THE TURNING OF THE LISTENER

THE TURNING OF THE LISTENER:
MUSICAL MEDIA AND THE CHANGE OF EXPERIENCE

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ABSTRACT

To turn is to arrive. The turning of the music listener documents the arrival of a new kind of music listener turned with the advent of sound reproduction technologies in the late nineteenth century, a music listener shaped by their interaction with the material forms of music consumption more than ever before. This work discusses the material forms of music consumption across three epochs which all heralded major turns for the music listener: the gramophone record (its pre-1945 manifestations), the compact disc, and the iPod and music file. Historical discussions of the introduction of new technologies of sound reproduction are discussed alongside music listener discourse on their experiences with mediated music listening. Furthermore, the social constructions of the major technologies in each epoch are discussed, highlighting the cultural situatedness of their development.

In addition to a thorough overview of conceptualizations of mediated sound as they relate to music listening experiences, and discussions of influential work on this topic, changes in the way music listeners experience music are discussed, reflecting upon the cultural and technological mediation responsible for these changes. Changes in the way music listeners own and collect music, as well as changes in the space and place of music listening are revealed in each epoch, as well as the influence of technologies of inscription on music listening experiences. Along with a methodology of Internet research, computer-assisted text analysis is used to identify major changes in the iPod epoch for music listeners, as evident in blog discourse on iPod use.

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I recognize that I would not have been able to complete this work without financial support. In this respect, I would like to express my gratitude to the Ontario Graduate Scholarship Program, The School of Graduate Studies and the School of the Arts. I would also like to thank Dr. James Deaville and Dr. Susan Fast for having me work with them as their research assistant over the years, allowing me to learn by excellent example, the craft of scholarly research and writing. Including me in their research projects proved beneficial, in that it introduced me to new ways of conducting research, and highlighted the importance of having a larger vision in my own projects.

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The critical turn in humanities scholarship of the 1970s and 1980s embraced a newfound criticism of traditional humanities scholarship. The adoption of critical theory of the Frankfurt School, cultural studies of the Birmingham Centre, and discourses of power developed by postructural theory initiated a secondary enlightenment in scholarship. In the study of the arts and culture, theories of power revealed that it was at once acceptable to consider art not an autonomous cultural space, but as a lens through which to uncover social codes, and a space where discourses of power are contested and deconstructed.

However, the critical turn in the study of the arts was late to reach music scholarship. In fact, as Joseph Kerman was apt to point out in Contemplating Music, musicologists were not particularly eager to consider music in its political, economic, and social dimensions, let alone scrutinize the cultural codes therein.[1] Following Kerman, musicologists such as Susan McClary, Rob Walser, Ruth Solie and Richard Leppert embraced the critical turn, creating excellent work in music scholarship.

Sound recordings are ideal cultural artifacts to study when asking questions that seek to critically understand humankind's relationship with the auditory sense, and how the musical medium has been turned by listeners, and the converse. This work discusses the turning of the music listener in three media epochs, indicating how music listeners have been turned to new environments and experiences with sound recording technologies.

In particular, I choose to study the material object of musical sound, the sound recording medium, as I believe the interaction between music listeners and commoditized, material objects, represent the most significant turning of music listeners in their experience of music listening. Phil Auslander writes

> Throughout the history of recorded music, the consumption of music has been accomplished through the consumption of recordings as material objects...For well over a century, the consumption of recorded music has meant the purchase and

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[1] Joseph Kerman, *Contemplating Music : Challenges to Musicology* (Cambridge, MA: Harvard University Press, 1985).

> ownership of objects of this kind, the material supports for the music itself.[2]

In addition to this work's focus on material forms of musical consumption, I focus on the act of music listening as a form of experiential consumption. It is my belief that the music listener, not the music industry, sound recording technology developers, or musical performers, are the group most complicit in epochal changes in music listening practices, and through their use of sound recording media, shape the way music and technology are used.

It is important to understand why studying the role of the music listener is crucial in the study of music and culture. Although the general shift away from "creator-centred" discourse in musicology that accompanied the critical turn, and the newfound emphasis on performance was a progressive step in musicology's entry into mainstream humanistic debates, it is key to understand that music listening is also an active and creative process, and a site to understand larger cultural realities. As Susan Smith explains

> listening, just as much as singing or playing, is an embodied performance that is powerful, that is historically constituted, and that changes over time. Listening makes music too. The manner in which listeners go about deciphering, classifying, and assimilating sound is also a performance-one that itself provides clues to what listening, performing, musically saturated societies were and are about.[3]

For the purposes of this thesis, I am emphasizing the importance of understanding music listening as a creative process as crucial in approaching the critical study of music listening. In terms of scholarly need, focusing in on how music listening has been shaped by sound recording technologies is an essential, and responsible task in cultural studies. As Dibben points out

> the impact of recording technology on listening is the most obvious focus of research into changing listening practices: in particular,

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[2] Philip Auslander, "Looking at Records," *The Drama Review: TDR* 45, no. 1 (2001): 77.

[3] Susan J Smith, "Performing the (Sound) World," *Environment and Planning D: Society and Space* 18, no. 5 (2000): 634.

> the experience of music removed from its original social and cultural context...and the invention of a new kind of listener [emphasis mine] produced by a historicized musical repertoire.[4]

The turning of the listener is therefore about a new kind of listener turned with the advent and acceptance of new sound recording media, beginning with the removal of sound from its original context, and changing in different epochs, in different ways.

Organization

The first chapter outlines different theoretical conceptions of the experience of music listening, breaking up understandings of music listening into three conceptual frameworks. Surrounding these conceptual frameworks are disciplinary perspectives, which are discussed in the form of an extensive literature review, highlighting major disciplinary perspectives, authors and works. The first chapter is the result of significant interdisciplinary research and should serve for the reader as an introduction to critical understandings of music listening in general, and theoretically positions the rest of the work.

Following this, the second chapter historically situates the turning of the modern music listener in the first, second and third epochs with historical examples given to frame the cultural situatedness of music listening in these technological and cultural periods. I discuss issues of ownership, control, and the experience of music listening as mediated through technological change, as well as issues such as the relationship between methods of inscription of sound upon musical media, and the turning of music listeners through these changes. The second chapter does cover a large historical period however I focus on the early history of each epoch, considering them as initial stages in the turning of music listeners. Therefore, although this work covers an historical period of over 100 years, I do not claim to cover all cultural and technological manifestations of music listening in this timeframe, but instead pick initial moments in each epoch. For example, the gramophone epoch specifically refers to gramophone disc records prior to 1945, and the compact disc and iPods and music files are discussed in their initial stages of mainstream acceptance.

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[4] Nicola Dibben, "Musical Materials, Perception, and Listening," in *The Cultural Study of Music: A Critical Introduction*, ed. Martin Clayton, Trevor Herbert, and Richard Middleton (New York: Routledge, 2003), 201.

The third and fourth chapters warrant a detailed explanation to inform the reader of how they are connected to the first two chapters. When read in isolation, the third and fourth chapters may appear to be disjoint from the first two however this is not my intention. My original intention was to collect music listener discourse from the initial stages of each of the three epochs outlined in this thesis, and to use computer-assisted text analysis to compare the music listening experience across three epochs. What I encountered in my research was that sources for the gramophone epoch were scarce, and required significant archival research in order to be used within a computer-assisted text analysis framework; this was far outside the scope of this thesis.[5]

This was less true in the compact disc epoch, which in comparison with the iPod epoch, there was less breadth of sources, in that most listener discourse I encountered was from a specialist point of view, and focused on the technical aspects of sound fidelity. In the iPod epoch, a time where blogs are a popular outlet for individuals to voice their opinions, I was able to collect discourse of a much higher quality; listeners spoke about their everyday experiences with iPods and music files, compared these experiences to their experiences with music technology from past epochs, and appeared to speak less about the content of the technology, and more about the content of their experience with technology. Despite the fact that I was unable to conduct a comparative text analysis project for the three epochs discussed in this work, and in consultation with my thesis supervisor, Dr. Geoffrey Rockwell, we made the decision to include a computer-assisted text analysis project focusing explicitly on blog discourse from the iPod epoch, to provide an informed reading of the current epoch, and highlight the strengths of this approach. The structure of the thesis as an entire work therefore changed; rather than including text analysis alongside historical research in the second chapter, text analysis on iPod listeners was moved to the fourth chapter, and was prefigured by a methodological chapter on internet research in the third.

In particular, the third chapter outlines a methodology for Internet based research in general, arguing for a fluid approach that combines

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[5] Listener discourse from the gramophone epoch collected in the Edison Survey is housed in the special collections of the University of Michigan library in Ann Arbor. This was used in Mark Katz, *Capturing Sound : How Technology Has Changed Music* (Berkeley: University of California Press, 2004).

various methods and techniques. Aside from this understanding of methodology, methodology is also used here to refer to the actual process I undertook when conducting computer-assisted text analysis of iPod listener discourse, such as which samples were chosen and why, which tools were used, as well as more technical discussions. For the reader, discussions of research process used for the third chapter, are essential in understanding the content of the fourth chapter. Ideally, this entire work would have been unified by a computer assisted text analysis approach. However, as mentioned earlier, given the difficulty in obtaining comparable samples across three epochs, this was not possible.

It is my hope that this work is a contribution to the emerging field of auditory culture studies, and offers a refreshing call for a sound understanding of music as sound. The area of sound studies offers a new way of critically engaging with sound as an indication of larger cultural realities:

> an emerging interdisciplinary area that studies the material production and consumption of music, sound, noise, and silence, and how these have changed throughout history and within different societies...from a much broader perspective than standard disciplines such as ethnomusicology, history of music, and sociology of music.[6]

My discussion of the relationship between music listeners and sound recordings follows this general perspective; I am interested how music listeners have over time experienced musical media differently, and I have picked specific historical moments within epochs to do so. My object of study is therefore the material forms of music consumption that have turned music listeners in a given context, specifically North American music listeners. This is not to say that other media have not turned listeners as well, such as radio, for example.

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[6] Trevor Pinch and Karin Bijsterveld, "Sound Studies: New Technologies and Music," *Social Studies of Science* 34, no. 5 (2004): 636.

Chapter One: Technological Change and the Turning of the Listener

Introduction

This chapter outlines the theoretical discourse surrounding musical media, and the role of the music listener in shaping technological change, and vice versa. As a point of clarification, I define musical media as those media that capture sound within a physical space. In other words, musical media, for the purposes of this thesis are forms of musical sound inscribed by mechanical, electronic, or other means, upon a physical object. This tangible object, in turn is the means for presenting and preserving sound (musical or otherwise), through its interaction with a mediating device, such as a gramophone, cassette player, compact disc player, or portable music player. In the interest of simplicity, I will hereafter refer to portable music players simply as iPods, because "The word "iPod" is replacing "Walkman" as a catchall term for "portable audio player."[7]

I suggest that whereas it has been commonly accepted that technological change, specifically the adoption of new technology, is shaped by use, I believe that technology speaks back to its users.[8] In theorizing the relationship between users (music listeners) and technology (musical media), it is my belief that there is a two-way relationship: through listeners' adoption of specific music technologies, their experience and relationship with media, and subsequently with music, is turned. Listeners turn musical technologies to their own purposes, and as a result, musical technologies speak back, shaping the music listening experience.

Following the introductory section of this chapter, I outline some of the major issues that arise in discussions of the relationship between music listeners and musical media. I hope that the issues identified will provide some background for the subsequent section - theories of the listener media relationship. These theoretical sections serve to inform this work as a whole, specifically in the third and fourth chapters, which are methodologically different than the first two but are informed by theories of music listening outlined here. First, I discuss three ways musical media are described: as texts, as media, and as environment. I then provide an

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[7] Gabrielle Cosentino, ""Hacking" The Ipod: A Look inside Apple's Portable Music Player," in *Cybersounds : Essays on Virtual Music Culture*, ed. Michael D. Ayers (New York: Peter Lang, 2006), 186.
[8] Mark Katz makes this argument for the phonograph in Katz, *Capturing Sound : How Technology Has Changed Music.*

overview of scholarship about the listener-media relationship with some theories grouped in three sub-areas. The three sub-areas: Making Music/Consuming Technology; Auditory Culture Studies and Media Ecology, all offer fruitful perspectives on my research problem. I will reveal that scholarship in studying the listener-media relationship from these diverse disciplinary perspectives ask similar questions, yet some areas fall short in describing the "experience" of music listeners with musical media.

On a metaphoric level, the turning of the listener, much like the turning of musical media to create musical sound, is a dialectical relationship of inscription and decoding: one can envision technological changes in media as inscribing cultural change upon listeners, and the corollary, as listeners inscribing technological change across the music technology soundscape, through their interaction with musical media, and mediating devices.

That being said, I would like to clarify that in many localized, specific examples, there is of course room for the individual listener or group to diverge from large scale trends in the adoption, use and shaping of musical media and playback devices. Furthermore, I am not suggesting that difference is erased through technology; music listeners from varying economic, social, cultural, and gender groups all experience and find meaning through sound recordings in a multitude of ways. In formulating a theory of large-scale technological change and music, I felt it was necessary to discuss mainstream trends in the experience of music listening, and move towards specific trends through providing historical examples and examples drawn from blog discourse in the fourth chapter.

In theoretical sections, I do not attempt to deal with specific groups of music listeners, but rather I attempt to formulate a generic theory of music listening and technological change, which serves to inform contemporary, and specific examples I discuss in each epoch. I am interested in large-scale changes in the music listening experience that can be said to be largely accepted by the mainstream of music listeners. To clarify, I am discussing the turning of music listeners in Western industrialized nations, where access to sound recording technologies is not considered to be a luxury.

However, in the interest of providing an example of how difference, and issues of race, class and gender can be understood within the framework of a theory of technology and the music listening

experience, I offer a brief case study of the male audiophile. This serves to work counter to how theory and practice are generally applied to and complement one another. Traditionally, theory is introduced, data is gathered and interpreted, and a case study is formulated. What is included below works somewhat counter to this tradition, in that I offer a case study first, and work backwards to theory, data, and interpretation throughout the thesis. This is my intention, as I feel a generalized theory of music listening and technology must be formed first and foremost, with an example provided first to give context to that theory's potential applications. This is in some ways a deviation from the norm, and an epistemological experiment for myself, which I hope provides a colourful introduction to the potential in having more generalized theories, yet within the context of postmodern critical theory, which is traditionally seen to be adverse to generalized knowledge of any sort.

I now move into an example of the male audiophile. Audiophiles are those music listeners who are said to find enjoyment in music listening through attaining the most 'pure' technologically mediated sound possible, and strive for clarity and fidelity of sound. Audiophile culture is an interesting case for sound studies and the experience of music listeners with musical media, because it reveals the dialectical relationship between music technologies and music listeners. Marc Perlman explains that

> These 'superusers'...represent a type whose history is virtually coextensive with the technology itself...there have been people – usually men –...who spent an inordinate amount of money purchasing audio equipment, and an inordinate amount of time tinkering with it.[9]

The expert culture of 'superusers' that Perlman explains reveals much about the subject-position of those identified as audiophiles. Firstly, their economic class is revealed by the sheer cost of high-end audio equipment, and the leisure time available to spend time on hobbies. Furthermore, audiophile culture not only exhibits an interesting diversion from the large-scale adoption of musical media and playback devices, but also reflects the masculine centred society it was formed in. Keir Keightley has done excellent work on audio culture, and the audiophile

[9] Marc Perlman, "Golden Ears and Meter Readers: The Contest for Epistemic Authority in Audiophilia," *Social Studies of Science* 34, no. 5 (2004): 785.

phenomenon as it relates to American male middle class subjectivity. He explains that audiophilia, stemming from

> The high-fidelity phenomenon of the late 1940's and 1950's involved not only the masculinisation of home audio technology and the reclaiming of masculine domestic space; it was also part of a significant development in the history of American middle-class culture.[10]

As Keir Keightley's work suggests, issues of gender, class, and the domestic sphere are intertwined in the audiophile phenomenon, and reveal how music technologies as a focus of study reveal large cultural truths outside their intended application. The masculinisation of audio technology in the domestic space is but one way of critically engaging with audiophilia, a "change in course" in music technology history, yet also enforces my theory of the two-fold turning of music listeners upon and by media. Male audiophiles, as a group of superusers, inscribed their male subject-position as dominators of domestic space, upon auditory space vis a vis music technology.

There are of course countless examples of how specific groups find distinct meanings through their engagement with sound recording and playback technologies. I hope to reveal what could be said to be some "general trends" in the experience of most music listeners since the advent of sound recording, and throughout its history. This will evidently form a generalized theory, but one that I am certain leaves room for difference and possibility. It is my belief that it is crucial to approach the problem of the listener media relationship first from a high level, and spiral inwards to specific case studies. The fourth chapter takes more of a case study approach, and draws on theory discussed in the rest of this work.

The scholarly need for a unified theory of music listeners and their interaction with sound recordings is evident in the lack thereof, which is in part a result of the suspicion by many scholars for universal theories. Through investigating the turning of the music listener, an historical locus of understanding is revealed, illustrating how sound recordings

> have enabled people to reestablish some control over their direct sonic environment (though not necessarily over the music made)

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[10] Keir Keightley, "'Turn It Down!' She Shrieked: Gender, Domestic Space, and High Fidelity, 1948-59," *Popular Music* 15, no. 2 (1996): 172.

> and thereby other aspects of daily life, in a crowded, urban world dominated by technologies usually not within the control of the ordinary citizen.[11]

It is how people have regained control over their sonic environment with music technologies that I strive to address in my research.

Aside from the scholarly need for a generalized theory of the relationship between musical media and music listeners, there is also a need to understand how throughout the history of musical media, large-scale cultural trends have occurred, such as changes in how music listeners define their ownership of musical sound, how much control they are afforded in their listening experience, and the space and place of music listening. It is for this reason that this work covers a larger historical period than may seem practical given space limitations. I have chosen to discuss the influence of three contemporaneous musical media in their early years of mainstream acceptance: the gramophone record, the compact disc, and the music file and iPod.

The justification for these choices is simple. In order to make theoretical claims regarding the listeners experience with musical media, it is essential to identify concurrent trends occurring over long periods of time. Musical media, specifically in the late 20th and early 21st centuries are interesting in that there are significant periods of overlap and concurrent use of gramophone records, compact discs and music files. Furthermore, I chose to study the early history of each of these epochs, as it is in the onset of these new technologies that music listeners were turned.

Theoretical Approaches to Sound Recordings and Music Listening

Through my research on the experience of music listeners with sound recordings, I have identified three ways in which sound recordings are defined in relation to listeners in prominent humanities scholarship. As I am investigating the way in which music listeners experience and use sound recordings, I find that it is important to theorize ways in which sound recordings can be understood to produce meaning in different ways, in different contexts. The current section will serve to inform the following section, the literature review, which discusses the application of

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[11] Pinch and Bijsterveld, "Sound Studies: New Technologies and Music," 644.

these broad categorizations of sound recordings as texts, media, and as understood ecologically.

Sound Recordings as Texts

There has been a significant amount of literature in critical theory focusing on the relationship between readers and writers, or more specifically, the evolution of the text, and the subsequent "death" of the author. In describing the turning of the listener through sound recording technologies, I am interested in employing theories of textualilty, and the orality-literacy relationship in describing how listeners engage with musical media. Roland Barthes claims that "the Text requires that one try to abolish...the distance between writing and reading...by joining them [reading and writing] into a single signifying practice."[12] How does this relate to the experience of music listeners with musical media? In unraveling the semiotic process that occurs when a music listener plays a gramophone record for example, it is evident that a listener's experience with the musical object is a process of decoding a past event, while simultaneously also creating a new one. Music listeners, much like readers, act as agents in the process of decoding the musical text inscribed upon musical media through the playing of the gramophone record, compact disc, or music file. Music listeners are not simply aurally reading a past musical event, but are also "writing" a new one. In the words of Michael Dellaira,

> We can, however, think of recordings as being more than just sound documents of past events; because a recording sounds in the present tense, we also think of it as representing the here and now. We know that recording and event are different and yet, because the event can only happen once but the recording can be played back again and again, the recording seems invested with some kind of authority, something we can go back to, to consult, verify, or analyze.[13]

Therefore, the joined signifying practices of "reading" and "writing," as described by Barthes and others, are evident in the use of musical media

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[12] Roland Barthes, *Image, Music, Text*, trans. Stephen Heath (New York: Hill and Wang, 1977), 162.
[13] Michael Dellaira, "Some Recorded Thoughts on Recorded Objects," *Perspectives of New Music* 33, no. 1/2 (1995): 194.

by music listeners. This has undeniably led to a conflation of musical media with musical text, in predominant scholarship.

There are of course, significant historical reasons for this. As Barthes states, "The history of music...does indeed parallel that of the Text fairly closely."[14] Barthes does not explain the details of this connection, but it does merit a short explanation. The development of the printing press, and its application to music printing, has indelibly linked the history of the text to the history of music. As Alfred Einstein wrote, "the invention of music-printing [around] about 1500...produced as great a revolution in the history of music as book-printing had done in the history of general European culture."[15] This is not to say that music is a special case: arguably, all information and communication technologies have been shaped by the development of the text, as has human consciousness. As René Lysloff and Leslie C. Gay write, "Many kinds of abstract knowledge...necessary for so many technological changes over the past several hundred years, are based on textual literacy - i.e. writing technology."[16] Thus, it seems natural to conceptualize musical media within the language of textuality.

There is also the pragmatic connection between writing technologies as technologies of inscription with sound recording technologies as such. As Douglas Kahn argues

> Phonography...shifted cultural practices away from a privileging of utterance toward a greater inclusion of audition, placed the selfsame voice of presence into the contaminated realm of writing, and linked textuality and literacy with sound through inscriptive practices.[17]

Kahn's linking of phonography as a writing technology, and sound to

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[14] Barthes, *Image, Music, Text*, 162.
[15] Alfred Einstein, *A Short History of Music* (New York: A. A. Knopf, 1954), 45. Quoted in Marshall McLuhan, *The Gutenberg Galaxy : The Making of Typographic Man* (Toronto: University of Toronto Press, 1962), 61.
[16] René T. A. Lysloff and Leslie C. Gay, *Music and Technoculture* (Middletown, CT: Wesleyan University Press, 2003), 14.
[17] Douglas Kahn, "Concerning the Line: Music, Noise, and Phonography," in *From Energy to Information : Representation in Science and Technology, Art, and Literature*, ed. Bruce Clarke and Linda Dalrymple Henderson (Stanford: Stanford University Press, 2002), 178.

textuality is useful in conceiving of sound recording technologies as technologies based in literacy.

Outside of the pragmatic connection between music printing and book printing, and sound recording technologies as "inscriptive" technologies there are also interesting parallels between musical media and the development of the text in relation to ideas of orality and literacy. Specifically, in the dual oral and literate character of music, larger historical trends reveal themselves.

As my interest is in musical sound, it is clear that with the invention of the gramophone, music becomes even more connected to textuality. Theodor W. Adorno writes, "Music, previously conveyed by writing, suddenly turns itself into writing...through the curves of the needle on the gramophone record, music approaches decisively its true character as writing."[18] Adorno was correct with this statement, because prior to gramophone recordings, music was no longer conveyed by writing technologies, but in fact became a writing technology itself.

Although the musical score was a means of preserving musical instructions, it was never a true means of preserving musical sound and was not a unique writing technology in and of itself, as its content was based on the much older technologies of music notation, and its medium, the page, was a much older medium of writing itself. A musical score is also only a conveyance of musical instructions, thus working more like a "code" than a document. It is in this way that sound recordings are most like texts than musical notation, and as such, are really the first musical technologies that can be truly understood as writing technologies in their own merits.

Musical media are historical sources, yet ones that evade linear notions of history, because sound recordings can be taken out of their spatial and temporal contexts. The experience of listening to a sound recording, by merit of its character as musical writing, approaches the experience of reading. But what does it mean to "read" musical sound?[19] Sound recording technologies and sound recording media provide evidence for an age of modernity that is not solely characterized by the

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[18] Theodor W Adorno, "The Curves of the Needle," in *Essays on Music*, ed. Richard D. Leppert (Berkeley: University of California Press, 2002).
[19] I address this question in the section of the literature review regarding media ecology.

visual, and place the history of music technology within the larger context of the history of the text, and the implications of textuality upon culture.

Conceptualizing sound recordings as "texts" offers much with respect to a well-formed body of theory to draw from, but it is unclear whether music listeners experience sound recordings as texts. Furthermore, it is clear that the influence of textuality on culture is rapidly changing with the advent and popularity of digital forms of "reading" different types of texts. Thus, it would be difficult to argue that in the current sound recording epoch, listeners conceptualize sound recordings as texts. In chapter two, I discuss in each epoch, how different media operate as texts, and how users have engaged with sound recordings much as they may with other forms of writing technology.

Sound Recordings as Media

Perhaps a more contemporary way that sound recordings can be conceptualized is as media. If I were to here include a conceptual diagram of the communicative flow between transmitter (composer, performer, etc.) and receiver (music listener) prior to sound recording technology, it would very much resemble a one-way street, with information flowing unidirectionally. The sound emanating from the transmitter would flow more or less directly to the receiver, without need for an intermediary. Sound recordings created distance between transmitters and receivers, in the form of a mediating device, and/or mediating object. Whereas in live performance, performers more or less communicated directly to listeners, in technologically mediated performance, distance is added in the form of media and mediating devices. Conceptualizing sound recordings as media, and under the broad theoretical category of "medium theory," is a useful way of understanding how distance is a crucial factor in the turning of the listener.

Music separated from its source is known as "acousmatic music," which

> In its broadest sense...might be said to be all music that is presented for which we are unable to see the sources of constituent sounds. A concert performed by musicians seated behind an opaque screen, directly mimicking the pre-Socratic concept of aurally transmitted

> akousmata, would fit into this category, as would an audio-only recording of an acoustic concert.[20]

However, although distance is created in all mediated forms of music listening, and it can be argued that distance is increased in recorded forms of mediated music, a closeness is regained it terms of a physical connection to the media, and by the simple fact that by extension, the musicians are "in your home," in the form of a mediated copy. The concept of distance in the form of acousmatic music, may be a slightly outdated way of conceiving of sound recordings within the context of mediation, because arguably all cultural forms involve some level of phantasmagoria.[21]

Understanding sound recordings as media across epochal changes reveals that not all media are created equal. The character and level of mediation between transmitter and receiver with a gramophone record, compared to that of an iPod differs greatly.

Conceptualizing sound recordings as media is useful when placing emphasis on the subject, as opposed to textual understandings, which consider the object to be of utmost importance. The principle of cultural mediation as applied to sound recordings balances the need to theorize the meaning of the object, while including the listening subject at a high level of significance. Through the mediation that has occurred between technological innovations in music technology and resulting changes in the music listening experience, listeners have resituated their role within the exchange between music commodity producer, gatekeeper and consumer, often blurring the line between these artificial distinctions.

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[20] Luke Windsor, "Through and around the Acousmatic: The Interpretation of Electroacoustic Sounds," in *Music, Electronic Media, and Culture*, ed. Simon Emmerson (Burlington: Ashgate, 2000), 7.

[21] Adorno argued, following Marx, that when music approaches its character as a fetish commodity, it does not reveal itself, and regresses to the level of the fetish, whereby phantasmagoria, or an obscuring of the means of labour occurs. See Theodor W Adorno, "On the Fetish-Character in Music and the Regression of Listening," in *Essays on Music*, ed. Richard D. Leppert (Berkeley: University of California Press, 2002). and Richard D. Leppert, "Composition, Composers, and Works: Commentary," in *Essays on Music*, ed. Richard D. Leppert (Berkeley: University of California Press, 2002), 533.

Sound Recordings as Environment

Western philosophy has, for the most part, ignored the sense of sound. Phenomenology, or the study of experience, has made at least some attempt to understand the ephemeral sense of sound. However, phenomenology has not significantly addressed how sound shapes cultural experiences, or how the experience of sound in our daily lives produces meaning for individuals and groups. I debated what to call this conceptual area, and rather than focus on phenomenology, have decided to focus on sound recording ecology, also known as Soundscape Studies. Soundscape Studies/Sound Ecology deals with sound environments, the influence of sound upon human environments, and the loss of our connection to sound as a significant sense in understanding our place in the world. Furthermore, sound ecology provides us with a language for describing sound experience, and leads us towards an understanding of how sound shapes human experience.

Sound ecology is useful in the study of sound recordings and the turning of the listener, as it is concerned with the historical change from sound being the primary sense in which human beings orient themselves to the world, to the supposed visual bias of the present day. Sound recordings and sound recording technologies are significant in sound ecology, because they in some ways bring back the primacy of sound as a significant sense, and focus on why listening is important, and how different Soundscapes[22] result from technological innovations.

It is difficult to find a coherent body of work that deals with ecological understandings of sound, as work in this area comes from disciplines as dissimilar as cultural studies and music cognition, physical sciences and music composition. R. Murray Schafer comments on the interdisciplinary nature of soundscape studies, stating

> The home territory of soundscape studies will be the middle ground between science, society and the arts. From acoustics and psychoacoustics we will learn about the physical properties of sound and the way sound is interpreted by the human brain. From society we will learn how man behaves with sounds and how

[22] Sound environments are more commonly known as "Soundscapes," a term coined by the Canadian composer R. Murray Schafer in R. Murray Schafer, *The Soundscape : Our Sonic Environment and the Tuning of the World* (Rochester, VT: Destiny Books, 1977).

> sounds affect and change his behavior. From the arts, particularly music, we will learn how man creates ideal soundscapes for that other life, the life of the imagination and psychic reflection.[23]

Ideally, research on sound recordings would employ this varied perspective, as arguably sound recordings affect not only culture and society, but also human bodies and our natural environment. One common goal in all approaches is the desire to understand the role of sound as sense, and how physical bodies engage with and assign meaning to ambient[24], and acousmatic sounds.

Soundscape studies is most useful in that it provides a language for describing sound. However, a weakness of soundscape studies is that practitioners of acoustic ecology, who are most concerned with improving our current soundscape, write most scholarship in this area. This leaves less room for a critical approach, as their bias is towards removing noise pollution from the environment. Furthermore, much of the work in soundscape studies comes from composers (mostly of electroacoustic music), and thus their interest is in creating ideal soundscapes, rather than trying to interpret the significance of sound to culture.

I included a section on Soundscape Studies also by necessity. In nearly all scholarship on sound recording technologies, scholarship from this area is present. Furthermore, in recent scholarly volumes on sound culture, Soundscape Studies scholarship is understood to be necessary introductory material to the subject.[25]

Theories of the Listener-Media Relationship

The relationship between music listeners and sound recordings has not been organized into one theoretical approach; however, it is obvious that interdisciplinary perspectives are beginning to lend themselves to a

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[23] ———, "Soundscapes and Earwitnesses," in *Hearing History: A Reader*, ed. Mark M. Smith (Athens: University of Georgia Press, 2004), 3-4.
[24] Ambient sound can be understood as sound heard in the background, not limited to music alone.
[25] Recent volumes on sound culture include Michael Bull and Les Back, *The Auditory Culture Reader* (New York: Berg, 2003), Christoph Cox and Daniel Warner, *Audio Culture : Readings in Modern Music* (New York: Continuum, 2004), Veit Erlmann, *Hearing Cultures : Essays on Sound, Listening, and Modernity* (New York: Berg, 2004).

unified theory of music listening. I do not claim to discuss all existing theories of music listening and media, but rather, I have chosen those theoretical areas that lend themselves to critical inquiry, and draw from the aforementioned conceptualizations of sound recordings as text, media and environment. In this section, I group authors into three conceptual areas: making music/consuming technology; auditory culture studies and media ecology. As I will reveal through this section, these conceptual groupings all share a common interest in connecting changes in human experience with technological change, in the broadest definition of technology.[26] Some of the authors were discussed in the previous section of this chapter; this was done in order to offer a larger scale for understanding the relationship between music listeners in sound recordings, before moving downward to specific applications of these concepts.

Making Music/Consuming Technology

I borrow the title of this theoretical grouping from Paul Théberge's excellent work on the relationship between music listeners and musical media technologies.[27] Thus, the focus of this section is on how music technologies simultaneously become technologies of production and consumption, and how this relationship unfolds through the adoption of technologies, techniques, and musical media. One of the major themes in this section is the difficulty in avoiding the label of "technological determinism,"[28] when claiming that music technology has influenced its users in a cause-effect relationship. It is clear, however, that it is possible for music technologies to "affect" human activity, but that this does not mean human activity is determined by technology. In this section I discuss the work of two authors: Paul Théberge and Mark Katz.

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[26] I define technology as anything that extends our physical and mental bodies. This follows largely from media ecology understandings of technology. See especially Marshall McLuhan, *Understanding Media : The Extensions of Man* (Cambridge, MA: MIT Press, 1994).
[27] Paul Théberge, *Any Sound You Can Imagine : Making Music/Consuming Technology* (Hanover, NH: Wesleyan University Press, 1997).
[28] Technological determinism usually characterized as claiming that the "machines make the rules," and that technology determines human experience. This is a common complaint about media ecology understandings of technology.

Paul Théberge

In his influential text on the culture surrounding musical technologies, Théberge suggests that participation in music as a performer, composer, or listener are marked by simultaneous enactments of the roles of producer and consumer of technology. In other words, a model in which the consumers of music are also producers in every sense of the word has replaced the romantic ideal of the performer/composer as the producer of musical sound, or production as a role inaccessible to music listeners. Théberge argues that performers and composers gradually became expected to "pay their dues," by purchasing various technologies used in the creation of musical sound, and were also influential in the development of these musical technologies throughout history. In this approach, listeners are said to be active in the process of technological innovation, in that through their consumption of music, they become producers of technological innovations.

Furthermore, with the surpassing of the printed score as prime musical representation, by the aurally situated "sound object" (in various manifestations), the listener is an active participant in the creation of their ideal musical performance. In essence, the author is suggesting that the changes in the culture of creating and listening to music have changed drastically through their mediation by technology. Théberge is careful not to slip into technological determinism, claiming that the mediation of technologies which has resulted in the creation of the musical producer/consumer is an interactive process, not necessarily a linear, progress based model. Specifically, Théberge adopts Hebdige's model that focuses on "moments," in which each historical moment is distinct, yet caught up with other moments, forming a "cultural biography."[29]

Théberge understands technology in its broadest sense, as the concept of "social technology" or discursive structures which act as extensions of the human body and mind. Thus, Théberge avoids the traditional discussions of technology and music, which often focus of the music of avant-garde electronic composers, or the organology of obscure musical instruments. I borrow this approach in my choice of media epochs

[29] For Hebdige's most famous use of the "cultural biography" approach where the Italian Scooter undergoes an examination using cultural biography see Dick Hebdige, *Hiding in the Light : On Images and Things* (New York: Routledge, 1988).

to discuss, where I am less interested in obscure technologies than I am in technologies accepted and used by music listeners.

A thorough historical background of the evolution of technology as it is applied to music instrument design is found throughout the various sections of the text, with key innovations highlighted. A strong focus is placed on the evolution of the keyboard, as it is arguably the instrument that has been most influenced by technological innovation, and the instrument that took centre stage in the digital revolution with the proliferation of MIDI[30] technology. The change from invention to innovation is also a major concern for Théberge, which he feels cannot be separated from social and economic conditions; the process of invention, innovation, and diffusion is inseparable from social and economic change.

Théberge's approach is essentially "sociology of culture" in the sense that Raymond Williams applied it. In this approach, the institutions, forms, and means of production are understood in tandem with aesthetic concerns. Furthermore, a level of cultural analysis is applied to cultural forms, often in broad terms.

Théberge's text is divided into three parts. The first section, "Design/Production: The Musical Instrument Industry," attempts to provide a historical overview of the changes in the music instrument industry, from its general inception as an industry in the 18th century, to its current incarnation. The musical instrument industry borrowed the concept of "process innovation," from the Fordist model at an early stage, and was marked by "flexible accumulation" in the post-Fordist era. An interesting point that Théberge discusses is how the musical instrument industry has been characterized by "transectorial innovations." Referring to the pianola (player piano), Théberge writes:

> The technical advance that would eventually make both barrel organs and player pianos more practical...came from an unlikely source: the textile trade. It was Joseph Jacquard's use of perforated cards on cylinders to control needlework...that became the basis of the perforated role on automatic pianos.[31]

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[30] MIDI, or Musical Instrument Digital Interface, is an industry standard developed by the MIDI Manufacturers Association (MMA).
[31] Théberge, *Any Sound You Can Imagine : Making Music/Consuming Technology*, 27.

Thus, transectorial innovations are those from one industry, which directly borrow from, and affect those of another. This is a major theme in Théberge's book, culminating in the transectorial innovations that occurred in the electronic and digital keyboards, which owe their innovation much to the microprocessor industry. Transectorial innovation is also said to cause dependence between diverse industries, and the possibility for migration. As I discuss in chapter two, transectorial innovation is an important factor in sound recording technology history.

Part three, "Consumption/Use: Technology and Musical Practice," completes Théberge's model of the producer-consumer. An important point that Théberge makes is that instruments (technologies) are not completed at their stage of design, but rather, they are made through their use. Through this use has been a strong rationalization of instrument design, which "Max Weber has argued...the objective, rational approach taken toward experimentation with keyboard instruments...became a model of experimental method that would only later be developed in science."[32] This accomplished, among other things, two systems of logic when thinking about music: theoretical and practical. The debates between theoretical and practical thinking about music continue to this day, to be some of the most politically charged debates in musicology. The important point that Théberge makes here is that technology develops through use, and this is appropriate to understand in this work, as sound recording media and devices were developed in this manner as well.

The change that was brought on by electronic and digital music technologies was that the emphasis was placed firmly on musical sound, as opposed to musical instructions. Furthermore, these technologies democratize access to the creation of music in a number of ways. Firstly, as the supremacy of using notation in creating music is thwarted by digital technology, this allows for a much larger group of consumers to become producers of music. Also, the physical connection between the performer/creator of digital music is much different than that of the acoustic creator. Théberge writes, "the more or less direct relationship between physical gesture and sound that is characteristic of most traditional musical instruments is completely severed with electronic devices...the keyboard of a synthesizer is an "interface," little more than an elaborate switching device."[33]Thus, musical production becomes akin to consumer practice, as the composer music select the "right" sounds,

[32] Ibid., 165.
[33] Ibid., 199.

rather than being stuck to a limited set of expectations.[34] What this means for music listeners and technological innovation in music is the converse, however, as they are actually brought "closer to the music" by means of a mediating device.

Given these observations of Théberge's work, it is clear that what is useful in his approach in studying sound recording technologies and the turning of the listener is the focus on the relationship between technologies and users, the interface between them and producers and consumers, and the cultural manifestations of such a relationship. I particularly favor a cultural biography approach as well, as it points out the influence on a technological instrument upon a wider cultural range than would first be assumed. Furthermore, Théberge grounds theoretical questions such as these with archival, and other sources to ground theory with practice.

Mark Katz

In Mark Katz's Capturing Sound: How Technology Has Changed Music, he discusses various "phonograph effects."[35] Phonograph[36] effects, simply put, are the various effects that the gramophone has had upon the creation and experience of music. Or, in the author's own words, "the manifestations of sound recording's influence."[37] Katz identifies seven phonograph effects: tangibility, portability, (In)Visibility, Repeatability, Temporality, Receptivity and Manipulability. Through case studies ranging from early sound recording technologies, to present day, Katz uses the concept of phonograph effects to describe how technology is not only shaped by human activity, but that the converse is also true:

> I myself write of recording's influence on human activity and of phonograph effects, both of which impute causal powers to technology. Although we often respond to technology within a context of limited options not of our own making, we must

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[34] Ibid., 200.
[35] Katz, *Capturing Sound : How Technology Has Changed Music.*
[36] "Phonograph" referred originally to the device used to play wax cylinders while "gramophone" referred to the device used to play disc records. While gramophone was adopted as the preferred terminology in Great Britain and Canada, the term phonograph persisted in the United States, where it was used synonymously with gramophone..
[37] Katz, *Capturing Sound : How Technology Has Changed Music,* 3.

> remember that in the end, recording's influence manifests itself in human actions. Put another way, it is not simply the technology but the relationship between the technology and its users that determines the impact of recording.[38]

Throughout the book, Katz makes it clear that he is not supporting the technological determinist model, or any utopian vision of technology. In the determinist model, technology determines the nature of the object (in this case music), and is responsible for its outcome (often in blunt terms such as positive or negative). Katz does step dangerously close to the determinist model, but does maintain his position that technology lies in the middleground of musical culture, with listeners not only drawing meaning from the musical object, but imparting meaning upon the object as well. Thus, unlike technological determinists, Katz does not consider the relationship between technology and music as operating in an autonomous sphere: social, economic, and cultural determinants are understood to operate in tandem with technological factors.

Tangibility is one of Katz's phonograph effects that are particularly relevant to discussions of sound recordings. Katz applies this effect to early recording, up to present day "digital" music. I am particularly interested in discussing how the tangibility of recorded/digital media effects the ontology of musical sound-objects, and more importantly, the nature of the musical experience for listeners. How do the various levels of tangibility turn the music listener?

Prior to the invention of sound recording, the aural nature of music was never physically tangible as an object. One may argue that the musical score took the place for the aural characteristics of music, providing a tangible stand-in for its objectivity. However, as discussed earlier, at a fundamental level, a score simply provides instructions on how to create sound, and does not provide sound itself in object form. The key difference between the musical score, and the musical record, according to Eric Rothenbuhler and John Durham Peters, is "The gramophone inscribes not the spirit of music but its body, its acoustic being in time. Phonography captures not the code but the act, not the script but the voice, not the score but the performance."[39]

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[38] Ibid.

[39] Eric W. Rothenbuhler and John Durham Peters, "Defining Phonography: An Experiment in Theory," *Musical Quarterly* 81, no. 2 (1997).

Furthermore, the realization of the musical score does not guarantee a determined outcome. Whereas the gramophone record, cassette tape, and CD could more or less guarantee a similar aural experience for a variety of listeners, the outcome of the musical score was indeterminate, relying on the performers, instruments, performing environment, etc. Thus, the essence of live performance is homogenized in recording.

Katz's work is also useful in that he does not make the common error of focusing his attention on one musical genre, one discrete historical period, or even one technology. His study attempts to connect various sound recording technologies historically, while placing emphasis on the cultural results of technological change in music. In this way, Katz's work approaches a generalized theory of mediated music listening, the aim of this thesis. Katz's work also falls under the idea that music listeners are producers and consumers, in that he discusses the important contribution of the listeners to sound recording technology use.

An excellent example of this Katz uses is in Americans' desires to become more "musical," through the distribution of phonograph records of "good music," in the early years of this technology's existence, and the later phenomenon of the parlor phonograph. Katz traces how the American public saw phonography as opening the door for "good music" to be heard across the nation, and how consumer desires for this influenced record production, in that companies released more Western Classical music (referred to as "good music"). Katz writes

> manufacturers were designing units to look more like furniture than machines, thus allowing phonographs to blend into the domestic environment...Americans increasingly welcomed the phonograph into their parlors. Recorded music was not considered merely a convenient and affordable form of entertainment, however. The home phonograph was widely touted as the best means for Americans to hear classical music, and therefore a means to help America become a "truly musical nation."[40]

Thus, listeners held the dual role of producers and consumers, in that their use of sound recording technology shaped how that technology

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[40] Mark Katz, "Making America More Musical through the Phonograph, 1900-1930," *American Music* 16, no. 4 (1998): 453. This is also found in chapter two of Katz, *Capturing Sound : How Technology Has Changed Music.*

became characterized. Furthermore, Katz revealed in this example how phonograph effects have implications on both production and consumption of music technologies, and this reveals much larger cultural issues, such as Americans' desire to become citizens of a more "musical" nation.

Auditory Culture Studies

Auditory culture studies (sometimes referred to as sound studies) is a newly developing field which studies the influence of sound upon culture, and how auditory phenomenon are significant in the shaping of human experience. An interdisciplinary field, auditory culture studies draws upon work from a variety of humanities and social science disciplines, and deals not only with music, but with all types of natural and human made sound.

The perspective of auditory culture studies is useful in studying sound recording technologies, as a broad and historically based approach is necessary in studying a group of technologies that span such a large historical period, and influence such a large group of people, in a multitude of ways. Jonathan Sterne is a significant scholar that uses this approach, and his work on sound recording history can be said to be grounded in a cultural studies approach , and important as it offers a fresh perspective on sound recording history.

I also include a discussion of Michael Bull's work on personal stereos, as it falls under an auditory culture approach, and is some of the best work on sound recording technology and use. Michael Bull's work is also very useful in that he draws on individual listeners accounts of their experiences with musical media, and grounds these accounts with historical insight, and theoretical rigor.

Jonathan Sterne

Sterne's text is formulated around the thesis that "as there was an enlightenment so too was there an "Ensoniment.""[41] Modernity is often considered the age of the visual: Sterne turns this misconception on its head, offering ample evidence for the "auricular" nature of modernity. Quoting Burdick, Sterne writes "the golden age of the ear has never

[41] Jonathan Sterne, *The Audible Past : Cultural Origins of Sound Reproduction* (Durham: Duke University Press, 2003), 2.

ended...It continues, occluded by the visual hegemony."[42] Sterne calls for a fresh look at sound as an important sense to be critically studied.

Sterne breaks with many of the theoretical traditions that deal with the senses, which often treat sound as interior, and a "special case" among the senses. In particular, he is highly critical of Ong's work in Orality and Literacy.[43] Although Sterne admits that Ong's work is "widely cited as an authoritative description of the phenomenology of sound,"[44] he states that Ong is primarily concerned with theological directives, creating an audiovisual "litany," which promotes orality as a lost age in which the word of God was transmitted to humans.

When critical theory deals with the sound reproduction of the human voice and music, it often makes claims for the disembodied nature of this experience. Sterne refers to this view as parallel to Pierre Schaffer's "acousmatic" understandings of sound reproduction-sound as separated from its source.[45] As Sterne mentions, sound reproduction has been occurring throughout history: when a human uses a ram's horn to communicate, they are essentially reproducing human sound. This is where Sterne truly explains why sound reproduction is historically significant beginning in the late nineteenth and early twentieth centuries: "modern technologies of sound reproduction use devices called transducers, which turn sound into something else and that something else back into sound."[46] The use of transducers in sound reproduction is thus a significant epoch: in Sterne's formulation then, we have not really entered a new epoch with digitally recorded and experienced music, as they also operate using transducers. However, this is where I disagree with Sterne, because the fact that specific media are analog or digital is not what is most important, but it is how listeners use the medium that is important.

Significant in Sterne's work is his attempt to re-embody mechanically reproduced sound, which is often considered as disembodying in critical theory, especially in textual understandings. As Sterne writes, "my history suggests that the tympanic mechanism-the

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[42]Ibid.
[43] See Walter J. Ong, *Orality and Literacy : The Technologizing of the Word* (London: Routledge, 2002).
[44] Sterne, *The Audible Past : Cultural Origins of Sound Reproduction*, 16.
[45] Ibid., 20.
[46] Ibid., 22.

mechanical function that lies at the heart of all sound reproduction devices-points to the resolutely embodied character of sound's reproducibility."[47] This fact is useful when considering the experience of music listeners; the typical stance of critical theory does not afford the embodied nature of reproduced sound, which requires that the listener be considered as a passive, aloof, and detached subject. By providing historical and critical evidence of the embodied nature of sound reproduction technologies, the questions asked by scholars of recording history shift their focus considerably.

Sterne places emphasis upon the study of otology[48] as essential in understanding sound reproduction technologies, in that developments in the understanding of the tympanic mechanism of the ear led to nearly all sound reproduction technologies of the 20th century: telephony, telegraphy and phonography were all developed around the principle of the tympanic mechanism. By connecting the human ear with all technologies of sound reproduction, Sterne manages to re-embody sound technologies, drawing attention to the fact the sound recording technology acts upon bodies, and there is a necessity to afford as much importance which has been given to understanding the cerebral aspects of sound reproduction, to bodily ones.

Sterne is not alone in connecting medical history with the history of sound recording. John Durham Peters explains that twentieth-century media are a result of an attempt to listen to bodies:

> Recent research has trace the origins of twentieth-century media to diverse forms of nineteenth-century culture, but medical measurement devices designed to represent temporal processes are just as important a source for our entertainment machines today. Film, telephony, phonography, television, and human-computer interfaces are in diverse ways psychotechnical practices that derive from study-and simulation-of the human sense organs.[49]

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[47] Ibid., 50.

[48] Otology is a medical discipline that studies the anatomy and physiology of the human ear.

[49] John Durham Peters, "Helmholtz, Edison, and Sound History " in *Memory Bytes : History, Technology, and Digital Culture,* ed. Lauren Rabinovitz and Abraham Geil (Durham: Duke University Press, 2004), 179.

Thus, music listeners are naturally placed at the locus of discussions of musical media in an auditory culture approach (however loosely defined). What is most interesting when one puts the body back in traditionally disembodied musical media is that the body never actually leaves. To quote John Durham Peters, "The ambition from Helmholtz to Edison, from Bell to Turing, has been to make communication channels immune to the troublesome fact of bodily presence. It too has always failed-but only in the most inconspicuous ways."[50] Following my original thesis that the relationship between musical media and its users (music listeners), is of a dialectical nature, the fact that sound recording technologies originate from a desire to investigate the human body, yet also to distance from it, illustrates this fact.

The technique of listening is claimed by Sterne to also be rooted in the body. Sterne refers to "audile technique," as stemming from the development of mediate auscultation (the use of stethoscopes in diagnosis). Thus, techniques for listening which are later employed by music listeners' experiences with musical media originate from doctors listening to the human body, and creating technologies that help them to listen better. Following the development of mediate auscultation and the subsequent development of "audile technique" in general, the audile technique used to transmit telegraph messages by operators provides an historical continuum linking the body to sound reproduction technologies; Sterne reveals that the transducers developed in telegraph technology are used in the progress of the first gramophone.[51]

In the development of a theory of the experience of music listening and technology, the historical development of audile technique in relation to music, and the move towards listening for "sound" is particularly crucial:

> as listening turned away from the formal melodic and harmonic structure of the music, it turned to the sonic characteristics of the music. Listening for acoustics and fidelity-listening as technique-constructed music as just one more instance of sound.[52]

I believe Sterne is illustrating a very important aspect of the change in experience in music listening through sound recording technologies:

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[50] Ibid., 190.
[51]Sterne, *The Audible Past : Cultural Origins of Sound Reproduction*, ???
[52] Ibid., 98.

developments in audile technique that shifted the focus from music as understood aurally within its own signifying system previously, entered a new system focused on music as sound, forcing music listeners to adopt a new language and mode of experience. Evidently, when connecting the change in audile technique in music listening, it is fair to suggest that in tying this in with technological change, innovation in the areas of sound fidelity, the desire for an enhanced listening experience, and permanence become industry innovations.[53]

The concept of acoustic space is a major theme in auditory culture studies, and is discussed in great detail by Sterne. The differences between privatized and collective listening spaces are related to musical media in a multitude of ways. As Sterne writes,

> It is true that people often listened together to sound recordings and, later to radio shows. Yet even these collective modes of listening already assumed a pre-existing "privatized" acoustic space that could then be brought back to a collective realm...the construction of acoustic space as private space is in fact a precondition for the commoditization of sound.[54]

Sterne's analysis of the industrial genesis of sound reproduction is useful in highlighting the relationship between technology and media. This is useful in the conceptualization of a theory of the music listening experience and technological change. For example, the phonograph was originally conceived of as a business machine to aid stenographers. Thus, the early gramophone was a technology that served a specific business purpose. However, the genesis of sound recording "technology" to sound recording "media," is what is essential in understanding the role of the listener. According to Sterne, the difference between technology and media is essentially that: "A technology is simply a machine that performs a function; a medium is a network of repeatable relations."[55] Musical media are thus much more significant than musical "technologies," in this sense. Sterne's apt example of the metamorphosis of sound recording technologies, as evidenced in the transformation of the gramophone from business machine to entertainment medium, illustrates the synonymous

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[53] Please refer to Chapter Two, where I provide an historical background in the developments of sound recording technologies in more detail.
[54] Sterne, *The Audible Past : Cultural Origins of Sound Reproduction*, 155.
[55] Ibid., 210.

turning of the music listener, and technological genesis impacting the music listening experience.

Sterne's discussion of the genesis of sound fidelity works with the problem of "acousmatic" understandings of sound reproduction. The philosophical concept of the "vanishing mediator" is applied to the idea of sound fidelity, presenting the paradoxical nature of sound as idea. There appears to be an inverse relationship between the vanishing mediation of sound, and the idea of sound fidelity: the technology aiding in sound fidelity is supposed to vanish, yet the more present it is, the more faithful the reproduction becomes.[56] This chapter deals with many of the philosophies of mediation, which often claim the copy to be a "debasement of the original."[57]

Well placed as the final chapter in this text, Sterne's discussion of the culture of death in Victorian life is conceived of as a necessary condition for the development of sound reproduction technology. A "culture of preservation," the Victorian culture was concerned with preserving the dead by embalming, and developed techniques to do so. One of the original intentions for the use of the gramophone was to preserve the voices of the dead. It is easy to see how the culture of preservation spilled into sound reproduction. As Sterne writes, "The ethos of preservation described and prescribed the cultural and technical possibilities of sound recording."[58] Sterne follows this discussion into the anthropological concern for preserving the sounds of indigenous so-called "dying races." This leads into discussions of the mass archiving of sound, and how this heralds its significance in cultural history.

Sterne's work is thus an interesting history of sound recording technologies that draws upon a wide range of materials, making claims for the embodied, historically situated music listener. Sterne's auditory culture approach, focused on material forms of music consumption is therefore useful in this thesis.

Michael Bull

Michael Bull's work on sound recordings is mainly centred on the study of personal stereo use (walkmans, iPods, etc.) His work takes an

[56] Ibid., 225.
[57] Ibid., 218.
[58] Ibid., 292.

auditory culture approach, in that he is interested in how the material culture of personal stereos relates to humankind's relationship to sound and the environment. Furthermore, Bull is interested in the implications of personal stereo use on the auditory senses and seeks in his work to distinguish between the impact of sound on society, and how this differs from the implications of visual media.

In his excellent work on the Sony Walkman, Michael Bull seeks to understand how personal stereo users navigate the urban landscape on a daily basis, with the help of personal stereos. Bull characterizes the musical object in a very useful way for this study, arguing that

> The object is not merely an artifact but also a set of practices with which an artifact is associated. These practices give meaning to the object just as the object discloses something of the user in them. Artifacts also have biographies that extend beyond themselves and which are decipherable by focusing upon the material artifact as a microcosm of the social.[59]

The focus on "surrounding practices" of the material object is exactly the epistemological approach taken in this study with respect to sound recordings.

Bull's auditory culture approach comes through in his work on personal stereos in his qualification of the differences between auditory and visual manifestations in culture, and how this relates to larger cultural truths as exhibited by personal stereo use. Furthermore, Bull's focus on how personal stereos are important in the realm of experience for individual users is the very question I ask of sound recordings. He writes,

> Sound differs from vision in its relational qualities and in the placing and spacing of experience...The sensory environment of the city, just as the habitual way in which we look, hear and experience, is closely tied to recent technological developments that inform and are informed by a set of western cultural values ranging from individualism, privatization to forms of everyday 'instrumentalism'. The personal stereo is merely a recent

[59] Michael Bull, *Sounding out the City : Personal Stereos and the Management of Everyday Life* (New York: Berg, 2000), 6.

> technological addition permitting the management of experience through these cultural imperatives.[60]

Thus, Bull's approach, grounded in auditory culture studies, reveals how a technological artifact such as the personal stereo, reveals the management of the everyday experience by individual users, through audile technique.

Media Ecology

Media ecology is concerned with the relationship between perceived and what is perceived, as understood as "environments." Within this theoretical framework, common issues for scholarly debate include understanding the relationship between media environments and the human senses as perceptual systems. This question in media ecology is often defined as a question of sensory modalities. The two most common sensory modalities are said to be visuality and orality.[61] In attempting to understand how music listening can be said to be operating in either modality, irrespective of musical media, is a primary question of this thesis, which attempts to understand how music listening has changed over time with the adoption of different musical media. Thus, although this section is entitled "media ecology," I also employ it within an anthropological framework. To clarify, I wish to quote Bruno Deschênes on sensorial anthropology. He writes:

> Sensorial anthropology suggests that the cognitive grasp of one's environment is fashioned by the senses, not only individually but socially and culturally as well. That is to say, a society selects a dominant sense that becomes a psychosocial framework that models the modes of thought and the perception of reality of all its members.[62]

When speaking of a "dominant sense used in music listening," it does seem odd to question the oral nature of this experience. However, in conceptualizing the sensorial modes used in listening to recorded sound, the question becomes more appropriate.

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[60] Ibid., 116-17.
[61] Bruno Deschênes, "Toward an Anthropology of Music Listening," *International Review of the Aesthetics and Sociology of Music* 29, no. 2 (1998).
[62] Ibid.: 145.

In interest of space, I have chosen to only discuss the work of Derrick De Kerckhove, once Marshall McLuhan's translator, the most contemporary media ecology scholar, and the most relevant to this work. I discuss one of De Kerckhove's works, The Skin of Culture, which deals with orality in the digital age.

Derrick De Kerckhove

Drawing on Walter Ong's theories of orality and literacy, Derrick De Kerckhove expands the concept of sensory modalities, extending their influence to modern day technology and culture. De Kerckhove draws on Ong's conception of the respective modes of understanding in oral vs. literate cultures, and introduces the concept of oral and literate listening. Specifically, De Kerckhove is interested in how the sensory modalities of oral vs. literate listening can be applied to greater cultural understanding. De Kerckhove writes

> The basic difference between the two modes is that oral listening tends to be global and comprehensive, while literate listening is specialized and selective. One is attending to concrete situations and to persons, whereas the other is interested in words and verbal meanings. One is context-bound, the other is relatively context-free. The first is cosmo-centric and spatial, the latter is linear, temporal and logocentric.[63]

This is significant when applied to sound recordings and human experience. The gramophone and CD are arguably experienced and used in a literate mode of experience: both lend themselves to being interpreted as within the "literate mode of listening" De Kerckhove explains, when compared to the current epoch of music files. Furthermore, both are writing technologies on their own merit, and lend themselves to literacy-based perception. Let me clarify: in terms of signification, inscription methods, and the experience of music listeners, it is my contention that music files open up the possibility for music listeners to experience mediated sound in the oral mode of experience: inclusive, environment specific, and cosmo-centric.

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[63] Derrick De Kerckhove, *The Skin of Culture : Investigating the New Electronic Reality*, ed. Christopher Dewdney (Toronto: Somerville House Publishing, 1995), 104.

What De Kerckhove is getting at, as Ong was, is that oral peoples are tuned into their environment much more than literate people are, and that in communication, actual meaning is less of a concern than context and intention. To explain what role sound plays in this formulation, De Kerckhove uses the example of music to explain the difference between aural communication and literate communication. De Kerckhove writes: "The opposition between writing and music is almost a biological one, as writing takes control of the brain while organized sound takes control of the whole body.[64] Extending De Kerckhove's thesis outside of a literature-music dichotomy, I wish to suggest that the same holds true in musical media as well. Musical media are one example of the embodiment of musical sound DeKerckhove describes here, and examples of the opposition between aural and visual media.

De Kerckhove's work, and work in media ecology is useful in understanding the role of the senses in music listening, as well as how our senses are implicated in that way we experience culture. Furthermore, the intent of media ecology to understand technologies as extensions of our physical and mental bodies, re-embodies sound experience, and opens up understandings of music listening that frames listeners as more active participants in their experience of mediated sound.

Conclusion

Ways of thinking about sound recording technologies and literature that offer theoretical insight into the relationship between music listeners and sound-recording technologies provides the essential background necessary for historical discussions of music listening in the following chapter. My reason for providing a background of how sound recordings have been theorized in different ways, either as text, media, or environment, was to reveal how the turning of the listener is a large cultural question that can be approached from many angles.

The experience of music listening in relation to sound recording technologies falls under much larger discussions of culture, such as the influence of textuality, oral and literate modes of experience, the relationship between production and consumption, embodiment, and the interaction between humankind and its sensory environment. The following chapter discusses three media epochs: gramophone, compact disc, and music file and iPod. The turning of the listener is examined in

[64] Ibid., 100.

light of the previous theoretical discussions, and is given a more cultural-historical treatment, giving context to the use and adoption of devices and media in each epoch.

Chapter Two: History of Sound Recording Epochs, and the Change of Experience

Introduction

In chapter one, I outlined three ways in which sound recordings are often conceptualized: as texts, as media, and as environment. I illustrated through an extensive literature review, three schools of thought, which each conceptualize sound recordings within one of the three categories, or as a combination. In forming a theory of the relationship between music listeners and sound recordings, the literature review served to inform my choice of which types of sound recordings I wished to investigate. Furthermore, the literature review highlighted the need to ground theories of music listening as mediated by technology, with historical context. As my interests are in the experience of sound recording media used by music listeners, it seems appropriate to discuss those that have been primarily used for music listening, and not developed for other purposes.

I discuss media "epochs," as I wish to highlight the significant impact these three technologies have on music listeners and their experiences with mediated sound. The term epoch implies that these technologies heralded new historical periods, and this is exactly my intent. However, I also hope to draw a link between these three technologies as all fall under the larger category of sound recording technology in general. As I noted earlier, my discussion of epochs is mostly contained to the early history of a given technology, particularly at the onset of widescale acceptance by the mainstream of users.

The reader may also notice that although I place emphasis on the gramophone record, compact disc, and music file, I do not include the devices used to play these media as part of epochal changes in music listening. The reasons for this are both theoretical, and historical. Firstly, I am interested in the material forms of music consumption that have turned the music listener, as musical sound lies in the material object, not in the device used to play it. Secondly, as the following sections on sound recording history will reveal, by and large, and with the exception of male audiophiles discussed in the last chapter, listeners became more associated with musical media, than with playback devices. As I discuss in the third epoch, the situation is reversed, as the device becomes the primary material form of interest for music listeners in their experience of music listening.

Furthermore, I am interested in understanding those technologies of sound recordings that are contiguous; the three media to be discussed share a common historical memory. In the following sections, I discuss the turning of the listener through three epochs: the gramophone record, the compact disc and music files and iPods, relating the historical context of their emergence and acceptance, with applications of theory discussed in chapter one. Examples from contemporary accounts of devices are used, as well as theories drawn from a wide range of literature on the interaction of technology with culture. The following sections should serve to inform the reader of how the turning of the listener is not merely a theoretical idea, but something evident in history.

Before proceeding with my discussion of the turning of the listener in the first epoch - the gramophone, I must further clarify exactly what I mean when referring to this group of technologies. As I am sure the reader is aware, the gramophone as a single term encompasses a swath of technological, cultural and social practices across a 120-year period. For this purposes of this thesis, I am referring to the early history of the gramophone, beginning with Emile Berliner's invention in 1887, its refinement over the following decade or so, up to the 1940s. I am therefore not discussing the turning of the listener by subsequent record media, such as the long-playing record, 45-rpm record, or the culture of gramophone records in the postwar period. As discussed earlier, it was my intention to identify turns of the music listener at relatively initial stages of development and acceptance of a given medium. This method is also employed in the second and third epochs, although this needs less explanation as the compact disc refers to a very specific set of technological and cultural practices, in a relatively short historical period in comparison to the gramophone, as do music files and iPods in the third epoch.

Technological Origins of the Gramophone Record

As Paul Théberge commented in his book, Any Sound You Can Imagine, transectorial innovation is a defining characteristic of many sound reproduction technologies.[65] Transectorial innovation occurs when one technology is developed and influenced in a large part by a supposedly unrelated technology. For example, the Jacquard loom is often cited as a significant transcetorial innovation, having not only influence on

[65] See Théberge, *Any Sound You Can Imagine : Making Music/Consuming Technology.*

textile manufacturing, but also computer programming. The punch card system developed by Jacquard was later adopted and used in Charles Babbage's "analytical engine."[66] Sound recording technologies originated as dictation devices, used for medical and business dictation. Their use for musical recording did not occur until later, in particular, in the early twentieth century (roughly 1910-1920). The development of the first sound reproduction technologies as dictation technologies, is yet another transcetorial innovation having consequences of product application far outside original intentions.

Scholars such as Jonathan Sterne have made similar arguments for sound recording technologies' transectorial underpinnings, yet go further back in the history of technology. Sterne has argued that sound recording technologies used for listening to music do not entirely originate from Edison and Berliner's inventions, but also originate from medical technologies used to listen to bodies. The gramophone and many other media technologies developed in the late 19th century all have their root in medical technologies of listening, and therefore share a common concern for understanding bodies. As John Durham Peters explains:

> Recent research has traced the origins of twentieth-century media to diverse forms of nineteenth-century culture, but medical measurement devices designed to represent temporal processes are just as important a source for our entertainment machines today. Film, telephony, phonography, television, and human-computer interfaces are in diverse ways psychotechnical practices that derive from study-and simulation-of the human sense organs.[67]

The fact is that in the process of medical science's desire to understand the human body through listening, sound recording technologies developed for much different uses, such as the desire to record musical sound.

Aside from the transectorial influences responsible for the development of sound recording technologies, there are also the practical, consumer driven aspects of their acceptance. It took a while for the manufacturers and users of early sound recording technologies to fully understand their promise as mediums of music listening, in terms of design and marketing in the former, and application and acceptance in the

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[66] See Louise Purbrick, "The Dream Machine: Charles Babbage and His Imaginary Computers," *Journal of Design History* 6, no. 1 (1993).
[67] Peters, "Helmholtz, Edison, and Sound History ", 179.

latter. It is clear through historical evidence which I discuss here, that the turning of the listener by the gramophone medium was not as forthright as subsequent media; it took some significant convincing on behalf of gramophone manufacturers, through extensive marketing and branding campaigns to convince the public that this was the new way to listen to music. It also took some serious engineering and design prowess in order to develop a machine that the average user felt comfortable in using and satisfied in the level of quality and practicality.

It was not until Emile Berliner's invention of the gramophone in 1887[68] that the potential for sound reproduction to be most usefully applied to music listening came to fruition. It was still over a decade however, that Berliner's invention was perfected, specifically with regard to the disc manufacturing process. A contemporary account of the improvements brought on by Emile Berliner's gramophone, and its transcetorial underpinnings reveals what people in fin de siècle America thought about early sound recording technology

> Mr. Emil[sic] Berliner, of Washington, D.C., has recently made improvements in the speaking phonograph that, it would seem, will probably bring this instrument into every-day [sic] commercial use. These inventions are of such a character as, possibly, to a great extent, to render phonography, or short-hand reporting, one of the lost arts.[69]

The author of this excerpt later points out the technical limitations of Edison's Phonogram, largely in terms of technical improvements in sound quality, and the desire for more lasting media. Berliner's achievements with the gramophone won him admiration from the Committee on Science and Arts of the Franklin Institute, Philadelphia, who awarded Emile "the John Scott medal for 1896...for his invention, the gramophone, it being, in their opinion, an invention of great merit and usefulness."[70] Emile Berliner's invention, a transectorial innovation, set the tone for music listening to be the primary use of the device.

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[68] This is the date cited for the granting of the patent to Emile Berliner for the gramophone.
[69] "On the Gramophone," *Proceedings of the American Philosophical Society* 24, no. 126 (1887): 420.
[70] "Scientific Notes and News," *Science* 4, no. 99 (1896): 753.

Furthermore, Emile Berliner's gramophone was not only successful because of his improvements on Edison's Phonogram, but also because of his business savvy, conceiving of his invention as best applied to musical recordings. Reebee Garofalo explains that Berliner

> first envisioned the contours of the music industry full-blown...Berliner prophesied the ability to make an unlimited number of copies from a single master, the development of a mass-scale home-entertainment market for recorded music, and a system of royalty payments to artists derived from the sale of discs.[71]

Therefore, Berliner helped to provide the conditions necessary for recorded music to become a large-scale way of consuming music, by envisioning not only the potential of the device, but also the potential for an industry.

In the following section, I discuss the turning of the listener in the gramophone epoch, outlining a number of new aspects of the music listening experience brought about and the cultural situatedness of these turns.

The Turning of the Listener, First Epoch: The Gramophone Record

> I fancy that I must have seen one of these first Graphophones in the year 1889 at Blackpool. I can see it now standing under a glass case on a small table in the bay window of the seaside lodgings. But though I remember that the owner of it fixed a kind of stethoscope in my ears and invited me to listen while he slowly turned a wheel and set the cylinder in motion, I cannot recall that the sound emitted made any impression on my ears...Alas, that was to be my experience of the gramophone for many years to come.[72]

I would like to use Compton MacKenzie's quote as a jumping off point for discussing the turning of the listener in the first epoch, looking at this and other discourse as a way of revealing how music listeners were turned to new sound environments and experiences. I discuss different

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[71] Reebee Garofalo, "From Music Publishing to Mp3: Music and Industry in the Twentieth Century," *American Music* 17, no. 3 (1999): 324.
[72] Compton MacKenzie, "The Gramophone. Its Past: Its Present: Its Future," *Proceedings of the Musical Association* 51 (1924): 98.

ways that music listeners were turned in this epoch, foreshadowing differences that later occur in the second and third epochs, albeit in different ways, through different means. I discuss issues of ownership, control, and textual sentience in relation to the turning of the music listener in this first epoch.

This early account of an experience with sound recordings by Compton MacKenzie, founder of Gramophone magazine, reveals much about the initial responses to gramophone records by listeners. The technical limitations of the early graphophone, and later gramophone record had left a poor impression on the listening public, and thus this invention was characteristically perceived more as a novelty than a viable means of listening to and experiencing music and sound. Furthermore, the first disc records[73] still carried with them the original intention borne by the wax cylinder; they were still envisioned to be business machines, used primarily for dictation, or for the novelty purpose of recording one's voice, or the voice of a departed loved one.[74] MacKenzie's excerpt shows the lack of enthusiasm on behalf of listeners, before this technology of sound reproduction had been improved to the point that listening to music through this medium was an enjoyable and empowering experience.

Ownership

I would like to highlight the very real fact that prior to the gramophone, music listeners did not truly own the musical performances they listened to. MacKenzie's quote, taken from conference proceedings, contains some interesting issues of musical ownership. In the course of these proceedings, interesting conversations arise about the experience with the gramophone, in relation to ownership. One excerpt from a Dr. J. C. Bridge reads:

> To know that inside a disc there is stored up the tones of a singer or performer, is to realize that it is a wonderful casket. I suppose one

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[73] The disc shaped record we know today was preceded by many designs, such as the wax cylinder and wire recording, that were ultimately abandoned.

[74] For an interesting discussion on this aspect of the early use of the phonograph, see Sterne, *The Audible Past : Cultural Origins of Sound Reproduction*, Chapter 6.

> could not put it so high as the Marconi discovery; but it is almost as high, and is one of the greatest discoveries of modern times.[75]

The enthusiasm granted to the gramophone as a technological discovery is striking to say the least. Even more interesting is the emphasis on the disc as the locus of importance, or more accurately, the symbolic internalized space of the disc described by Dr. J.C. Bridge. Bridge personifies the music stored in this space, describing it as "a wonderful casket." This resonates with the late Victorian fascination with the preservation of all things, as exhibited in memento mori such as gramophone recordings of the voices departed loved ones, and the photographs in found Victorian death albums. Aside from the connection of this excerpt to Victorian death culture, I am interested in Victorian notions of ownership, as they related to the experience of owning musical sound in the first epoch.

Early gramophone listeners such as Dr. Bridge placed emphasis on the performer as residing within the medium, illustrating their newfound fascination with being able to "own" sound in this way. Aside from the fact that this reveals that listeners in the first epoch could now own music, what is significant is that they spoke about ownership less in terms of owning media, and more in terms of owing performances or performers, than in coming epochs. This was a developing trend when this article appears in 1924; the cult of celebrity begins to be associated with musical media around this time.

Dr. Bridge's emphasis on the "tones of the singer or performer," highlights the fact that he focused on the music listeners' ownership of the recorded grain of the voice of the performer as important; in other words, the content of the medium as the focus of importance. But there is more to this: for this first time in history, music listeners could have the sounds of their beloved performers entombed in their own sonic cemeteries: the home record collection, new in this first epoch. I believe this is significant aspect of the gramophone epoch; the content of the medium was perceived to exist within, with content understood in very human terms. Contra H.Marshall McLuhan's famous aphorism, "the medium is the message,"[76] it appears that in this early experience with the gramophone, "the medium is the message" becomes somewhat inverted.

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[75] MacKenzie, "The Gramophone. Its Past: Its Present: Its Future," 114.
[76] McLuhan, *Understanding Media : The Extensions of Man*, 7.

This early notion of music listeners' connection to media is also evident in visual culture. For example, the famous painting by Francis Barraud, which depicts "Little Nipper," the famed canine mascot of RCA Victor, is often portrayed with his head tilted to the side, listening to "His Master's Voice," through the gramophone. The apparatus our dear friend Little Nipper is perched upon what may at first glance appear to be a highly varnished table, but some significant scholarly debate has concluded that this in fact is a casket that "Little Nipper" is sitting on, listening to the recorded sound of his departed master's voice, through the medium of the gramophone: truly a "wonderful casket" indeed.[77]

What the emblematic image and cultural ethos that both a dog listening to a gramophone record of his departed master's voice, and Dr. Bridge's embodying description of recorded sound reveal is that the turning of the listener in the first epoch, was a distancing of music listeners from "live" musicians and performances, a physical separation from the "live" subjects recorded onto the shellac of a gramophone record[78] this division, interestingly enough brought music listeners closer to the music they listened too, in that they could own musical sound, hold performances in their hand, and regain the body of musical sound through sound recording. This is of course prefigured in many ways by the culture of sheet music collecting and the parlor piano of the Victorian era, which also brought music listeners closer to the music they loved.

The perceived disembodiment of recorded sound, was mitigated by the fact that prior to the first epoch, musical sound was ephemeral, without a trace.[79] What the gramophone record did to turn the experience

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[77] I first saw this connection made in Rothenbuhler and Peters, "Defining Phonography: An Experiment in Theory," 245.

[78] The term "live music," derives its original meaning from the fact that the performers of live music are in fact alive. The corollary, "canned music," reveals how listeners originally understood the record to be a container, and means of preserving errant sound. For an interesting discussion in the Victorian "Culture of Preservation," as manifest in gramophone records, see Sterne, *The Audible Past : Cultural Origins of Sound Reproduction,* Chapter 6.

[79] One may argue that the musical score is a resonating example of the musical trace, but the musical score is in fact simply instructions for the production of sound, not sound itself. Later in this chapter, in my discussion of the trace in relation to music files, I discuss more on this point.

of music listeners through ownership, was to transform music from the realm of ritual and ephemerality, and to place it into the larger cultural context of the "record," i.e., "the repeatable take."[80] Although it could be argued that a record is not entirely permanent, and this is true, the gramophone was the first form of musical consumption to put musical sound to record.

Drawing on Theodor Adorno's understanding of the trace, and its relation to the effect of sound recording on music, Levin writes, "The indexical nature of the inscription produced by mechanical reproduction thus recuperates the unavoidable reification of the acoustic event by transforming it into a "necessary" trace."[81] Thus, music listeners in the first epoch, were turned towards a closer relationship with the performances and performers they listened too, because of the fact that they could own musical sound. Music moved away from its ritual character, and towards its nature as an object, shifting the focus towards the object of recording as significant in the experience of listening.[82] Ownership as it pertains to the turning of the listening in the first epoch is therefore not a distancing of music listeners from musical experience, but a way for music listeners to regain their connection through their ability to own musical sound.

Textual Sentience

I would like to lift the needle for a second, and replay the earlier excerpt from Compton MacKenzie's very short description of his earliest experience with sound recordings, which reveals an important technical, and experiential fact about earlier forms of mediated sound; they required significant human interaction, and a sense of physical connection in order to succeed (even mildly). This sample of an early sound recording experience contains exactly what a scholar of the sound recording experience from a listener-centred perspective like myself is seeking; discussions of how the senses are affected by technological innovation, and in turn how forms of cultural production, such as music, are intimately linked to technological change, and sensory formations.

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[80] I borrow this language from the well known text on the influence of sound recordings, Michael Chanan, *Repeated Takes : A Short History of Recording and Its Effects on Music* (New York: Verso, 1995).
[81] Thomas Y. Levin, "For the Record: Adorno on Music in the Age of Its Technological Reproducibility," *October* 55 (1990): 33.
[82] This is discussed at great length in Jacques Attali, *Noise : The Political Economy of Music* (Minneapolis: University of Minnesota Press, 1985).

The age of modernity and postmodernity has been studied with a visual bias: the world is for viewing, with sound and the other senses left out. In the experience of music listening prior to the gramophone, it was not entirely the visual dimension that significantly shaped the experience of music listeners. Susan Smith asks the question

> What would happen to the way we think, to the things we know, to the relationships we enter, to our experience of time and space, if we fully took on board the idea that the world is for hearing rather than beholding, for listening to, rather than for looking at?[83]

In terms of the visual-aural dichotomy, the music listener, as a sensory being, was turned to a new sensory environment with the gramophone. The experience of listening to music was, prior to the widescale acceptance of the gramophone, a predominantly aural experience.[84] In other words, the experience of listening to music, whether it is in a live performance, in the home, or for ritual purposes, was shaped by its aural, ephemeral nature, and intimately linked to sound. Media ecology has been dealing with the nature of oral based societies, in relation to ours, which is primarily shaped by the visual dimension, mostly in relation to the technologies of print.[85] Media ecology attests that

> Ever since the collapse of the oral tradition in early Greece... Western civilization has been mesmerized by a picture of the universe as a limited container in which all things are arranged according to the vanishing point, in linear geometric order.[86]

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[83] Smith, "Performing the (Sound) World," 615.

[84] I am not denying the importance of the visual dimension in music prior to the use of the gramophone, but rather I focus on the aural experience of the basis of the creation of music - sound. For a fascinating discussion of the visual dimension of the music listening experience, see Richard D. Leppert, *The Sight of Sound : Music, Representation, and the History of the Body* (Berkeley: University of California Press, 1993).

[85] In particular, see Ong, *Orality and Literacy : The Technologizing of the Word.* and McLuhan, *The Gutenberg Galaxy : The Making of Typographic Man.*

[86] Marshall McLuhan, "Visual and Acoustic Space," in *Audio Culture : Readings in Modern Music,* ed. Christoph Cox and Daniel Warner (New York: Continuum, 2004), 68.

Media ecology places Western civilization's emphasis on literacy and print as essential in the shaping of our experiences, and in how we orient ourselves in the world, "The shift from orality to literacy...gradually transformed people from engaged speakers and listeners into silent scanners of written words, isolated readers in the linear world of texts."[87] Transposing this theory to sound recordings, it could be said that sound recordings created a more isolated listening subject, less engaged in their control of the listening experience, and a subject more connected to the world of texts in their listening experience than ever before. However, the sense of isolation created by the shift to literacy is not the same with sound media. In fact, I argue in the following that sound recording technologies afford more control to music listeners.

Listening to sound recordings as texts is unlike the silencing created when reading. Derrick De Kerckhove describes the silence created when reading as follows

> While reading the body is stilled, almost as that of someone asleep. The reader is either in silence, or has made sufficient reservations in his or her mind to turn the ambient noise into silence. That kind of control, by the way, bears witness to the power of literacy over our hearing. When we read, we literally "shut our ears" as if we had "earlids."[88]

The corollary to the visual act of reading, the aural act of listening does not shut out the visual world. The interesting characteristic of textual sentience created in the first epoch is a blending of visual and aural experiences in the mediated listening of music.

Furthermore, the ways we listen have been shaped by the dislocation of the listening subject from the source of the sound (i.e., the performers). As Cox argues

> Music could now be detached from its source, from its ties to any particular setting and location. This made possible at least two new modes of listening. On the one hand, it allowed what Pierre Schaeffer termed "acousmatic listening": listening to sound without

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[87] Leigh Eric Schmidt, "Hearing Loss," in *The Auditory Culture Reader*, ed. Michael Bull and Les Back (New York: Berg, 2003), 42.
[88] De Kerckhove, *The Skin of Culture : Investigating the New Electronic Reality*, 111.

> any visual clue to its source...On the other hand, recorded sound allowed music to infiltrate the spaces of everyday life, making possible "ambient" listening, music heard as an accompaniment to mundane activity.[89]

As discussed in chapter one, acousmatic understandings of music recordings as media are useful only to a point; they tend to deny the important visual aspects of listening to a gramophone record, such as the symbology of the needle, and the general sense of community formed when a group of listeners share their record collection. It is as if acousmatic understandings deny the fact that music is listened by actual people, who are of course bound to interact with other people in different ways in their music listening experience.

Textual sentience, is the term I use to refer to the repeatability of music in the first epoch, shaping listeners much like readers of texts were shaped by the invention of the printing press. Listeners experienced music more as a "text" than ever before, and they also had a considerable amount of control over their experience in this way. The permanence created by putting musical sound to record for the first time made sound a physically perceivable object through the recording medium. This is unlike the musical score, which although textual in practical terms does not put sound to record, despite any argument in that direction. I would also like to suggest that music listeners' textual sentience in the first epoch reveals a unique characteristic of sound recording media as texts. The gramophone record combined aural and visual experiences of the text, transforming music listeners and the experience of textuality as a more visual phenomenon than previous forms of musical recording (such as musical scores, sheet music etc.) could accomplish.

The result of the textual sentience of music listeners in the first epoch meant that they were turned from a music listening experience of the here-and-now, only repeatable by evoking their aural memory, or "auricular imagination,"[90] to an experience of "listening back," that is, being able to recreate a listening event with nearly perfect accuracy.

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[89] Cox and Warner, *Audio Culture : Readings in Modern Music*, 65.
[90] I must credit my use of the word "auricular" to Sterne, *The Audible Past : Cultural Origins of Sound Reproduction*, Introduction. and James Deaville, "Selling War: Television News Music and the Shaping of Public Opinion," Selling War: James Deaville, http://www.humanities.mcmaster.ca/~admv/paper/page1.html.

This leads into the following section, which discusses the control afforded music listeners in the first epoch. Textual sentience, or the ability for musical sound to be experience as a text, allowed music listeners to be much more in control of their listening experience. This is not to claim that all music listeners experienced control in the same way, or that music listeners from all subject positions were able to benefit from this newfound control right away. It is clear that music listeners from privileged subject positions had the most to gain early on, and those who could afford the technology were turned much earlier. But on a larger scale, the experience of music listening was turned in the first epoch to an environment of textual sentience, and thus control.

Unlike the apparent "loss" that media ecology affords to the oral tradition because of the rise of literate culture, music listeners had much to gain in their move towards experiencing music as a text. Leigh Eric Schmidt claims that, "the shift from orality to literacy...gradually transformed people from engaged speakers and listeners into silent scanners of written words, isolated readers in the linear world of texts."[91] Although this may have been true for the effects of literacy on the experience of literature and language in Western society, I believe that the gramophone record was a re-ensoniment of the text, combining the advantages of textuality as it pertains to personal ownership of material forms, with the advantages of aural experiences of culture for cultural subjects. Music listeners' textual sentience in the first epoch was a turn in music listening that has larger cultural consequences.

Control

The visual, textual basis of the gramophone did allow for music listeners to conceptualize sound recordings in a very "real" way, to understand that they have a great deal of control over what they listen to, where, and how. By control, I am referring to a music listeners' ability to control where they listen to music; the gramophone afforded the first possibility for music listeners to remove musical performances from their context, and therefore were afforded more control over their music listening.

Gramophone listeners came to understand sound recordings much like texts, yet in their textual understanding of this medium, they had much more control than with many other textual media. Some scholars

[91] Schmidt, "Hearing Loss," 42.

even say that this is an active, creative process.[92] Simon Emmerson describes this very much in a Benjaminian[93], or Bartesian[94] manner. Emmerson explains that the act of listening to sound recordings turned the listener to new experiences, because

> The very technology [the gramophone record] that brought us the dislocation of recording from live performance has now enabled us to shift the focus: I am asserting the possibility of "playing" the loudspeakers...a shift in listening habits towards 'sampling'...shows another aspect of this shift to 'listener as creator (or at least controller) of experience'.[95]

The aspect of control of experience, is the key change that occurred in the gramophone epoch, as a new class of listeners was turned, a more empowered, and more equal player in the music heard on record. The renowned concert pianist and recording pioneer Glenn Gould explains

> For this listener is no longer passively analytical; he is an associate whose tastes, preferences, and inclinations even now alter peripherally the experiences to which he gives his attention, and upon whose fuller participation the future of the art of music waits.[96]

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[92] See Jay Alan Hodgson, "What Is Recording Practice? : Towards a Musicology of the Record Medium" (Thesis (MA), McMaster University, 2002). for his discussion of how listeners engage in an active and creative process when playing recorded music.
[93] I am referring to Walter Benjamin's conception of the libratory potential for audiences of cinema, discussed in Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, ed. Hannah Arendt (New York: Harcourt, 1968).
[94] Roland Barthes discussion of the change in the literary experience, whereby readers become writers, is found in Roland Barthes, "From Work to Text," in *Image, Music, Text* (New York: Hill and Wang, 1977).
[95] Simon Emmerson, "'Losing Touch?': The Human Performer and Electronics," in *Music, Electronic Media, and Culture*, ed. Simon Emmerson (Burlington: Ashgate, 2000), 211-12.
[96] Glenn Gould, "The Prospects of Recording," in *Audio Culture : Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (New York: Continuum, 2004), 121-22.

What Gould is referring to is the ability for music listeners to inscribe their identity upon the musical object through the act of listening. This is definitely about control, however general control may seem to sound. It is the fact that listening is now a more active, creative process for music listeners in the gramophone epoch, which reaffirms my previous discussion of sound recording technologies and Victorian ideas of embodiment and recording media, which argues that any embodied experience, such as listening to sound recordings, is an active, performative process. Susan Smith explains this well

> listening, just as much as singing or playing, is an embodied performance that is powerful, that is historically constituted, and that changes over time. Listening makes music too. The manner in which listeners go about deciphering, classifying, and assimilating sound is also a performance-one that itself provides clues to what listening, performing, musically saturated societies were and are about.[97]

The control afforded to music listeners in the first epoch is thus about music listening becoming a more active, creative process. The turning of the listener in the first epoch as it relates to control over the music listening experience is the most significant turn, as it leads to turns in the following two epochs, which I discuss in following sections.

Conclusion

The gramophone epoch was for music listeners, a turn towards a listening environment characterized by more control, ownership, and textual sentience in their listening experience. What these three related turns meant for the history of sound recording technology, was that for the first time, sound could be owned as a thing, and sound events could be removed from their original context, and displaced across space, time, and history. The cultural residue of Victorian ideas of ownership and embodiment, were proven to be key factors in the relationship between music listeners and their experience with the gramophone in the first epoch.

The following section discusses the digital turn in sound recording technology, discussing the second epoch, compact discs, and the third and present epoch, iPods and music files. The reader may note I have omitted

[97] Smith, "Performing the (Sound) World," 634.

many technologies in between the gramophone record and the compact disc. This has been done mainly to highlight that the next most significant change in sound recording history as it relates to the music listener after the gramophone record is the digital turn, initiated by the compact disc, an intermediary step in the complete turning of the listener towards the current epoch.

The Turning of the Listener, Second Epoch: The Compact Disc

Introduction

With the release of the compact disc (CD) format in late 1982, the so-called "digital revolution" in music began. Originally considered as an improvement of the long playing record, the CD was the first widely adopted sound recording medium to use digital technology to store and reproduce musical sound. The developers at Philips and Sony got it right[98]: the CD would be most successful if marketed as a more reliable means of storing, copying and playing music, than the vinyl record. The CD eventually became the standard in consumer sound recording technologies, with the popularity of vinyl records and cassette tapes decreasing rapidly.

This section explores the change of experience for music listeners wrought by the "digital revolution," placing the interaction of music listeners with digital musical recordings and the devices used to play them front and centre of this change. The main focus of this section will be on the evolution of the concept of the music file initiated in the second epoch, and how this pertains to the change of experience for the music listeners in the current iPod epoch. My discussion begins with a general discussion of the compact disc, notions of analog and digital sound, and the evolution of the concept of the music file, and the empowering of music listeners through the creation of internalized listening spaces that dissolved boundaries.

The compact disc is an intermediary step in the digital revolution, combining elements of the first epoch, and foreshadowing elements of the current. The digital revolution is not a revolution in the common use of the word: the overthrow of a ruler or political system. The adoption of compact discs and music files as the standard sound recording media does herald a "revolution," but as the word applies to heavenly bodies; music

[98] Phillips and Sony collaborated on the developed the CD format.

listeners revolve back to where they started, they are turned all the way around, so to speak. It is this turn, which defines the present epoch of music files and iPods.

It is important to understand that the move towards digital sound recordings did not result in a "real" loss of physicality in the music listening experience. However, in music listeners' sense of physical connection to sound recordings, a perceived loss of connection is very real. As I will clarify, there is a continuum between analog and digital sound recordings; both are true physical objects in the ontological sense, and both subject the temporal qualities of musical sound to record. The key question, however, is how are music listeners affected by the change to digital sound recordings?

In essence, the CD marked the gradual turning of music listeners towards an environment dependent on digital technological systems, and defined the new way music listeners conceive of and use their music; in the mind and ears of music listeners, their interaction with sound recording media and playback devices shifted from an interaction with physical objects, to one of metaphorical objects- music files, and thus the mediating device (the iPod) stands in for the medium. Furthermore, unlike in the previous epoch, and in previous technologies not discussed in this work (such as the cassette tape), the early history of the compact disc is not one in which the medium was recordable by users. This reveals some significant changes in how music listeners use and understand sound recordings in their lives. In the fourth chapter, text analysis reveals exactly how this is evident in blog discourse of music listeners.

Analog/Digital

It is first necessary to provide some clarifications on what the terms "analog" and "digital" actually mean, as they are essential in understanding music files, and the turning of the listener towards digital systems in the second and third epochs. These two terms are often placed in opposition, without any clarification as to what makes them opposites. In terms of music listeners' own perceptions, the difference between analog and digital is immaterial. It is through the ability to experience music in newly created contexts, and the agency afforded music listeners in many ways, that the appeal of digital sound recording media is found.

For a musical recording to be classified as analog, the information inscribed must be analogous to something else. As Putterbaugh explains,

"A record's grooves are continuously varying inscriptions that are analogs of the sound's changing amplitude."[99] In other words, waves are how we represent electrical signals. Thus, there is a direct relationship between the contact of the stylus upon the groove of the gramophone record, and the resulting physical sound produced through the loudspeakers. It seems that electrical signals as metaphoric representations of sound have become so engrained that we take them to be real.

Furthermore, for a musical recording to be analog, the means of moving from the inscription to the production of musical sound has to be relatively "one to one." In other words, there is no intermediary decoding necessary for sound to be (re)produced. For example, if I disconnect the loudspeakers from my amplifier, and play a gramophone record, I can still hear the reproduced sound in miniature if I listen carefully to the sounds emitting from the cartridge. The same is not possible with the compact disc, where a chain of decoding technologies are necessary to convert the digital bits into perceivable sound.

It is true that many music listeners, and possibly the majority, use solid-state amplifiers, and thus a decoding step is occurring between the gramophone output and the sounds heard through the loudspeakers.[100] However, the medium itself, is still analog. The mediating technology, in terms of a respective medium's status as analog or digital is irrelevant, as perceivable sound is analog by definition.

Digital musical recordings are not analogous to anything by themselves, and require a decoding process in order for sound to be heard. It is necessary to translate the binary code stored on the CD, in order to produce sound. Although lengthy, it is useful to quote John Putterbaugh on this process of transmission and representation of sound with compact discs. He writes,

> A compact disc... uses a laser beam instead of a stylus for transmitting the stored representation of sound...the representation is digital, in which a dynamic property, its amplitude, is measured

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[99] John Putterbaugh, "The Indexical Inscription of the Acoustic," Putterbaugh: Indexical Inscription, http://www.music.princeton.edu/~john/indexicalinscription.htm.

[100] The term "solid-state" refers to consumer electronics that use transistors, rather than vacuum tubes, or mechanical devices to process information.

> at discrete points in time. The amplitude is quantized and stored as a sequential pattern of bits, encoded as small pitts printed upon the disc. The surface of the CD is transparent which allows the laser to pick up changes in reflectivity caused by the pitts. These patterns of reflectivity are translated into an electrical signal, which can be converted into an analog signal. The inscription itself is still sequential, like the mechanical instruments and phonographs, but is generated by sampling the sound, a time domain process.[101]

Putterbaugh's description of how digital code is translated is correct, up to the point when he claims that the code on a CD is still sequential. The process of sampling and the fact that digital code is by nature binary implies that code on a CD is in fact not continuous. Furthermore, the audio track on the CD is a code that is subsequently decoded by a playback device, and modulated to an analog signal, and thus it cannot be claimed that this is entirely sequential.

Sound does not operate "digitally," either: physical, perceived sound resembles the shape of a continuous wave, whereas digital representations of sound appear more like a series of discrete "steps." To provide a real life analogy, when one looks at a printed photograph, the discrete components are not perceivable by the naked eye. When looking at a digital representation of the same photograph on a computer monitor, it is possible to enlarge the image enough to see the pixilated image, thus exposing the digital "code."

It follows that music listeners do not "hear digitally" either. Music listeners find the digital nature of musical recordings at a level indistinguishable. In terms of the perception of physical sound by music listeners, the differences between analog and digital are argued to be unperceivable by the human ear. The fundamental difference between an analog and digital musical recording is in how the musical "information" is represented, and the respective steps necessary to go from "inscription" into (re)production. At a more noticeable level, it is the interaction between music listeners and digital technology that is the significant change from analog to digital, and how music listeners experience musical sound. Given that the gramophone and other technologies prior to the compact disc were predominantly analog technologies, digital musical recordings represent a major change in the composition of music in objectified form.

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[101] Putterbaugh, "The Indexical Inscription of the Acoustic."

What unifies analog musical recordings is found at a very basic level. As Jonathan Sterne points out in The Audible Past, all modern sound reproduction is built upon the principle of the tympanic mechanism of the ear. From the early phonautograph, to the cassette tape, the sounds recorded on these media correspond analogically to the oscillation of the tympanic mechanism.[102] Sterne goes to great lengths to make a case for the embodied nature of apparently "disembodied" music, by discussing a variety of widely used analog forms of sound reproduction as being based on the function of the ear.

Furthermore, Sterne claims that all "modern technologies of sound reproduction use devices called transducers, which turn sound into something else and that something else back into sound."[103] However, this unifying claim deals specifically with the reproduction of sound. As pointed out earlier, at the level between inscription and reproduction, there are major differences between analog and digital musical recordings.

Digital musical recordings cannot be said to work on the principle of the tympanic mechanism. It is true that the devices used to hear sound (loudspeakers, headphones) work on this principle, but that misses the significance of the digital turn. The fact that digital representations of sound are not analogous to the physical realm in the same way that analog representations are, illustrates that there is a significant difference to be discussed.

Perhaps an alternate view on the impact of the digital will clarify the significance of the digital turn in musical recordings. In Nicholas Negroponte's Being Digital, the author clarifies the change in the representation and delivery of information as a change from "atoms" to "bits."[104] With a compact disc, to digitize an audio signal

> is to take samples of it, which, if closely spaced, can be used to play back a seemingly perfect replica. In an audio CD...the sound has been sampled 44.1 thousand times a second. The audio waveform (sound pressure level measured as voltage) is recorded as discrete numbers (themselves turned into bits).[105]

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[102] Sterne, *The Audible Past : Cultural Origins of Sound Reproduction.*
[103] Ibid., 22.
[104] Nicholas Negroponte, *Being Digital* (New York: Knopf, 1995).
[105] Ibid., 14.

Here Negroponte clarifies the most important difference between analog and digital musical recordings: the digital recording is not truly continuous like an analog recording, yet "the successive and discrete measures are so closely spaced in time that we cannot hear them as a staircase of separate sounds, but experience them as a continuous tone."[106] Thus, the digital technology of sound reproduction conceals its means of reproduction, and as a result music listeners' ears are not particularly turned. However, as I discuss in chapter four, listening habits exhibited by music listeners in the iPod epoch are clearly marked by their relationship to digital technology.

Since it is necessary for a laser to act as a decoder of the digital information on the CD, it is necessary to disguise the relationship between physical action and sonic realization for this to work. However, the spinning of the CD is perceivable by music listeners, and it is fair to surmise that music listeners understand that some decoding is occurring via the spinning of the disc. The CD marked a gradual loss of the physical representation of musical sound, yet did not complete this step. In the iPod epoch, the physicality of sound reproduction is further masked, first by the concealed nature of physical contact to create sound: the first iPods were generally hard disk devices, which meant that they spun. The connection to the spinning of a gramophone record and the spinning of a hard drive iPod is maintained, however the media is hidden within the device. The next step in the concealment of the physical apparatus of sound reproduction is in the adoption of flash memory as the storage medium used in smaller iPods, such as the Nano. Flash memory completes the turn to digital representation of music, as flash memory doesn't have a spinning disc.

Phil Auslander speaks generally about the trend towards concealment in musical media across epochs. He writes

> To look at the progression of the material forms of music media - from shellac or vinyl discs to CDs to direct downloading from the Internet...is to witness the progressive dematerialization of the musical object. The general historical progression of music media has been in the direction of disappearance: the trend has been toward smaller and smaller objects...and now to now specific object at all.[107]

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[106] Ibid.

[107] Auslander, "Looking at Records," 82.

The compact disc is also ambiguous in the apparent analog/digital dichotomy, as it can be classified as being made of both atoms and bits: the media itself is a physical object perceivable by music listeners, yet the musical inscription is not. In contrast, on a gramophone record, music listeners presumably understand that there is a correspondence between the action of the stylus upon groove of the record, and the sounds they hear coming from their loudspeaker (the same reigns true for cassettes), the compact disc provides much less physical correspondence music listeners to be able to make this connection.

The physical, tangible nature of the compact disc puts it in the same ontological type as all previous musical recordings. Unlike the gramophone record however, the information stored on the CD acts in a similar manner as the notes of the musical score: both are dependent on mediating steps to decode information that acts as a representation for musical sound, not a true recording of musical sound.

The significance of the difference between digital and analog recording, in terms of semiotics, "is the difference between indexes and symbols in Peirce's scheme. The analog recording is an index of music because it is physically caused by it. The digital recording is a symbol of music because the relation is one of convention."[108]

The Rhapsody of Files

The idea of the file can be understood as a metaphor for the way music listeners in the current media epoch use their music, and acts as a linguistic link between analog and digital musical recordings. The first use of the word "file" in the computer sense dates back to 1954. However, the initial use "to place (papers) in consecutive order for future reference," from Latin: filum "thread," dates back to 1473, and is later used to mean "spin out."[109] The linguistic basis for "file" thus implies order, continuity, and provenance. However, it seems that the archaic use of file to mean almost a "rhapsodic" spinning out, is lost in current usage. I wish to adopt the archaic, "rhapsodic" definition of the word, applying it to music files, as they, like the verse-composition of the epic poets truly are created in time. As David Levy states, "a digital document, because of its perceptible

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[108] Rothenbuhler and Peters, "Defining Phonography: An Experiment in Theory," 249.
[109] Douglas Harper, "File (V.)," Online Etymology Dictonary, http://www.etymonline.com/.

form is always being manufactured just-in-time, on the spot...It requires an elaborate set of technological conditions."[110]

Music files, by merit of their on-the-spot creation, are thus rhapsodic, and a product of secondary oral culture. Secondary orality refers to the effects of the current information age, in which we are said to be experiencing a return to the oral mode of experience, which was lost to history by the dominance of literacy. As Walter Ong discusses in Orality and Literacy, the consciousness of primary oral cultures was characteristically formulaic and rhapsodic.[111] These pre-literate cultures "stitched" rhapsodies as their means of communication and information recall. As Ong is correct to note however, primary oral cultures (those without the knowledge of the existence of writing) for the most part, no longer exist. However, our current epoch "The electronic age is also an age of 'secondary orality'," an age "which depends on writing and print for its existence."[112] Thus, the secondary orality of CDs and music files is directly linked to the experience and nature of analog, characteristically "literate" sound recording media. From the rhapsodic "stitching" of primary oral culture, to the "spinning out" of the music file, there is a literate basis for musical recordings in epochs prior to the current digital epoch.

The Turning of the Listener, Third Epoch: iPods and Music Files

Over twenty years after the development of the CD format, the development of the MP3 standard in 1995 triggered a considerable change for the experience of music listeners once MP3 files were made available to a global audience via peer-to-peer (p2p) file sharing, most notably through the Napster network.[113] The specific file format became less important as new standards were created, and the file itself became less significant with the prominence of the device (i.e., the iPod) coming to the forefront.

With the advent of digital technologies of sound recording, theorists of analog media argued that because digital sound recordings were not analogous to physical sound, manifestations of age and history became irrelevant, and therefore they were impersonal and ahistorical

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[110] David M. Levy, *Scrolling Forward : Making Sense of Documents in the Digital Age* (New York: Arcade, 2001), 152.
[111] Ong, *Orality and Literacy : The Technologizing of the Word*, 31-76.
[112] Ibid., 3.
[113] Katz, *Capturing Sound : How Technology Has Changed Music*, 161.

objects. Eric Rothenbuhler and John Durham Peters argue that "CD technology, being immune to personalized inscription, cannot sustain the collector's attitude, which requires the ability to discover the singularity in multiplied objects. As Benjamin argues, the art of collection is the creation of an ordered realm of memories."[114] I believe the authors were getting at something very significant at the time of the compact disc, yet as we will see in the fourth chapter with my discussion of the music file and iPods, the loss of connection to personal history with the transition from gramophone to CD, is regained in other ways, and arguably enhanced.

Music files indicate the complete transcription of musical media from analog to digital recording, and the move towards playback devices as being the important technology for music listeners. The musical representation itself (the file) is not physically perceivable by the musical listener. There is no sound recording in the tangible sense, and thus the music file is a representation. It is possible that the mediating device can stand in for the tangible physical object, yet this does not explain what happens to the musical recording, or what this means for music listeners.

Perhaps the most significant difference between the CD, a harbinger of the digital revolution and the music file, is their respective status as commodities. Mark Katz suggests, "The most distinctive and crucial attribute of MP3 files is their status as, in the language of economics, nonrivalrous resources."[115] As an MP3 file can be copied ad infinitum, it cannot be "depleted." Furthermore, it is possible with digital musical recordings to make perfect copies that are not a degradation of the original, and thus are renewable. As all musical recordings previous to music files were tangible physical objects, it follows that "most physical objects are rivalrous,"[116] and thus in terms of the commodity form, the difference between analog and digital is crucial. This argument is that from gramophone to CD, musical sound resides in a physical object, whereas a music file does not.

As I clarified earlier, digital files are as physical as any other musical recording. Katz's argument is cogent, yet slightly inaccurate, as it does not account for the fact that files reside in a physical space. I do agree with his quoting of Lessig, who claims, "The digital world is closer to the

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[114] Rothenbuhler and Peters, "Defining Phonography: An Experiment in Theory."
[115] Katz, *Capturing Sound : How Technology Has Changed Music*, 163.
[116] Ibid.

world of ideas than the world of things."[117] As ideas are understood as residing in the mind, there is a perception that they cannot be owned in the same way as physical "things" can. The misunderstanding that digital files are not "physical objects" may have contributed to the many justifications for music piracy. Yet as I clarified earlier, music files are in fact physical objects, yet their status as such is obscured by the iPod, which acts as a vanishing mediator, and as such music listeners are turned to a music listening experience where the physical analog of source to sound is lost.

Perhaps more apt is Phil Auslander's discussion of materiality as it relates to music files and the turning of the listener. Auslander argues

> the trend we are seeing now toward the disappearance of specific physical objects and the consumption of music as pure digital information... constitutes a hypercommodification of music in which musical sound becomes a commodity in itself, unmoored from physical support in a way that was never previously possible.[118]

As I have argued previously in this chapter, the opposition between analog and digital sound is not one of physicality or the lack thereof, but is more about perception by music listeners, in how they consume the musical object. Auslander is slightly inaccurate to suggest that there is no physical support in digital forms of music, but he is correct to point out the difference in consumption practices with digital forms of music.

Sound Documents

It is perhaps useful to consider all musical recordings (analog and digital) as "documents," in order to illustrate the common ground in all mediated music listening, and the subsequent turning of music listeners in their relationship with aural documents. Although it is significant that there is a perceived loss in physical presence with digital musical recordings, there is not an actual loss. As David Levy states:

> Digital documents are not immaterial. The marks produced on screens and on paper, the sounds generated in the airwaves, are as material as anything in our world...the ones and zeros are equally

[117] Ibid.

[118] Auslander, "Looking at Records," 82.

> material: they are embedded in a material substrate no less than are calligraphic letterforms on a piece of vellum.[119]

Levy defines documents in the broadest sense, as "things we create to speak for us, on our behalf and in our absence."[120] All classes of musical recordings fit this definition as documents, regardless of their medium: all musical recordings provide a virtual stand in for live performance.

However, despite the fact that from gramophone record to music file there is always physical presence, this does not mean that the music listeners are not turned in terms of time and space, by the shift towards the concept of the music file, and the concealment of the physical means of sound reproduction. Levy highlights this move, as it pertains to digital documents. Levy writes

> Paper documents, we often hear said, are real: physical, material, weighty, tangible. Whereas digital documents, by contrast, are virtual: immaterial, weightless, and intangible. With such pronouncements, I think we are trying to get at something important about the new technology, but we haven't yet gotten it right.[121]

What is it that we are trying to get at? Possibly, there are similar anxieties being expressed today regarding digital musical recordings, as there were with the first sound recordings? I tend to believe that with major turns in the experience of cultural artifacts such as musical recordings, anxieties expressed by users are an anticipation of future, larger scale cultural anxieties. This echoes my theory that the current media epoch of music files and iPods represents a turning of the listener to a past, a reclaiming of a cultural reality.

Anxieties and Epochal Changes

When Theodor Adorno wrote The Curves of the Needle (1927), he expressed concern over the exposure of the mediating technology—the gramophone. Adorno writes, "The moment one attempts to improve these early technologies through an emphasis on concrete fidelity, the

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[119] Levy, *Scrolling Forward : Making Sense of Documents in the Digital Age*, 155-6.
[120] Ibid., 26.
[121] Ibid., 155.

exactness one has ascribed to them is exposed as an illusion by the very technology itself."[122] Adorno seems to ascribe a magical quality to the means of sound reproduction in this excerpt, bringing to light the problem of sound reproduction: maintaining a fantasy that the mediated copy is not a copy. Michael Bull recounts a similar story about Thomas A. Edison when he first heard his own voice on his phonogram. Bull writes

> With the rise of mechanical reproduction the 'exotic' appears to come home in the space where the exotic, the magical and technology meet. As Thomas Edison sings 'Mary has a little lamb' into the first phonogram in 1877, playing it back to himself he exclaims delight and fascination with hearing his own voice, as if by magic. Many early accounts of aural reception point to the 'magical' quality of the experience of hearing the recorded voice before this experience became routinized through the steady incorporation of reproduced sound into domestic and public spaces.[123]

Perhaps there is a parallel situation occurring with music files, and other digital files. The technology is certainly foregrounded, yet not "clunky" like the early phonographs Adorno was listening to. Contrary to Adorno's ears, we expect "concrete fidelity," and current mediating technologies of sound (re)production are much less transparent.

It is also possible that the ambiguity of the music file causes music listeners to coin terms like virtual to describe them. Even though a music file is a file, allowing for "voice or music...to ring forth," it is important to understand that "digital materials are made up of both the digital representation and the perceptible forms produced from it."[124] This twofold existence of music files as representations and perceivable forms, in combination with their perceived intangibility, makes them difficult to classify. Music listeners are therefore not turned by the digital representation, but by the perceptible forms made possible by the digital representation.

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[122] Theodor W Adorno, *Essays on Music*, ed. Richard D. Leppert, trans. Susan H. Gillespie (Berkeley: University of California Press, 2002), 271.
[123] Michael Bull, "The Seduction of Sound in Consumer Culture: Investigating Walkman Desires," *Journal of Consumer Culture* 2, no. 1 (2002): 84.
[124] Levy, *Scrolling Forward : Making Sense of Documents in the Digital Age*, 138.

Boundaries

The subsequent turn that occurred in music listeners in the digital age is the turn towards the dissolution of time and space boundaries as markers of listening space. The opposition between these two seemingly dissimilar spheres can certainly be attributed to mass communication technologies in general, but I would like to highlight how music listening has been complicit in this change. People often speak of public and private "spheres," although it should be noted that these spaces have never been mutually exclusive. Music has always been listened to in both the private and public environments. For example, the very private nature of the Victorian parlor piano, created a communal, yet private sphere of music listening. From the first public music concerts, public listening was a clearly defined listening space, which contained a different set of expectations than those found in the private sphere.

I am particularly interested in the creation of an internalized private listening space, existing in the public sphere. It is with portable music listening devices (the Sony Walkman, portable CD player and iPods), that the internalized private listening space is further placed in public spaces. The internalized space created by using headphones has been described as isolating. R. Murray Schafer writes

> when sound is conducted directly through the skull of the headphone listener, he is no longer regarding events on the acoustic horizon; no longer is he surrounded by a sphere of moving elements. He is the sphere. He is universe. While most twentieth-century developments in sound production tend to fragment the listening experience and break up concentration, headphone listening directs the listener towards a new integrity with himself.[125]

Schafer is getting at the fact that headphone listeners shut out their surrounding acoustic world, or in his terms, the soundscape. The fact that in the current epoch, the internalized space created by headphone listening is the predominant way of listening to an iPod would seem to suggest that music listeners have been turned towards a listening experience less characterized by community, and more by individuality.

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[125] R. Murray Schafer, "The Music of the Environment," in *Audio Culture : Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (New York: Continuum, 2004), 35-6.

Referring to the effects of the Sony Walkman on listening boundaries, Hosokawa is correct to point out that

> Autonomy is not always synonymous with isolation, individualisation, separation from reality; rather, in apparent paradox, it is indispensable from the process of self-unification. Walkman users are not necessarily detached ("alienated" to use a value-laden term) from the environment, closing their ears, but are unified in the autonomous and singular moment-neither as persons nor as individuals-with the real.[126]

The iPod may not appear to be "new" in the experience of music listeners, when one considers that much earlier technologies, such as the transistor radio, initiated similar turns. Although the portable transistor radio, and the car stereo allowed for listening in private and public spheres, or a mixture of both in a much earlier epoch, the agency of music listeners was not affirmed in the same way as with subsequent portable music technologies. The portable radio music listener, although they had choice in which station to tune into, has little choice in which artists or songs were heard (as a given station programs which songs are played), and were slaves to geography. With portable music listening technologies music listeners are afforded a great agency in what they choose to listen to, including not just music, but also what to tune out from their surrounding environment. Michael Bull comments on this "protective" aspect of portable listening technologies, commenting

> Personal stereos can rather be seen as technologically empowering the subject. The headphones enclose the ears and substitute chosen and specific sound for the industrialized, fordist and acoustically congested sounds of the street. Paradoxically, personal stereos can act as a form of acoustic protection for the user.[127]

The turning of the music listener in the iPod epoch is then characterized again by increased choice, and the ability to create internalized soundworlds, which allow private listening to occur in public spaces. Aspects of control are further discussed in the fourth chapter, with examples of listeners' own convictions on their increased sense of agency.

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[126] Shuhei Hosokawa, "The Walkman Effect," *Popular Music* 4, no. Performers and Audiences (1984): 170.
[127] Bull, *Sounding out the City*, 119.

The CD and music file furthered the change towards the dissolution of space boundaries for music listening, whereby the often private, internalized experience of music listening, can occur in any public space, and act as a way of separating listeners from their aural environment. It appears that the dissolution of the public and private spheres is occurring in all areas of communication, yet is characteristic of the second and third epochs of musical media. In other words, the impact of the information age on the supposed blurring of the boundaries between the private and the public culture cannot be contained to musical technologies, but therein, drastic shifts in the experience of public and private listening for music listeners, specifically in the last 30 years as a result of technological innovation, are hard to ignore.

Conclusion

The second and third epochs resulted in music listeners turning from a relationship with media, to a relationship with perceptible forms, and ultimately with mediating devices. The intermediary turn caused by the compact disc resulting in the music file becoming the material form of music consumption, heralded a turning of music listeners towards digital sound environments. This ultimately led to the concealment of the musical object, which caused the mediating device, to stand in as the material form of consumption important to music listeners.

The relationship between analog and digital forms of music consumption for music listeners reveals a much larger change in forms of cultural representation, that is, a move towards secondary forms of representation. Digital texts, such as music recordings, are secondary cultural forms, which approach their true character as documents. The turning of the listener towards digital, secondary representation reveals a revolution to a secondary orality, a turn towards music as experienced before its transformation as a literate, visual object in the first epoch.

The concealment of the musical object in the form of the music file created a more internalized listening space, which challenged listening boundaries, creating a more isolated listening subject with the ability to tune out the sound of their environment, and be in more control of their listening experience.

The following chapter describes the methodology of computer assisted text analysis used in the fourth chapter, and provides background on internet-based research, and the process of text analysis. Chapter four

takes a closer listen at discourse on iPod use, reiterating the major turns discussed in this chapter, found evident in discourse.

Chapter Three: Text Analysis Methodology

Introduction

Text analysis proves as a useful tool in revealing trends in the experience of music listeners with musical media and mediating devices. The fact that iPods are technologies that are intimately linked to the Internet, and computer culture, is a primary reason why I chose to focus there for insight on music listeners' experiences. My study of iPod use began with identifying texts through Google blog searches, searching various terms such as "iPod experience," "my first iPod," "iPod listening," etc. Rather than interviewing users, or conducting an online questionnaire, I felt that blog discourse provided quick access to relatively unfiltered accounts of music listeners' experience with iPods. I chose to take small samples of users' experiences from the World Wide Web, keeping sample sizes between one to ten paragraphs in length. I also avoided journalistic sources because I was looking for accounts from the average user, and needed relatively unfiltered accounts of the iPod, rather the well thought out journalistic work.

Most importantly, I chose to include texts that revealed users' experiences with their iPod as a music listening device, and avoided texts that focused too strongly on the technical specifications of the device itself. In other words, I wanted texts which helped me to understand how the turning of the music listener is occurring with iPod use, and helped to answer questions such as: how are people using their iPods? Where are they doing so? Is their listening experience mostly in private, or is it more communal? Are iPod users keeping large amounts of music on their iPods? In the subsequent chapter, I attempt to answer these and other questions. The remainder of this chapter is focused on how I went about doing a computer assisted text analysis project, the challenges of online research, and the potential for more work such as this to be conducted.

Process

105 samples were saved as records in an Endnote database, entering the following fields: year, title, blog name, author, last modified date, and contents and URL. All 105 samples were exported in XML[128]

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[128] XML stands for Extensible Markup Language. To see an example of an XML record, see
Figure 13: Example of an XML Record (excerpt from Corpus)

format, using a custom made Endnote style filter, which added XML tags to each of the abovementioned fields, so that field specific searches could be conducted later. Some work had to be done on the XML markup using a text editor, so that the file would be identified as XML. The XML tagged corpus was then imported into TAPoR.[129] Once in TAPoR, a variety of tools were available, some mainly visual, and most more textual in nature. Both types of tools were used, with the prior used mainly to reveal instances in the text to me as it unfolds. The latter were used more often, and used to analyze the contents of the samples.

My choice of tools followed a logical progression. First, I did a List Words[130] analysis, to identify the most prominent words in the corpus by frequency, omitting the Glasgow stop list.[131] I then chose the top five commonly used words identified in my corpus, and did Find Collocate[132] searches for each of the top five, by frequency and by Z-score. I then compared each of the five find collocate searches to a List Word Pairs[133] search. I also did a variety of Find Concordance[134] searches, based on readings of individual samples that appeared to reveal something new or interesting about the iPod experience. After these general guidelines were followed, I was free to investigate specific instances, such as odd words with high frequency, interesting collocates, etc.

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[129] TAPoR, or Text Analysis Portal for Research is a joint venture between McMaster University, and a variety of other host institutions. TAPoR provides a web client based portal for analyzing text, and provides a variety of tools for discourse analysis. <http://portal.tapor.ca>

[130] The List Words Tool identifies all words in a corpus with the exception of the Glasgow stop list. See <http://tada.mcmaster.ca/Main/TAPoRwareXMLListWords>

[131] The Glasgow stop list is a list of words that are in common usage in the English language, and would be expected in all texts. These words are excluding from analysis, in order to identify the unexpected.

[132] The Find Collocate tool identifies all words that appear together in a corpus. The tool allows for results to be represented alphabetically, by frequency, or by Z-score. See <http://tada.mcmaster.ca/Main/TAPoRwareXMLCollocation>

[133] The List Word Pairs tool lists all word pairs in a corpus. See <http://tada.mcmaster.ca/Main/TAPoRwareWordPairs>

[134] The Find Concordances tool provides all surounding elements in which a word appears. This tool allows for easier identification of all contexts in which a given term is found in a corpus. <http://tada.mcmaster.ca/Main/TAPoRwareXMLConcordance>

The Challenges of Internet Based Research

The main challenges in doing Internet-based research is that there are no long tested methodologies for one to follow, no authoritative canon to draw from (although this is beginning to change), and finding useful texts for analysis can be challenging. Thus, the Internet-based researcher must draw on the potentialities of the Internet itself, such as ubiquitous free speech, unfiltered discourse, and the ability to instantaneously capture samples, without the need for human interaction. These strengths of the internet must be used in forming a research design, methodology, and interpretive framework, in order for the potential to be met.

Research on the Internet has been described as a pastiche, a patchwork, or a bricolage, as Claude Lévi-Strauss once famously termed. Norman K. Denzin comments on this unique position of the online researcher, arguing that "as bricoleurs, online researchers are continually inventing or piercing together new research tools, fitting old methods to new problems...Online bricoleurs fit their methods to concrete problems, and the questions they are asking."[135] This is in many ways a weakness and a strength: a weakness in the fact that bricolage is not a method per se, and cannot be said to be able to provide solid, grounded observations. On the other hand, by exploiting the potential of bricolage as a method of online research, the researcher is able to cater their research needs to the problem at hand, and focus on the design of their research, rather than being burdened with following a more formalized methodological system. Furthermore, as research dealing with human communication is never completely predictable, a flexible method allows for uncertainties in the research process to be addressed, and accounted for along the way.

Jonathan Sterne comments on the issue of systematic methodology in the context of cultural studies oriented Internet-based research. He writes, "Rigidified and formalized method works against cultural studies' distinctively strong suits; methodologism limits the possible configurations of context and the range of possible theoretical and political moves a writer can make."[136] I agree with Sterne's opposition to

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[135] Norman K. Denzin, "Online Environments and Interpretive Social Research," in *Online Social Research : Methods, Issues & Ethics*, ed. Mark D. Johns, Shing-Ling Chen, and G. Jon Hall (New York: P. Lang, 2004), 2.
[136] Jonathan Sterne, "Thinking the Internet," in *Doing Internet Research : Critical Issues and Methods for Examining the Net*, ed. Steve Jones (Thousand Oaks, CA: Sage Publications, 1999), 265.

methodologism in a cultural studies context, but I tend to disagree that "method" need to be construed as tantamount to "rigidity." As I have commented, even something as flimsy (in terms of a "systematic" approach) as bricolage can indeed be understood as a method, or in some ways a method for the anti-methodologist. I understand method at a very basic level as knowing what questions one wants answered, and using the appropriate tools necessary to address your research problem. A rigid, a priori method need not be the only way to employ methodology.

The results of a patchwork, or bricolage approach to online content analysis is a fluid, performative text:

> The result of the interpretive bricoleur's labor is a complex, quilt-like bricolage, a hypertext, a reflexive, collage or montage; a set of fluid, interconnected images and representations. This interpretive structure is like a montage, a performance text, a sequence of representations connecting the parts to the whole.[137]

Again, the characteristics of the Internet itself are imbued in the research method, and this results in a closer correlation between the subject of research and the researcher. In the following chapter, when I present my interpretation of iPod users' experiences, the organic nature of the method employed, that is, the fact that a series of discrete samples are used to illuminate an overall understanding of some changes in the iPod experience, will become clear. Furthermore, the intertextual, performative nature of my research method is evident in the corpus itself.

In seeking a method to use for this research, I naïvely played into the qualitative/quantitative dichotomy, assuming that this was a real and important distinction in this type of research. What I realized was that the distinction is in a way false; both approaches should be understood as separate, although not collectively exhaustive stages in research, and not as competing methodologies.

Sterne explains how both qualitative and quantitative techniques are part of a content analysis, and how each respective category is used:[138]

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[137] Denzin, "Online Environments and Interpretive Social Research," 3.
[138] The difference between the terms "content analysis," "text analysis" and "discourse analysis" are not always clear. For the purposes of this work, these terms are to be understood in their most broad contexts, as I do not attempt to draw a distinction between them.

> Content analysis is a research technique that does not easily fall into either the qualitative or quantitative classification schemas that researchers love to fight over. It is a crossover technique that requires critical qualitative skills to assign content to any number of variables. Later, quantitative techniques are used to display and calculate relationships between these variables.[139]

What I have done with blog discourse is not completely content analysis, not completely text analysis, and not completely discourse analysis. My use of text analysis tools was intended more as a way to draw attention to things in the text which I would not have thought of with a "close reading," which is a deductive method, which imposes a set of expectations upon the text. My approach was rather an inductive one. As Ian Lancashire explains, in computer assisted text analysis, induction "imposes no tagged structure on the text but rather, by analyzing exploratory displays and batch files, induces the text to reveal its repeating patterns. Only then does the critic relate them to the text by interpretation."[140] In this method, I was given the freedom to use the strengths of humanities computing tools, such as storage, retrieval and filtering of information, while also being able to allow the text to speak for itself.

Research Opportunity

The potential that the World Wide Web offers for text analysis is vast. In pragmatic terms, the wealth of data makes the task of finding samples for text analysis an easy one. Particularly in a "device-centred" project such as this, users seem to want to share their experiences on their personal blogs, and offer candid remarks, which shed light on the interaction between technology and culture. The Internet is often considered to be a medium of democratic potential, a space where users are not influenced by outside forces. As Clifford G. Christians and Shing-Ling Sarina Chen argue

> Interactive Internet technology gives people a voice and connects users directly without professionals or gatekeepers in between.

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[139] Terry Anderson and Heather Kanuka, *E-Research : Methods, Strategies, and Issues* (Boston: Allyn and Bacon, 2003), 173.
[140] Ian Lancashire, *Using Tact with Electronic Texts : A Guide to Text-Analysis Computing Tools, Version 2.1 for Ms-Dos and Pc Dos* (New York: Modern Language Association of America, 1996), 141.

> Internet technologies are democratic tools in principle that serve people's everyday needs, rather than those of special interest groups or the market's.[141]

The key words in the above are "in principle." In principle, the Internet is an unfettered space for individuals to express their opinion, without the influence of gatekeepers. However, this is only the extent of the potential of the medium itself, not a matter of fact, as anyone who has spent time using the Internet can attest, the market, media, and professionals are all too evident there. Furthermore, as Jonathan Sterne points out

> To argue that the Internet is an autonomous sphere of social action is simply untrue based on the evidence offered by other areas of media studies; "subjects of cyberspace" are also subjects of television, telephony, radio, film, and music, as well as elevators, clothing, speech patterns, and food, not to mention the classic identity categories.[142]

Thus, the online researcher need not get too excited that the Internet offers a space where individuals and groups provide completely unfiltered accounts of their experiences. But, the Internet, and in particular blogs are the first widescale forum for individuals to express unfiltered opinions on a given subject, and this is, for the online researcher, an advantageous way of gathering material for content analysis.

The shortfalls of the apparently unfiltered nature of Internet discourse as a source for text analysis is that there are many referents missing that would otherwise be present when using more "traditional" sources (newspapers, interviews, participant observation, etc.). Amy S. Bruckman refers to this challenge as one of "blurring."[143] She identifies three types of blurring. Firstly, in online research, the distinction between private and public space is blurred, "What is 'public' and 'private' is not

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[141] Clifford G. Christians and Shing-Ling Sarina Chen, "Introduction: Technological Environments and the Evolution of Social Research Methods," in *Online Social Research : Methods, Issues & Ethics*, ed. Mark D. Johns, Shing-Ling Chen, and G. Jon Hall (New York: P. Lang, 2004), 19.
[142] Sterne, "Thinking the Internet," 276.
[143] Amy S. Bruckman, "Introduction: Opportunities and Challenges in Methodology and Ethics," in *Online Social Research : Methods, Issues & Ethics*, ed. Mark D. Johns, Shing-Ling Chen, and G. Jon Hall (New York: P. Lang, 2004).

always clear in conception, experience, label, or substance."[144] Secondly, and crucial when I was choosing samples for content analysis, is the blurring of published and unpublished. I was very cognizant of whether or not I was sampling an individual user's experience of their iPod, or a technology review by a journalist. This is a crucial distinction in addressing the question at hand. Bruckman identifies an intermediary type of work common in Internet discourse, claiming, "There exist gray zones where material is 'semipublished.' While examples of semipublished material are rare in the world of print media, they are common in the world of electronic publication."[145] However, "The mere presence of information on the Internet does not automatically grant it "published" status."[146] This is a type of blurring which is both methodological and ethical: ethical in that the researcher does not necessarily need to ask permission, or give credit to their subjects; methodological in that the researcher must be careful to understand what constitutes published/unpublished/semipublished work on the internet, in order to find what they are looking for.

A third type of blurring that is not a major concern in this project, is the blurring of identity. This goes back to the second type of blurring, as it may be assumed something is unpublished because there is no legal name[147] attached to it. Bruckman claims that what is blurred online refers to "categories that are ..."anonymous" versus "identified." Most Internet-based communications are pseudonymous."[148] The authors of my samples often go by just their first name, or often by a pen name. This is, however, only a challenge if I needed to track the authors down.

In considering the Internet as a source of archival research, it is

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[144] D. Waskul and M. Douglas, "Considering the Electronic Participant: Some Polemical Observations on the Ethics of on-Line Research " *The Information Society* 12 (1996). Quoted in Bruckman, "Introduction: Opportunities and Challenges in Methodology and Ethics," 101.
[145] Bruckman, "Introduction: Opportunities and Challenges in Methodology and Ethics," 102.
[146] Ibid.
[147] Blog writers often use pseudonyms rather than legal names. However, an Internet pseudonym may stand in for the legal name, much like in celebrity culture, where performers take on stage names, and assume the identity of the pseudonym.
[148] Bruckman, "Introduction: Opportunities and Challenges in Methodology and Ethics," 102.

important to understand how as an informational medium, it can embody the meaning of iPods in the larger context of audio culture:

> All artifacts communicate meaning in an important sense, but media instruments carry that role exclusively. Information technologies incarnate the properties of technology while serving as the agent for interpreting the very phenomenon they embody.[149]

This also relates to the nature of Internet based research itself, which methodologically is most effective when the properties of the Internet as object are used to reveal things about the subjects that use it.

Furthermore, the immediacy of the World Wide Web lends itself to critical inquiry of in the moment experiences, and rapidly changing technological artifacts. In other words, with rapid technological change in the portable music listening device market, the World Wide Web offers a place for users to comment on their experiences with technology at the moment it is first consumed. The advantage of having in the moment experiences is on the one hand an advantage, and on the other a great challenge; the challenge lies in the fact that there may be less reflective commentary than is desirable. The advantage is of course being able to gather topical results, without having to wait.

The opportunity for research in all domains of critical content analysis to be enhanced by using the World Wide Web as a source is phenomenal. As Gerlinde Mautner explains,

> To date, most of the work that mines the web for information about language usage has a lexico-grammatical focus and/or didactic aims. For critical discourse analysts, by contrast, it is still comparatively rare to turn to the web for their primary data. Given the commitment of critical discourse analysis (CDA) to doing socially relevant research, its reluctance to embrace the web of all media is rather curious.[150]

The difficulty in using the World Wide Web for this project is easily identified. For one, the vast amount of material available for content

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[149] Christians and Chen, "Introduction: Technological Environments and the Evolution of Social Research Methods," 15.
[150] Gerlinde Mautner, "Time to Get Wired: Using Web-Based Corpora in Critical Discourse Analysis," *Discourse Society* 16, no. 6 (2005): 809.

analysis, although an asset in some ways, made it difficult to choose which texts were worth saving, and which would be discarded.

Conclusion

Computer assisted text analysis proved a useful tool in this thesis, giving my theoretical and historical sections grounded contemporary examples of how the music listening experience is shaped by technological change. An inductive method was used, drawing on quantitative and qualitative approaches from text and content analysis, resulting in a bricolage approach. The following chapter reveals the results of this work, providing visual and textual examples of iPod discourse.

Chapter 4: Textual Analysis of iPod Listeners

Introduction

In chapter three, I outlined the methodology of textual analysis in humanities scholarship, its challenges, opportunities, and applications. In this chapter, I discus the results of my textual analysis of iPod listeners and present them as a series of excerpts. The purpose of this approach is to first draw the readers' attention to the discourse itself, before entering into interpretation. Following each excerpt is an explanation on how that section of discourse is manifested in the corpus of text, and how this is significant to the iPod listening experience, and the experience of technologically mediated music listening overall. The excerpts are grouped thematically, and represent what I believe to be the most significant aspects of the turning of the listener in the iPod epoch. I discuss three major turns in the iPod epoch: Collecting and Personalization; Conservation, and Randomization. All three are revealed to be part of a larger turn in the music listening experience, a turn away from media, and towards devices as the most important technology of mediation in the music listening experience.

Following discussions of observations found through text analysis, I draw upon theory on these aspects, making claims for what is found to be new, or different in the iPod epoch. The appendix is separated by text analysis tool used, and sorted alphabetically. Included are Concordances, Collocates, and Visual Collocates. The first three tools were used to search a variety of keywords in the text corpus and are presented as tables in the appendix. I also have included some visual collocations. These are provided to demonstrate to the reader the creative process I took when searching for answers in the corpus and act as overall conceptual diagrams of the music listening experience in the iPod epoch.

The reader may notice that there are items in the appendix that are not discussed in the text. The reason for this has much to do with the process of text analysis. In text analysis, the researcher must wander through the corpus, in order to be led towards what they are looking for. Some of the search terms that I performed searches on did not bear results that reveal anything new, or significant in the iPod epoch. However, they are useful for the reader to consider in order to understand the process I took, which was to search for general changes in the listening experience in the iPod and then probe towards more specific, directed questions.

Through text analysis, it has become clear that iPod use is not a homogenous activity, and that users from different subject-positions are bound to find meaning in their use of this technology in very different ways. However, as I have argued in theory throughout this work, there are some fundamental aspects of sound recording technology and listening that can be said to manifest generally. The following represents how some widescale changes in the interaction of sound recording technology and music listening habits can be found to be true in practice, through analyzing discourse. The turning of the listener is evident in the excerpts below, which outline major changes in the relationship between users, technology, and the cultural outcomes of this interaction.

Collecting and Personalization

> At first, merely the idea that I could carry my entire not-inconsiderable CD collection around in my pocket was amazing to me. Somehow, this simple fact makes me feel both powerful and free. In any given situation, I can set the soundtrack of my life to whatever music I fancy. And then there is the whole idea of shuffle. When you set your entire music collection--in my case almost 3800 songs from just about every genre you can think of--on shuffle, that "soundtrack" becomes an incredibly varied and unpredictable string of music.[151]

iPod users feel both empowered and more in control of their listening experience than ever before. It appears that with the iPod, listeners gain a level of comfort by the fact that they have more control over their listening experience. Control is found in a number of ways, the most important being the ability to carry a large music collection from place to place. This results in listeners having the desire and ability to create an almost archival "soundtrack" from which to choose from when listening. The significant role of the music file, as discussed earlier in chapter two, is evident in this mass archiving of music by iPod users. Control is attained by listeners' with their ability to create these personal "libraries" of music, which they cater to their needs, by removing undesired songs from albums they own, for example.

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[151] Excerpt from Peter Garner, "Oh Ipod, How You've Changed My Life," Singing the Apple, http://singingtheapple.blogspot.com/2006/10/oh-ipod-how-youve-changed-my-life_20.html.

It is the music file, which encourages this type of personal archiving of music. As Adorno once commented on the gramophone, it allowed users to have a "museum for themselves,"[152] and encouraged them to collect large amounts of music. This is certainly an accurate way to describe how users perceive of their iPods, as personal depositories for their collection.

The breadth of music collections is an interesting characteristic of iPod listening. Users seem to be interested in the ability to carry their entire collection with them, and refer to music collections in very personal terms of ownership, referring to their "music library," rather than their albums, or songs. (See Figure 1: Find Concordances, "Collection") Note the concordances for the term "collection," and the frequency of references to entire collections, and references to "my collection." This may not seem significant at first glance, but I believe it reveals a much larger aspect of personal ownership and iPod use. What this reveals is that listeners still refer to their collections as whole units, much like a gramophone, or CD listener may have, yet they also speak about their ability to choose discrete units within their collection, and the joy in being able to transport a large collection from place to place.

In turn, as music collections are very much self-catered, the device becomes highly personalized. Since the device is the vessel for storing and playing back music in a collection, the sense of ownership users once placed on whole collections is transferred to the device itself. In other words, the device stands in for the media, by the mere fact that the media in essence vanishes.

This is not to say that in past epochs, users did not collect large amounts of music or did not speak of these collections in very personal terms. However, in the iPod epoch, the media becomes unimportant, and thus the aspect of collecting as an end in itself is much less likely. Evan Eisenberg's work on the subject of collecting in the gramophone epoch discusses the characteristics of music collecting with this medium, and attempts to understand the motivation behind collectors' desires to accumulate musical media. Eisenberg argues, "We moderns have no safe principle of selection, so we collect. In a sense we collect because we're

[152] Theodor W Adorno, "Opera and the Long Playing Record," in *Essays on Music*, ed. Richard D. Leppert (Berkeley: University of California Press, 2002), 285.

peripatetic; rootless, we pick up the forest and take it along."[153] Eisenberg's arboreal metaphor for gramophone collecting is interesting, as it points to his argument that gramophone record collecting is a way for listeners to find meaning in their lives through the act of collecting.

Eisenberg's discussion of gramophone collecting is about a very specific type of collector, characteristic of the gramophone epoch, one who is obsessed with the act of collecting as and ends it itself, with often little interest in the content of their collection. In the iPod epoch, this does not seem to be the motivation behind collecting. As Eisenberg points out, the type of collecting characteristic in the gramophone epoch seems to be largely absent in the current one. He writes, "When I was writing, the compact disc was a strident interloper; today it has so thoroughly triumphed that vinyl is left to the very poor, the very rich, and the very odd."[154] In the iPod epoch, collecting on a large scale is not a specialist's pastime, but a defining characteristic of use, and as this chapter demonstrates, is a practice evident in discourse.

Considering musical media as part of the act of collecting practice is problematic in a few ways, and merits some clarification here. First, collecting can be understood in a couple of different ways. A listener may amass a large collection simply for the album art, for example, or for the novelty of the media, such as in 78 RPM record collecting. Or, conversely, a listener may be very selective in the music they collect, only collecting music they desire to listen to or seeking out music for its historical significance. The fact that sound recordings are media, means that collectors may collect for the content of the media, not for the purpose of collecting objects. Susan Pearce writes on collecting musical media claiming

> If material of this kind is gathered primarily to play or read, in other words the material is valued as media, then it represents at least a particular aspect of collecting and may, indeed, not fall into any useful collecting remit at all. If, however, the material is treated

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[153] Evan Eisenberg, *The Recording Angel : Explorations in Phonography* (New York: McGraw-Hill, 1987), 22.
[154] ———, *The Recording Angel : Music, Records and Culture from Aristotle to Zappa*, 2nd ed. (New Haven: Yale University Press, 2005), 211.

> as object, and collected for its historical value...then it falls into line with more 'normal' collecting process.[155]

In the iPod epoch, finding value in collecting music simply because it is media seems counterintuitive to the potential of the device. Music listeners in the iPod epoch do not understand their practice of collecting as a quest for objects. Rather, music listeners in the iPod epoch collect large amounts of music because they can; the device invites users to do so.

Furthermore, as Jean Baudrillard claims about collecting, it begins once an object is "divested of its function, and made relative to a subject...They [objects] thereby constitute themselves as a system, on the basis of which the subject seeks to piece together his world, his personal microcosm."[156] According to Baudrillard then, an object collected for its function, is not really being 'collected', as collecting imposes a level of abstraction from the function of the object.

What is new in the iPod epoch with regard to collecting, is that because the media essentially has no function without the device, the value of collecting media for the love of collecting objects does not occur as frequently, however the love of collecting recordings for their status as objects of art still remains. The iPod becomes the object, yet as this is very much a functional object, collecting is very much about content. Music listeners in the iPod epoch are empowered by the mediating device, which allows for personalization of music collections, and the ability to collect larger amounts of music than was possible in previous epochs.

Conservation

> Before I joined the world of iPod owners, I complained about the effect of mp3 players on musical tastes overall because of this exact effect. I love albums as a whole. The atmosphere they create, the track order, the flow of emotion or energy throughout the album...all these things matter to me a lot as a Certified Music Nerd (or Certified Music Snob, your choice). And yet, I've wittingly allowed myself to join the dark side.

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[155] Susan M. Pearce, *On Collecting : An Investigation into Collecting in the European Tradition* (New York: Routledge, 1995), 32.
[156] Jean Baudrillard, "The System of Collecting," in *The Cultures of Collecting*, ed. John Elsner and Roger Cardinal (London: Reaktion Books, 1994), 7.

> How did I allow this to happen? And why? Because it's just so damn convenient. Let's face it—no matter how much we protest about short attention spans and laziness, convenience still matters in daily life, and the fact that I can switch from one album to another if I so choose without having to fiddle with a cd book while driving is quite lovely.
>
> There has been quite a large positive effect other than that, though. I've rediscovered so many great songs and artists this way, and that has been extremely rewarding. Let's face it...I can complain about how albums as a whole have lost some of their effect on me, but at any given time there were only 10-20 albums in my listening rotation. I hadn't listened to Paul Simon's Graceland for years, for example. Or The Very Best of Otis Redding, or Green Day's Dookie, or Stevie's Songs in the Key of Life, or my Bob Dylan Live 1961-2000 bootleg, or Atmosphere's Seven's Travels. All of these are in the rotation now, and I love it.[157]

Another interesting aspect of collecting and iPod use is the fact the users are interested in converting their collections held on media of past epochs (gramophone records, CDs, etc.), in order to conserve them for future enjoyment. This is what I refer to as the practice of conservation. Conservation in the context of iPod use, refers to the music listeners' desire to save music held on evanescent, or vulnerable media, and transfer it to their home computers, and ultimately to their iPods. The purpose is firstly to save older media from physical damage, and to be able to conveniently shuffle through albums and songs, without the need to switch discs.

Secondly music listeners conserve their music to reclaim their connection with the past, and to rehistoricize their personal musical narrative. This is a key change that has occurred with iPod use, and counters claims that digital musical media are immune to personalized inscription, and lack a sense of cultural memory.

In chapter two I argued that although the compact disc may have in some ways been immune to personalization, the iPod turns music

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[157] Excerpt from The Boy, "How the Ipod Has Changed My Musical Tastes," Good Nonsense, http://goodnonsense.blogspot.com/2006/12/how-ipod-has-changed-my-musical-tastes.html.

listeners to a reclaimed past. This is a result of the technical aspects of the iPod itself, which allows for quick "upconverting" of one's gramophone and (especially) CD collection to current media formats. The ease that music listeners can put all their music in one place, is a key factor in the practice of conservation being part of the turning of the listener in the iPod epoch.

The excerpt at the start of this section reveals one listeners' rediscovery of their musical past, which in their words, was made possible by the device itself. This listener was outright against the digital turn in music, but made the choice to enter the current epoch, as a matter of convenience, and later, of love. This is not to claim that the iPod determines use, or that technology forces its will upon users. This listeners' reclaiming of their music past was a process in which they actively chose. Furthermore, if it were not for their past musical experiences with media in previous epochs, they would not have known what it meant to experience music as media in this way. In other words, this listeners' experience with gramophone records, and compact discs, determined their desire to listen to whole media, and thus their dislike for the atomized nature of MP3 listening.

Text analysis revealed that a segment of listeners spoke nostalgically about their musical experience before iPods (See Figure 2: Find Concordances, "Compact Disc" and Figure 7: Find Concordances, "Record"). In these examples, notice the sense of physical connection that was placed on musical media in this epoch. Listeners spoke about packaging for example, or the act of placing the arm on the gramophone record. Listeners also talked about "ripping" their entire CD collection, that is, converting it to a file format to be played on their iPods. All of these aspects are tied to the past two epochs, and largely lost, or transformed in the iPod epoch. They revealed that in the iPod epoch, memory, and personal inscription are in fact still important aspects of technologically mediated music listening, yet are manifested in different forms. Like the sonic tomb of the gramophone record in the first epoch, which acted as a preserver of the dead, and of past performances, memory is inscribed upon the musical object.

The act of conservation is therefore a turning of the listener that is not here to stay. It is a turn that affects those listeners whose musical experiences were of the past two epochs, and thus tied to media rather than devices. Listeners whose primary experience is in the current iPod epoch will not use conservation as a way of reclaiming their musical past,

but instead, will experience music in the here-and-now, focusing on changes in the device itself.

Randomization

> I love my iPod, have I mentioned that before? And I really love the Shuffle function. When I can't decide what to listen to, it decides for me. When I can't imagine what I could possibly need to hear, it inevitably brings up something exactly right. Like today. I was running on the treadmill, trying to sort my thoughts, calm my thoughts, expurgate my thoughts, and this song came up. It was perfect. Because sometimes it's important--no, it's necessary--to listen to music that has no emotional connection to anyone or anything or any time in your life. It helps you focus on the here and now without dragging you back into some minefield of memories, loss or disappointments. And that's what this song did for me today.[158]

The excerpt above reveals just how important the act of "shuffling" is for iPod use, and something new in the current media epoch. The shuffle function is a function of iPods that randomizes one's playlist,[159] and allows for an indeterminate result when listening to one's collection. The shuffle function is found in the corpus very often, and appears to be a popular feature (See Figure 8: Find Concordances, "Shuffle"). Text analysis revealed that listeners refer to shuffle as a mode of listening, used primarily for the desire for randomization, variety, and convenience.

The shuffle function appears to be especially important in managing and controlling the mood of the subject in the above excerpt, and is a significant factor in managing and organizing listeners' daily lives. This is not something new in the iPod epoch, or even new to the act of listening to music in general. For example, Theodor Adorno attributed this characteristic to popular music, and Tia DeNora conducted an extensive sociological work on this subject. As DeNora claims

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[158] Excerpt from "Lessons from the Shuffle," Lost in Your Inbox, http://lostinyourinbox.blog-city.com/lessonsfromshuffle.htm.

[159] There are essentially two types of playlists used on iPods, which I refer to respectively as atomistic, and holistic. Atomistic playlists are those that combine dissimilar units. Holistic playlists are those that are bound by musical taxonomies, such as artist, genre, album, composer, etc.

> to play music as a virtual means of expressing/constructing emotion is also to define the temporal and qualitative structure of that emotion, to play it out in real time and then move on. In this sense music is both an instigator and a container of feeling - anger, sorrow, and so forth...It concerns the question of how aesthetic agency is configured in real time, as passion is choreographed and entrained.[160]

DeNora argues that music is a technology of the self, used to manage one's daily life, to retrieve or dispel emotion by using music as the medium to do so. Furthermore, she claims that listeners become empowered by the very act of choosing what to listen to for a given circumstance. For example, a listener may play an upbeat song to motivate them, or a relaxing song to calm down. However, as her work was conducted long before iPods, her subjects' listening habits were very much of the previous epoch: artist-centered, organic, and bound by the technological limitations of the medium. The questions DeNora asked of her subjects' listening habits were therefore geared towards musical taxonomies.

In other words, the bias in her work was towards probing subjects for specific songs they use to recall a past event, artists and songs they listen to during certain instances in their daily lives, and so on. Thus, their interaction with the mediating device was not the focus. This is mostly likely true in pre-iPod practice as well, as the qualities of the device before iPods coaxed listeners' towards artists, albums and genres. That being said, DeNora's work is still extremely important in understanding music as a technology of the self, yet for the purposes of this study, lacks the necessary perspective on the role of the mediating device in this process.

What is new in the iPod epoch is that the device is designed in many ways to encourage shuffling, making the resultant cultural meanings ascribed to shuffling as a way of managing one's daily life, not a result of consumer experimentation, but of product design. Of course, product design is a result of consumer interaction with manufacturers, not simply a one-way street. Previous media epochs contained artifacts that bear resemblance in some ways to the personalized act of shuffling, such

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[160] Tia DeNora, "Music as a Technology of the Self," *Poetics* 27, no. 1 (1999): 41.

as the mix tape. Unlike the mix cassette tape[161] (or mix CD), which was both a result of listeners' experimentation and personalization of media, the iPod is designed for this very function. Mix tapes and CDs were also only a result of re-presentation, and arguably not a turning of the listener, but more of a new application to something preexisting. Serge Lacasse and Andy Bennett refer to the mix tape as a "phonographic anthology." The authors define these recordings as

> any collection of recordings whose assemblage is dictated by an arranging principle. This principle is usually explained and presented in one form or another, such as liner notes (in the case of commercial anthologies), or, in the case of private anthologies, other types of written or virtual comments, as the ones we just mentioned...only collections presenting multiple artists and songs should be considered as "truly" anthological.

The shuffling done on iPods thus does not fall under the act of creating "phonographic anthologies." With "phonographic anthologies," material previously not necessarily connected by genre, artist, and album is selected and placed in a particular order, or sequence. Listener created playlists on iPods would fall under the category of "phonographic anthologies," whereas shuffling would not. Holistic playlists are anthological as they impose order on the outer limits of musical selection. Furthermore, the very act of creating an anthology (or playlist) imposes affiliation, order and sequence upon a group of songs, and in many ways is a type of album. The phonographic anthology is intended to be organic and stable.

By comparison, iPod users using the shuffle function may opt to select to shuffle only a specific playlist (either atomistic or holistic), or may opt to shuffle their entire library. The shuffling of one's entire library is then something new in the use of personal stereos, and a characteristic of music listening in the iPod epoch. Listeners are turned to a listening environment, which encourages wider musical selection, and random access listening.

Furthermore, "Shuffle" is the name of Apple Computer's low-cost iPod, designed to take advantage of the shuffle function. Commercial

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[161] See Melanie Lovatt, "Personalising Popular Culture : The Uses and Functions of the Mix Tape" (Thesis (MA), Memorial University of Newfoundland, 2005).

material on the Apple iPod Shuffle exclaims, "Embrace your inner rebel: Flip the shuffle switch to mix up iPod shuffle's contents. Then flip the switch again to play your hand-picked playlists and albums in the order you synced them from iTunes."[162] In this excerpt, the two types of playlists are identified: atomistic and holistic. The former using the shuffle function, and the latter the playlist function. Melanie Lovatt argues that the shuffle function, and iPod use in general seem to embody the antithesis of the ethics of the mix tape:

> Of course, while it is possible to sequence your own playlist on your iPod, many people enjoy the unexpected musical juxtapositions which are provided by the 'iPod shuffle.' The random order of songs which is generated by the iPod shuffle is a complete contrast to the painstaking process by which songs on a mix tape are sequenced in an attempt to achieve the 'perfect flow.' The iPod shuffle is no respecter of 'flow,' and a listener may hear two songs together which they would never have dreamt of placing side by side on a mix tape.[163]

The phonographic anthology, or mix tape, is therefore a listening habit of the analog world, the shuffle, a byproduct of the digital. Much like the digital bits of the music file, the discrete elements of a music listener's music library played in shuffle mode are samples created on the spot, and are as much a result of the principle of random access used in recalling files. I am suggesting that the "random" nature of digital systems has influenced how music listeners listen to music. Much like the writing technology of the alphabet has been said to alter how we perceive the world,[164] the writing technology of computers has turned music listeners to an environment of random access, and digital systems. This echoes Michael Bull's claim that "personal-stereo use represents an example of the technologizing of experience."[165] As I claimed in chapter two, experiences of listeners in the iPod epoch are shaped by their reliance on technological systems.

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[162] Computer Apple, "Apple - Ipod Shuffle - Features," Apple Computer, http://www.apple.com/ipodshuffle/features.html.
[163] Lovatt, "Personalising Popular Culture : The Uses and Functions of the Mix Tape", 154-55.
[164] See McLuhan, *The Gutenberg Galaxy : The Making of Typographic Man.* and Ong, *Orality and Literacy : The Technologizing of the Word.*
[165] Bull, *Sounding out the City*, 193.

The turning of the listener in the iPod epoch through shuffling is therefore another example of how technologies of representation are manifest in cultural artifacts of signification. I agree with Michael Bull that

> The object is not merely an artifact but also a set of practices with which an artifact is associated. These practices give meaning to the object just as the object discloses something of the user in them. Artifacts also have biographies that extend beyond themselves and which are decipherable by focusing upon the material artifact as a microcosm of the social.[166]

Thus, the "biography" of the iPod in the current epoch extends beyond itself into the social, and is characterized by the material conditions of the means the device's technology of representation, that is, random access digital systems.

The turning of the listener in the iPod epoch, as evident in the act of shuffling, reveals something new in music listening practices. Previous epochs were focused upon media, whereas the iPod epoch shifts the focus towards the mediating device. Text analysis revealed that in discourse, music listeners shuffle as a way of randomizing their collections, making the listening experience new every time.

Conclusion

By using textual analysis to probe the experience of music listeners in the iPod epoch, I identified three new ways that music listeners experience music, and how the listener is turned in the current epoch. What unifies all three changes, is an increased focus upon the mediating device, rather than the media itself. This is a crucial change in the turning of the listener, as previous epochs were strongly defined by their material conditions. In the iPod epoch, material conditions are of course still very much present but are found in the device itself.

Of the three major changes in the iPod epoch, the most important is randomization, or "shuffling," which is an important characteristic of iPod listening, in which listeners are able to create a new listening experience each time they listen. With shuffling, the previously structured nature of musical media is no longer as significant, and many music listeners are therefore shaped in their musical experiences towards a listening

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[166] Ibid., 6.

experience of random access. The connection between random access listening, and random access as a digital writing technology maintains my thesis that the technologies of musical inscription turn music listeners, through the dialectic between music listeners and sound recording technologies.

Another turn in the iPod epoch, although not necessarily new, is the practice of collecting music. Collecting music is not new in the iPod epoch, but the act of collecting takes on very different meanings in this context. In previous epochs, collecting was not necessarily based on a desire for specific musical content, but instead was a desire for objects, stripped of their functional uses. In the iPod epoch, collection is drawn closer towards a desire for specific content, and is thus not in line with material collection practices. As the device becomes the musical object, music listeners benefit from the ability to store and transport large, personalized collections. Personalization, as it relates to collecting in the iPod epoch represents a turning of the listener towards a listening environment oriented towards more control over the listening experience.

Finally, conservation is part of the turning of the listener in the iPod epoch, again related to the mediating device becoming more significant than the media. Conservation refers to music listeners' rediscovery of forgotten music, through the practice of converting, or replacing music held on vulnerable media, to be held on the device. Conservation is strongly tied to personalization, as music listeners find themselves in media from the past, and maintain authority over their personal musical narrative through replaying old media in a new way. Conservation is a turning of the listener that will not remain throughout the iPod epoch. As new groups of listeners exist having primarily experienced music in the iPod epoch, conservation is then a fleeting turn.

Conclusion

The turning of the music listener across three epochs has revealed that the experience of music listeners, through their consumption of recorded music, has shaped the technologies of music recording. Conversely, innovations in sound recording technologies have shaped the cultures of music listening. This two-way relationship reveals that sound recording technologies have been strongly influenced by the creative process of music listening; music listeners have inscribed their cultural provenance upon material forms of music, forever shaping the music listening experience, and providing historical evidence for mediated listening as an important cultural phenomenon.

Historical discussions of the cultures of music listening across three epochs: gramophone Records, compact discs and iPods and music files, revealed changes in the experience of mediated music listening, specifically in how music listeners consume recorded music, and how listeners have over time gained more control in their relationship with music. These large-scale cultural changes are revealed to be evident in technological changes in the material forms of music consumption, which have in turn anticipated, and responded to cultural changes.

Computer-assisted text analysis revealed how in the current epoch, music listening is characterized by an affinity to devices, as opposed to previous epochs, in which listeners were turned primarily in their relationship with musical media. Text analysis was used to understand how music listeners are turned in the current epoch, by identifying major themes evident in discourse. The current epoch reveals a turn towards a distant past, an epoch before musical sound was consumed as a material form.

The turning of the listener in the first epoch heralded an arrival of a new kind of music listener, one more in control of their music listening experience, and a key player in the evolution of music technologies. The current epoch is not entirely a departure of this listener, but a reshaping. The material forms of music consumption, when understood as cultural artifacts, offer a way of understanding not only the cultures of music listening, but Western culture in general. This is a research area open for further study.

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Appendix A: Text Analysis

Concordances

Figure 1: Find Concordances, "Collection"

27 entries found.

the best of my music	**collection**	. I choose that addictive iPod
and WMA from my own	**collection**	. Double ugh! We
was there for me. My	**collection**	of Acid Jazz, my Female
carry my entire not-inconsiderable CD	**collection**	around in my pocket was
you set your entire music	**collection**	--in my case almost 3800 songs
it burrows into your music	**collection**	with ruthless objectivity, helping you
about having your entire music	**collection**	in your pocket is that
even with my entire music	**collection**	and a serious line up
music from the 14 GB	**collection**	on my computer. I do,
can carry our entire music	**collection**	in the palm of our
thinking about trimming down my	**collection**	. But the 80G... I could
Mainly it streams my music	**collection**	from a web server and
I was building my record	**collection**	, I frequently had to sneak
ability to keep one's CD	**collection**	organized. I loaded my
of my ripped (legal) music	**collection**	lives. ITunes on windows didn't
copied over the new complete	**collection**	of Firefly, which I'm enjoying
access" to one's entire music	**collection**	on a device the size
where else in my music	**collection**	would "I Hate Everything About
100g iPod, my entire record	**collection**	could fit on it. WOW.
to take my entire record	**collection**	to Fiji? I think there's
upload all of my CD	**collection**	into iTunes, I am also
process of revamping my music	**collection**	. Also, I've loaded bunch of
she wanted to take her	**collection**	with her. It was then
to take my entire record	**collection**	which had been assembled over
less at random from a	**collection**	it will take me months

playlists from my own music **collection** . Rather than "downloading" music from
of having my entire music **collection** with me wherever I go.

Figure 2: Find Concordances, "Compact Disc"

58 entries found.

can transfer music from a	**CD**	in less than five seconds.
forward twenty years. My basement-filling	**CD**	library gathers dust while my
putting my back catalog of	**cd**	's onto the thing, and I
way-too-big catalog of downloaded live	**cd**	's (mostly Dave Matthews Band, Pat
having to fiddle with a	**cd**	book while driving is quite
get a new Sony Discman	**CD**	player. My only method of
The disk sat in the	**CD**	player of my car, so
could carry my entire not-inconsiderable	**CD**	Collection around in my pocket
time rather than by the	**CD**	. At any rate, thinking
to the cassette, to the	**CD**	, to digital music. I still
"Look, Mom! A big black	**CD**	!" The benefits of the
Deception: Kids no longer have	**CD**	cases or record cases lying
can listen to the same	**CD**	repeatedly. Is it wise to
put all of my Christmas	**CD**	's into my iTunes library and
play all of the holiday	**CD**	's without having to get them
for the year - no	**CD**	's and only about 5 minutes
at home, Jason Moran's new	**CD**	Artist in Residence sitting on
and keep them in a	**CD**	case in my car. Whenever
OFTEN does), I'd pop a	**CD**	in and listen to that.
I even had a 10	**CD**	changer installed in the trunk
CDs. I have a 6	**CD**	changer integrated into my car
owning a cassette-based, mini-disc-based, or	**cd**	-based personal stereo. There's nothing new
the ability to keep one's	**CD**	Collection organized. I loaded

better than their digital counterparts,	**CD**	buyers. Even with MP3 players
sales, but I have in	**CD**	sales," he says, "In the
of their total sales, while	**CD**	sales have remained quite steady.
burning them onto easily damaged	**CD**	-Rs, you pretty much have to
digital version of the portable	**CD**	player, however, since 2001 Apple
was as big as a	**CD**	player and I wanted something
of having upwards of 70	**CD**	's in this tiny device was
louder too compared to my	**CD**	player!! Perfect for when I'm
tuner to totally replace the	**CD**	player as the ultimate audio
with CDex because of the	**CD**	Protection (for example, Gorillaz Demon
would ever make a mix	**CD**	with those two songs next
listen to them off a	**CD**	. The math even works out.
Years went by, in came	**CD**	's... Car Stereos (I also had
to upload all of my	**CD**	Collection into iTunes, I am
friends who've ripped their entire	**CD**	collections, but I haven't been
lugging around a bulky personal	**CD**	player and several compact discs
back, we loaded the accompanying	**CD**	for iTunes into the drive
Christmas. I am half a	**CD**	book away from having all
i've been listening to old	**CD**	's for the past week and
add, I now realize why	**CD**	's suck and no one ever
2007 I make mix	**CD**	's, lots of them. I guess
not having to store extraneous	**CD**	jewel cases. Most of us
travellers lugging around ever increasing	**CD**	wallets full of CDRs from
for me for moving from	**CD**	to MP3 completely came when
in Australia. I bought the	**CD**	, ripped it on my laptop
- and then gave the	**CD**	away the same day so
don't think I've bought a	**CD**	since. The notion now of
about the huge leap from	**CD**	to MP3 has inevitably been
added perhaps ten or so	**CD**	's, chosen more or less at

The only guide in selecting	**CD**	's at this point is to
time to listen to my	**cd**	player. I just listen to
is if I upload their	**cd**	. Apple made the software to
song, put it on a	**cd**	, and I will upload it
we lived without it.	**cd**	"management" has gone the way
i'll shove in a few	**cd**	singles and head to bed,

Figure 3: Find Concordances, "Experience"

59 entries found.

by Apple - the music	**experience**	offers a higher quality in
definitely a new way to	**experience**	the city. I found myself
interesting to contrast our iPod	**experience**	With that of a typical
to have the quintessential American	**experience**	, but he bought an iPod
certain extent improving my listening	**experience**	and the experience of those
my listening	**experience**	and the
and then I got to	**experience**	the newer model nano.
Having said that, my recent	**experience**	has made be a bit
to now, and the whole	**experience**	is a lot less exciting.
iPod has allowed me to	**experience**	an incredible quantity of music,
do that I can really	**experience**	all the music has to
open to it. Will we	**experience**	it on its terms, instead
Apple's got the online buying	**experience**	down cold; you can get
rush at that. ¶	**Experience**	❑I listen to it
of us about his daughter's	**experience**	with a new Apple music
totally new to the ipod	**experience**	, I had some difficulty trying
the future of my Mac	**experience**	. Last week I received a
sleep that night excited to	**experience**	what the newest iPod technology
told my mom of the	**experience**	the next day. She nodded,

and definately don't want to	**experience**	the loss of a long
tended to turn the music	**experience**	into a private, isolating one,
were" ... well, the non-iPod	**experience**	just can't beat that. Sorry,
or missing when you return.	**Experience**	has taught me it's always
don't have the skills or	**experience**	that the entire rest of
when I had a bad	**experience**	with it. 3. iTunes
Seems as important to the	**experience**	of listening to music as
to be a very good	**experience**	. I know I may eat
12 years of Windows programming	**experience**	I have, in favor of
quite there. Prior to my	**experience**	with Apple products, I may
anything outside my own narrow	**experience**	, I've been convinced for some
sure, this is no new	**experience**	, and has been with us
up my new purchase to	**experience**	Apple design for the first
time was definitely a positive	**experience**	. It seemed so much slicker
of the whole iPod Shuffle	**experience**	is that these things cost
a good amount of that	**experience**	. * Audible Ajax: name
not tried the podcasting listening	**experience**	I would say you need
can truly be a fun	**experience**	and a great chance to
not to say my iPod	**experience**	is flawless (need better headphones).
an iPod is a new	**experience**	. The Mac and iTunes doesn't
which we focus on the	**experience**	of the iPod and the
And the rhetoric of that	**experience**	respectively. First, we describe the
of exchanging meaning in musical	**experience**	in terms of a crucial
tension between an individual's personal	**experience**	of a text and the
discourses mediating and influencing her	**experience**	of that text. Of course,
chose as my first listening	**experience**	on my new iPod. (For
able to control my listening	**experience**	but surprised even myself the
in all, a great first	**experience**	with Apple products for a
part of the whole iPod/Apple	**experience**	. I went to the

how to produce a customer	**experience**	. So now I'm an
to make this music listening	**experience**	possible. OR You
to music more often, and	**experience**	new music, and new genres…
Overall, I give the	**experience**	an A-. I can see
warm satisfaction of this great	**experience**	is still there when you
miss not having the album	**experience**	. For myself, when I started
like other users, I do	**experience**	the "one-second drop-out" about once
about twenty feet. In my	**experience**	, the signal sounds great, right
posts often draw on personal	**experience**	and emotion. A little while
guess I don't find the	**experience**	so dreadful that I need
a while--fortunately, however, we didn't	**experience**	any real iPod-induced marital strife.

Figure 4: Find Concordances, "Library"

20 entries found.

twenty years. My basement-filling CD	**library**	gathers dust while my ubiquitous
BPM stats for your music	**library**	(only non-DRM files, unfortunately), and
loaded my iPod with my	**library**	, hundreds of new songs complete
usually what's in their iTunes	**library**	. Check out lyrics, lifestyles, and
not manage the IPod's Music	**Library**	well or at all (from
I just loaded my Christmas	**library**	onto the iPod in a
Christmas CD's into my iTunes	**library**	and I created about 8
life, I'm sharing a music	**library**	with someone. Old girlfriends never
music -- most of my	**library**	. (I don't bother exporting all
that I carry my entire	**library**	of songs with me anywhere
be said for housing a	**library**	of antiquated music media. OK
At the moment my iTunes	**library**	is 34.63 GB (which I
with random tracks from my	**library**	(it's all my music, so
removing songs from the music	**library**	when I want them off

imported my kid brother's whole	**library**	onto it, and although I
grab songs from your music	**library**	randomly. More often than not,
to copy my entire iTunes	**library**	of roughly 1,000 songs from
I then re-synched the iTunes	**library**	with my shiny new iPod
And I've got my iTunes	**library**	on my laptop, which travels
from Apple to spread that	**library**	onto five more computers, over

Figure 5: Find Concordances, "Listen"

110 entries found.

42 minute episode and still	**listen**	to a good 5 or
I was able to quietly	**listen**	to tunes all day/week! ;-)
other end, so I could	**listen**	in the car), and I
Then, because I wanted to	**listen**	to whole albums instead of
not befit the music I	**listen**	to. It is only locked
for a moment, and just	**listen**	. And not follow that
been rating the songs I	**listen**	to (1 star to 5
other playlist I tend to	**listen**	to in my car is
can (which is often), I	**listen**	to the iPod on low
changed what I tend to	**listen**	to the most? Well, first...not
mentioned above means I don't	**listen**	to full albums very often.
but as a whole I	**listen**	to individual songs from albums
to begin with, but I'd	**listen**	to the local Adult Alternative
enjoyable (and long, 67 minutes)	**listen**	, and it was a pretty
about what I want to	**listen**	to less, and I enjoy
□When I want to	**listen**	to music, either I'm at
configurations. And I almost always	**listen**	in shuffle mode anyhow.
¶ Experience □I	**listen**	to it through my Shure
has been exceedingly painful to	**listen**	to the "radio" or as

first I wasn't willing to	**listen**	, disturbed by the call to
I just didn't want to	**listen**	. I exerted all my effort
was, and you want to	**listen**	to what Grieg had to
have changed the way I	**listen**	to radio. To be more
be more accurate, I don't	**listen**	to radio anymore. It's all
is by far what I	**listen**	to most of the time.
has changed the way we	**listen**	to music as a culture.
has changed the way I	**listen**	. While my iPod is
about what I want to	**listen**	to when I work. I
meant that others had to	**listen**	to what I wanted. Now
don't bother anyone. I also	**listen**	in bed when I'm up
like being able to just "	**listen**	to music" instead of having
of our hand. We can	**listen**	to our favorite music whenever
no longer very difficult to	**listen**	to music their parents don't
the cassette. Now we can	**listen**	to a song 5, 10,
in a row. We can	**listen**	to the same CD repeatedly.
repeatedly. Is it wise to	**listen**	to any music constantly? I'm
unwise and potentially harmful to	**listen**	to some music repeatedly. (I
lives. We NEVER have to	**listen**	to music we don't like.
don't like. The music we	**listen**	to becomes an extension of
past. * Seek to	**listen**	to a broad spectrum of
of artists together. *	**Listen**	to music as a family.
that I would attempt to	**listen**	to my iPod from beginning
then that person has to	**listen**	to the whole thing. The
the people on the bus	**listen**	to her songs whether they
just need more podcasts to	**listen**	to.
I just don't want to	**listen**	to advertisements. I won't(!) listen
	listen	to advertisements. I won't(!)
I can pause one to	**listen**	to music for awhile, I

music for awhile, I can **listen** to them straight through. It's
up changing the way I **listen** to music. I used to
pop a CD in and **listen** to that. At one point
buying an iPod, I never **listen** to CDs. I have a
music I'd ever want to **listen** to in my car at
endless supply of stuff to **listen** to in the car. I
in the car. I rarely **listen** to the radio anymore. That
there, so they're what I **listen** to. When I first got
very much. I used to **listen** to it all the time
ways in which fans can **listen** to the music they've dropped
want to be able to **listen** to the music wherever they
there's music that I'll never **listen** to while traveling or in
in general, the drive to **listen** or the "invocatory drive," which
something huge. I didn't even **listen** to the entire song before
I can't decide what to **listen** to, it decides for me.
ometimes it's important--no, it's necessary--to **listen** to music that has no
for me today. Spoon-- [**listen**] "Don't Let it Get You
to own an iPod to **listen** to podcasts, just a computer.
then they are when you **listen** to them off a CD.
needle in place. 4. You **listen** . Of course you listen intently,
You **listen** . Of course you
is back. Though I **listen** to allot of Podcasts, watch
I may not want to **listen** to regularly, i.e. music inherited
on random shuffle. You may **listen** to Charlie Parker on the
music podcasts I'd like to **listen** to are "song of the
feeds do you like to **listen** to? Which artists have you
have control over what I **listen** to, rather than being subjected
I am hearing when I **listen** to Clap Your Hands Say
Young people like to **listen** to music as they wish.

change. They will want to	**listen**	to fiction book products and
with your boss. Many	**listen**	to audio products while jogging
safer and healthier for them.	**Listen**	to Dale Carnegie life training
Sure you can still	**listen**	to your valued music but
to his brilliance when you	**listen**	to his abridged or unabridged
is still there when you	**listen**	to an audio book being
good? I thought so!	**Listen**	to Carnegie and Stephen while
this little thing - I	**listen**	in my car [I bought
I can currently	**listen**	to music/books/podcasts for thirteen day
"When are you going to	**listen**	to all of that stuff?"
of my songs I don't	**listen**	to very often at all
quarter or an eighth I	**listen**	to over and over. But
my iPod more, I would	**listen**	to entire albums – for
neck; when I'm ready to	**listen**	again, I slip the silicone
make music videos. When I	**listen**	to certain songs, I see
player because I just don't	**listen**	to that much music. I
to select what tracks to	**listen**	to, and that it was
if you are going to	**listen**	to something and then delete
lot at the gym. I	**listen**	between class. To artists who
iPod. I think I'll go	**listen**	to my iPod now. And
I'll be bright blue and	**listen**	to my iPod. I'll be
longer take the time to	**listen**	to my cd player. I
my cd player. I just	**listen**	to my IPOD and go.
Looking for milk? Why not	**listen**	to a few tech-guru's discuss
out that long or even	**listen**	that long on the airplane.
More often than not, I	**listen**	to my iPod on shuffle,
Thing, since I could now	**listen**	to the radio — my
distant station, so I could	**listen**	to something other than NYC
luck convincing a six-year-old to	**listen**	to the shortwave, though!

quite sometimes, so I even **listen** to my iPod once I'm
my nice headphones and thereby **listen** to music completely untethered. In
the treadmill with nothing to **listen** to. Sometimes I exercise at
year. My father still doesn't **listen** to iPods or iTunes, and

Figure 6: Find Concordances, "Listening"

82 entries found.

to seek out dessert. After **listening** to "Forgive Me, My Little
the city. I found myself **listening** much harder to the lyrics
to connect what they were **listening** to with where they were,
a certain extent improving my **listening** experience and the experience of
to hear some other tosser **listening** to Justin Timberlake or other
my allowance. Buying and **listening** to CDs allowed me to
plugged in (because I'd been **listening** to the iPod in a
iPod was buggy. When first **listening** to it after syncing, it
my iPod. Most of my **listening** time recently has been spent
other effects. For one thing, **listening** to the "radio station" mentioned
only 10-20 albums in my **listening** rotation. I hadn't listened to
and I enjoy what I'm **listening** to more. I guess it's
limit when and where my **listening** pleasures could take place.
Apple store in Danbury CT **listening** to frat boy customer service
the next day. She nodded, **listening** , trying to hear. This incident
awakened state, I am finally **listening** . "I am a diamond
enjoyed watching the traffic and **listening** to my iPod, drinking my
my coffee. I've been **listening** to my iPod on the
privatization and personalization in music **listening** . Historically, the earliest music playing
might be a reaction against **listening** to one's own private playlists
try to be intentional about **listening** to music that is generated

but I have found that	**listening**	to my iPod is a
best thing is that I'm	**listening**	to music again. Don't get
me wrong, I never stopped	**listening**	but now, with earbuds, I'm
now, with earbuds, I'm really	**listening**	. The iPod allows me to
my time is now spent	**listening**	to tracks instead of albums.
that in my lifetime music	**listening**	has evolved from the radio,
Music Meditation: At one time	**listening**	to a song twice in
how much music they're actually	**listening**	to. * Don't allow
of 09.12.2006) I had been	**listening**	to Podcasts on my laptop
cutting it down further or	**listening**	on my laptop while I
I just kinda go down	**listening**	, skipping ones that I am
on their ipods and other	**listening**	devices, here are a couple
important to the experience of	**listening**	to music as the music
I haven't experienced Manjoo's distracted	**listening**	patterns, but I've known other
believe that all this iPod	**listening**	is creating a sickness. It's
soul. You keep walking around	**listening**	to all that stuff, it'll
as the wave of the	**listening**	future when it came out,
these days I say that	**listening**	to podcasts is now an
have not tried the podcasting	**listening**	experience I would say you
it's obvious that people are	**listening**	to MP3s before buying since
their now underused and overly-dusty	**listening**	post. "There has been a
record cover, looking at it,	**listening**	to the music, the actual
an expanding culture of mobile	**listening**	that replaces chance conversations with
by an iPod user when	**listening**	to music at high volumes.
approach better specifies an individual's	**listening**	practices as a complex amalgam
understanding the desirous act of	**listening**	should help to specify the
would chose as my first	**listening**	experience on my new iPod.
being able to control my	**listening**	experience but surprised even myself
be a great product for	**listening**	to mp3s, but let's face

putting on a record and	**listening**	that really makes the iPod
steps to make this music	**listening**	experience possible. OR
where I sat for hours	**listening**	to whatever stations I could
movies.... I often find myself	**listening**	to music. Allot of
portable device... or just start	**listening**	to music more often, and
Most of my iPod	**listening**	is in the car, or
been in the habit of	**listening**	to public radio (usually KQED
delete whatever I haven't been	**listening**	to, and search for new
factory line. I've just been	**listening**	to them either at my
suicide, or that I am re-	**listening**	to one of my own
can tell that I am	**listening**	to something. They can all
2007 'd been	**listening**	to the radio for a
I discovered when I started	**listening**	to the results. As far
get her attention because she's	**listening**	to yet another audible book
your brain and concentration and	**listening**	power to the point of
develop your own favorites. Your	**listening**	desires will direct you to
it's gone and i've been	**listening**	to old CD's for the
time in a car and	**listening**	to music on my ipod.
taken to the process of	**listening**	to my music on shuffle
and those who didn't about	**listening**	to an entire album. iPod
For myself, when I started	**listening**	to my iPod more, I
as they inexplicably recoiled from	**listening**	to the likes of Motorhead).
usual on my iPod when	**listening**	on shuffle. Seems I've struggled
letter of the alphabet, and	**listening**	to only one of their
while back he posted on	**listening**	to music on public transport
this worse. I find myself	**listening**	and sometimes that amuses me.
find that I like easy	**listening**	. I find that I like
files. It's not a passive	**listening**	device like the Toshiba was.
other than NYC radio. AM	**listening**	led to shortwave listening, and

AM	**listening**	led to shortwave
Treo for MP3 and podcast	**listening**	. But, I'm excited about the
should help. I remember	**listening**	to very large stereo systems

Figure 7: Find Concordances, "Record"

24 entries found.

to as I prepare to	**record**	vocals for other songs of
longer have CD cases or	**record**	cases lying around for their
a row meant moving the	**record**	arm over to the beginning
was not my intention to	**record**	any diary but upon second
When I was building my	**record**	collection, I frequently had to
leave the bag from the	**record**	shop on the front doorstep
distant ancestor known as the	**record**	collector? In our current
current iPod era, these so-called	**record**	collectors seem to have fared
the marketing decisions of many	**record**	labels show that the supposedly
supposedly dying format of the	**record**	industry still has some life
when most thought the vinyl	**record**	was becoming obsolete, vinyl sales
of paper slipped into each	**record**	. Label boss Dave Fawbert says:
likely to buy the physical	**record**	and become interested in the
Also, it seems that	**record**	collectors and many people in
of it - holding a	**record**	cover, looking at it, listening
only way to buy a	**record**	is to go get it
my new iPod. (For the	**record**	, I chose U2's "Where the
the 100g iPod, my entire	**record**	collection could fit on it.
want to take my entire	**record**	collection to Fiji? I think
act of putting on a	**record**	and listening that really makes
on the platter, grab the	**record**	cleaning brush and get all
able to take my entire	**record**	collection which had been assembled

thing as podcasts I would **record** streaming audio on my PC
to keep a careful written **record** of everything ... but I

Figure 8: Find Concordances, "Shuffle"

90 entries found.

choose a specific play list, **shuffle** through songs and much more
on the mercy of iPod **Shuffle** . I've been fascinated by the
I've been fascinated by the " **shuffle** " feature since I became too
frustration, and confusion. On occasion, **Shuffle** seems to be anything but
We could only hope that **Shuffle** would be up to the
were determined to acquiese to **Shuffle** 's demands. It started out
than slow ones and, because **Shuffle** is mean, or at least
Copeland. While "Milkshake" didn't play, **Shuffle** still compelled us to seek
light district. We thought, please, **Shuffle** , be merciful. Please, please, please
be a sad song... **Shuffle** played Jimi Hendrix's "Electric Ladyland."
Hendrix's "Electric Ladyland." Thanks, **Shuffle** . So we had no
I choose that addictive iPod " **Shuffle** " option, trusting that a random
iPod, iPod Nano and iPod **Shuffle** back in September. In this,
blame Apple. I bought a **Shuffle** a year or so ago
an iPod. ¶ The **shuffle** pushed me over the edge;
I almost always listen in **shuffle** mode anyhow. Shopping ❑
can get in, order your **shuffle** , specify the no-extra-cost inscription you
convenient place to hang a **shuffle** . The capacity is 1G
it up once. The iTunes fill-it-with-a- **shuffle** interface works fine, although the
I plug it in, the **shuffle** shows, not the solid orange
On one side of the **shuffle** there are tiny switches for
tiny switches for on/off and **shuffle** /sequential. The front has the famous
could be imagined. ¶ iPod **shuffle** But there's one obvious

snipped out of the Apple.com	**shuffle**	page; for this person, louder
Particularly if you're wearing your	**shuffle**	under your coat (like everyone
oriented, whatever weird angle the	**shuffle**	is at. I'm open
was figuring out how the	**shuffle**	worked, I plugged it in
12-minute walking commute home. The	**shuffle**	ramped up Solvejg's Song by
Apple music player called a "	**Shuffle**	". He said it was tiny
to becoming a Apple iPod	**shuffle**	user. Now, I should
favourite CDs into my little	**shuffle**	! Painless. Easy. Fast. Amazing!
is the whole idea of	**shuffle**	. When you set your entire
genre you can think of--on	**shuffle**	, that "soundtrack" becomes an incredibly
in a while, iPod and	**shuffle**	create a serendipitous union of
happened any other way. Plus,	**shuffle**	means random (or so they
I own a little iPod	**shuffle**	. I bought it solely for
Because I have an iPod	**shuffle**	, which switches songs at random,
discovered the joys of party	**shuffle**	a long time ago and
I just turn on party	**shuffle**	and I get a steady
part, though, is that with	**shuffle**	mode I never know what
real iPod (I had a	**Shuffle**	, though). Suffice it to
decided I wanted an iPod	**shuffle**	last night. Why? Well at
a refurbished 1st gen 512mb	**shuffle**	for $19 + s/h from
that it was an iPod	**Shuffle**	and iTunes found it as
my wife has a lowly	**Shuffle**	, and although it's only got
I encountered is that the	**Shuffle**	doesn't accept the AIFF format,
work well in the 4,161-track	**shuffle**	. Consequently I have not listened
am really enjoying the iPod	**Shuffle**	I got for Christmas. I
when you get an iPod	**Shuffle**	(or, I'm assuming, the regular
right. When you're using a	**Shuffle**	in the car, for example,
part of the whole iPod	**Shuffle**	experience is that these things
I won this iPod	**shuffle**	, and for the first time

I'm thinking of getting a	**shuffle**	to avoid cleaning my room
- Purchased the 512 Meg	**Shuffle**	(just because!!) 12. February 2005
a 1 Gig 2nd Generation	**Shuffle**	for a local United Way
the 2nd Generation 1 Gig	**Shuffle**	(that I use for fun
And I really love the	**Shuffle**	function. When I can't decide
other counterparts the Nano, the	**Shuffle**	and the Video Ipod but
mostly random nature of the	**Shuffle**	Songs button; I don't know
you have it on random	**shuffle**	. You may listen to Charlie
bought my wife an iPod	**Shuffle**	for her Christmas this year
for size comparison: iPod	**Shuffle**	vs. a 20 cent coin
I reckon even the iPod	**Shuffle**	is pushing the limits there.
iPod, a 1GB second generation	**Shuffle**	my mom gave me for
way) was another fun music	**shuffle**	morning. It started out with
that, but here's this morning's	**shuffle**	playlist (there were also some
listening to my music on	**shuffle**	and if I feel like
adjust the volume when the	**shuffle**	setting on my iPod juxtaposes
So whether it's a Nano,	**Shuffle**	or Mini - black, white
my iPod when listening on	**shuffle**	. Seems I've struggled to find
struggled to find songs in	**shuffle**	that match my mood. So
their iPods via a short	**shuffle**	session. I'm new to the
period of time and hit	**shuffle**	. So far, I've added perhaps
to back. Here's my first	**shuffle**	, or at least the first
brought my 1st generation iPod	**Shuffle**	along to use. The stupid
thread it looks like the	**Shuffle**	is dead. I won't buy
hours of music on my	**Shuffle**	so this is just unacceptable.
was considering getting an iPod	**shuffle**	just because it is so
and reviews of the orange	**shuffle**	came out, I knew I
Most people think that the	**Shuffle**	's competitive pricing makes it almost
I still use, the new	**Shuffle**	looks teeny. Standing alone,

invested in the new iPod	**shuffle**	for trip to Australia. The
day after I bought the	**shuffle**	5 new ones were released.
am really happy with the	**shuffle**	. First, it is tiny.
need the gym) The new	**shuffle**	is the size of a
listen to my iPod on	**shuffle**	, so this is just a
without my computer.) Finally, the	**shuffle**	is like life, I never
the design of the first-gen	**Shuffle**	, which I have. ShuffleIt has
me a new, RSS-orange iPod	**shuffle**	for Valentine's Day yesterday, and
I don't have an iPod	**Shuffle**	or an iPod Video device

Collocates

Figure 9: Find Collocates by Frequency, "Experience"

Summary: There are 180 unique words other than those in the stop list, there are 252 words other than those in the stop list. There are 598 words in total including the stop words.

Words	Counts
Ipod	11
New	9
Music	9
Listening	7
Apple	6
Great	4
Need	3
Got	2
Don't	2
Personal	2
Text	2
Good	2
Products	2
Terms	2

Definitely	2
Mac	2
Say	2
Having	2
Itunes	2

Figure 10: Find Collocates by Frequency, "Listening"

Summary: There are 260 unique words other than those in the stop list, there are 350 words other than those in the stop list. There are 821 words in total including the stop words.

Words	Counts
Music	17
Ipod	16
Experience	7
It's	5
I'm	4
Time	4
Radio	4
I've	3
Like	3
Just	3
Say	2
Earbuds	2
Car	2
Shuffle	2
Podcasts	2
Thing	2
Spent	2
Albums	2
Ones	2
Mp3s	2

Havent	2
Help	2
Started	2
Buying	2
Laptop	2
Really	2
Record	2
Hear	2
New	2
Led	2
Public	2
Ive	2
Shortwave	2

Figure 11: Visual Collocator by Frequency, "Experience"

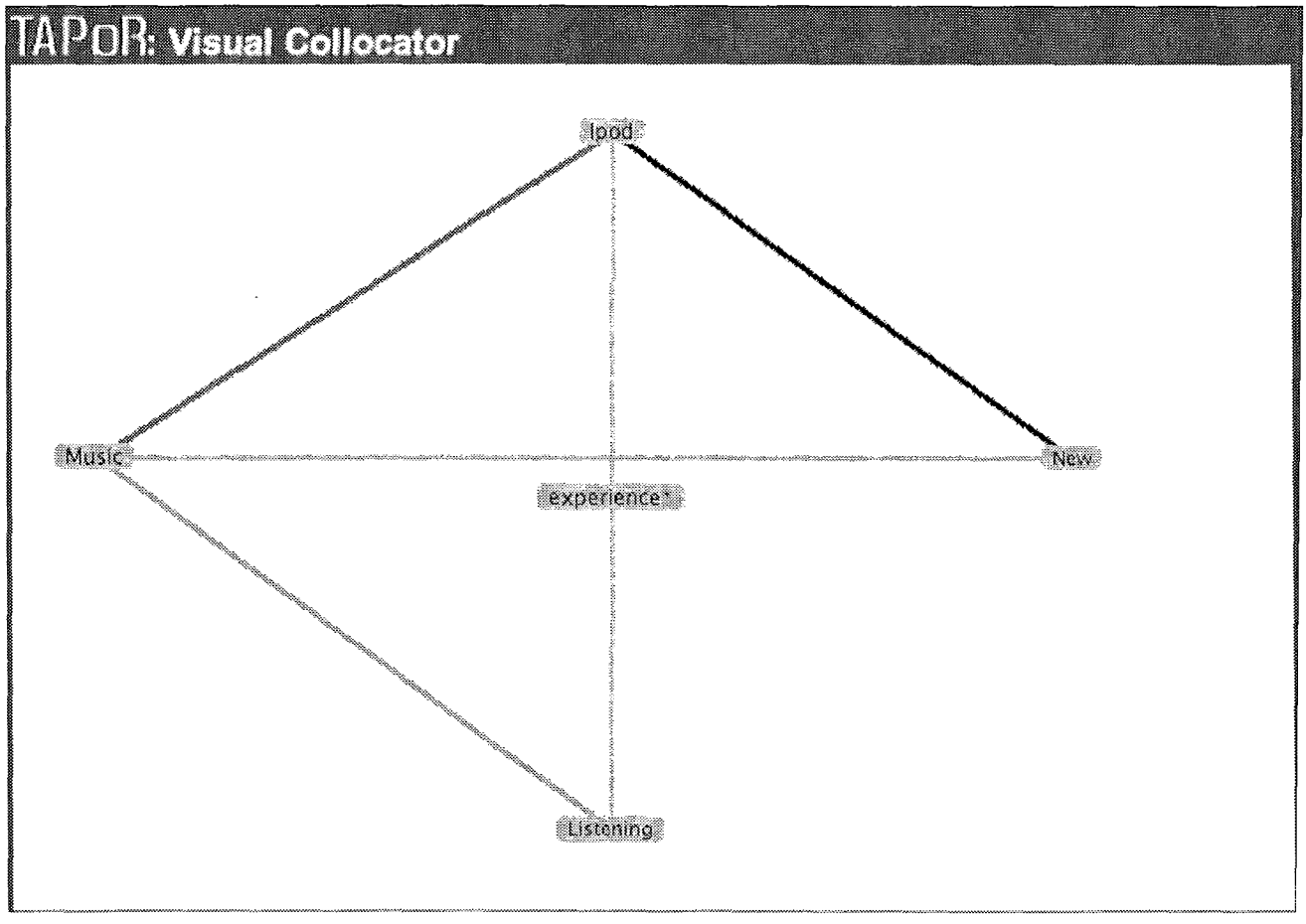
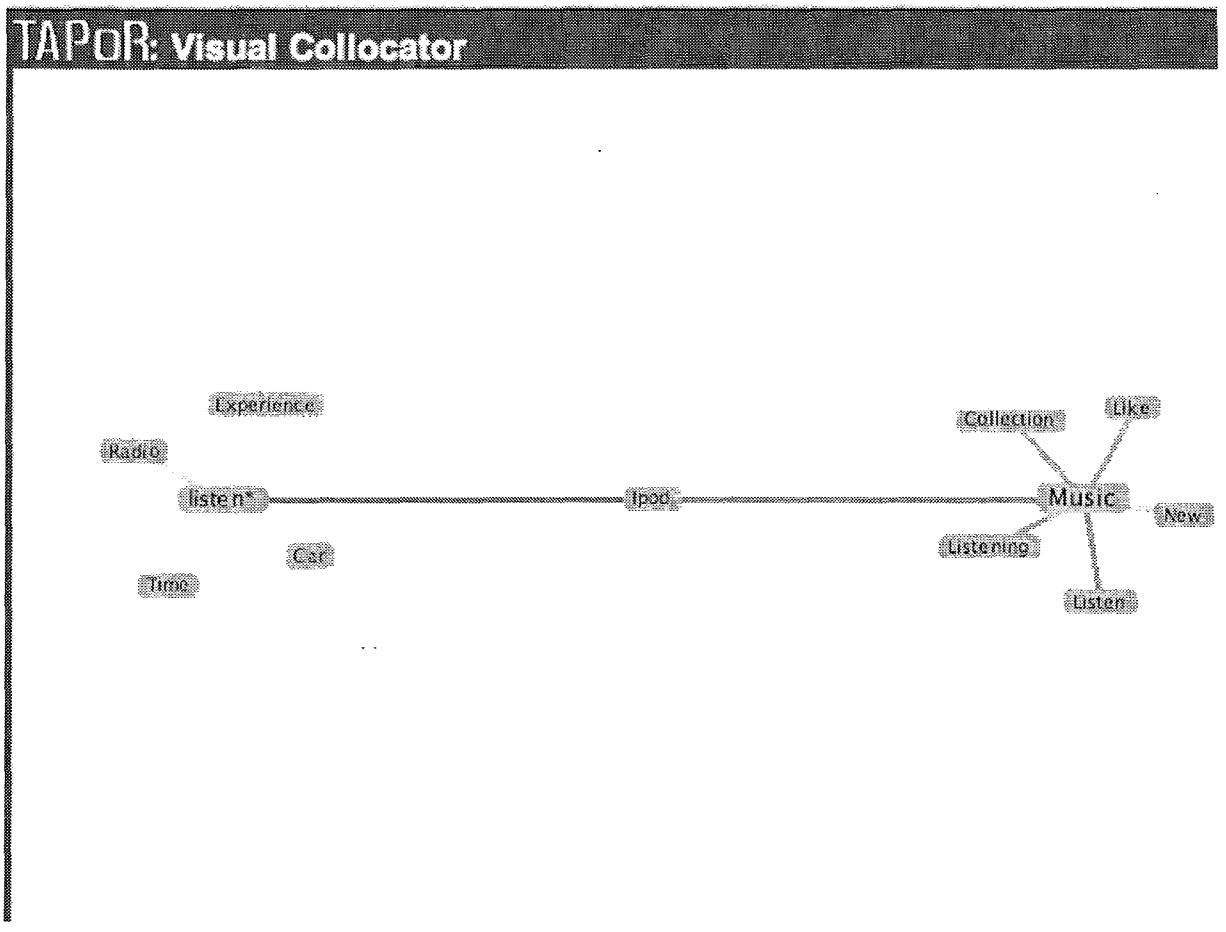


Figure 12: Find Collocates by Frequency, "Music, Listen"



Appendix B: Background Examples

Figure 13: Example of an XML Record (excerpt from Corpus)


```
<?xml version="1.0" encoding="utf-8"?>
<Xcorpus>
<Xitem>
<Xlabel>My First iPod!</Xlabel>
<Xdate>2004</Xdate>
<Xtext>
I just found a wonderful surprise under Susanne's parents' Christmas tree
-- my very own iPod. I can't believe Susanne got it for me. She'd hinted
that she was getting something "a little expensive" and wasn't sure what
to do; I had feeling she meant and iPod, but I discouraged her from
getting it. So I was totally shocked when I opened an enormous Williams
Sonoma box and found the iPod hidden at the bottom.

She got me the 20 gig model, which can hold around 5,000 songs. I'm
particularly excited because I want to use it for storing digital photos
while I'm traveling, and for recording podcasts. As strange as it sounds, I
actually posted my first podcast before owning an iPod, so having one
will make podcasting even more productive -- and more fun.... -andy
</Xtext>
</Xitem>
<Xitem>
<Xlabel>Taking Advantage of the iPod Experience</Xlabel>
<Xdate>2005</Xdate>
<Xtext>
Music lovers have been carrying around radios and other
bulky music devices in order to take their tunes along with
them as they go from place to place. With the iPod - a
portable unit that's manufactured by Apple - the music
experience offers a higher quality in a much more compact
size.

The iPod will allow your personal music selection to be
played for up to 12 hours at a time, and offers the
additional perks of games and the ability to store files.
Up to 5,000 songs can be stored within a standard iPod,
providing instant access from wherever you happen to be at
the moment. Whether you're in the office, going for a
stroll, in the car or around the house, iPod is the
```

solution for your contemporary music needs.

Among the features of the iPod are the ability to choose a specific play list, shuffle through songs and much more - all with the click of a button. Users even have the option of importing their favorite songs from CDs, and music can be transferred in a variety of formats, such as MP3 or AAC. If you opt for the FireWire and USB 2.0 support, you can transfer music from a CD in less than five seconds.

The capability of the iPod also includes that of calendaring, contact lists, notes and a musical alarm clock variation that will wake you up to your favorite song in the morning. With the ability to carry up to 30GB of storage (in some models), this little unit can be used for far more than just music. Think of it as an electronic briefcase of sort. Files can be taken anywhere at any time; memos can be used as reminders to yourself; even interviews can be accomplished when using the microphone option, with the ability to then utilize those audio files in a documentary format.

For those who have the need of menu items in another language, the iPod accommodates settings for English, Italian, German, Spanish, French, Japanese, Norwegian, Danish, Dutch, Swedish, Finnish, Korean, Traditional Chinese and Simplified Chinese. In fact, there are a number of iPod models, such as iPod mini, iPod, iPod Special Edition and iPod Photo. Depending upon its capabilities, each comes with a designated amount of memory, beginning with the 4GB mini iPod to the 30GB iPod Photo.

In addition to the device itself, the iPod offers a complete line of accessories, including a dock kit, camera connector, power adapter, car cassette adapter, auto charger, FM transmitter, travel pack, car holder, media reader, in-ear headphones, voice recorder, cabling and more.

All in all, if your day isn't complete without music - and you could also use the ability to transfer files, check

your calendar, keep a contact list and do other office-related functions in a portable capacity - then the iPod would be a good investment for you. Prices may vary, depending upon the retailer and model type, but these can easily be purchased via the internet for those who don't mind a brief search engine task.
</Xtext>