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Our Perception of Scary Sounds
A Comparison of Films and Popular Music

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MPA 475: Senior Capstone

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8 May 2020

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Abstract

My Capstone Research Paper will be an analysis on the usage of “scary” sounds performed in popular music as well as a comparison to the practice of using similar sounds in film, making a note of any similarities or differences (ex. audience perception, use of visuals). I will also touch on the integration of scary sound effects alongside music scoring for film, specifically in the Horror and Suspense genres. With popular music being my primary focus, I want to elaborate on the cognitive psychology of audiences (in film and music) and their reactions to "scary" or "horrific" sounds to better explain the compositional process behind the integration of scary sounds. For context, I want to address the past usages of scary sounds in popular music and also cover some history of sound design and scoring in Horror films as well, showing how things have changed/stayed consistent over time, ie the incorporation of sound into film.

My definition of a scary sound is “A sound that, once perceived by an audience, brings on a reaction or feeling within the listeners of being afraid, uncomfortable, nervous, or uneasy. These can be unrecognizable and/or ultra- recognizable scary sounds, for example a gunshot versus a sawtooth wave synth at 60Hz”.

Introduction

Have you ever been driving in your car and listening to a song, when suddenly you hear a loud gunshot coming from somewhere in the car? Did you panic and call 9-1-1? Or were you expecting it when you put on the MP3 of NWA's "Fuck the Police"? Was the gunshot so loud that your ears were ringing afterwards? Or does it show that your in-car stereo system is muffled and distorted?

When it comes to listening to music, the location and context of listening is very important for the audience. Whether you are driving in your car, seeing your favorite artist at a venue, or watching a movie at the local theatre, the venue of the musical immersion helps your ears and brain better experience sounds. Specifically with scary sounds, it's a much different matter than if these scary sounds were heard in a real-life, more dangerous context. With the use of visuals, film can better replicate this immersive experience that brings audiences into a panicked state. However, popular music is a very different matter because the location of listening is often consciously chosen and expected when going to say a concert, get in a car with a radio, or walk in a cafe with a guitarist on a stool.

Both popular music and sound for film have compositional similarities of scary sounds and sound effects, as well as similar pre- and post- production editing techniques. However, in order for this to be done effectively, different techniques are applied to accommodate for the wide differences in context and location. In my paper, I will compare and contrast examples, taken from popular songs and film soundtracks/sound effects, that embody scary sounds and sound design which purposely vary due to changes in contexts and location, while bringing into light any similarities and/ or differences that pertain to the application of pre- and post- editing

techniques. In doing so, I will identify some of the most vital principles of sound editing for both settings and facilitate a more straight-forward understanding of the relationships between editing techniques for sound in music and film.

History of Scary Sounds used in Film and Popular Music

What designates a sound as scary, or why would a film director include it in their film?

Located within the book entitled, *The Horror Film*, is a chapter labeled *Toward an Aesthetics of Cinematic Horror*, where author Steven Jay Schneider gives us a personal definition that helps to define the criteria for scary. Schneider says that “the true subject of the horror genre is the struggle for recognition of all that our civilization represses or oppresses, its re-emergence dramatized, as in our nightmares, an object of horror, a matter for terror, and the happy ending, typically signifying the restoration of repression” (Schneider 132). He then goes on to give us some examples from 1970s Horror films that exemplify some repressed ideas turned into horrific themes. These include subjects like “children (*The Exorcist* [1973], *It’s Alive!* [1974], *The Omen* [1976]), homosexuality (*God Told Me To* [1976]), and other cultures (*The Manitou* [1978], *Prophecy* [1979])” (Schneider 132). In order to support these subjects in the films, an appropriate sound design is expected to include familiar, recognizable sounds of the subjects, ie children laughing or crying.

Take this idea of what is recognizable and apply that to a context in which a group of instruments or vocalists is to be the expected sound. In fact, back in the 1950s, a group of composers sought out to break away from the expected forms of Western music and create what we can think more as aural art. Also known as the Avant- Garde Movement, artists from all

mediums and backgrounds felt that a movement towards expressionism based art, rather than commercially acceptable art, would stimulate new ideologies and ways of thinking. Examples of this include composers John Cage or Edgard Varese who would often take full orchestras and compose pieces that could be considered by the audience to be unnerving or chaotic. Varese's piece, entitled *Deserts*, is not what one would expect to hear sitting in front of a full-piece string orchestra. Instead, the audience hears a slurry of tones and timbres that one must simply accept as a deliverable melody and not dance-able by any means.

History of Soundtracks for Film (includes Experimental Soundtracks)

Richard Allen talks about the experimental soundtrack in his scholarly-reviewed article entitled "The Sound of 'The Birds'", and explains the relationship between the already familiar sound of birds paired with a supernatural sound. The expectation from the audience are the familiar cheeps or chirps that we learned comes from birds, but that doesn't seem to be the case here. Allen explains that "the sound accompanies the birds and is caused by their presence but is not quite of the birds, at least not the natural creatures we are familiar with. It suggests their objective presence yet evokes something alien, something larger than, or beyond, nature. Furthermore, if we follow Hitchcock's train of thought, there is a subjective aspect to this sound, as if it is colored with anxiety and expresses the internal "noise" that a fearful, acutely sensitive, self-consciously sentient listener might "hear" (Allen 97).

Musical Compositions with Scary Sounds

Structurally, current popular music is repetitive and very predictable. Musical artists and composers for popular music have to abide by a standard that Western music has developed. For example, Western audiences are accustomed to hearing a “tonal” melody which is based on a “tonic” or home note and brings with it the feeling of completion and resolution. Current “pop” songs have simple melodies and consistent rhythms, to not only make them easy to dance to, but to also be more easily remembered and sing-along with later. Since the advancement of the computer and the evolution of musical production along with it, these characteristics are still very present. For example, EDM, or Electronic Dance Music, is structurally ultra repetitive and tends to stick to a very basic chord progression, if any at all. Another major similarity is the use of melodies and the way new Electronic artists still conform to Western standards of music.

Listening a little deeper into EDM, there might be a presence of some unfamiliar, or unrecognizable sounds, that aren't coming from a standard Western instrument. With the aid of Digital Audio Workstations, DAWs for short, musical artists are now capable of a whole variety of sound creation, manipulation, and composition that would otherwise take weeks to do on analog out-board equipment (still do-able though). With examples like “Copy and Paste” technology or an incorporation of a MIDI controller to facilitate the process, musical artists can streamline the composition process to a digital format, bringing it in a world in which production techniques are endless. With this infinite space of creation, musical artists still managed to sound so similar because, in the end, their songs must be appealing to their audiences and drive the popularity of the album. With enough experimentation, a musical artist must reconcile between what sounds good to them and what the audience likes to hear from them. As observed with

some current EDM songs, the melodies are very sing-able, as well as dance-able, and the sounds being orchestrated in the song don't obstruct from that purpose. A good example might be the musical group, the Chainsmokers, in which they incorporate trancy, EDM-style pitches on top of a dance-able drumbeat.

Synthesizers, since their introduction as an instrument, have battled to find their place in the musical universe. Being a “piano-looking” instrument, composers already imagine the expectation of audience members seeing it on stage and but then hearing like an Area-51 noise can be unnerving. But in the universe of DAWs, the Synthesizer is the staple that holds it all together. Without that piano-like physical structure, musical artists wouldn't be able to replicate the “well-tempered scale” that is already so familiar with Western audiences and compositions.

A popular trend has risen to the surface since EDM has become more and more popular, and that is the incorporation of “The Drop” into such electronically composed pieces. “The Drop” is a pivotal and essential point in Electronic Dance Music in which a transition occurs between the intro section and the first “A” section, in compositional terms. Audiences might hear a large build up of tension caused by what's normally a gradually ascending tone and a repetition in the drums (usually the snare drum) that quickly builds to a climax. A space is left between the final hits of the drums and the hard beginning of the main Dance section, where the suspense built up by the drums and the ascending notes is ultimately resolved. The glory of the drum's repetitive nature is that the EDM musicians are able to communicate with the audience when exactly it's time to dance and audiences of EDM have grown accustomed to this delivery and its timing. Despite its predictable delivery, EDM producers are notorious for messing with the timing of the Drop or adding Samples, or other unrecognizable recordings, in the space

mentioned that occurs at the end of the drum build-up. One of my personal favorites is the incorporation of a recording of a woman yelling “Call 9-1-1 Now!!” used by EDM artist Skrillex in his song “First of The Year (Equinox)”. This recording was taken directly from a YouTube video entitled “Crazy Lady yells at Skaters” and fully engages the audience's fight or flight reaction.

Music Production Techniques to Achieve Scary Aesthetic

Inside these Digital Audio Workstations are sets of audio production tools that allow engineers and producers to control the levels of instruments, edit the music digitally after recording, so much more. In order to achieve a scary aesthetic in films and popular music, certain techniques are more common to use to manipulate the experience of the audiences. To help us get a better understanding, I will include definitions of the techniques using the book entitled “Audio Production Principles” by author Stephane Elmosnino.

In popular music, both recognizable and foreign audio can be repeated or manipulated, using a technique called Sampling, in which a distinct sound is added to a song's mix that couldn't otherwise be performed by an instrument. As we might see in popular genres, like hip hop and trap, sampling is used to add a certain aesthetic or mood to the track that might resemble real-life sounds more than conventional instruments sounds. It has become a common strategy to implement sounds of police men or sounds of the “streets” in which the distinct sounds of gunshot, for example, adds fear to a song that speaks to the problem of “fear”.

In the context of mixing for popular music, the idea of panning is “to achieve as much separation between the instruments as possible by using only the X-axis of our virtual

soundstage” (Elmosnino 137). When we put on our headphones or play the music through our home sound system, a certain balanced array of sound is heard. And with proper positioning on this so-called “X-axis”, this allows the audience to distinctly hear all the instruments used in the song. But how would positioning change if you are presented with an image? Panning is used in film to connect the audio with the visuals on-screen that may be spread out across the screen. For example, if an actor/actress is on the left side of the screen then the audio will match, mixed on the far left side of the stereo field. Using panning in an attempt to spook the audiences means using a different strategy within the mixing design. If there isn't anything on screen, the audio could still be prominent in the left or right side of the screen. When the audio is not matching anything on screen, the audience could be expecting a monster to jump into frame or for the frame to turn left frantically to reveal the source of the sound. When panning is applied effectively in Horror films, sounds often feel like they are coming from behind you, where there isn't any visual to affirmate the scary sounds.

If one is designing sound for film and popular music, delay is a common technique to achieve a wider sound from the vocals and other instruments used in the mix. The sound signal that is repeated back, the distance between the initial sound and the repeated should be “between 60 ms and 120 ms as a way to add dimension and sheen without blurring the signal” (Elmosnino 119). But what if you want to blur the signal? Distortion can be caused by a more slapback or a delay that is less than 60ms. This can make things scary. When you hear a voice-like sound in a film, more likely than none it's an actual recording of a voice that gets heavy processing. Delay is a simple yet effective strategy for making a voice sound inhumanly massive, or monstrous by just allowing the repeated, echoing signals to interact with the source signal.

There are other techniques used in film and popular music specifically for vocals to give it a texture or timbre that will help enforce that scary delivery. A strong example of this is called chorusing, also known as doubling or multi-voicing, in which the original sound source is repeated and layered within itself but placing them in different frequency ranges underneath or on-top-of the signal. By also adding some “delays that vary from 10 ms and 20ms and very little feedback,... [you can] create a thickening effect on mono instruments” (Elmosnino 223). In this example, a mon instrument can also refer to a Voice but vocals are often treated more like an instrument than a voice when mixing for popular music. An example of this might be with artists like Twenty-One Pilots, who use the chorusing often on their vocals to sound dark and scary, almost like one would expect from somebody who is possessed by an evil-being. As you’ve probably guessed already, this is in fact that audio production technique that I was referring to. In many Horror films, especially those capturing the story of a possessed child or human of some type, are most likely to use this strategy of Chorusing to intensify this demon-like, human-like combination. Taken from example, like “The Conjuring” or “The Exorcist”, in order for this vocal processing technique to be effective, the original sound source must be distinguishable as a young girl or elderly man, otherwise an over amount of distortion from the doubling of signals just sounds bad and not scary.

Compare & Contrast Compositional Usage in Horror Film

The overall function of soundtracks in films is to support the mood or theme of the given on-screen visual. But current popular films incorporate much more than just music to support the visuals and the audience will hear real-life sound effects called “foley” to give more emphasis to

smaller, less audible sounds. In combination with these sound effects, the immersive experience can be controlled by something as simple as a change in melody. For example, Herrmann's main title for *Vertigo*, as we shall see, is unnerving in the context of tonal music. One of the reasons for the discomfort of the opening is the absence of a conventional melody, which denies the listener the familiar point of access.

Transition into Film with Sound

It probably isn't on your mind when you watch a tv show or movie, but subsciously the brain is constantly trying to recognize sources of sound in order to properly distinguish the visuals as well as help the body judge whether it should be in that "flight or fight" mode. Popular TV shows and cartoons are generally following people or animals which we as humans expect to hear a voice or voice-like sound that matches the visuals. But what if the sounds don't match the visuals? A term that might help describe this effect is called "Schizophonia", coined by Canadian composer and writer R.M.Schaefer. It is an academic word that basically "describes the splitting of an original sound and its electroacoustic reproduction" and a dislocation is created between what you hear and what you see. In an interview with Wired.UK, Shaefer explains that this can take "certain types of sounds that are good for you,... and if generated in a schizophrenic manner" is turn them into "a sound that [can] confuse the brain because it cant ascertain the source".

As you may have noticed already, a major difference in the perception of scary sounds is the visuals. Film takes full advantage of this aural/visual technique by creating an immersive experience for the audience, as do other mediums like video games. To reiterate, the venue decision is critical to the way the ears perceive sound and the brain tracks locations. In a journal

article (from an American quarterly film magazine that was established in 1967, entitled “Cineaste”) entitled “The Sound of Sound: A Brief History of the Reproduction of Sound in Movie Theaters”, authors Rick Altman and Stephan Handzo give a thorough history of the shifting of speaker arrangements, as theatres were starting to transition for settings suited for on-stage musicals into talking-picture houses. Voices started to become the most preferred audio to hear, “with only some reproducing synchronized musical accompaniment..” and for this reason, “ many experiments [for] locating the loud speaker [would be] near the projector and the sides of the screen, ... but nearly every early synchronized sound system settled on a speaker location behind the screen” (Altman 69). Altman also mentions how, during 1926 through 1930, filmmakers started to determine that the source of the underscored music be a pit orchestra, so a speaker re-configuration was then forced to present a speaker “located in the orchestra pit, pointing upwards, simulating the sound of the orchestra as it is displaced” (Altman 69). The Vitaphone was also a huge attribution to the Movie Theatres during the late 20s, as it was known to take better “advantage of the public address-like amplification provided by the behind screen speaker and now quite properly identified as *loud*” (Altman 69). Fast forward to the discovery of digital audio and the integration of Surround Sound Audio, which was first introduced to bigger, more commercial Movie Theatres by companies like Dolby and eventually created a new standard for sound design geared towards sound projected in Theatres. Also called the “5.1” standard, the speaker arrangement calls for six speaker; one dead-center, two on both sides angled at 60 degrees towards the audience, two “surrounds” placed wider at 100 - 120 degrees facing the audience, and finally a subwoofer placed anywhere. This modern design now gives both sound designers and music composers a new space to manipulate the audience’s

perspectives and ability to recognize the location of a scary sound. As an audience member, this new immersive design allows you to “watch theatrical films in a quiet room with a good sound system, [and] the darkened room and the big screen help you, [the audience], concentrate”(Rose Ch.4). With any film with sound design, “getting a good balance between picture and the *combination* of dialog, music, and effects, is vital” (Rose Ch.4), especially when it pertains to Horror and Suspense genres of film.

Looking back at the design of venues designed for reproduction of popular music there is huge similarity that is addressed from the start. A good sound system is vital to delivering a quality sound and guaranteeing that it reaches all of the audience inside the venue. In terms of visuals, audiences that frequent Live musical shows tend to want to observe the musician as they are performing in real-time and, with the exception of projected visuals and colored lights, will expect the audio to follow along. From my experiences, venues designed for popular music don't have the “Surround Sound” speaker arrangement, like the one mentioned above, and the majority of sound is being amplified through large stacks of Speakers spaced both above, and to the left and right of the performer/s. As one might also imagine when listening to headphones, the sound will either move with the performers on the stage or be evenly balanced in both the left and right side for optimum volume levels.

Sound Design for Horror Films (Integration of Real-Life & Alternative Sounds)

Similar to the musical technique of sampling, soundtrack composers for Horror and Suspense genres of film will incorporate real-life sound effects into the background music in order to build suspense in the audience. This occurs with both sound effects that match the

visuals on-screen and sound effects with dislocation that helps to create fear within the background music. A film production technique is used called “the Startle Effect” which author Robert Baird describes as a way “to get the audience to expect something and then catch them totally off guard from another direction”(Baird 14). In his article entitled “The Startle Effect: Implications for Spectator Cognition and Media Theory”, Baird explains that an effective delivery of the Startle Effect starts with a “character presence, an implied off screen threat, and a disturbing intrusion into the immediate space” (Baird 15). From Baird’s definition, we can already see how Sound designers play an integral part in convincing the audience of something off-screen, and to also support the “jump-scare” that occurs when an object/person is suddenly in the field of vision.

With little to no experience in sound design, film directors will often turn to outside sources in order to aurally achieve a scary aesthetic. For example, the soundtrack to *The Birds* was a collaboration with Alfred Hitchcock and *musique concrete* performer Oskar Sala. Coming from the necessity to produce supernatural sounds, film directors like Alfred Hitchcock find it appropriate to seek out non-traditional instruments that are unfamiliar to the ears Western audiences. In some cases, directors and musicians would experiment with, and manipulate, their instruments in order to achieve a certain “scary” sound. For example, in the film, *The Birds*, there is an instrument being played that is actually “the sounds of the birds themselves, which were created on an electronic instrument called the Mixturtrautonium, devised by Oskar Sala. The Mixturtrautonium was a more sophisticated, "solid state" version of an older valve instrument called the Trautonium, invented in 1929 by Sala's mentor, Friedrich Trautw” (Allen 98).

Conclusion

For popular music, “scary” or “horrific” sound design is an option for musical artists who are wanting to fit in a particular genre, ie Trap or Hiphop, and popular artists are often viewed as experimental when using production techniques for a “scarier” aesthetic. For film, especially those in the Horror or Suspense genres, the integration of scary sounds with music are vital to an effective scare from the audience. In certain cases, the visuals are in sync with the audio, but the dislocation of the audio the visuals can also add to the effective scare. Composers and sound designers for film are taking into account the context of the listening environment with respect positioning of the theatre’s speaker arrangement. Popular musical artists are similarly doing the same when they compose their pieces, whether it's for live performance or recording. As popular music deals mostly with stereo (left/right) listening environments, the function is different from film in that no visuals are being matched. And with the dawning of digital editing, composers for popular music and film now have a more accurate and facilitated process for pre- and post- production work.

When you watch the next movie or show or put on a song to dance to, listen deeper. What exactly do you hear? It is similar to a sound or song you’ve heard before? Above all. Why are you scared?

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