“But Music? That’s Another Story”:

The Rapid Rise and Fall of Vitaphone

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Introduction to Audio Preservation & Reformatting

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November 19, 2019

When discussing lost cinema, most writing harps on the amount of silent film lost, but early sound film has suffered similar losses. Viewed as something slightly above a novelty, early sound films spent the decades after their heyday in a state of archival neglect. Warner Bros.' Vitaphone was probably the most famous of these 'sound-on-film' experiments, due to the release of the first popular feature-length sound film, *The Jazz Singer*, on the format. But even then, with the resources of a major studio, Vitaphone's non-canonized works fell by the archival wayside once the technology became outdated. Vitaphone's 'invisibility' as a material object allowed it to become ephemeral, causing neglect in preservation once the technology reached obsolescence. This neglect underscored the importance of Vitaphone productions as historical objects decades later.

The Vitaphone Era, 1925-1931

With producer Sam Warner acting as the sole voice in favor of the deal, Warner Bros. Pictures, Inc. bought the rights to use Western Electric's disc-based film sound system in 1925 (Hutchinson 40). Branded as 'Vitaphone', the studio saw the technology as a platform for background music in silent films for theaters that could neither afford nor fit an orchestra, with no thought given towards dialogue (41). With Vitaphone, the privilege of live music that comes with seeing a silent film in a major city could be replicated in any market across the country. When Harry Warner, the then-head of Warner Bros., talked about sound film he remarked that he would "not go across the street to see or hear a talking picture", but in the case of "music... that was another story" (40). As far as Warner was concerned, the Vitaphone record would perform a similar function to a commercial record, the sound would function as a vehicle for pre-recorded music, disrupting the standard form of film viewing only technologically. It was dismissive

attitudes like these that lead to studios' neglect in preserving Vitaphone records once the format became outdated.

The clearest distinction between a Vitaphone record and almost all other phonographic records is the size of the object. With a 16-inch diameter, Vitaphone records were half-a-foot wider than the more common 78 revolutions per minute (rpm) records (Gitt 268). Vitaphone records ran at 33 1/3-rpm, which lead to a lower sound quality than the "reproduction of higher frequencies" due to greater speed on 78 rpm records (269). The material composition of the Vitaphone record was also different from commercial phonographic records. To reduce surface noise, Vitaphone records had a "softer shellac compound" than commercially pressed records (Enticknap 117). The 'soft' shellac was also less durable than commercial shellac records, with projectionists advised to play a Vitaphone record 20 times at most. To accommodate the rapid wear, studios shipped out multiple copies (Gitt 269). Along with affecting playback, the softness of the Vitaphone shell hurt its viability as a preservation object.

To exhibit a Vitaphone film, the projectionist played the record on a turntable connected to the projector, with the same motor powering both devices. The same-motor technique allowed for synchronous sound to accompany the film, assuming that the film has retained all of its frames (Gitt 269). The direction of the Vitaphone needle operated in reverse of the standard record player, with the needle starting in the middle of the record before progressing outwards. The reversed movement of the needle allowed for a more stable playback at the film's start, with the center of the record absorbing fewer vibrations than the outer rim (Kosovsky). Western Electric designed the Vitaphone exhibition technology to make the audience unaware of missteps that would call attention to the sound's materiality. A successful Vitaphone presentation relied

on the audience never being aware that the sound was coming from a material object separate from the images.

Warner Bros. publicly debuted the technology with the premiere of the Lionel Barrymore vehicle *Don Juan* in 1926. The film utilized Vitaphone as per the studio's original intentions, with an orchestral soundtrack and occasional sound effects (Hutchinson 41). In contrast to the feature, the collection of short films before *Don Juan* showcased diegetic sound. The *Don Juan* pre-show introduced the audience to Vitaphone with performances of Dvorak, Beethoven, and a rendition of the 'Pagliacci' opera number. The only 'talking' picture on the short film bill was an address from the Motion Picture Producers and Distributors of America president Will H. Hays offering congratulations to Warner Bros. for Vitaphone. The *New York Times*' contemporaneous review of *Don Juan* noted that the audience "burst into applause such as is seldom heard in a place of amusement" in response to the short films (Hall). *Don Juan*'s high budget, including $100,000 spent on the Vitaphone soundtrack, prevented the film from breaking even, but the first public demonstration was a resounding success for Vitaphone (Hutchinson 40, Hall).

A year after *Don Juan*, the Vitaphone had a commercial breakthrough with the success of *The Jazz Singer*. *Singer* was mainly a silent film, with the synchronous sound only becoming diegetic for Al Jolson's musical numbers or occasional pieces of dialogue ("The Jazz Singer"). As a result of *Singer*'s success, the majority of Warner Bros.' Vitaphone productions afterwards were musical "Vitaphone Varieties" short films, with a focus on popular performers (Hutchinson 43). Unlike the opera performances before *Don Juan*, neither Warner nor audiences considered the musical Vitaphone shorts "high art" (Wurtzler 278). Viewed erroneously as pieces of pop culture ephemera, little thought was given to preservation. The history of Vitaphone is littered with stories of theater owners taking the discs home or shattering the discs (Hutchinson 43). If

producers were not treating Vitaphone productions as either art works or historical objects worthy of preservation, there was no reason for theater owners or audiences to either.

But Vitaphone was far from the first attempt a studio made at synchronous film sound. In 1895, the Edison Company produced the 'Kinetophone', a modification to the 'Kinetoscope' cabinets. In Kinetophone-equipped cabinets, the viewer could wear a pair of headphones to hear a cylinder play a synchronous soundtrack ("Early"). The Kinetophone cabinets proved successful enough that Edison translated the experience to theatres. Kinetophone's theatrical technology was akin to Vitaphone's, both systems achieve synchronicity through a single motor powering both the projector and turntable (Hutchinson 40). But only one projectionist is needed for Vitaphone, while Kinetophone required two technicians as the turntable was located behind the screen. With two technicians, accidents occurred. A *New York Times* review of a 1913 Kinetophone show notes "the outbursts of laughter" at an out-of-sync sound film (Rogoff 61). Instead of the technical error drawing frustration, the experience of watching a failed sound-on-film experiment was as entertaining as a successful one. For early cinema, the 'sound' of the film had no expectations of artistic or technical merit, all it needed to do was exist.

Like the Kinetophone, Vitaphone was recorded live on to a disc. But while the Kinetophone relied on the acoustic horn to capture sound, Vitaphone was able to record sound with the electric microphone on to a wax disc (Rogoff 60, Gitt 262). Contrasting the two recording apparatuses showcases how technology affects the form. Kinetophone actors had to practically look at the camera to ensure that the horn could record their lines, causing stiff, inhuman performances (63). While recording sound directly onto a disc constrained the early Vitaphone shorts to one take, with only the most basic form of visual language and editing achieved through multi-camera setups, the electric microphone's small size allowed the

performances to be somewhat similar to acting styles of the time (Gitt 262). Later on, as Warner Bros. technicians had a better understanding of the technology, they would record a scene with multiple shellac records capturing the sound at multiple volumes. The engineers would coat the best one in copper to create a 'negative' in order to make the master copy, which would be used as a reference in the creation of metal stampers to mass-produce the records (263). Kinetophone's inability to overcome the acoustic horn sealed its fate as the silent films of the 1910s began lapping the Edison Company's films artistically. After a 1914 fire, the Edison Company did not rebuild the Kinetophone facilities, effectively killing the format (Rogoff 67). The rapid fall of the Kinetophone likely influenced Harry Warner's resistance towards experimenting with sound.

While the Kinetophone relied on an acoustic horn to project sound, leading to a "'canned', instead of natural" quality, Vitaphone had an electrical amplification system. With the electric sound system, Vitaphone exhibition could approach "the full range of sound heard by the human ear" (Hutchinson 41). The goal of the Vitaphone was not just presenting sound to the audience, but approximating the experience of actually being in the same room as the sound with the spectator as an "'invisible auditor'" (Fleeger 33). The spectator can only feel like an 'invisible auditor' if there is a full sense of immersion, which mandates that any technology that creates the illusion has to be materially invisible. To modern ears, the sound of Vitaphone is quite primitive, with the speakers unable to "permit the reproduction of low and high frequencies" (Verscheure 265). Once Vitaphone became outdated, audiences could hear its shortcomings in relation to newer, better sound systems.

By the early 1930s, optical film soundtracks replaced Vitaphone. With the ability to print the soundtrack on to a 35mm print, optical soundtracks were easier and cheaper to ship than

Vitaphone and could also outlast its durability (Hildreth). While a Vitaphone record had to be recorded live, with any remixing efforts significantly hurting sound quality, optical soundtracks could be edited, allowing filmmakers to employ more inventive visual language in optical soundtrack productions (Gitt 265, Fleeger 31). By 1931, Warner Bros. abandoned Vitaphone for optical soundtracks (Hildreth). In the transition from Vitaphone to optical sound, Warner opted to only reformat the canonical feature-length Vitaphone productions to optical soundtracks. In 1941, Warner Bros. sold all surviving original Vitaphone 'negative' stampers to a scrap metal dealer for $923.53 (Hutchinson 43). However, Warner kept hold of around 2,000 Vitaphone discs, which, when discovered by Robert Gitt in 1987, kicked off efforts to reformat the forgotten Vitaphone productions (Hildreth).

Preserving and Reformatting Vitaphone, 1991-present

The Vitaphone Project, formed in 1991, works to locate and catalog every surviving Vitaphone record. The Project work in collaboration with, but independent from, either Warner Bros. or any of the major American film archives, allowing the Project to operate outside of the whims of the upper echelons of business or a donor base (Hutchinson 43). Since its founding, the Project has discovered the existence of over 3,500 Vitaphone discs (Campanini 105). In a 2002 article on the organization, Ron Hutchinson, one of the Project's founders, describes himself and his colleagues as "record collectors", pointedly staying away from terms that could portray the Project as a film or audio archive (Hutchinson 43). In focusing on crafting a database, the Project recognizes the importance of personal collectors on Vitaphone's continued survival (44).

Yet, at the Project's beginning, Vitaphone collectors were hesitant to allow public knowledge of their holdings. Collectors had well-justified fears, considering that in the past studios have commissioned actions like FBI raids in order to seize collections. To placate

anxieties, Hutchinson acquired a promise from Tuner Entertainment, owner of many of the Vitaphone-era Warner films, that stated that the company would not pursue legal action if they learned of a collector's Vitaphone holdings (44). In addition to that promise, the collector would receive onscreen credit for their loan and a copy of the restoration ("The Vitaphone Project"). Along with creating a friendlier environment between collectors and intellectual property owners, the onscreen credit creates provenance for the content on Vitaphone records. The modern audience will never hear the original Vitaphone disc, but the credit for the original collector creates a direct link between the reformatted sound and its original material.

"Documenting the Process of Film Preservation", written in 2003, advises the reader to always reformat a Vitaphone disc to magnetic tape regardless of quality. In contrast, an archivist can assess optical soundtracks, magnetic tape, and digital sound for quality before making the decision to reformat (Gracy 22). It is a rather clear conclusion to make post-1930s, as nearly all of the Vitaphone exhibition equipment that has survived functions primarily as museum pieces (Gitt 273). A modern handler would need to keep the number of playbacks low anyway, considering the shellac material's aforementioned lack of durability. With the extremely limited number of uses in mind, the first playback that can be captured on good equipment would be the highest quality reformatting possible. With the original copper 'negatives' no longer in existence, reformatting the released material is the only way to preserve the content on the Vitaphone record (Hutchinson 43).

For Robert Gitt, a Preservation Office at the UCLA Film and Television Archives, it has always been important not to "over-process" the original Vitaphone disc when reformatting the material to ¼-inch magnetic tape and then to optical film (270). After a reformat from the original shellac record to a two-channel magnetic tape recording, the only real modification that

occurs is a boost in the bass levels of the sound, a correction to the Vitaphone disc's inability to hold those lower-register sounds without the grooves colliding in to one another (270-271). In reformatting, the archivist cuts out higher-pitched noises of the Vitaphone's cycles, with the majority of reformatting procedures cutting off at 7500 cycles for the later-era Vitaphone discs, which ran at 7800 cycles. This allows a reduction in "hissing and crackling noises" while allowing "more at the high end... than they heard in the 1920s" (271). In reformatting the content from Vitaphone to a technology capable of editing and retaining the higher frequencies of sound, the modern audience is treated to a more authentic presentation of the live sound that Vitaphone captured but were masked under the format's shortcomings.

The remixed sound is then reformatted from the ¼-inch magnetic tape to a 35mm "sprocketed magnetic film" to allow for "any editing... in case there are cuts or alterations to the picture material" (Gitt 270). Assuming that multiple elements do not need to be mixed together, the sound is played in sync with the image, to provide the archivist with the specific moment where the recording begins and ends (271). As a phonographic disc-based format, what exists of a Vitaphone recording is just what is on the record, allowing for a simplicity in synchronicity. Once the beginning and the end on the tape is evident, the edited pictures and sound are reformatted on to a 35mm optical soundtrack, embedding the two together on the material after they had spent decades apart (270).

However, collectors have sent their own reformats, on either tape or digital formats, to archivists and film restorers in lieu of loaning out the Vitaphone discs. Gitt describes having to "go into the computer and test [the reformatted sound] and get it to run to the exact speed" (King). Whatever loss occurs in reformatting from Vitaphone to tape or digital is even greater when the playback speed of the sound or image has to be manipulated as well. Whether it is

anxiety over mistreatment or fear of legal troubles from the studio, the hostility towards private collectors and neglect of the American studios in preserving their original materials ends up hurting the content of the work (Hutchinson 44). The access copy, and the flaws within it, thus become a reflection of failed institutional policies.

Unlike restoring optical sound materials, wherein the sound and image are on the same object, Vitaphone restoration necessitates the maintenance of two different material objects in order for reformatting to occur. For the restoration of the film *The Emperor Jones*, which was distributed in Vitaphone discs to theaters still reliant on the technology despite being recorded with optical sound, the restoration team used tracks from multiple sources. The team working on the project worked with three optical soundtrack sources, all of which contained a censored form of the film's sixth reel. Upon consulting with The Vitaphone Project, a private collector who had the Vitaphone disc for the sixth reel loaned it out to the restoration team. Thus, the final mix for *The Emperor Jones*'s soundtrack restoration came from multiple sources: Vitaphone, optical film on a negative, and optical film on a positive (Saxena 51). While the inability to edit sound killed the Vitaphone record, it also allowed elements to survive past the censorship controversial films suffered from during this period (47). Existing outside of the images, the Vitaphone disc for *The Emperor Jones*' sixth reel allowed the content from the film's original release to survive.

For *The Jazz Singer*'s 2007 DVD release, Warner Bros. sources the restoration's soundtrack to the "original Vitaphone sound-on-disc recordings" ("For Immediate Release"). Despite being a digital reformatting, Warner Bros. employs the word 'original' to apply a sense of authenticity to the DVD's sound. The word "original" reads as Warner's attempt to assuage any concerns over any kind of distancing between the digital content and the original's materiality. But archivists still strike 35mm prints of Vitaphone restorations, with an optical

soundtrack, regularly, as a way to approach some sort of authentic sense of the original object when viewing Vitaphone productions. The 2018 restoration of the Vitaphone short *Ben Pollock and His Central Park Orchestra* played festivals exclusively as a 35mm print (Picking). The widespread abandonment of 35mm projection in favor of digital does not seem to affect exhibition of Vitaphone restorations. Even if it makes the product less accessible to repertory cinemas or festivals unable to project film, the 35mm print is understood to be one step closer to the 'authentic experience' of the film on both a visual and sonic level than a digital reformatting.

Still, most viewers have been and will continue to watch Vitaphone productions through digital platforms. With, at best, several degrees of removal from the original Vitaphone master, Warner Bros. instead tries to market digital presentations off of a notion of authenticity, with the soundtrack as a historical object that can allow the audience to hear what a movie sounded like in the late-20s. Reformatting work like Gitt's that can improve on the original material reflects the idea of keeping the content alive over trying to chase an 'authentic' of the film's sound in the past. As the flaws inherent to the format, neglect, and technological improvements necessitate reformatting, efforts to save Vitaphone function as reminders of film content as a material object, even if present day reminders of that materiality hurt access, and the role of private collectors in saving our media history. Vitaphone's status as pop culture ephemera, along with improved technology quickly rendering it obsolete, caused its archival neglect throughout the twentieth century. Efforts to preserve the format have redefined both the value of Vitaphone as a historical object and the relationship between collectors and studios.

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