POPULAR CONCERT RECORDING AND ACTOR NETWORK THEORY: AN EXAMINATION OF PEARL JAM AND PARTICIPATORY CULTURE ON YOUTUBE

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ABSTRACT

Portland, OR–November 29, 2013: The house lights go down, the spotlights come up, the crowd cheers frantically as the band enters, and as the stage is flooded with blue lights a sea of smartphone screens captures it all for posterity–or for YouTube. This concert, played by Pearl Jam in support of their recently released album, Lighting Bolt, is a perfect demonstration of the proliferation of recording in concert venues with increasing technological access. Concert videos such as these–grainy, shaky videos, which often have the heads of audience members in rows further forward blocking portions of the frame–are circulated and shared through a wide range of online forums (example at http://youtu.be/7Sh8_D99rvc).

INTRODUCTION

In this paper I will discuss the use of technology for recording within popular concerts, using the Pearl Jam concert described above as an example. My interest is in the videos themselves, as material artifacts taken from a specific event, as well as in the interactions people have with these videos following the event. To expand on research related to recording of concert experiences I have focused on two specific questions:

> *How does the technology used in video creation and consumption affect the object that is created and the interactions that individuals have with the object?*
>
> *In consumption of concert recordings, how are unique experiences discussed in a participatory framework where all viewers have not necessarily experienced the original event?*

In answering these questions, I examine videos posted on the website YouTube, comparing the styles of the videos and the ways in which the technologies used in recording are altering the artifacts that are produced. While changing technologies are altering concert experiences, it is important to note that concerts are no more mediated now than they have been in the past. Technology may have changed the manner of our mediation, but it has not changed the intensity of that mediation. Even the act of sharing is no more mediated now than it was in the past, though I will argue that it has expanded to include wider networks.

I will begin by briefly considering the concert format and the literature surrounding the motivations for concert attendance in the current age of digital music. Included in this discussion will be literature on and examples of the practice of recording at concerts both before the existence of digital sharing and since its origins. Second, I will describe my theoretical approach to the topic, including an in-depth consideration of Actor Network Theory, of Participatory Culture, and of Amateurism, specifically within the area of videos posted online. Next, I will provide the details of my research methodology, followed by an analysis of the videos collected during the research. This analysis will discuss the videos through a production, circulation and consumption model, including the technical, production, and stylistic differences between official or professional videos of concerts, some of the specific examples of audience created amateur videos from the Pearl Jam concert in Portland, and an example that bridges the gap between the two. Finally, I will end with a full consideration of the conclusions that I have reached.

THE CONCERT AS UNIQUE EXPERIENCE

Every concert has a specific artist, singing a specific set list, sung in a specific way (including any mistakes or differences between the written or recorded versions and the actual performance), and with a specific tone of interaction between the artists and the audience. Each of these aspects will vary from one event to the next, causing a group or artist's performance to never be exactly the same twice, and to be experienced in a unique and multi-sensory way during each

concert (Waisvisz 1999). Two of the definitions of the word unique, "being the only one" and "being without a like or equal" are useful for the consideration of concerts, as it is the sense of a concert being "unlike anything else" and "very special or unusual" (http://www.merriam-webster.com/dictionary/unique) that I am trying to evoke. The importance of this concept is echoed by Philip Auslander's work, which–though it specifically examines rock concerts as a form of "authentication" for the rock genre (1998)– requires the presence of the individual to demonstrate and validate their support of the band. Without attendance at the concert you have not participated in the unrepeatable experience, as is expected of a true fan. There is a level of replicability that is assumed to exist within concert experiences. Even as fans comment on their appreciation of a unique concert experience, however, they often also comment on deviations from the recorded versions of songs. One comment, for example, stated "I absolutely hate how they do even flow live though. Been ruining it for years by playing it so fast" (http://www.youtube.com/watch?v=7aJsPNaZK4M). The assumed ability to replicate a concert results in the creation of numerous cover and tribute bands to famous acts. While these bands can vary greatly, they are often loyal to classic hits in a way that the band themselves may not be if they are continuing to produce music (Whitaker). Some production companies also attempt to capitalize on replicating famous concert experiences, such as The Pink Floyd Experience, which advertises to give fans "the show they never thought they'd see" (http://thepinkfloydexperience.net/). Whether cover bands play the music well or not, they are not able to duplicate the exact experience of a concert by the original band. Concert recordings as artifacts, therefore, may be a demonstration of the experience and a way to prove that you were present.

While research is beginning to emerge surrounding the use of digital recording and sharing of concerts, particularly as carried out by Anne Danielsen and Arnt Massø through the ongoing Clouds and Concerts research project at the University of Oslo (http://www.hf.uio.no/imv/english/research/projects/cloudsandconcerts/), analysis is still limited in scope and has not yet examined the use of visual recordings from live concert experiences. It is important to realize that while it could be argued that there are economic reasons for recording concerts, including the creation of bootleg copies to sell

or trade (Marshall 2003), this does not seem to be the main driving factor for this type of recording as they largely end up on YouTube, which provides no, or very little, financial benefit to the individuals involved. Neither do these recordings seem to be aimed in any way at damaging the recording industry. Contrary to popular assumption, there has been no decrease in concert popularity with the increasing accessibility and affordability of music in digital formats (Rondán-Cataluña and Martín-Ruiz 2010). There is even some debate over whether the illegal distribution of digital music can be shown to harm legitimate industry sales, as even as it decreases direct sales of music files or CDs, it increases the demand for concerts tickets (Dewenter et al. 2012). Companies deal with the issue of potential sales loss in different ways. For example, Apple has begun to design infrared detection systems for their iPhones that could be used to block the use of recording technology of their devices within concert venues (Mack 2011). Not every company sees the digital recording trend as causing damage to their sales, however, and many have begun to find ways of capitalizing on the popularity of digital recording. Indeed, corporate sponsors of concerts have begun to use the social media and sharing trends as a strategic tool within their marketing plans, such as the Coke Live music festival (Carah 2010). This trend has also sparked a lively debate, with some critics arguing that companies are exploiting the free labor of fans in lieu of hiring marketing professions (Jenkins 2007).

There is equal division in the opinions of bands and individuals. Many bands dislike the idea of mobile technology within the concert venue, as they feel it detracts from the experience, distracting other audience members and preventing the recorder from focusing on the performance. The group She & Him, for example, posted signs on the doors outside of their concerts specifically asking audience members not to record during their performance, but to instead "enjoy the show they have put together in 3D" (Shu 2013). This is also a way for bands to prevent unflattering images and poor-quality footage from damaging their images (Jurgensen 2010). Other bands are renowned for their willingness to share their music in open-source formats, such as Radiohead, who gained major sales from online hype of their self-published albums. Others, such as Justin Bieber, originally got their start through online hype and have remained more open to online publicity due to this experience

(Jurgensen 2010; Thomas 2013). Some individuals agree with the ban, and Rolling Stone has even included the practices of constant filming, taking images beyond reason, and over checking of social media sites as three of the ten most annoying concert behaviors (Greene 2013).

There is a clear precedent for this type of recording that can provide some insight into the uses of these video artifacts seen in the use of recording within the *deadhead* culture surrounding The Grateful Dead. Indeed, Pearl Jam has been compared to the Grateful Dead in their development of a mass following (Hiatt 2006). "Taping" was an activity sanctioned and even somewhat encouraged by The Grateful Dead, and one that contributed to a culture of shared experience that was socially generated (Pearson 1987, 429). Tapes were viewed not as a direct recreation of the concert, but as part of a larger body of social knowledge that required the experience of the concert to fully understand. Tapes were also circulated among a large network of deadheads, which functioned as a barter economy (Pearson 1987, 250). While the deadhead tapes were audio recordings due to the technology of the day, their quality varied in much the same way that concert videos vary on YouTube, including more of a sense of the crowd or a cleaner, more professional quality. Thus, while a t-shirt provides an artifact from a tour (often associated with the release of an album and therefore a specific set of songs being played at the event), a recording is an artifact of the individual performance in all of its specificity from the perspective of the individual audience member. The use of recording reflects the status of concerts as unique, value-laden experiences–the choice of songs, the encore, and the performance of that music can never be identical.

THEORETICAL FRAMEWORK

Actor Network Theory

Actor Network Theory (ANT) is a useful framework for considering the interrelations between individuals, environments and objects. Developed by Bruno Latour (2007 [2005]; 2013), ANT has become popular in studies considering new technology and its effects and interrelations. By treating not only humans, but also inanimate objects, as having agency it is possible to see the ways in which each acts on and influences the other. Examples of this approach can be

seen in its use within Latour's own work, focusing largely on science and technology (1999; 2014 [1996]). ANT is particularly valuable within technology studies due to the way in which it can be applied to evolving interactions, rather than assuming a static set of connections between actors (2007 [2005], 67). This allows researchers, rather than trying to pinpoint an abstract notion of culture, to examine relationships as they are built.

Within the concert context actants influencing video production include not only the people–the individual recording, other audience members, the artist or band performing, etc.–but also objects such as the recording technology itself. When the videos are then posted or shared online, there are also more actants involved than merely the individuals providing the video. The structure of the website plays a role both in the circulation and in the consumption of these videos, and the infrastructure of the internet as a whole influences the level of access for audiences in different geographical regions. While attempting to provide as complete an understanding of the actants as possible, it is not feasible to allow for the consideration of all actants. Networks are limitless and ever expanding with innumerable connections to be made on both the broadest and minutest levels.

Participatory Culture

The participatory culture framework stems from the idea of participatory media, which was originally developed as a response to the perceived failure of mainstream media to foster public debate, and resulted in the development of numerous community and alternative media projects (Flew 2008, 108-109). The media theorist Henry Jenkins adapted the idea to evolving media technology, calling it *participatory culture* or *convergence culture*, and using it to address the change in audience roles from passively consuming content to actively interacting with it (Jenkins 2006). This is a trend that ties directly to technological innovation of the internet. Online activity was originally focused on consumption, it is only with the development of collaborative sites trying to harness collective intelligence (such as Wikipedia) that the focus has shifted to participation (Flew 2008, 17). With the development of this technology, now termed Web 2.0, it has become increasingly possible for individuals to create original

content, comment on the work of others, re-post and share the work of others, re-mix and alter content, and adapt digital content in innumerable other ways. Jenkins also sees this form of communication as a way in which publics can exercise power, and that through participatory culture for entertainment individuals and groups are learning how to exercise that power (2006, 256-257).

In examining concerts videos that have been shared online, it is possible to look at comments and interactions of viewers as participatory interactions. These videos are not being passively consumed – first the videos must be searched for, then by watching, providing positive or negative feedback, and commenting on the video an individual viewer can influence the perceptions of others in relation to the video. Each comment voices an opinion to a public audience, and, as I will argue, can have a wide social impact.

Amateurism

Amateurs are defined in two very important senses, first as "a person who does something (such as a sport or hobby) for pleasure and not as a job," and second as "a person who does something poorly: a person who is not skillful at a job or other activity" (http://www.merriam-webster.com/dictionary/amateur). Both of these senses of the word have been used in the discussions of online content creation, and their impact on culture. The idea of amateurism has often been used in the second sense, as a critique of the increasing prevalence of amateur video creation. Indeed, Andrew Keen argues that YouTube is marked by "the inanity and absurdity of its content. Nothing seems too prosaic or narcissistic for these videographer monkeys" (2007, 5).

The other side of the argument focuses on the potential of amateur video production. Therefore, it is argued that "Amateur videos are not simply representational practices. They are communicative, dialogic events that can provide the basis for community formation" (Strangelove 2010, 185). Amateur videos have potential because they exist beyond the sphere of traditional commercial media. Their messages are not controlled by corporate interests, and they often reflect the current cultural and political climate.

There is another aspect to amateur video creation which is less often considered. This is the quality differences between the videos themselves, and the expected appearance of these videos. For concert videos this is one of the more valuable contributions of theories of amateurism. There is a video aesthetic that is considered professional, and which people are conditioned to respond to. Among other techniques, professional videos tend to use steady images, smooth transitions, and a variety of angles of and distances from their subject. When these tendencies are broken by professionals it is usually to create an intentional effect, as can be seen in films like the Blair Witch Project (1999). This is evident in photography as well, with a clear example provided by Sarah Pink's considerations of the aesthetics of the photography of bullfighting (2011). Pink argues that there is a preferred aesthetic to these photographs, and an assumption that this aesthetic cannot be achieved without embodied experience of bullfighting itself (2011, 11). In much the same way, amateur video producers are often attempting to mimic a professional aesthetic in their own work (Strangelove 2010, 182), resulting in a wider appeal. For concert videos this mimicry may be reflected in attempts to duplicate camera angles, cuts, and zooms which require an understanding of the preferred aesthetic of the genre. These choices are observable in the videos themselves, and have an impact on the interactions that viewers choose to have with a specific video.

It is not the production of content that is currently undergoing a revolution, as Napoli (2011) argues, it is actually the distribution of content that has changed the media landscape with the emergence of Web 2.0. He states:

> Even the term user-*generated* content, reflects this misplaced emphasis. […] Users' capacity to generate content has been around for quite some time, due to the long-established availability of production technologies such as home video cameras, personal computers, typewriters, and home recording equipment. What is different today is the ability of users to *distribute* content, to utilize the Web to circulate their user-generated content (as well as, to the media companies' dismay, traditional media content) to an unprecedented level (Napoli 2011, 81; emphasis in original).

So, while these amateur productions have always been in existence, they have not had the visibility that is now common with websites such as YouTube. This is a redistribution of communicative power that can have profound effects on the mass media market. It can also have profound social effects.

RESEARCH METHODOLOGY: SEARCHING FOR PEARL JAM VIDEOS

There are a wide range of websites where videos are shared and viewed. Not only are there multiple options popular in North America, but many regional and language specific websites also exist (examples popular in various countries are available here: https://en.wikipedia.org/wiki/List_of_video_hosting_services). As my interest was in videos from a specific concert that had taken place in the United States I chose to search for videos on YouTube. YouTube is one of the most popular websites for posting videos, with over one billion viewers consuming over six billion hours of content each month (https://www.youtube.com/yt/press/en-GB/statistics.html). The website also allows for easy analysis of data such as posting dates, number of views for each video, and viewer feedback.

A YouTube search using just the term "Pearl Jam" can turn up anything from videos of fans playing covers of Pearl Jam songs to Pearl Jam's own productions of music videos and promotional interviews. To combat this issue, I used the search term "Pearl Jam Portland 2013," which provided the videos sorted by relevance, and then filtered to see only videos (and allowed for the exclusion of compilation "channels" or "playlists"). This resulted in close to 7000 results, a large proportion of which were from other concerts in the same tour. I chose to focus on the first twenty relevant videos, which allowed me to examine videos only from the concert I was interested in, as well as to see the Portland concert videos with the highest numbers of views. Twenty videos provided sufficient material to compare the videos to one another, as well as to reach some general conclusions about overarching themes.

The videos chosen were all one to two songs in length, varying to some extent in the amount of recorded discussion from the band on either end. It was also common to see multiple videos posted by the

same creator, often labeled comprehensively with the band name, concert date, location, and often the song name. Videos were also largely posted within one or two days of the concert, with only a single video posted about a month later.

In order to find a point of comparison I also searched both on YouTube and on the Pearl Jam home website for official concert recordings. While there were numerous videos posted on both websites, neither provided a full concert recording from any of their tours. The most recent full concert DVD available is from 2002, with documentaries comprising all other DVDs for purchase. While there is an option to buy a "bootleg" audio recording of each concert in the tour, there are no images from the events available for purchase. This lack of available official concert recordings for purchase may reflect a marketing strategy associated with concert sales; however, the band does not pursue removal of concert videos from YouTube and even allows discussions of YouTube videos on the community forum of their official website (as seen at http://community.pearljam.com/discussion/226565/looking-for-video-of-these-songs-from-portland).

As a counterpoint to the videos of the concert in Portland, I will also be examining two complete concert videos recorded at the concert in Philadelphia on October 22, 2013. One of the recordings was shot by a single individual during the concert, the other video is a composite of footage taken from a number of audience members. These videos provide examples of how viewer interactions differ with the length of a concert recording, the quality of sound and visuals, and the aesthetic choices made during filming. This video is an example that stands between the two categories of amateur and professional recordings, and the ways in which this dichotomy is being challenged in specific instances of audience video creation.

VIDEO ANALYSIS

Anthropological studies of media often use a division of analysis into three parts: production, circulation, and consumption. By using this division, it becomes possible to clearly examine the aspects of the network that influence each stage and helps to clarify the analysis. These categories overlap, however, so while I am using the division as an organizational and conceptual tool, it is in some ways a

false one. Each step has an impact or influence on those that follow. In much the same way, plans for the circulation of videos after the event may have an impact on choices made during their production. I would also like to note that consumption has become a difficult category in this context, as it refers not only to consumption per say, but also to interaction with media. It is in this area that the conceptual framework of participatory culture becomes most helpful.

The individuals who record the videos, post them, and interact with them all behave as important actors within the network. Throughout this analysis I will use specific terminology to the individuals involved: video *creators* will refer to both the individuals present and actively filming at the concert I am discussing as well as the individuals posting the videos on YouTube. I want to acknowledge that these may be either the same person or different individuals, but I have grouped them into a single category as I have no way to differentiate. The full concert videos that I will be discussing represent an exception to this rule, and I will discuss the ways in which the videos address this in their labeling and credits during the production section. *Viewers* are the individuals watching and commenting on the videos that have been posted, again they may be the same individuals as those either filming or posting, but I have chosen to use a separate category to denote individuals involved in consumption of videos.

General Impacts

There are some factors that influence all three of the areas that will be discussed in the following section. One such factor is the increasing democratization of technology access. In the past it was expensive to own, run, and maintain the equipment necessary for recording concerts–particularly for video recording. This meant that the majority of recording was completed at the professional level and disseminated either through mass media such as television, or through availability for purchase. That has changed with the price decreases over time for consumer electronics such as small cameras. Video recording specifically has become significantly more accessible with the incorporation of digital video recording capabilities into electronic devices designed with alternative primary functions–such as mobile phones. Even inexpensive phones are increasingly capable of recording video, with the technology undergoing constant

improvement. Even in parts of the world where consumer electronics purchasing is limited, mobile phones are used as a main source of communication (http://data.worldbank.org/indicator/IT.CEL.SETS.P2).

The second factor that I would like to highlight demonstrates a contrasting view to the democratization of technology. Infrastructural limitations of internet access have a large influence on who can interact with these videos. While internet access is growing around the world, the *digital divide* is still very much in existence, and assumptions made of the democratic nature of representation in the "digital age" are largely ethnocentric and presume a level of access not necessarily available in all areas of the world (Ginsburg 2006). The videos shared and the comments posted on videos are from regions where internet access is widespread, or is becoming increasingly common (http://data.worldbank.org/indicator/IT.NET.USER.P2). There are groups that are excluded from interaction with these videos purely due to a lack of access. Even with internet access rates growing worldwide, there are many regions that still see almost non-existent levels of access, such as many African countries. Language is another factor that is often identified as having a large impact. While the English language also dominates on many of the websites commonly used to share these videos, and may act as another barrier to interaction by viewers from non-Anglophone regions, this is not necessarily the case with YouTube. Titling of the videos themselves may require a minimal language ability to navigate and find the desired content; however, the website has been localized for 61 countries and languages (https://www.youtube.com/yt/press/en-GB/statistics.html). There are also some arguments that we need to be considering the *participation gap* as much as the digital divide (Jenkins 2007; Burgess and Green 2009, 70-72). Due to the likely importance that skills in participatory culture and online networking are going to have within the current century, lack of opportunities to be active in online contexts may need to be given equal consideration to basic hardware and software access.

This regional division of access to concert experiences is seen throughout other forms of infrastructural limitation as well. Not only is there limitation in the technological access to videos, there are limitations in access to the concerts themselves. The locations where

the concerts are chosen to be held may play a large role. Pearl Jam has specific geographical regions where they choose to tour–North America, Europe, Oceania (with increasingly limited numbers of concerts - six in 2014 and seven in 2009), and South America (though usually only in Argentina, Chile, and Brazil). Looking at past concerts, these are regions that have been revisited multiple times, while Asia sees only extremely rare visits (including a brief tour in Japan, Manila, Bangkok and Singapore in 1995, and a four concert series in Japan in 2002), and Africa does not see even limited concert tours(http://pearljam.com/setlists). This may reflect only the location of the strongest fan base; however, there is also a likely infrastructural component in this pattern as well. Concerts of the scale put on by Pearl Jam require stadium sized venues, public transportation for fans, and wide-scale marketing coordinated internationally. Identifying the reasons behind this divide would require further research, but in this context it is an important aspect to recognize as it affects who the creators and viewers of videos are and may therefore alter their interactions.

Production

      The production of concert videos is strongly influenced by the technology used to create them. This is frequently a cell phone camera or a small handheld camera, which have a relatively low resolution (though resolution is constantly increasing in progressive new models) and are difficult to hold steady throughout a full recording (such as the length of a song within a concert). Many video creators are holding their device up and away from them to attempt to gain a clear shot, contributing to the issue. Other limitations of the technology–including microphone quality, limited zoom capability, and possibly limited storage capacity–also contribute to a specific type of object being created.

      Software also has an influential role in the production of videos. The format that a recording is made in will determine the level of post-production work, such as file conversion, that needs to take place after the recording is made. Software can also influence the size of a file, as well as the image quality. While this may be the original recording software that came with the device, there is an increasing presence of apps to help facilitate recording such events, including

examples such as YouTube Capture. This app was created by Google following their purchase of the YouTube website, and records videos to directly post on YouTube (Carter 2012).

Professional productions on the other hand, are capable of multiple camera angles, high quality sound recording, and a higher capacity to zoom for close views of the band, all of which creates a different object. There is a stylistic difference that is expected between professional and amateur quality concert videos, which includes both the technology involved and the choices made in the production. These choices play a large role. Amateur videos get little, if any, editing and post-production. Indeed, there are often fewer options for amateur creators, as they have only the sound and video recorded on a single device. Professional videos are edited composites of multiple cameras and independent sound recordings. In this way the technological devices that are used in recording are acting on the recordings themselves, and are also creating a set of expectations surrounding the final product.

Of the twenty videos examined from the Portland Pearl Jam concert, all but two of them showed at least minor issues with blurring and shaky images. With the low lighting of the concert venue, it was extremely difficult for the cameras to find a focal point. This was often an issue exacerbated by creators' attempts to zoom as much as possible, with the technology unable to compensate. The videos shot by creators closer to the band were the least likely to have these issues. Both the increased light available in those areas of the venue, and the decreased need to zoom for clear shots of the band put less strain on the technology used in recording. Many of the videos shot from closer up had additional issues with lens flare, however, as the lighting design often shone lights directly at the audience. Two of the creators, "Hans Meere" and "Mitch Q," chose to use the app YouTube Capture during the concert, which resulted in minor distortions that could be described as jittering, which were not seen in any of the other videos. The video with the fewest issues was of *Rockin' in the Free World* performed with Sleater Kinney (http://youtu.be/3-KdikXzuko), as not only the entire stage was lit during the performance of the songs, but the house lights were up as well. All of the videos were shot in a single take, and last for one to two songs. The length of these videos may or may not be the result of limitations of the recording technology used, or may demonstrate a choice made by the video creator related to song

preference. Video creators chose mainly to focus on the stage as a whole, with occasional use of zoom on specific band members (http://youtu.be/7wkrAV_wUFU). There were other interesting stylistic choices which showed up less frequently, including occasional shots of the audience and the large screens set up to provide close ups of the band to audience members too far away for good views (http://youtu.be/oagdkdAYOOQ?t=7m26s). These recording choices mimic those made in professional videos, such as in official music videos (see, for example, http://youtu.be/qQXP6TDtW0w or http://youtu.be/Kj-sFIHQWLY).

The first of the two full concert recordings is similar to the audience created videos posted from the Portland concert. There are occasional issues with blurring, with shaky footage and moments when the camera seems to have been jostled. The entire concert was also filmed in a single take, with alternative perspectives provided through the use of zoom. Despite these technological limitations, the video has good sound and video quality overall. The high-quality sound is most likely due to the separate recording of sound, which was completed by a different creator than the visuals. Each of these creators are acknowledged in the "about" section of the video description, neither of whom is the video's poster. This description acts both as the credits for the video, as well as providing a playlist with associated times to help viewers find desired points in the video. The second full length concert video represents a different approach to recording, as it is a composite of a number of videos shot by various audience members. This video also provides credits, both within the written description of the video, as well as at the beginning of the video itself. This video has a closer association with professional video aesthetics, as it is able to cut or fade between views of the band members, the audience and the wider stage. The creator of the video was also able to avoid using clips that were blurry or had other issues, resulting overall in higher quality visuals. Interestingly, the main video that was pulled from in the creation of this compilation was the video discussed above.

It is not possible to discuss all of the actants that are influencing the recording of concert videos, as there are simply too many factors at work. It is important, however, to recognize the extent and variety of the influences. For example, the technology chosen for the light and sound design of the concert, the lighting and sound

designers who made those choices, and the operators during the concert all have a profound influence not only on what the audience hears live, but also on the resulting recordings. Individuals who may or may not be associated with the artist or group also can have an influence, for example security guards and ushers who have been hired by the venue itself may have instructions to prevent recording at the event.

Circulation

Following recording at these events videos are circulated in a variety of ways, including posting on internet websites such as Vimeo and YouTube. As mentioned earlier, I have chosen to examine videos that have been posted on YouTube following their recording, as they provide a clear opportunity to examine the interactions that others have with the videos. YouTube allows for wide circulation of videos like many forums for posting, but also allows for effective searching. I was able to easily narrow down my focus to only those videos created from my specific concert example. Searching for videos tagged with the year of the concert and either the specific date or location provide a way to track the videos taken on that day. There are limitations resulting from inconsistent labeling however, as the creator is the individual responsible for titling and tagging of their own video. This can mean that information such as the location or date may have been left out of titles of videos recorded during the concert I attended. This will have affected not only my own ability to find these videos for research purposes, but also the ability of potential viewers.

There is an important aspect of temporality involved in these postings as well–videos are largely posted within a few days of the event, with a few exceptions posted within a couple of weeks of the event. This immediacy is also seen with the comments related to the videos, none of which were posted more than a month after the end of that leg of the tour. Though the band has continued their tour with performances in Oceania in January and February, and will be continuing later in the year with performances throughout Europe in June and July, most posting of videos and comments from the North American legs of the tour has not extended past this temporal boundary. The exception is seen with the full-length concert videos, the composite video, for example, was not posted until January. The

interactions have not ended either, as comments are still being posted in response to both videos.

Consumption

A viewer's consumption of a video begins with their search, which as I mentioned above is heavily influenced by how the creator chooses to label their video. It goes beyond mere labeling however, as each interaction with the video has an influence on those that follow. Videos are sorted algorithmically based on a number of factors. Some reflect the creator, such as the length of time that the individual has been registered with YouTube, but others reflect the interactions that viewers have, such as the amount of time people have spent watching the video (YouTube Creators 2012). Once a video has been chosen by the viewer, YouTube allows certain types of interactions. At the most basic level, the number of views that each video receives is catalogued, with multiple views by a single individual having an influence over the overall ranking of the video in the search results. Viewers have other options as well, such as "liking" or "disliking" the video, subscribing to the channel of the video's creator (which will then add additional videos by the creator to the viewer's account), and commenting on the video itself.

The interactions of viewers with videos from the Portland concert vary significantly. The video with the highest number of views on the date data was collected was of *Rockin' in the Free World*, played with a guest appearance by the band Sleater Kinney (http://youtu.be/3-KdikXzuko). At 23,377 views this was by far the most watched video, and the majority of the comments focused specifically on the presence of Sleater Kinney. The rarity of this guest appearance has resulted in this video becoming an outlier from the remaining data. No other video had over 3000 views, with those that were below 500 views also receiving significantly less interaction through either likes/dislikes or comments. There seems to be a correlation between the number of views that videos received and the quality of the videos. Videos that are blurry, shaky, and from large distances are less likely to have received a high number of views. It is sometimes possible to identify these issues based on the thumbnail that the creator chose to represent the video, which is assumed to be a good indication of the aesthetic of the video as a whole. While this may

indicate that higher quality videos are receiving repeated views from the same individuals, this cannot be tracked, and there is an equal likelihood that the structure of the website itself is acting to enforce this pattern. Further videos are recommended to viewers in two major ways – through a recommendation column in the right-hand side that is generated algorithmically based on the current video and past searches by the viewer, as well as similar analytics to those driving the main search pages, and through videos connected via the link of the video's creator. Many creators post multiple videos from a single concert. This trend can be seen in the videos from the Portland concert, eight of which were posted by two video creators.

The comments are perhaps the most useful source of information regarding the types of interactions viewers are having with the videos as objects, with other viewers, and with the video creators. As with the number of views, there are patterns to the comments reacting to the videos as well, with the highest number of comments occurring on the videos with the highest number of views. When these comments are all compiled together they fall within a few evident but flexible categories. First, comments directly related to the viewer's own experience at the same concert, which then can be placed into two subcategories: comments on the quality of the concert generally, and comments of the viewer's experience compared to that of the video's creator. Examples include:

> *"What a great show! I was there, so good. Thanks for the video. One of the best concerts I've ever been to for certain"* (http://youtu.be/z4g6XmElsbI).

> *"Waited 20 years to see PJ in concert! Thanks for this reminder of a great evening in PDX"* (http://youtu.be/z4g6XmElsbI).

> *"Awesome job on the video man […] we were in just above you and to the right I believe. Section 335, what a great show"* (http://youtu.be/Z_ysKmcKi-g).

> *"I was literally two seats away from you mmmmmhhmm"* (http://youtu.be/7wkrAV_wUFU).

The second main category contains comments by viewers who have been to or plan to go to a different concert, or who had an external interest in the band–often these were fans from different areas of the world. This category includes comments such as these:

> "great set list[…] can't wait for Seattle next Friday!!" (http://youtu.be/mVaKRLBbD2o).

> "[…] Thank you for posting this, here in Europe it is really good to check them how they played in the States……" (http://youtu.be/mVaKRLBbD2o).

My third category was reserved for reactions to the videos themselves, including both remarks thanking the creator for their work when making the video, and remarks about the quality of the video's recording.

> "Great video. I tried to use my iPhone and it turned out crappy. Was this with a digital camera? I'm going to Seattle show and was gonna try to bring a camera this time […]" (http://youtu.be/mVaKRLBbD2o).

> "The Moda Center has such great sound (they engineered it into the structure), and you can hear it in this video. Thanks for posting!" (http://youtu.be/tURrFPTsRMk).

There were two main commonalities between all of the comment types: connecting to lived experience and appreciation to creators. One of the common threads running through the majority of posts is the expression of a personal connection to the experience, the relation of what they are viewing to what they had seen, to their future expectations, and to a general appreciation for the music.

There is additionally a theme of appreciation to creators for sharing their videos. This was often the case for fans who were unable to attend the concert, and sought out videos after the fact. Each of these types of comments can create chains of interaction that reference past and future concerts, give or receive advice for recording technologies, and generally build connections between previously unrelated individuals.

Regardless of the level of interaction that viewers displayed with any one video there were clear trends in the types of comments that were shared in reference to the videos. Many viewers provided comments of appreciation for the video being shared. The vast majority of comments, however, were in reference to the viewer's own concert experience, with additional comments sometimes added of their own experience in reference to what the video showed, for example comparing the location of the viewer's seat in reference to where the video was recorded from.

The reactions to the concert videos from Philadelphia, were strikingly similar to those from Portland, but on a much larger scale. There were over 200,000 views of the single take video, with over 200 comments reacting to the video. The composite video had only about 4,000 views and 17 comments, but has also been posted for a significantly shorter period of time. This may also be a difference related to the thumbnails that were chosen to represent each of the videos however, as the single take video shows a clear close-up of the band's lead singer Eddie Vedder, while the composite video uses a thumbnail of the concert poster placed before the credits of the video and gives no sense of the video's aesthetic as a whole. The comments from these two videos also fit within the same categories as the comments from the Portland concert, including comments such as:

"I was at this show thanks for the upload great work!"

"Was standing ten back right in front of EV with a great set of fans about on both nights in Philly, simply THE best band on the planet. Roll on Europe in June July"

"Thanks for posting this!!!I didn't make it to the Philly show but seeing this makes it almost bearable!! ;) Love Pearl Jam and Eddie is amazing!!"

"Was supposed to go see PJ in Vancouver tonight but we couldn't make it. This helps fill the void. Great mix of new and classic greats. Thanks you for all you do Pearl Jam. :-)"

"I am happy to call this band home and also travel out of my comfort zone to see them. Italy 2014"

> *"this seems like it was pulled from the house camera with the quality and the sound. nice"*

> *"What kind of battery/camera/memory card do you use?"* (http://youtu.be/7aJsPNaZK4M).

There are also a number of comments that reference the unique nature of the performance–a theme that did not emerge with the comments from the Portland concert videos. One example can be seen in this comment:

> *"Sirens is so much more moving and effective with this imperfect, live and flawed as fuck vocal performance"*

Many of these comments were made in Spanish and Portuguese in addition to those in English:

> *"La raja…. Estos son secos…gracias por subir el concierto. Gracias P.J port u musica. Eddie gracias…Linda musica… Wena voz…y lo major te Toca Siempre. Golpea fuerte…."*

> *"Bien ahi el saludo para Argentina!!...en Yellow ledbetter"*

> *"O audio esta bom… que pena que você estava bêbado tremendo muito. ....kkkk"*

> *"Show maravilhoso com a bandeira do Brasil ao fundo. Obrigada Michael"* (http://youtu.be/7aJsPNaZK4M).

These comments also fell within the same categories, and many were directly related to Pearl Jam's tour in Argentina, Chile and Brazil earlier in 2013. These comments were also scattered throughout the comments made in English, and frequently were posted in response to an English comment. With the online ability to quickly and easily translate between languages, limitations only exist in the use of slang and abbreviations (which can be looked up as well even if they are not included in the official versions of online translation software). Through these interactions the same connections can be created between international viewers as are found between viewers who attended other concerts in the tour. The actions of the band, including referencing past concerts in songs, as they do Argentina, and

displaying flags from countries they have toured in, as they do for Brazil, help to create a sense of community that extends beyond a single concert by referencing past experiences of viewers.

CONCLUSION

Technology has a direct impact on individuals in a variety of contexts, altering the way in which people interact with one another and the world surrounding them, how they express themselves and to what audiences, and how they interact with the expressions of others. Technology will continue to have these influences, though in new and ever changing ways as one technological breakthrough follows close on the heels of another. Currently an examination of concert videos looks at works created by smartphones and portable cameras, but soon researchers may be examining the ways in which Google Glass (http://www.google.com/glass/start/what-it-does/) is changing the perspective of concert videos, or the way that recordings are consumed when they involve multi-sensory immersive recording through implants and biohacks (Monks 2014). Technology is not static, and research into the way individual technological objects act on human relationships and connections is by necessity not static either. For now, it is enough to say that the structure of websites creates a space with expectations, rules, and limitations. All of these factors combine with human agency to determine the content that each individual interacts with, and the connections that develop out of that interaction.

While technology is not neutral, the Web 2.0 is also not destroying the connections between people–as some doomsday-esque predictions have claimed it would (Putnam 1995; 1996; Turkle 1996, 2011, 2012). The number of researchers who disagree with those predictions is staggering, and there is an ever growing body of examples demonstrating the ways in which technology is helping communities to develop and transform (Broadbent 2009; Hampton and Wellman 2003; Katz et al. 2001; Wellman et al. 2002). Interactions online can create connections with lived experiences, and provide ways in which to share these lived experiences between individuals. While commenting on another person's concert video may seem like a limited connection, it is a step in building larger connections that may have previously been based on lived experience within much smaller geographic confines. These same types of

connections were built in the past, and again it is important to emphasize that technology is not changing the level of mediation people are experiencing, but increasing its speed and altering the form it may be taking. Concerts are special events, and it is the value of a unique, shared experience that individuals are using to build a sense of community. Referencing the location and perspective that each individual experienced gives a platform to build a connection that may or may not be built upon further. As one viewer commented in reaction to numerous complaints of specific songs not being played at Pearl Jam's second Philadelphia show:

> *"[…] there is absolutely no song in their catalog that they are required to play. […] The list changes every night, which is why each show is a special, unique experience – like fingerprints, no two shows are exactly the same"* (http://youtu.be/7aJsPNaZK4M).

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