records to remix their catalog, released as *Shades of Blue*, another album that seamlessly mixes samples and remixes with overdubbed instruments.

Madlib has plundered from and reworked his own releases, notably his work with MF DOOM as the group Madvillain. Their 2004 album *Madvillainy* was a critical success, with Madlib's production captured by New Yorker critic Frere-Jones (2004), "Madlib, especially, seems able to hide music inside other music. His samples lie on each other like double exposures, or like a cassette tape that allows the previous recording to bleed through the new one." Four years later, Madlib released a new album, *Madvillainy 2—The Madlib Remix*, consisting of the original rhymes by MF DOOM atop all new beats, giving the same recordings of the rap an entirely new sonic context.

When recordings largely replace performing, it is possible to release more recordings, and Madlib's official discography on the Stones Throw record label's website ("Madlib - Official Discography," n.d.b.) accessed in July of 2011

quantifies and categorizes his releases as follows: 113 entries for “Artist/Group Recordings,” 6 entries under “MC (not producer),” 79 entries for “Producer,” 22 entries for “Remixes,” and 18 entries for “Mixtapes, Video, Promo, Misc.” In other words, in the 15 years Madlib has been commercially releasing recordings, he has released on average 14.7 recordings each year, for a total of 220 releases (and this figure omits works distributed on the Internet but not commercially released). In 2010 alone, he put out a series called “Madlib Medicine Show,” which was described in the press release as:

a once-a-month, twelve-CD, six-LP series through the year of 2010 on his own imprint, Madlib Invazion. Odd numbers, beginning with #1 in Jan. 2010, will be original hip-hop, remix, beat tape and jazz productions; even numbers will be mixtapes of funk, soul, Brazilian, psych, jazz and other undefined forms of music from the Beat Konducta's 4-ton stack of vinyl. (Stones Throw Records, 2009)

The even numbered releases are mixtapes, Madlib works due to the kinds of changes Gould foresaw for the participant listener: Madlib's shortening, lengthening, or excerpting of a recording; the change of pitch or tempo; the juxtaposition of tunes on the particular mix; and the layering and mixing in of other material. Madlib often includes spoken word text of old “party records,” explicit comedy from African American performers like Redd Fox or Moms Mabley. Several of these mixes are released under another name, Beat Konducta, one that playfully joins the classical notion of a conductor with one who works with previously-recorded beats.

Madlib exemplifies some of the possibilities of music in the new media era: the ability to build new creations from existing recordings from across history and around the world, the ability to play traditional instruments in new and old contexts, the home studio as a central creative tool, and the use of recordings and the Internet as primary venues for sharing music. While much room for greater understanding and consideration of Madlib's ways of making music exist, music educators are increasingly addressing these kinds of creativity (Burnard, 2012; Randles, 2012; Tobias, in press).

### **Hearing a New Music Education Story**

The story of music in the 20th century presented here foregrounds the increasing importance of sound recording, and the narrative draws a distinction between musical experiences had through performance, recording, and new media. An aim of

this story is to complicate our notions of performance in a new media era. One hundred years ago, *performance* could viably be said to account for nearly all musical experience; today, performance is an increasingly diminished portion of our overall experiences with music and, in the case of some types of music, an impossibility.

To illustrate the changes of the shifting locus, this article focused on subjective musical experience as presented in “The Dead” and “Modulation,” and also by tracking practices of musicians who are emblematic of each locus—Sousa, Gould, and Madlib. Through the work of these writers and musicians, large shifts are apparent. These shifts are consequential for educators because, as the locus of experience shifted, differing musical habits were formed. Marx, quoted previously, argued for recognition of the role played by modernity in the formation of the senses. Adorno (2008) wrote in the late 1930s of the problem of a “new type of human being” (p. 461), arguing against the notion that human nature is unchanging and that, “in certain situations, this culture becomes such a contrast to real living conditions that it can no longer carry out the task imposed on it. ... The fiction is maintained that inducing people to listening to Beethoven symphonies, read Milton, and gaze upon Raphael madonnas [sic] is equally ‘progressive’ and humanistic at all times” (pp. 461-462). Adorno, like Marx, saw radical changes in the social conditions and productive forces brought about in concert with modernization and technologization, writing, “Regardless of how educators might assess such issues as drive structure, sublimation or culture, their work is only of use if their reflections take the real changes that have gone on, both in people and in the power of culture, into account without any illusions” (p. 462).

It may be the case that little, if anything, of the new media locus as evoked by Powers can meaningfully be taught through performance. This musical world of data is largely foreign to music education practices characterized by competitions and festivals, emulation of military bands, and makers of traditional band and orchestra instruments. As Cavicchi (2009) notes about what I describe as the recording locus:

The recording industry has been in existence since the 1910s, urban blues and rock ‘n’ roll have been around since the 1940s, and MTV's codification of music and fashion is over twenty years old now. Yet only rarely do the behaviors associated with modern, commercial, and popular music—from DJing and dance to power

chords and social protest—make it onto the radar of school musicality, except as phenomena to ignore or even oppose. (p. 103)

In “The Dead,” Mary Jane says that she’d give anything to hear Caruso. Some music educators may believe that we did give up everything special about music, gaining the ability to hear Caruso’s wonderful voice for eternity in exchange for the humanity and soul estranged by the preservation process. For those music educators who remain wedded to the performance locus and the values that flow from it, they will continue to hold similar beliefs, perhaps to notice only what is lost, and to cling to the idea that only live performance can provide worthwhile musical experiences. This paper makes clear that this is far from the only option, and that other ways to understand and appreciate differing mediated networks of music exist—ways that educators can both enjoy and understand, including how these practices change the context and meaning of performance approaches.

Mediated networks are consequential for educators, above all, because these networks are the locus of musical experience from which habits emerge, the networks within which the majority of musical experience occurs today. People today have experiences predominantly through new media, which afford a different set of possibilities and different kinds of experience from when music was primarily experienced through physical recordings and radio broadcasts, or via performances. From an educational standpoint, habits connected with these shifting loci are constitutive of notions of self, identity, and culture. Even when making music in the traditional context, such as a church choir, it can be argued that the singers and audience bring with them habits formed in the new media locus of music as

data, habits with different expectations and aspirations than those in Joyce’s time.

It is beyond the scope of this paper to settle these issues. My goal instead has been merely to raise them to the attention of the field—to provide a sense, a story, of some of the ways that technological innovation resonates with changes in educational ideas. Hearing these resonances might lead to alternate histories of some of the central movements within music education. We might hear music appreciation as a technological practice, or reconsider the introduction of recordings into pedagogy through the Suzuki approach. We might notice how SmartMusic is an example of the rising importance of Algorithms for music education (Thibeault, in press). These kinds of efforts might better connect music education with the field of sound studies, and build upon not only the work of current scholars (Pinch & Bijsterveld, 2012; Sterne, 2012b), but the music educators whose work has inspired those in sound studies, most notably Schafer (1994) and Small (1977, 1998). It would be a welcome development for music educators once again to engage in the kinds of ideas once popular in our field, one where we surely still have valued contributions to make.

My hope is that this paper, while at times speculative, nevertheless articulates a way of thinking about the mediated networks involving sound, education, and technology that resonates in a meaningful way for educators. We can hear the world anew, we can hear our practices as educators anew, and we can shift our dreams for the future based on a different understanding of the past. It is a project both pleasurable and rewarding, one that invites not only the social sciences but the humanities to help enhance the conduct of educational practice as it relates to all aspects of music in the world today.

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**CHINESE ABSTRACT**

**中文摘要**

從現場表演到音像再到數據化資料——變化中的體驗音樂的載體：對音樂教育的一些啟示

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本文對二十世紀不斷變化的體驗音樂的載體進行歷史性與理論性的探索和思辨。體驗音樂的載體由最初的現場表演演變為錄音與廣播傳播的音響資源，然後又進一步發展為在電腦技術支持下的音樂傳播。簡言之，就是從表演到音像再到數據化資料。載體在本文中是指人、行為、機構以及技術之間互動的媒介的總稱。如果將體驗音樂的載體的變化理論化，我認為人們是通過新方式進行交流與互動從而形成新的創造與體驗音樂的習慣。這對教育者們有一定的啟發。本文還通過一些文學作品來探索音樂體驗的主觀性，例如 James Joyce 的小說 *The Dead*，以及 Richard Powers 的小說 *Modulation*。除此之外還引用了一些音樂家的文章，通過他們的觀點來闡釋每一個體驗音樂載體的內涵與意義。這些音樂家們包括 John Philip Sousa 和 Glenn Gould，以及監製者 Otis Jackson Jr.所製作的音樂，他就是更廣為人知的 Madlib。最後本文提出了一些本人在思考變化中的音樂體驗載體過程中所想到的一些問題。