

SOUND, REPRODUCTION, MYSTICISM: THOMAS EDISON AND THE MYTHOLOGY OF THE PHONOGRAPH

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Abstract: This paper examines texts written about the phonograph from the time of its invention in 1877 up to about 1890, a period when its existence was common knowledge but before it became a fixture in public life. During these years of public scarcity, many authors, in particular Thomas Edison speculated on various utopian transformations that the phonograph might effect on society. These texts were often presented as scientific discourse, but at the same time included frequent references to classical mythology and mysticism. I argue that these references to myth and mysticism are more than superficial rhetorical flourishes, and that at a deep level these texts function as mythopoeia, a kind of fabricated mythology with a clear and consistent thematic structure. I describe this structure and show how authors deployed it to support a utopian cultural agenda. Through another body of contemporaneous texts I also identify complimentary patterns of cultural anxiety that, while seemingly written in opposition to the “utopian” texts, rely on the same engagement with myth and mysticism and incorporate many of the same themes.

Keywords: Phonograph, Edison, Myth, Sound, Technology.

SOM, REPRODUÇÃO, MISTICISMO: THOMAS EDISON E A MITOLOGIA DO FONÓGRAFO

Resumo: Este artigo examina textos sobre o fonógrafo desde o momento de sua invenção, em 1877, até aproximadamente 1890, período no qual a sua existência era amplamente conhecida mas antes de tornar-se um acessório na vida pública. Durante estes anos de escassez pública, vários autores e em particular Thomas Edison, especularam sobre as várias transformações utópicas que o fonógrafo poderia ter sobre a sociedade. Estes textos foram frequentemente apresentados como discurso científico, mas, ao mesmo tempo, incluíam referências frequentes à mitologia clássica e ao misticismo. Discuto que estas referências ao mito e ao misticismo são mais do que floreios retóricos superficiais, e que, em um nível mais profundo, estes textos funcionam como mitopoeses, um tipo de mitologia fabricada com uma estrutura temática clara e consistente. Descrevo esta estrutura e demonstro como autores a desenvolveram para apoiar uma agenda cultural utópica. Por meio de outro corpo de textos contemporâneos também identifico padrões complementares de ansiedade cultural os quais, enquanto aparentemente escritos em oposição aos textos “utópicos,” se apoiam sobre o mesmo engajamento com o mito e misticismo e incorporam muitos dos mesmos temas.

Palavras-chave: Fonógrafo, Edison, Mito, Som, Tecnologia.

Story as Invention

For a machine that generated unprecedented interest around the time of its invention, the phonograph initially didn't make a lot of noise. Although news that Edison had successfully recorded sound began to circulate during the summer of 1877, most people would wait a very long time to hear it. For many months the only way to witness the phonographic miracle outside Menlo Park was by attending private demonstrations limited to a select group of scientists, journalists, politicians, businessmen, and other people of influence. Limited public exhibitions began gradually during the first

half of 1878 under the auspices of the newly formed Edison Speaking Phonograph Company, but these were tightly controlled events and limited by the fact that relatively few exhibition instruments were built. After initial interest in the new invention died down, it languished for another decade before Edison announced his “perfected phonograph” in 1888. Still more time passed before Edison’s phonograph and other methods of sound reproduction became public fixtures through “concerts” and the proliferation of coin-slot phonographs during the 1890s (Musser 1990, 56-62). In the intervening years phonographic devices were, to a large extent, publicly inaudible.

The sonic vacuum surrounding the “talking machine” quickly filled with other voices. Even before its first private demonstration, a slew of speculative articles, letters, and essays penned by journalists and curious members of the public appeared, most of them responding to technical drawings or second hand accounts of exhibitions. From the very beginning, it seems, people told stories about the phonograph. As the New York Times put it:

Indeed, the imaginative and the inventive have entered so much even into descriptions of the instrument and accounts of its experimental working, that some matter-of-fact people have been disposed to question its actual existence, and to regard it as a myth concocted by enterprising reporters. (“Practical Uses of the Phonograph,” April 28, 1878)

These words could easily have been written about another of Edison's mythical inventions, one that also famously failed to materialize many years later. In 1920 during an otherwise routine interview the inventor confided that he was constructing an “apparatus” that might intercept communications from the afterlife, or what he described more strictly as the personality-residues of the dead (Forbes 1920). Newspapers dismissively dubbed it the “spirit

phone" ("French Fancy Busy on Spirit Machine" 1920) and following a flurry of publicity it was largely forgotten. No plans were ever found, and the whole episode is generally regarded as a quirky (and perhaps embarrassing¹) footnote to the story of a great American inventor ("The Psychophone" 2009).

But whether or not Edison seriously considered building it, the story of the spirit phone can tell us much about the role of public discourse and scientific texts in shaping the social meaning of real inventions. The story is a rare example of discourse as technology—a narrative without a machine—one that shares many resonances with the various stories told about the phonograph. Besides the fact that both were described as mythic objects, the spirit phone and the phonograph had much in common. The spirit phone was apparently something like a hyper-sensitive sound recording device (Desmond 1922; Armagnac 1927; Sconce 2000, 82), and the idea of communion with the dead was also popular in early writings about the phonograph². Skepticism and disbelief in the phonograph were expressed just as they were for the "apparatus," and both machines were surrounded by controversy and remained out of the public eye and ear following disclosure of their existence (in the case of the spirit phone, permanently).

In this paper I argue that like the spirit phone, the phonograph was indeed mythic; or to put it another way, its social context—how it came to be understood, how it was used, even what it was and how it functioned—was to a large degree created by the kinds of stories that were told about it. By examining the form that these stories took, who

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- 1 For the record, there is some evidence that Edison was interested in phenomena, such as telepathy, that might be considered pseudoscience today (Conot 1979, 428).
 - 2 For example *Scientific American* wrote: "We have already pointed out the startling possibility of the voices of the dead being reheard through this device..." ("The Talking Phonograph" 1877:300).

told them and how, a complex picture emerges of the changing relationships between science, myth, and the status of inventors during the late 19th century.

The Myth of the Spirit Phone

James Lastra has shown that many seemingly far-fetched scenarios involving the phonograph or other inventions entertained in “vernacular discussion” of the late 19th century were part of a public process of imagining the social context and reception of the new devices (Lastra 2000, 16-21). On the other hand, myth, to use Bernard Dupriez’s definition, is a “symbolic narrative in which characters, speeches, and action aim to establish a balance in spiritual and social values in which there is room for everyone and which offers an interpretation of human existence” (Dupriez and Halsall 1991, 292). I propose that many texts written about Edison’s phonograph incorporate a bit of both; they are certainly attempts to initiate or manage cultural change, but beyond being merely persuasive, at a deep level they function more like traditional mythology.

The story of the “spirit phone” will help to illustrate my point. In the interview mentioned above as well as many others, Edison framed its announcement with a complex “theory of life units,” in which he postulated the immortal existence of “swarms of intelligences,” microscopic entities that composed all living matter. In the case of humans, these minute entities carried a trace of the personality of the complete individual. If these “intelligences” were able to survive the death of an individual human, Edison proposed that it might be possible to intercept communications from them. Given the fact that he seems to have had no intention of ever constructing such a machine, and considering the amount of trouble his apparently false disclosure caused him, why did Edison construct such an elaborate

story, one he repeated insistently in a series of interviews in the early 1920s (Forbes 1920, Rothman 1921, Desmond 1922) and never publicly retracted³? Considered as part of scientific discourse, the incident was problematic for Edison; but read as myth, the story of the spirit phone and the theory of life units begin to make sense.

Anthropologists and literary theorists have proposed many possible explanations of the social function of mythology. To summarize some of the most common ideas: First, through metaphor, allegory, or symbolism, mythologies negotiate changes in societal customs and practices (Doty 2004, 3); Second, myths define nature and articulate humanity's relationship to it (Andrews 2000, xi); Third, mythologies offer a worldview, a logical and comprehensive structure for understanding the known universe that can accommodate and explain confusing, frightening, or painful experiences, thus mollifying anxiety (Stambovsky 1996, 68; R. A. Segal 1999, 45; Hatina 2008, 18); Finally, myths offer the hopeful possibility of a better (although usually remote) form of existence, for example the religious idea of heaven (Coupe 2009, 9).

Edison's theory satisfies all of these conditions to an extent. It attempts to incorporate scientific, rational thought into existing human belief systems; defines a natural process (life and death), and explains how humans fit into it; and offers a comprehensive theory of existence for all living things. Perhaps most importantly, both the theory of life units and the promise of the "apparatus" were in part an

3 Several years later the *New York Times* reported a comment from an anonymous associate claiming that "the whole thing was a hoax" ("Edison Now Admits the Soul May Exist" 1926), although it seems Edison himself never publicly disavowed or retracted his statements about the device. Staff at Menlo Park spent a great deal of time responding to inquiries about the machine from all over the world, but according to Douglas G. Tarr of the Edison National Historical Site, neither the machine nor any plans have ever been found (Martinelli 2004, 36-7).

attempt to make sense of the incomprehensible suffering caused by the First World War, as Edison himself stated:

I was thinking of the war and the cruelty of nature. Billions of human prayers have been sent up, yet without apparent results. Millions have died. Malignant cruelty was apparent. I thought there might be a way of determining whether nature is as cruel as she appeared... Somebody has to explain this problem. Somebody has to start working on it scientifically. (Rothman 1921, 6)

Papering over gaps in his theory that could not be explained by scientific knowledge of the time, Edison improvised a complex hypothesis of the cycle of life and death—to all intents and purposes, a sophisticated reincarnation myth. The theory of life units is part of a much larger body of texts in which authors combine science with *mythopoeia*, fabricated myths or underlying mythic themes that attempt to create a logical framework for dealing with anxieties arising from real or anticipated cultural change.

Primary Texts

Phonograph mythopoeia was constructed in novels, poems, philosophical essays, short stories, correspondence published in newspapers and journals, and interviews (with Edison and others), as well as popular science journals, a type of publication that emerged during the nineteenth century and which by the 1920s numbered more than 10,000 titles globally (Young, 2002). The sudden explosion of these journals meant that hitherto private discussions among professional scientists were now conducted in public for the entertainment of a non-specialist audience. The readership of these magazines could directly contribute to debates and discussions about

new technologies, but more importantly the scientific community, in particular the newly ascendant industrialized sciences of which Edison was a figurehead, had a forum through which to influence public opinion on new inventions or innovations. Beyond writings that immediately concern the phonograph, a body of works described by historian Howard Segal as “technological utopian” literature deserves mention. Technological utopianism was “a mode of thought and activity that vaunts technology as the means of bringing about utopia” (H. P. Segal 2005, 10). Although these texts do not specifically concern the phonograph, Segal’s analysis helps to illuminate many themes shared with phonograph mythopoeia.

All of these texts blended science and myth in novel and entertaining ways, and the boundaries between the two were usually blurred. As Segal shows, “technological utopian” writers all described similar kinds of utopias, whether fiction or non-fiction. All used the same matter-of-fact, rational voice, and presented their ideal societies as entirely plausible, even the most fanciful ones (H. P. Segal 2005, 19-21). Popular science journals, along with mainstream newspapers and periodicals, did much more than publish news and information about scientific discoveries. They also contained a large amount of speculative or outright fantastical material, and became the primary forum for disseminating, discussing, and contributing to the growing body of texts concerning the phonograph.

Phonograph Mythopoeia

Phonograph mythopoeia was based on a powerful literary strategy (shared with many other scientific texts of the same era including the technological utopian literature) whereby content laden with rich symbolism and nature metaphors was narrated in a

detached and ostensibly neutral voice. Many authors displayed a detailed knowledge of classical mythology; frequently invoked themes or figures included the Veil of Isis (“Phonomine, Autophone, and Kosmophone” 1878), the legend of Prometheus (Landon 2002, 42), and the Judeo-Christian creation myth (Morton 2000, 2). In contrast, the preferred narrative type was the “observer,” an impersonal presence who started to appear in scientific texts of the 18th and 19th centuries. Modestly communicating facts to the reader, the observer formed part of a style of writing that Scott Montgomery calls the “scientific voice.” Constructions like the passive voice (“it will be shown,” “as can be seen”) and the universal pronoun “one” constituted a “range of first-order, nonnegotiable grammatical codes [that] also serve as conventions for the blank face of the narrative persona” (Montgomery 1996, 13). With these constructions writers obscured their own voice, a process Montgomery describes as the “literary nullification of the self” (106). This obfuscation of the individual narrator created a powerful sense of authority, allowing writers to present observations or opinions as inherent truths purged of “any overt traces of both a private and a social process”; the reader was presented with “Truth, not a claim for it; the Scientist, not a particular individual; Data, not writing” (13).

As William Stahl shows in “God and the Chip,” the bland rationalism of the scientific voice conceals an ideological process, a deeper structural engagement with myth and mysticism than occasional references to classical mythology in these texts suggest (Stahl 1999, 2). The mysticism in texts written about the phonograph is ignored or passed off as superficial rhetoric, just as stories like Edison’s spirit phone are ignored or forgotten. I agree with Stahl that myth plays a far deeper role in scientific texts of this era. Writers such as William Blake and W. B. Yeats also incorporated fabricated mythologies into works of intricate fiction; conversely, in scientific mythopoeia, the underlying mythology is hidden under the neutrality

of the “observer,” with literal references to myth and mysticism disguised as little more than superficial rhetorical flourishes. On closer examination of these scientific texts, however, these coherent and more substantial themes do emerge. Seldom expressed as complete “stories” like the theory of life units or traditional myths, they appear fragmented across multiple sources and texts. Some themes recall existing mythologies, while others are uniquely modern, specifically geared to the idea of technological progress.

Thomas Edison: Alchemist, Faber, Mythologist

Myths require godlike characters, “beings who embody ... forces of nature, aspects of genius or of the human condition” (Dupriez and Halsall 1991, 293), and the political and social situation in post-civil war America helped to provide them. As W. Bernard Carlson remarks, during the 1870s, under the influence of a combination of factors including the aftermath of civil war, the strains of adjusting to the occupation of new territories, a shaky political situation, and general strikes and labor unrest, the American public “may have shifted their hopes for progress from social and political institutions to invention and science”. Around this time, the invention of the phonograph seemed to stoke confidence in the ability of science to overcome social upheaval. As one commentator remarked: “The invention has a moral side, a stirring optimistic inspiration. ‘If this can be done,’ we ask, ‘what is there that cannot be?’” (Carlson 2001, 44).

As Theresa M. Collins and Lisa Gitelman note, “In the context of such strife, the figures of inventors like Edison and Bell sounded a reassuring note...Their dazzling achievements suggested a better, shared future, guaranteed by technological change, which was

dressed up and saluted as ‘progress,’ a hopeful abstraction to answer any doubts about the future” (Collins 2002, 11-12). Anything seemed possible, and engineers were invested with divine powers: “Americans... regarded engineers as demigods who performed feats previously deemed impossible... One engineer, when asked about his work draining the Florida Everglades, said, ‘God didn’t finish his work down here so we are doing it’” (Miller 2012, 144). They enjoyed unprecedented celebrity and their opinions on a wide range of topics were frequently solicited, their words “taken as gospel” despite being far removed from their own fields of expertise (H. P. Segal 2005, 172). Thus inventors and engineers became a source of inspiration for a society in the midst of a painful transition, and were one of the principal forces driving America towards the territorial, military, economic, and social aspirations expressed in the popular concept of “manifest destiny.”⁴

A “master of public relations” who in his youth ran a successful newspaper business, Edison skillfully engineered his public persona, presenting himself as a self-educated hero who pushed the boundaries of science but still embraced old-world values (Moran 2003, xviii). Edison followed stories of himself and his inventions closely, and read newspapers for several hours every day (Baldwin 2001, 287). The phonograph marked an important shift in Edison’s public status, a kind of apotheosis from famous and respected inventor to the “Wizard of Menlo Park.” He began to resemble certain archetypal mythic characters like the alchemist or *homo faber*, a character in metallurgic societies who is granted divinity after manufacturing tools or weapons for the gods. For historian of religion Mircea Eliade, the apotheosis of the *faber* or divine smith “presages his

4 In 1870 the United States became the world’s biggest economy, and achieved the highest per capita income by 1900 (Bodvarsson and van den Berg 2009, 243). This went along with territorial and military expansion in the years leading up to Spanish American War (Tucker 2009, 339; Healy 1976, 43). For further discussion see David S Heidler & Jeanne T Heidler *Manifest Destiny* (2003).

supremacy in the industrial ages to come” (Eliade 1978, 101). Neil Baldwin writes that “no article on Edison is constitutional without an allusion to the theft of fire from heaven” (Baldwin 2001, 398), and summarizes some of the many mythic references from eulogies written for the inventor following his death: “One of our Immortals”; “Conqueror of the Unknown”; “Foremost Among Creators”; “By his work we know him”; “If we had a mythology, Mr. Edison would be placed in that gallery of gods which includes Prometheus”; “Prospero is dead” (408-409).

An Invention without a Story

It is often forgotten that the phonograph was only ever half-finished. The first half, capturing and storing sounds, was supposed to be completed with another device that would transcribe those sounds into written language. After the problem of speech transcription proved more difficult than anticipated, Edison satisfied himself with a device that recorded and played back sound (Morton 2000, 1-3), so the phonograph entered the public sphere as an incomplete machine without a clear function—an invention in need of a story. A public that had been expecting something more like a modern speech-to-text application now had to be convinced of the utility and relevance of an essentially different device.

Edison initiated this process by penning two essays, “The Phonograph and Its Future” and “The Perfected Phonograph,” which responded directly to public speculation (Morton, 2000, 3, Lastra 2000, 17). He followed their dissemination carefully by cutting out copies from various publications and pasting them in scrapbooks⁵.

5 The scrapbooks can be viewed through the digital archive of the Thomas Edison Papers, for example see the *Miscellaneous Scrapbook Series 1876-1878* (The Thomas

“The Phonograph and Its Future” became one of the most widely read and syndicated documents ever written by a scientist or inventor (Miller 2012, 144).

Edison’s essays about the phonograph are an entertaining mixture of science and colorful rhetoric, especially when compared to his rather prosaic efforts on the topic of the (arguably much more useful) incandescent light, published during the same decade (Edison 1880, Edison 1889). The first essay proposes little in the way of new information, technical or otherwise; Edison had already described most of the possible uses for the phonograph in interviews and other articles published well before May 1878⁶. Faced with the problem of merely restating the phonograph’s mechanical principles, Edison set a reverential tone by presenting his technical description as a series of rhetorical question and answer statements that resemble Christian catechism. Although promising to focus on actualities, the remainder of the essay is exclusively devoted to predicting what the phonograph would enable society to accomplish.

Most importantly, Edison cleverly turned the phonograph’s lack of utility to advantage by stating that it was not a machine in the usual sense but rather a mechanical realization of a “universal principle” with almost limitless applications. Freed from the social specificity of the unrealized telephonic transcription device, Edison re-imagined the phonograph as a kind of mythic object that would soon appear everywhere and transform daily life. Ten years later, with his second essay Edison announced the arrival of the “perfected phonograph;” but it contains only a single paragraph describing improvements upon the earlier, less-than-perfect phonograph⁷. Instead, Edison amplified his concept of the phonographic principle to

Edison Papers 2010).

6 Precise descriptions of the mechanics of the phonograph, as well as all of Edison’s proposed social applications, are found in three interviews with *Scientific American* (“A Wonderful Invention” 1877, “The Talking Phonograph” 1877, “The Speaking Phonograph” 1878).

link it to everything from the most contemporary topics in science, philosophy, mathematics, music, and ancient history (Edison 1888, 641-2).

Primacy, Surrogacy, Transcendence

Three central themes stand out in Edison's nascent phonograph mythopoeia: First, the essay suggests primeval origins for the phonograph; Second, the title of the essay suggests an entity with its own destiny, a kind of technological anthropomorphism oddly similar to the Romantic personifications of nature that John Ruskin had criticized as "pathetic fallacy" several decades earlier (Rosenberg 2000, 61-72); Third, the machine offered the means for society to transcend various imperfections and achieve a utopian state. These themes, which for convenience I will label *primacy*, *surrogacy*, and *transcendence*, appear repeatedly in a large number of texts from various sources⁸.

Historians of myth have argued that assigning primeval origins to myths provides a powerful means of validating cultural phenomena of many kinds (R. A. Segal 1999, 44). Similarly, Edison described sound reproduction as a "universal principle," something so fundamental and simple that it he came across it "almost accidentally;" recording was like an ancient elemental process that had finally been unlocked (Edison 1888, 642). Several other ideas supported the theme of phonographic primacy: the inherent simplicity of the phonographic principle, the notion of sound as a kind of physical substance, and the

7 The two main improvements were an electric motor and a return to the wax cylinders used in the original experiments instead of tin foil (Edison 1888, 644).

8 My mythic themes of "primacy" and "surrogacy" owe much to James Lastra's tropes of phonographic "inscription" and "simulation" (Lastra 2000, 16-60).

idea of phonography as “sound writing,” an autographic transcription of nature.

The phonographic mechanism was straightforward enough for almost anyone to understand, and journalists seeing the invention for the first time, struck by its mechanical simplicity and lack of electricity, questioned why it had not been invented earlier (cf. “The Speaking Phonograph” 1878). Unlike the telephone, they could describe the mechanical logic of the phonograph to readers without resorting to technical language (cf. “Telephones and Their Use” 1877). This simplicity seemed to support the idea that the phonograph had not been invented but discovered, a mechanical embodiment of a natural phenomenon.

Sound was understood as a natural substance like water or air that could be gathered and stored up for future use, prompting humorous descriptions of sound connoisseurs using the phonograph to “bottle up” speeches or other types of sounds (“The Phonograph” 1877). Sound waves were an audible part of a larger primordial phenomenon described by wave theory, as early phonograph theorist Rudolph Lothar wrote: “Rhythm is the most supreme and sacred law of the universe; the wave phenomenon is the primal and universal phenomenon” (Kittler 1999, 71). Edison emphasized the phonograph’s connection to this “natural” phenomenon, writing that recording sound waves was like “the tide ... recording its flow on a sand beach,” and in recording music and the speeches of “great men,” the phonograph captured the “poetry” of sound (Edison 1888, 645-6). By recording super- and infra-sonic sounds and rendering them in the audible range, the phonograph could also reveal the inner workings of the universe (1888, 642).

The theme of surrogacy comes from the understanding of the phonograph as a “talking machine” linked to earlier forms of speaking automata. In October 1878, more than a year after its invention, a

certain M. Bouillard invited ridicule from his learned colleagues when he contested the existence of the phonograph at a meeting of the Paris Academy of Sciences. Bouillard made the simple point that the phonograph could not possibly “talk,” since talking also implied thinking (“Not a Thinking Machine” 1878). The idea that the sound of the voice could be detached from the act of thinking was evidently a strange one, and the intuitive association of speech with thought informs the theme of surrogacy; as Edison wrote, hearing recorded speech on the phonograph was “just as if the machine itself were speaking.” (1888, 643). Speech was only one aspect of phonographic surrogacy; through a carefully crafted repertoire of quasi-human behaviors, exhibitors of the early phonograph, including Edison himself, presented it as a social entity that sang, joked, told stories, listened, memorized, and pranked hapless skeptics (cf. Feaster 2001, 74, “The Speaking Phonograph” 1878, “The Talking Phonograph” 1877).

Howard Segal identifies what I call the transcendent theme in “technological utopian” texts of the late nineteenth and early twentieth centuries, which emphasize harnessing the power of science to transform society and control nature (H. P. Segal 2005, 24). The utopians did not consider themselves romantic dreamers and insisted that their predictions were valid and inevitable (21). Comparably, phonograph mythopoeia did not promise heaven, or hope for a better but distant future—it insisted that the future had all but arrived, and that the phonograph was about to transform society at the present time. Many texts included prophecies where technology enabled power over nature and a more orderly society. One *New York Times* columnist predicted an “era of the phones” where phonographic devices were “...destined to give us a complete mastery over all the sounds of nature” (“Phones of the Future” 1878). Phonographic technologies would unlock the secrets of the universe by recording previously inaudible sounds like the movements of the

smallest insects, the motion of atoms, the sounds of environmental processes such as the growing of grass, or mythical sounds like the music of the spheres. Just as angels “[mediated] between the realm of the sacred and the profane realm of time and space” (Doniger 1999, 55), the Gramophone Company logo’s angelic scribe suggested that the phonograph would too. Sound would also become a means of social control, performing somewhat less joyous functions like noise management, punishment, and torture (“Phones of the Future” 1878). In a similar vein, technological utopian authors “assumed that technology would solve other, more recent and more psychological problems as well: nervousness, rudeness, aggression, crowding, and social disorder, in particular...” (H. P. Segal 2005, 21).

Several ideas supported the theme of transcendence in phonograph mythopoeia, which I label immortality, universality, and faithfulness. Phonographic immortality was boldly announced in the very first description of the phonograph in a letter to *Scientific American* by Elridge Johnson: “Speech has become immortal” (“A Wonderful Invention” 1877). For Johnson, preserving the voice after death and enabling the living to hear it granted a kind of immortality to the speaker. Immortality became one of the most potent phonographic myths, and for generations of listeners “Phonographic devices offered not an encounter with a machine, but a kind of spiritual communion” (Wurtzler 2009, 124). Advertisements for various gramophones and phonographs often featured ghostly performers or singers standing next to them (Schwartzman 1993, 65).

Universality was a way of presenting the phonograph as a universal civilizing force. Phonographic demonstrations made use of multiple dialects or languages, as well as musical numbers (Feaster 2001, 82), and in its attempt to record and reproduce equally well all of these different utterances the phonograph expressed the familiar democratic hope of technology transcending inequality and unifying

people across social and national boundaries (Burnett, Senker and Walker 2009, 15). Sound recordings were also touted as potential universal written languages; from the first articles about the phonograph up until the work of Theodor Adorno, various critics claimed that with practice it would be possible to read the grooves inscribed in the record⁹.

Histories of the phonograph or sound recording usually understand Edison's term "faithfulness" to mean accuracy or intelligibility in recordings, something like a precursor of the concept of "fidelity" that emerged after the 1920s (Guberman 2011, 431). But "faithfulness" was a rich term with a variety of meanings, and accuracy and intelligibility were often subordinate to other connotations such as truthfulness or piety. Edison suggested that the phonograph could be used for surveillance in business, romance, legal proceedings, or to expose political scandals and financial scams ("The Speaking Phonograph" 1878). Faithfulness was the prevention of deceit, and the phonograph a moral touchstone.

Even in silence, the phonograph was admired for its "spirit of modesty" and the "example it sets many garrulous and wearisome individuals" ("The Phonograph" 1878, 249). Edison's ideas about morality and dislike of frivolous social discourse informed his approach to sound and communications technologies. For him, technical mediation provided an opportunity to improve social communication beyond merely facilitating it. He described his deafness as a blessing that filtered out undesirable noise or conversation, his preferred mode of communication the simple

9 *Scientific American* wrote optimistically that "there is no doubt that by practice, and the aid of a magnifier, it would be possible to read phonetically Mr. Edison's record of dots and dashes..." ("The Talking Phonograph", 300). Theodor Adorno also hoped that phonograph records could be a kind of universal writing (Adorno 2002, 279-280), while James Lastra links ideas like these to Alexander Melville Bell's "visible speech" project (2000, 30-31).

ticking of the telegraph (Runes 1968 [1948], 48), or the tapping of Morse code (Runes 1968 [1948], 54-55). With the help of the phonograph, he promised, "We shall now for the first time know what conversation really is..." (Edison 1888, 648-9).

These three themes and complexes of sub-themes coalesced over time into a powerful mythology that supported a utopian vision of a society transformed by the phonograph. But not everyone was ready to accept this vision, and for many the promises of Edison and the other utopians were a source of great anxiety (cf. "An Electrical Outrage" 1877, "Miseries of the Phonograph" 1878). Interestingly, these anxieties often ran parallel to the utopian myths, also exploring themes of nature, immortality, faithfulness, and surrogacy.

Anxious Reactions to Phonographic Utopia

Many critics argued that, ironically, the phonograph's "faithfulness" would destroy society by revealing human *infidelities*. In Edison's utopia there would be no escape from the machine's prying ears, and it would irreparably damage trust and confidence in social relations ("Miseries of the Phonograph" 1878, 249, "The Aerophone" 1878). As for phonographic immortality, Ivan Kreilkamp notes that hearing the voices of the dead was for many less transcendent than profoundly disturbing (Kreilkamp 2005, 189).

Perceptual inadequacy is a common theme in nineteenth century discourses of media technologies, where technical processes like photography and sound reproduction were seen to outstrip human physiology. As James Lastra notes: "Time and again, representational technologies are described as 'more perfect' than human senses, able to 'make up for' previously unnoticed 'deficiencies'" (Lastra 2000, 23). Edison maintained that the

phonograph corrected pronunciation in the recorded voice by adjusting for “mutilations” caused by “imperfection of mouth and lip formation” (Edison 1878, 528).

The idea that the body could be dismantled and interchanged in part or whole with machines was as present in the public imagination in the 1870-80s as it is today. For example, it would have been common knowledge to readers of popular journals that Bell’s telephone used a real human ear as a prototypical microphone. In an article about the phonograph, *Scientific American* reported the “preparation of the human ear made by Dr. Clarence J. Blake, of Boston, for Professor Bell, the inventor of the telephone. This was simply the ear from an actual subject, suitably mounted and having attached to its drum a straw, which made traces on a blackened rotating cylinder” (“The Talking Phonograph” 1877). But when incorporated into the telephone or the phonograph, the eardrum could receive and transmit. This meant that the phonograph could speak as well as listen, and had “got ahead of the ... human body” (“The Phonograph” 1878). It is tempting to draw a link between these anxieties and texts where authors described technology violently breaking the body apart, for example Rilke’s grisly image of the phonograph needle tracing the coronal suture in “Primal Sound” (Kittler 1999, 40-41), or Wolfgang Scherer’s comment on the role of anatomy in early sound studies: “Thus the real answered from dismembered bodies” (Kittler 1999, 74).

Phonographic anxieties moved quickly beyond the physiological. In his 1880 essay *Memory and Phonograph*, Jean-Marie Guyau argued that the phonograph was the latest and most perfect in a series of technological models for human memory (Kittler 1999, 30). Compared to the brain, the phonograph lacked only one thing: the ability to recognize its own memories, a capacity for conscious

thought. It could not experience wonder or surprise at its memories, could not tell its own voice from that of another, Guyau explained—thus its memory was purely mechanical, the physical storage of vibrations. The phonograph lacked the two things that enabled the human brain to interpret and respond emotionally to its memories: a mind and a soul. But Guyau's sentiment, repeated somewhat obsessively throughout the essay, seems like an anxious reassurance. The idea of remembering without thinking was probably just as difficult to grasp as the idea of a talking machine that could not think, as M. Bouillard of the Paris Academy of Sciences had argued two years earlier to perhaps unfair ridicule.

A contemporary of Guyau, the French symbolist author Villiers de l'Isle-Adam, made the logical mythic jump that if the phonograph can have memories, and if it can talk and listen, then with a little help from science it could surely think and feel too. In his 1886 novel *L'Ève Future*, it is no surprise that Villiers chose the grand alchemist of modern science, Thomas A. Edison, as the protagonist who invents what might be the first android in literature. Hadaly, the fictional Edison's remarkable creation, not only has a mind and a soul—which incidentally are contained in two miniature phonographs installed in the android's torso—but Edison had managed to perfect the soul as well as the body and the mind (Willis 2006, 183), and offers Hadaly to the character of Lord Ewald as a perfect romantic companion¹⁰.

One by one the things that were held to be essentially human—the body, perception, memory, self-awareness, and finally the soul—the phonograph first imitated, then superseded. Like myths,

10 Villiers may have based his physical description of Hadaly on Edison's all-female phonographic dolls, which he manufactured from as early as 1878 (Herlocher 2005, 72). His disturbing tale of Edison "fixing" a flawed human being recalls a passage of equally unsettling misogyny in Edison's diaries, where he mentally creates a perfect composite woman "à la Galton" (presumably Francis Galton, the founder of eugenics) by substituting his fiancée Mina's less perfect features for those of two other female acquaintances (Runes, 1968 [1948], 3).

anxieties have their own logic: when a perfect soul can be synthesized with a pair of phonograph players, then the very idea of the soul is threatened. Or, as the real Edison reasoned, if the brain is like a phonograph, then both are “Machinery, pure and simple” (Marshall 1910). Without the existence of a soul, humans are left only with physiological inadequacy, requiring the help of science to achieve even a compromised state of existence: In the technological utopian texts, Segal notes that “...the inhabitants of utopia remain flawed by nature—save where, as in some utopian fiction, they are perfected through genetic engineering (H. P. Segal 2005, 11).

Myth, Anxiety, and Belief

Fidelity turns to betrayal, technology overtakes humanity, immortality extinguishes the soul. Dystopian nightmares stalk the utopic aspirations of late 19th century science. Rather than relieve anxiety, phonograph mythopoeia seems to have provoked it—but how? Claude Lévi-Strauss suggested that myths attempt to create a logical model that can overcome contradictions in order to alleviate anxiety (Fiske 1990, 122). But phonograph mythopoeia rested on a contradiction, because science and myth of the time operated through radically different and conflicting modes of belief. Scientists aspired to describe the actual, the real, the rationally plausible, whereas myths are works of powerful imagination (de Lautour 2012).

The emerging scientific worldview in the 19th century encouraged doubt and the pursuit of unequivocal proof of theories or hypotheses (Knight and Eddy 2005, 154). In the practical world, belief in a principle of science was often tied to immediate experience. As David Knight writes: “Beliefs are not abstract and untestable convictions, but concern how things should be done” (Knight and

Eddy 2005, 10). By comparison, mythic belief is both adaptive and comprehensive. The extent to which certain myths are believed, in what senses they are “true,” has been the subject of continuing discussion and revision since the known origins of mythology (Frye and Macpherson 2004, 275). While myths literally contain fantastical claims or narratives, their structure often relates to real issues through obvious use of allegory, metaphor, or symbolism. Or, as M. H. Abrams and Geoffrey Harpham put it, “mythology is a religion which we do not believe” (Abrams and Harpham 2012, 230), meaning that accepting the structure of a myth is perhaps more important than believing the story through which it is expressed. One can believe in the essence of the myth of Prometheus—that interfering with nature can have disastrous consequences—without literally accepting that a living being of that name stole fire from the gods.

Authors writing about Edison’s phonograph appear to have used mythopoeia as a way of compensating for scientific doubt, with myths stepping in to explain the unexplainable. But this mixture of belief systems creates problems, and Edison’s Theory of Life Units is a case in point. The structure of the myth provided a logical (if unlikely) explanation for the existence of the soul, at least enough to offer hope in the idea of life after death. But the mythic “spirit phone” never appeared, and however more “rational” and scientific in its voice, without the ultimate proof that the device could provide, scientific belief in Edison’s theory was impossible. Myths must provide only the hope of a better life “just beyond the present time and place” (Coupe 2009, 9), but if science promises heaven it is obliged to deliver it in the here and now.

Phonograph mythopoeia encountered similar conflicts. While insisting, like the technological utopian authors, that the type of society he presented was completely rational and plausible, Edison’s texts required both scientific belief as an intellectual recognition of

plausibility, but also a much more active and adaptive mode of mythic belief. In the latter part of “The Perfected Phonograph,” Edison painted a colorful picture of a society transformed by the phonograph (Edison 1888, 649). But the various functions that he described—exchanging phonograph cylinders between continents, phonographs attached to telephones as proto-answering machines, phonographic “pay booths” for those who did not own a machine themselves, the ability to record phonograph cylinders while using public transportation (1888, 646-9)—would require significant infrastructural and societal adaptation before they could be realized. More than rational acceptance or intellectual recognition was expected of the citizens of phonographic utopia—belief would require financial as well as emotional investment. Edison both encouraged and tacitly assumed the devotion of the pre-phonographic society, an act of religious faith.

In scientific mythopoeia, both machines and utopias are brought to life through human participation. Lord Ewald is denied ideal love when the android Hadaly perishes in a fire at the end of *L’Eve Future*—but the machine can only “die” because it has been invested with the soul of Edison’s mysterious assistant Sowana.¹¹ And as Howard Segal notes, in technological utopian literature the only link from the existing world to the utopian turns out to be through the supernatural—protagonists arrive in the perfect society “through mystical rather than practical means: dreams, hypnosis, death, prophecy, and time capsules” (H. P. Segal 2005, 22). When science stumbles, myth takes over. In all cases—the never-quite-perfect phonograph, the theory of life units, science fiction stories—scientists can envision utopia, but require our faith to get us there.

11 Mary Hélène Hue discusses the significance of the character of Sowana in “Monstrous Imagination” (1993, 230-1).

Conclusion

Texts written about the phonograph in the latter decades of the 19th century contain a mythic structure overlaid with an objective, detached narrative voice, a style of writing I call phonograph mythopoeia. Sound theorists from the post-Edison era up until today often employ a similarly dispassionate scientific voice to articulate their theories, but their writings can be oddly superstitious and include frequent appeals to the mystic, the mythic, Nature, or notions of some transcendent phonographic truth¹².

Themes that seem to recall one or other of the central ideas of phonograph mythopoeia also exist outside of theories sound and recording, for example in popular culture or recent science journalism¹³. This is a coincidence that warrants serious consideration, since it suggests that the kinds of narrative strategies adopted by Edison and other authors, both the anxious and the utopian, may have set the tone for discussions of the relationship between culture, nature, and science that followed.

Utopian promises in marketing campaigns for cars, smartphones, computers and other novel gadgets are commonplace today; just as familiar are dystopian anxieties about technology run amok or threatening various human enterprises or aspects of culture with redundancy. As perhaps was true in the early years of the phonograph, this polarization of discourse concerning technology and culture into the utopian and dystopian, mythopoeia and anxiety,

12 For two recent examples, see Eric W Rothenbuhler & John Durham Peters, "Defining Phonography: An Experiment in Theory" (Rothenbuhler and Peters 1997), or Greg Milner's assesment of analog versus digital reproduction technologies (2010, 195-196).

13 Recent titles from magazine articles recall the anxiety of surrogacy as ("Will the internet become conscious?" 2012, "Will men and machines merge?" 2012), as does the appearance of androids in science fiction films (Pyle, 2000, 124-137).

may be obstructing a more considered—even rational—debate about what technology is and what kind of world we envision with it.

References

“A Wonderful Invention.” *Scientific American*. 17 Nov., 1877: 304.

Abrams, M H and Geoffrey Galt Harpham. *A Glossary of Literary Terms*. Boston: Wadsworth Cengage Learning, 2012.

Adorno, Theodor W. “The Form of the Phonograph Record.” In *Essays on Music*, Translated by Thomas Y. Levin, 277-282. Berkley: University of California Press, 2002.

“An Electrical Outrage.” *New York Times*. 28 Nov., 1877: 4.

Andrews, Tamra. *Dictionary of Nature Myths : Legends of the Earth, Sea, and Sky*. New York: Oxford University Press, 2000.

Armagnac, Alden P. “Edison, at 79, Active While World Catches Up.” *Popular Science*, Volume 110, n.1 (Jan., 1927): 25.

Baldwin, Neil. *Inventing the Century*. Chicago: University of Chicago Press, 2001.

Bodvarsson, Ö B and H van den Berg. *The Economics of Immigration: Theory and Policy*. Berlin: Springer, 2009.

Burnett, Judith, Peter Senker and Kathy Walker. *The Myths of Technology: Innovation and Inequality*. New York: Peter Lang, 2009.

Carlson, W. Bernard. “The Telephone as Political Instrument.” In *Technologies of Power : essays in honor of Thomas Parke Hughes and Agatha Chipley Hughes*. Michael Thad Allen and Thomas Parke Hughes. Cambridge: MIT Press, 2001.

Collins, Theresa M. & Gitelman, Lisa. *Thomas Edison and Modern America: An Introduction with Documents*. New York: Palgrave, 2002.

Conot, Robert. *Thomas A. Edison: A Streak of Luck*. New York: Da Capo Press, 1979.

Coupe, Laurence. *Myth*. 2nd ed. New York: Routledge, 2009.

de Lautour, Christopher R. Conversation with author. 25 Dec., 2012.

Desmond, Shaw. "Edison's Views Upon Vital Human Problems." *Strand Magazine*, Jul.-Dec. 1922: 156-162.

Doniger, Wendy, ed. *Merriam-Webster's Encyclopedia of World Religions*. Springfield: Merriam-Webster, 1999.

Doty, William G. *Myth: A Handbook*. Wesport: Greenwood, 2004.

Dupriez, Bernard Marie and A W Halsall. *A Dictionary of Literary Devices : Gradus, A-Z*. Toronto: University of Toronto Press, 1991.

Edison, Thomas A. "The Phonograph and Its Future." *The North American Review*, Vol. 126, n.262 (May-Jun., 1878): 527-536.

———. "The Success of the Electric Light." *The North American Review*, Vol. 131, n.287 (Oct., 1880): 295-300.

———. "The Dangers of Electric Lighting." *The North American Review*, Vol. 149, n.396, (Nov., 1889): 625-634.

———. "The Perfected Phonograph." *The North American Review*, Vol. 146, n.379 (Jun., 1888): 641-650.

"Edison Now Admits the Soul May Exist." *New York Times*, Oct. 15, 1926.

Eliade, Mircea. *The Forge and the Crucible*. Chicago: University of Chicago Press, 1978.

Feaster, Patrick. "Framing the Mechanical Voice." *Folklore Forum* 32 (2001): 57-102.

Fiske, John. *Introduction to Communication Studies*. 2nd ed. London: Routledge, 1990.

Forbes, Bertie C. "Edison Working on How to Communicate with the Next World." *The American Magazine*, Sep., 1920: 30+.

"French Fancy Busy on Spirit Machine." *New York Times*, 7 Oct., 1920: 11.

Frye, Northrop and Jay Macpherson. *Biblical and Classical Myths: The Mythological Framework of Western Culture*. Toronto: University of Toronto Press, 2004.

Guberman, Daniel. "Post Fidelity: A New Age of Music Consumption and Technological Innovation." *Journal of Popular Music Studies*, Vol. 23, n.4 (2011): 431-454.

Hatina, Thomas R. *Biblical Interpretation in Early Christian Gospels: Vol. 2, Gospel of Matthew*. London, New York: T & T Clark, 2008.

Healy, David. *US Expansionism: The Imperialist Urge in the 1890s*. Madison: University of Wisconsin Press, 1976.

Heidler, David S and Jeanne T Heidler. *Manifest Destiny*. Wesport: Greenwood Press, 2003.

Herlocher, Dawn. *200 Years of Dolls: Identification and Price Guide*. Iola: KP Books, 2005.

Hue, Marie Hélène. *Monstrous Imagination*. Cambridge: Harvard University Press, 1993.

Kittler, Friedrich. *Gramophone, Film, Typewriter*. Stanford: Stanford University Press, 1999.

Knight, David M and Matthew D Eddy. *Science and Beliefs: From Natural Philosophy to Natural Science 1700-1900*. Burlington: Ashgate, 2005.

Kreilkamp, Ivan. *Voice and the Victorian Storyteller*. Cambridge: Cambridge University Press, 2005.

Landon, Brooks. *Science Fiction After 1900: From the Steam Man to the Stars*. New York: Routledge, 2002.

Lastra, James. *Sound Technology and the American Cinema: Perception, Representation, Modernity*. New York: Columbia University Press, 2000.

Marshall, Edward. "‘No Immortality of the Soul’ Says Thomas A. Edison." *New York Times*, 2 Oct. 1910: 1, 15.

Martinelli, Patricia A and Charles A Stansfield. *Haunted New Jersey: Ghosts and Strange Phenomena of the Garden State*. Mechanicsburg: Stackpole Books, 2004.

Milner, Greg. *Perfecting Sound Forever: An Aural History of Recorded Music*. Kindle Edition. Faber & Faber, 2010.

Miller, Randall M. and Theodore J. Zeman, Francis J. Sicius, Jolyon P. Girard. *Daily Life Through American History in Primary Documents*. Santa Barbara: Greenwood, 2012.

"Miseries of the Phonograph." *San Francisco Post*. 1 April 1878.

Montgomery, Scott. *The Scientific Voice*. New York: Guilford, 1996.

Moran, Richard. *Executioner's Current: Thomas Edison, George Westinghouse, and the Invention of the Electric Chair*. New York: Vintage Books, 2003.

Morton, David. *Off the Record: The Technology and Culture of Sound Recording in America*. New Brunswick: Rutgers University Press, 2000.

Musser, Charles. *The Emergence of Cinema: The American Screen to 1907*. New York: Charles Scibner's Sons, 1990.

"Not a Thinking Machine." *Nature*. 10 Oct, 1878: 630.

"Phones of the Future." *New York Times*, 9 Jun., 1878: 6.

"Phonome, Autophone, and Kosmophone." *New York Times*, 11 Jun., 1878: 5.

"Practical Uses of the Phonograph." *New York Times*, 28 Apr., 1878.

Pyle, Forest. "Making Cyborgs, Making Humans." In *The Cybercultures Reader*, David Bell and Barbara M Kennedy, ed. London: Routledge, 2000. 124-137.

Rosenberg, John D. *Genius of John Ruskin: Selections from His Writings*. 2nd Edition. University Press of Virginia, 2000.

Rothenbuhler, Eric W and John Durham Peters. "Defining Phonography: An Experiment in Theory." *The Musical Quarterly* Vol. 81, n.2 (1997): 242-264.

Rothman, A D. "Mr Edison's Life Units." *New York Times*, 23 Jan 1921: 1, 6.

Runes, Dagobert D. *The Diary and Sundry Observations of Thomas Alva Edison*. New York: Greenwood Press, 1968 [1948].

Schwartzman, Arnold. *Phono-graphics: the Visual Paraphernalia of the Talking Machine*. San Francisco: Chronicle Books, 1993.

Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham: Duke University Press, 2000.

Segal, Howard P. *Technological Utopianism in American Culture*. Syracuse: Syracuse University Press, 2005.

Segal, Robert Alan. *Theorizing about Myth*. Amherst: University of Massachusetts Press, 1999.

Stahl, William A. *God and the Chip : Religion and the Culture of Technology*. Waterloo: Laurier University Press, 1999.

Stambovsky, Phillip. *Myth and the limits of reason*. Amsterdam: Rodopi, 1996.

"Telephones and Their Use." *New York Times*, 10 Jul., 1877: 2.

"The Aerophone." *New York Times*, 25 Mar., 1878.

"The Future of the Phonograph," *Chicago Tribune*, May 1, 1878, III:2.

"The Phonograph." *New York Times*, 7 Nov., 1877: 4.

"The Phonograph." *Harper's Weekly*. 30 Mar. 1878: 249-250.

"The Psychophone." *History Detectives*. Writ. Gwen Wright. Season 7, episode 1. PBS. 2009.

"The Speaking Phonograph." *Scientific American*, 16 Mar., 1878: 1828.

"The Talking Phonograph." *Scientific American*, 22 Dec., 1877: 300.

The Thomas Edison Papers. Rutgers University, 2010. Miscellaneous Scrapbook Series, 1860-1878, Cat. 30,102. Accessed Sep. 10, 2015. <http://edison.rutgers.edu/NamesSearch/glocpage.php3?gloc=SB032&>.

Tucker, Spencer. *The Encyclopedia of the Spanish-American and Philippine-American Wars : A Political, Social, and Military History*. Santa Barbara: ABC-CLIO, 2009.

"Will Men and Machines Merge?" *British Broadcasting Corporation*, 9 Nov. 2012, accessed 8 Feb. 2013.

<http://www.bbc.com/future/story/20121108-will-men-and-machines-merge>.

"Will the Internet Become Conscious?" *British Broadcasting Corporation*, 22 Nov. 2012, accessed 8 Feb. 2013.

<http://www.bbc.com/future/story/20121121-will-the-net-become-conscious>.

Willis, Martin. *Mesmerists, Monsters, and Machines : Science Fiction and the Cultures of Science in the Nineteenth Century*. Kent: Kent State University Press, 2006.

Wurtzler, Steve J. *Electric Sounds : Technological Change and the Rise of Corporate Mass Media*. New York: Columbia University Press, 2009.

Young, David. "Documenting Science Through Journals." 14 May 2002. North Carolina State University Libraries. Accessed 1 Feb., 2013. <http://www.lib.ncsu.edu/exhibits/tippmann/scijo.html>.

