

The Physio-Emotional Effects of Audio  
in the Global Christian Church

Evelyn Hanks

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Christopher Underation, Ph.D.  
Thesis Chair

---

Kornel Gerstner, M.F.A.  
Committee Member

---

Marilyn Gadomski, Ph.D.  
Committee Member

---

Cynthia Goodrich, Ed.D.  
Assistant Honors Director

---

Date

### Abstract

Audio, specifically as researched by the film industry specialists, has physical and emotional effects on those exposed to it. These effects follow from manipulation of sound's characteristics in specific and measurable ways. The responsibility of the Christian is to share the gospel with others and support the kingdom of God with his or her skills. In light of these truths, Christian audio specialists should have a thorough knowledge of the physio-emotional effects of audio. Further, they should not shy away from applying strategies from secular audio research to benefit local churches across the globe.

*Keywords:* Film sound design, church audio, Christian sound engineering, modern evangelism, sound and emotion.

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The Physio-Emotional Effects of Audio  
and its Place in the Global Christian Church

Audiovisual input makes up a large part of the shared human experience. It is critical in fostering normal development, communication and information processing skills in children and adults alike. Traditionally, audiovisual input was limited to the immediate experience of individuals in the natural environment. Very loud noises were associated with natural disasters or traumatic events such as engaging in battle. To modern man, trauma and peace are artificial constructs. While silence is arguably never possible outside a vacuum, the illusion of silence is often created in a theater context (Sonnenschein, 2001). Technology has enabled filmmakers to create unseen worlds and experiences that in previous centuries could never be imagined. This newfound capability brings with it a multitude of ethical challenges for the sound designer of the modern age. Of course, not all sound manipulation is wrong. If every contrivance in this world remained purely natural, many medical, agricultural and communication tools would never have existed. However, with each new technology comes a struggle to integrate it with existing contrivances and established ethical codes. The Christian media professional approaches new technologies with an added layer of inquiry. How does this invention serve the church in its mission to spread the gospel to all nations? What avenues of distribution are available, and how can they be maximized to spread the new content for the cause of the gospel? The answers to these questions can be found by exploring audio's capabilities alongside Biblical mandates to fulfill the great commission.

Finding the convergence of technological capability and Biblical submission to the Holy Spirit is the challenge for the Christian audio specialist of the future.

In beginning a discussion of audio's spheres of influence, it is difficult to address audio alone without the aid of another sense to interpret it against. In the existing literature, the sense of sight has been extensively researched alongside audio (Alten, 2014). Because of the abundance of media combining audio with visual input, it makes sense to base the exploration of audio's power in the context of its usage in film (Alten, 2014). A wide range of other forms of audio exist including podcasts, recorded music, worship experiences, and the spoken word (Alten, 2014). However, the difficulties in separating the audio components of these mediums from the user's other experiences would be difficult to quantify (Alten, 2014). Film, specifically in the theatrically projected context, has the unique ability to combine two senses of input with minimal stimulation of the other senses (Alten, 2014). Thus, the foundation for discussing audio media's role for the modern church will begin with a broad view of modern capabilities of the audio craft in the context of film.

To pursue an analysis of audio's role in film, several conceptual foundations must be set in place. First, there must be a properly constructed understanding of the characteristics of sound itself, including loudness, pitch, frequency, timbre and silence (Sonnenschein, 2001). Film-specific terminology for audio techniques should be clarified to ensure consistency of meaning (Nagari, 2016). Secondly, the relationship of music, sound effects and dialogue in the narrative film should be explored (Kickasola, 2012). A thorough inquiry must also be made as to the tools now available to manipulate these

components to achieve psychological and emotional ends in the motion picture (Roberts & Lerner, 2014). Having covered these topics, there will be sufficient groundwork in place to theorize on the role of audio in the global church today.

### **Basic Characteristics of Sound**

The most basic characteristics of sound such as volume, pitch, and reverberation provide a wealth of information to the mind without a conscious thought (Alten, 2014). The human ear can distinguish many shades of sound heard within seconds of each other (Sonnenschein, 2001). Each film soundtrack is a blank canvas for audio artists to fill. These facts necessitate a near scientific awareness of the limits and capabilities of sound design in order to achieve some measure of success. Manipulating sound may be complex in application but its component characteristics are simple.

### **Loudness, Attack and Decay**

Intensity, also known as loudness, is one of the most basic and observable qualities of any given sound event. (Sonnenschein, 2001). Loudness is a word humans use to describe the relative impact of a sound against the backdrop of quieter events (Alten, 2014). Like temperature, intensity is relative (Alten, 2014). Loudness is so tied to sound meaning that most people take for granted the nonverbal cues received from sounds like that of a door being opened and shut (Murch, 2005). If this sound is noticeably loud, it may indicate an incoming visitor. If it is quiet, it is interpreted as a further distant event like a family member closing a bedroom door down a hall. Attack is a term which describes the sudden or gradual onset of a sonic event (Eitan, 2013). Eitan (2013) described attack as the time it takes for a sound to go from silence to full presence.

The attack of a trumpet blast is fast, while the attack of a train approaching from miles away is slower, reaching its climax after several minutes of waiting by the tracks. Decay is the time it takes for a sound to fade into relative silence after the climax ends (Eitan, 2013). It is essentially the reverse of attack, so the examples of trumpet blast and train still apply, only in reference to a note ending or a train traveling away from a listener (Eitan, 2013).

These qualities taken together create what is known as the shape of a sound event. Sound shapes range from impulsive (sharp) to reverberant (oval), and environmental factors influence the shape of an event (Sonnenschein, 2001). Does it quickly attack and fade or linger in the hearing for a longer period of time? Is it absorbed by a soft surface, bounced from a hard wall or nearly lost in a clatter of raindrops? The answers to these questions form structures to analyze any sound based on its inherent and perceived qualities (Sonnenschein, 2001). Sounds with faster attack are often perceived as louder than gradually building events (Sonnenschein, 2001). From slight differences in a stereo mix, directional indicators can be created by changing the volume levels directed toward each ear. Similarly, surround sound adds new dimensions to the power of volume in creating a virtual auditory sphere (Hausman, 2016).

### **Pitch and Frequency**

Frequency and pitch are additional building blocks of sound events. Careful manipulation of these qualities can create fear responses, build climactic emotional moments, and achieve innumerable other feats (Alten, 2014). Most are aware that sound travels in the form of waves. These waves vibrate the air at varying frequencies or



numbers of vibrations that occur in a constant time frame (Alten, 2014). The time unit used is the second, so frequency is measured in Hertz, a term for cycles per second (Sonnenschein, 2001). The average human can hear frequencies between 20 Hertz and 20 kilohertz (Sonnenschein, 2001). The brain interprets these frequencies as higher or lower pitches (Sonnenschein, 2001). Pitch cannot be precisely measured because it is the brain's subjective perception of the frequencies it hears (Sonnenschein, 2001). In other words, two people could be exposed to the same frequency wave but hear two different pitches (McGovern Institute for Brain Research at MIT, 2018). In summer of 2018, a multi-frequency sound file combining the names "Laurel" and "Yanni" gained internet popularity because different listeners heard one word rather than the other (McGovern Institute for Brain Research at MIT, 2018). The Laurel versus Yanni debate was explained by two neuroscientists from the Massachusetts Institute of Technology. In a video interview, Kevin Sitek showed a spectrograph audio diagram of the frequencies being sent to the ear. He explained that listeners interpreted ambiguous frequency signals differently, leading to varying pitch perceptions though presented with equal stimuli (McGovern Institute for Brain Research at MIT, 2018). Variances in frequency can also create illusions of amplitude change (Eitan, 2013).

Despite the subjectivity of pitch perception, it has some commonly experienced characteristics. Pitch can be described as possessing two characteristics: circular and linear. The linear element determines the height of a pitch, while the circular component defines each pitch's placement in the octave. Readers can visualize it as "an ascending spiral, describing one helix per octave, so that octave tones are spatially arranged

vertically above each other” (Shimizu et al., 2007, p. 2). A common conceptualization of the pitch spiral looks much like a popular children's toy, the Slinky. Although pitch height does not exist in a physically measurable sense, humans tend to associate physical elevation with an increase in pitch height (Eitan, 2013). Higher pitch is generally associated with higher levels of emotional valence or pleasantness, youth, or femininity (Eitan, 2013).

### **Timbre**

A range of emotional responses can be created using the brush strokes of sound color or timbre. A group of theorists explained that timbre is often referred to as the color of sound because it is so difficult to define (Patil, Pressnitzer, Shamma & Elhilali, 2012). Timbre perception enables humans to distinguish similar voices, instruments and sound sources from each other (Patil et al., 2012). It is the *je ne sais quois* of audio, which is separate from measurable characteristics of the sound. If a soundtrack is a recipe, frequency and loudness are measured ingredients, while timbre is the ability to distinguish nuanced flavors (Patil et al., 2012). While numerous examples could be conjured, one author used Stanley Kubrick's *The Shining* (1980) to describe the stimulation of a fear response through timbre. Fahlenbrach (2008) explained a scene's complex timbre which featured high frequency vocal sounds along with a disordered musical score. The filmmaker strategically paired frenetic video footage with timbral depth to illustrate a character's panicked flight (Fahlenbrach, 2008). Creating complex but aurally cogent timbre is a challenging task (Fahlenbrach, 2008). Just as the eye can be overwhelmed by a busy art piece, so the ear can only recognize a few sounds at any given

time (Sonnenschein, 2001). Generally, audiences can only distinguish between two sound profiles when they vary significantly in directionality, pitch or timbre (Sonnenschein, 2001). Sound has an added disadvantage to art in that the beholder cannot peruse different areas at his own pace. He must ingest the content at the speed it is thrust upon him by the sound designer (Donnelly, 2014).

### **Silence**

White is described as the absence of color, but silence is much more than the absence of sound. Scientists rightly assert that silence is impossible in any viable space (Sonnenschein, 2001). Only living humans can distinguish between silence and sound (Russell, 2006). Basic vital functions such as heartbeat and blood circulation make sounds, though humans do not pay attention to them (Sonnenschein, 2001). Silence is therefore never achievable, but in the current context can be experienced relative to the volume of other sounds in the environment (Russell, 2006). This type of qualified silence is a powerful tool for the sound designer. A sudden dip in volume level induces expectation and an instinctive search for a cause (Russell, 2006). Conversely, silence is often followed by an extremely loud event, which may contribute to an eerie feeling that prolonged silence can bring. A storm after a period of calm creates a shock akin to the visual effect of a sudden black screen (Russell, 2006). However, the power of sound design carries far beyond the ability to startle an audience. Silence comes in many forms, as can be observed by the many varying room tones that exist despite apparent silence (Luko, 2016). Air conditioner units, distant machinery or forest sounds may influence a room's aura without its occupants' awareness. The movie *Winter Light* was created with

intentional room tone as a mood-shifting force. In fact, director Ingmar Bergman deprived the soundtrack of room tone, which typically adds life and context to silence (Luko, 2016). Bergman created a stark and "suffocating loneliness" which mimicked the visual imagery of a stark and shadowless country church (Luko, 2016, p. 204).

Intensity, silence, frequency, pitch and timbre are among the most common descriptive components of audio events. By understanding these concepts, the sound designer can move on to specific strategies to shape them using film-specific methods. These methods apply to many forms of expression besides film, but the following clarifications will prepare the reader for the peculiar terminology of film-based audio discussions.

### **Film-Specific Audio Terms**

#### **Diegesis**

Diegesis is used in film scholarship to distinguish types of sound sources heard by an audience (Winters, 2010). Diegetic sound appears to issue from the on-screen world naturally (Winters, 2010). Examples include dialogue between pictured characters or radio music that increases in loudness as the character turns a volume knob (Winters, 2010). Non-diegetic music or sound does not directly correlate to the picture (Winters, 2010). Narration and music added for effect fall into the realm of non-diegetic sound (Winters, 2010). In the age of the silent film, all music was nondiegetic. However, modern audio advancements make it possible to paint heavily with a fictional brush while maintaining the illusion of reality (Nagari, 2016).

Some scholars have rejected the distinction between diegesis and nondiegetic sound as a false dichotomy (Nagari, 2016). Researchers have suggested new terms for exceptions to the diegetic or nondiegetic labels. There is not a consensus as to the additional types of sound, but theorists have suggested the following three terms (Nagari, 2016). Empathetic sound is one that matches the mood of the film piece and actions, while anempathetic sound mocks the characters (Nagari, 2016). This is central to the discussion of counterpoint, which will be addressed in a subsequent section (Robertson, 2009). Synchresis artificially fuses a visual and auditory event together, though they are not linked in reality (Nagari, 2016). For example, a gunshot sound synced with the visual click of a pen may indicate a flashback while the picture alone would indicate nothing out of the ordinary (Nagari, 2016).

Some say even these definitions are insufficient, explaining that music can itself be a character because it occupies a similar narrative space (Winters, 2010). Similarly, they argue that some music transcends the dichotomy by embodying and shaping rather than merely depicting a character's feelings (Winters, 2016). In *Saving Private Ryan* (1998), the conflicted character Captain Miller breaks down and weeps. In the scene, "we hear low clarinets and strings, and it is only by pulling himself together that he silences the music seemingly emanating involuntarily from him" (Winters, 2010, p. 241). Winters argues that the music, which would traditionally be labeled non-diegetic, is as legitimate a character as Miller and interacts with him on a complex level. While controversy exists as to its application in some cases, the original model of diegetic and nondiegetic sound still provides a practical resource for describing filmic sound events.

### **Montage and Time Stretching**

Another term that exists in the world of film is montage. While the word has separate meanings in different disciplines, filmic montage is the technique of showing samples of footage to portray the passage of time quickly (Buhler, Neumeyer, and Deemer, 2010). In a film directed by Robert Zemeckis, the main character of *Forrest Gump* (1994) is shown running in montage (Zemeckis, 1994). With each progressive shot his hair gets longer and longer to indicate the passage of time, while the song Running on Empty by Jackson Browne propels the montage forward (Zemeckis, 1994). The audience perceives that months have passed by in the space of about one minute. The aim of montage is generally to remain unnoticed while clearly sending visual messages the audience needs to gather the meaning of the scene (Buhler et al., 2010). An unbroken musical piece helps to smooth the shots together and nonverbally communicate that the footage is linked in some way (Buhler et al., 2010). This music, usually louder than it would be in a normal scene, hints that something besides reality is being intentionally depicted to provide the audience with context (Buhler et al., 2010). Montage is but one form of time shifting in the motion picture. Time is usually compressed for a plot to be able to unfold in a relatively short period. Sometimes the opposite is true, and time needs to be stretched to give a pivotal moment space to develop properly (Sonnenschein, 2001). Time stretching is often found in fast-paced war films, in which crucial decisions are made in short periods of time (Decker, 2017). The movie *Saving Private Ryan* (1998) provides an example of this strategy (Decker, 2017). A soldier makes a crucial decision in the stretched time between the click of a grenade activation and the subsequent

explosion (Decker, 2017). Diegesis and creative bending of time in film are just a few of the ways audio can change the perceptions of a listener.

### **Elements of Sound Design**

#### **Music**

At times, culturally relevant or familiar music creates layers of meaning in a film. The use of existing music is a point of connection with audience members who recognize a piece even before its lyrics are audible (Favreau, 2008). A classic example of this phenomenon is evident in the 1979 film *Manhattan*, directed by Woody Allen (Biancorosso, 2016). In a portrayal of a love triangle, three individuals are shown listening to a symphony amid palpable tension among them. The irony of the situation is heightened when the oblivious orchestra begins playing a piece from the tragic Mozart opera "Thus Do They All, or the School for Lovers" (Biancorosso, 2016, p. 11). The overture may, for some, recall an epic narrative of betrayal and the fickle nature of love. For others, it may provide no meaning, only masking the awkward silence which would linger among the three parties of the love triangle (Biancorosso, 2016). A more modern instance is a timely blast of music played just after Iron Man reveals his identity at the end of the character-titled 2008 film (Favreau, 2008). Black Sabbath's 1970 song *Iron Man* embodies the character's rock-star bravado, while adding a touch of fourth-wall-breaking humor (Favreau, 2008). However, to a viewer not familiar with the song, it would take several minutes past the initial notes of music to retrieve even part of the contextual humor immediately available to those in the know (Favreau, 2008). The key point which applies to all forms of music in film is that it thematically shapes the story

and the audience's view of the events occurring on screen. The only exception is a break from consonance as an artistic choice, which does not diminish the importance of intentionality in film music (Kalinak, 2010).

Though it has a separate meaning in musical circles, counterpoint in film is best defined as "the simultaneous and contrasting combination of two or more melodic lines or voices, held together by common motifs and harmonies" (Robertson, 2009, p. 13). Sergei Eisenstein, prominent Soviet filmmaker and director of *Battleship Potemkin* (1925), made use of counterpoint and polyphony to develop a new theory of film scoring (Robertson, 2009). He was instrumental in establishing sound and music as two independent but complementary forces or "independent variables" (Robertson, 2009, p. 13). Each could stand alone but when viewed together would illuminate elements of the other medium not previously noticed. The key to counterpoint is that each contrasting line must be strong enough to be followed alone, but create a grander meaning when combined (Robertson, 2009). An example of anempathetic counterpoint is the use of an upbeat and cheerful tune used to accompany a torture scene (Kalinak, 2010). This occurs in the film *Reservoir Dogs* (1992), in which a psychotic villain's gleeful torture of a victim is accompanied by a 1970s pop song (Kalinak, 2010). An increase in the music volume is meant to create an unconscious sense of enjoyment in the viewer (Kalinak, 2010). The pairing of auditory enjoyment with visualized horror only serves to heighten the already disturbing nature of the torture scene (Kalinak, 2010).



**Sound Effects**

Sound effects are among the most influential yet unnoticed aspects of a film's production (Decker, 2017). Even the simplest of effects such as footsteps are recorded with great care in postproduction and carry a cache of subconscious information as to the personality, age, weight, or confidence level of the character (Decker, 2017). Decker described this phenomenon in relation to war movies and the importance of overly crisp footsteps in ensuring a positive perception of uniformed military personnel (Decker, 2017). Environmental effects such as room tone and ambience offer subconscious clues about the space a film takes place within. The uncanny ability humans were given to tune in to certain sounds based on a hierarchy of importance is fascinating (Sonnenschein, 2001). Through a process called entrainment, the ear naturally disregards familiar environmental sounds rather than interpret them as meaningful (Sonnenschein, 2001). Many sounds such as breathing or a computer's hum are usually subjected to entrainment. The ear is also equipped with an opposite capability. A person can actively filter multiple layers of noise and focus on a single conversation over another of equal volume (Sonnenschein, 2001). As nontraditional composer and theorist John Cage put it, "Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating" (Cage, 1961, p. 6). The fact that much of auditory processing involves choice creates a unique challenge for filmmakers. The sound designer must choose for the audience how much of an environment is available to the brain to interpret (Sonnenschein, 2001).

## **Dialogue**

Several factors influence dialogue as a sound design element in the narrative film. There are many uses of audible dialogue or an intentional lack thereof. Theatrical speech is meant to be heard and understood clearly by the audience, while elimination of speech can add to mystery or create a sense of realism. For example, characters might be seen talking in the distance among city traffic. The fact that their conversation is inaudible can immerse the viewer into the reality of the created scene (Sonnenschein, 2001).

Narrators and other disembodied voices are important elements of vocal sound design, if not technically classified as dialogue. Joseph Kickasola (2012) provided an example in which a character hears a disembodied voice speak to her while keeping vigil by a hospital bed. Only later do the audience and character find out that the speaker is a patient lying nearby and separated by a screen (Kickasola, 2012). Without context, the tendency of viewers is to assign the identity of narrator to any disembodied voice. If not quickly clarified, this veiled character can distract or create a sense of mystery as to his or her role (Kickasola, 2012).

While all forms of dialogue can bring a film from good to great, few realize that mixing them well is equally important. One example of the power of dialogue mixing comes from the film *Forrest Gump* (Zemeckis, 1994). In a scene depicting the main character's childhood, the adult Forrest's first-person narration dominates the sonic atmosphere (Zemeckis, 1994). Low-volume dialogue of his mother and the boarders at his childhood home are barely audible, but present (Zemeckis, 1994). This is an example of dialogue volume as a crucial element that changes based on the perspective of the

protagonists and is not necessarily congruent with visual events onscreen (Zemeckis, 1994). The proper tone of dialogue for the onscreen space must be considered in both production and postproduction (Sonnenschein, 2001). The sound of dialogue should change based on the Eigentone or fundamental resonance of a space (Sonnenschein, 2001). This is due in part to the physical reflective qualities of the space, but also plays a role in acting. Two people engaging in a serious conversation in an office cubicle will speak much differently than if they had the same conversation on a boat with a loud motor humming and the benefit of privacy (Sonnenschein, 2001). Narration is typically treated as an exception. Most sound recording engineers try to capture narration tracks in sound-absorbing studios rather than lend an environmental flavor to the voice (Alten, 2014).

Music, sound effects and dialogue each comprise an integral part of a soundtrack. While the methods for manipulating these elements vary, each offers a unique opportunity to influence an audience or congregation.

### **Physio-Emotional Effects of Sound Design**

#### **Emotional Responses to Sound**

Audiovisual perception is a powerful force that can be examined through neuroscience. Several neuroimaging studies showed that auditory information strongly influenced the emotional responses of subjects presented with congruent visual input (Kuchinke, Kappelhoff, and Koelsch, 2013). Significant differences in activation levels were present in regions of the brain responsible for affective processing: the amygdala and hippocampus (Kuchinke et al., 2013).

Music in a soundscape has a unique power to influence the subconscious mind (Donnelly, 2014). In the videogame *Plants versus Zombies* (2009), players battle a horde of slowly approaching zombies whose motion is monotonous and heedless of the player (Donnelly, 2014). The music repeats in a relatively short and mindless loop which mirrors the attack of the zombies. Donnelly (2014) pointed out that unlike most games, the musical score does not change based on the gameplay or moods such as suspenseful or victorious. Instead, its indifference is deliberate and exacerbates the constant drip of anxiety caused by the crawling zombies (Donnelly, 2014).

Another trigger for emotional responses is tampering with the expected link between audio and visual events (Roberts & Lerner, 2014). The consistency of sound's relationship to action is so integral to human security that even a slight change can be unnerving (Roberts & Lerner, 2014). The sound of clapping is as inseparable from the action as shadows are from the objects they represent. Just as shadows drawn in conflicting positions are disturbing, manipulation in sound design can toy with the mind's security (Roberts & Lerner, 2014). In horror videogames, sound designers can send hints of an approaching foe from the wrong direction to make its appearance even more startling (Roberts & Lerner, 2014). Unpredictable sound stimulates one of the most deep-seated fears, that is, a distrust of one's own senses. Videogame users feel drained but captivated as they sink into a hostile and immersive world (Roberts & Lerner, 2014). A fear response creates adrenaline in players and causes an intense engagement with the game despite the stress it creates (Roberts & Lerner, 2014).

The Shepard tone is another unconscious auditory which causes stressful emotional impact (Sonnenschein, 2001). When 3 octaves of a scale are played simultaneously, the brain interprets the rising pitches as an escalator-like constant ascending tone (Sonnenschein, 2001). When the tones are blended together rather than played as distinct notes, an effect like the constant takeoff of a plane can be made (Sonnenschein, 2001). Shepard tones create a mental sensation like the physical one felt right before a sneeze (Sonnenschein 2001).

Unconscious behavior modification is another side effect of audio exposure. Studies have established that podcasting tends to introduce both new ideas and behaviors to listeners. In one study, shoppers were exposed to a five-minute podcast on the health benefits of foods rich in Omega 3s and other fatty acids (Deepika & Palmer-Keenan, 2014). After listening, their shopping choices shifted to include some of the foods listed in the podcast (Deepika & Palmer-Keenan, 2014).

### **Physical Responses to Sound**

Very high or low frequencies can cause physiological responses in listeners. Low frequencies known as infrasonic frequencies can be felt as physical rumblings rather than perceived as sounds (Kuchinke et al., 2013). Subwoofer speakers at a rock venue can cause a visceral pounding sensation in the torso, while mid-to-high range frequencies tend to resonate in the chest, neck and head (Kuchinke et al., 2013). Audio input approaching the top of the audible spectrum can cause extreme uneasiness or chills in a listener (Kuchinke et al., 2013). A study measured music's influence on emotion and body movement (Burger, Saarikallio, Luck, & Toivianen 2013). The results showed that

sad music produced small, slow actions, while happy music tended to produce light, fast motion and upward arm gestures (Burger et al., 2013). Other emotions such as tenderness and anger were found to have their own profiles of body movement that remained consistent across multiple subjects (Burger et al., 2013). Neuroimaging shows that positively perceived music consumption causes a change in dopamine levels. If a sound is considered pleasing to the ear, there is increased activity in the nucleus accumbens, an area of the brain linked to reward-based pleasure (Kuchinke et al., 2013). Just like exercise, eating, or human interaction, audio input can significantly shift mood-related chemicals the brain produces (Kuchinke et al., 2013).

### **Physio-Emotional Effects on Children**

A special consideration of developmental factors shades discourse about audio's effects on young people. The audio professional holds significant power over the unsuspecting adult audience. The impressionable state of developing brains would suggest this impact to be even greater on the mind of a child (Murch, 2005). Even six-month-old children were determined to have a shift in attention directed toward sounds which increased in loudness over time rather than remaining constant (Eitan 2013). The human mind, especially an adolescent one, is highly moldable based on sense experience and emotional input (Murch, 2005). This is evident as early as prenatal development (Murch, 2005). At about four and a half months after conception, a child's sense of hearing becomes active (Partanen et al. 2013). A 2013 neural study established that infants retained increased neural activity toward sounds they were exposed to in the womb (Partanen et al., 2013). When a child is born, he can already distinguish his

mother's voice (Murch, 2005). Further, an infant's first cries vary culturally depending on native linguistic patterns of his parents' spoken language (Partanen et al., 2013).

Heartbeat measurements have shown that babies' heart rates drop slightly while listening to the mother's voice, indicating a calming effect (Murch 2005). Studies of the growing infant brain have established a great degree of plasticity, which can be influenced even by slightly varying aural input (Trainor, Lee & Bosnyak, 2011). Infants exposed to similarly pitched guitar and marimba notes displayed differing levels of awareness when exposed to varying unfamiliar sound colors (Trainor et al., 2011). While infancy is characterized by rapid developmental potential, the mind retains a great degree of plasticity well on the way to young adulthood (Johnson, Adams, Ashburn, & Reed 1995). In a study on the effects of music with violent lyrics, adolescent girls regularly exposed to the music had a more sympathetic view of dating violence than those who did not regularly view music videos of songs with violent lyrics (Johnson et al., 1995). Over time, desensitization can not only cause indifference, but it can also lead to youths mimicking the violent behaviors they view (Mrug, Madan & Windle, 2016).

The current line of audiovisual research is an ever-expanding field. It has continued to broaden with the advent of neuroimaging technology and the rise of media as a burgeoning societal influence (Tan, Cohen, Lipscomb, & Kendall 2018). Most research involves studying how sound shapes and reinforces the visual images being displayed (Tan et al., 2018). This is based on the long-held assumption that visual images were dominant and only received minor enhancements from the addition of certain musical motifs (Alten, 2014). More recent efforts have centered around audio as an

independent force, whose perceptions can be shaped by the image (Tan et al., 2018).

While many aspects of audio have been addressed in the context of film, there are still other ways that it has been used to shape ideas. Whether used along with the powerful lyrics of a song or a persuasive intonation of the voice, audio's power beyond the effects mentioned here are broad and difficult to quantify.

### **Audio and the Church**

From these observations about the physical and mental effects of audio, it can be inferred that the medium is a powerful tool in influencing people. Throughout recorded time, the Bible has also established that audio has significant power (Romans 10:17, New International Version). For the Christian, there is no more emphatic call to influence hearts than to evangelize the lost and disciple the convert (Acts 1:8, New International Version). This call is to be followed using any ethical means available. As the apostle Paul explained "I have become all things to all people that I might by all means save some" (1 Cor 9:22, New King James Version). Whatever time period the Christian finds himself in, he is always called to use all his resources to reach people. Christians who have chosen the media profession share a unique call to surrender their skills to the Holy Spirit's grasp for the betterment of the body of Christ (Acts 1:8, New International Version). Because the field is constantly evolving, this responsibility can be undertaken more easily by following unchanging and Biblically grounded guidelines.

Audio is among the most powerful tools for experiencing God's presence and evangelizing the lost (Romans 10:17, Message Version). The book of James contains a series of analogies about the power of the tongue. A notable passage in James 3 compares



the tongue to a raging fire. It also likens a person's actions to a ship, which is "directed by a very small rudder wherever the inclination of the pilot desires" (James 3:4-10).

Social media, recorded audio, and visual arts are all means of expressing an idea which could be verbalized by the tongue. Thus, any communication tool can be classified as an extension of the tongue described in James 3. Just as the tongue holds an immense power of influence, so audio at large can nudge the mind and actions toward goodness or evil.

Throughout the Bible, audible events have been wielded for the advancement of both goals (Romans 10:17, English Standard Version).

### **Sound as a Herald of Goodness**

Audio accompanying goodness and holiness can be found in countless places in Scripture. As Romans 10:17 blatantly asserts, "So faith comes from hearing, and hearing through the word of Christ" (Romans 10:17, English Standard Version). Audible words have the ability to pierce the soul even more than written ones. Audio also serves as a precursor to the presence of God. This took the form of a "sound like that of a violent rushing wind" in the book of Acts (Acts 2:6, English Standard Version). The sound brought a rowdy crowd together in hushed bewilderment and primed them to hear God's word spoken to each of them in his or her own language. At other times, the voice of God caused a similar reverence using audible events. One example is from the life of the prophet Elijah, who came to the mountain of the Lord after 40 days of wandering in the wilderness. He heard a strong, rock-breaking wind, an earthquake, and a fire. Each time, Elijah may have expected to hear a deep voice booming from the heavens. Instead, he heard "the sound of a low whisper," described in some versions as a still, small voice (1

Kings 19:9-12, English Standard Version). Both times, high intensity audio experiences led to extremely personal encounters with the spirit in the quiet of the heart.

Emotional response to music is not only caused by technological advancements. It has been recognized as natural since ancient times. Jesus saw this response as such a fact of life that he used it as a sermon illustration to a crowd of new followers. “But whereunto shall I liken this generation? It is like unto children sitting in the markets, and calling unto their fellows, and saying, We have piped unto you, and ye have not danced; we have mourned unto you, and ye have not lamented” (Matthew 11:16, King James Version). In fact, the neural plasticity of youth can be harnessed in a positive manner. Just as violent music videos promote violent behavior in teens, exposure to positive morality on the music video screen may help teens be receptive to the Biblical values displayed by role models (Johnson et al., 1995).

Norman Richardson (1914) of the Boston University School of Theology made several points about reverent worship in the church. He asserted that the chief purpose of music in church was to create a reverential mood, inspiring the worshipper to seek the presence of God in daily life throughout the week (Richardson, 1914). He cited repeatedly felt emotions’ tendency to become permanent. Richardson added that even if the awe of the spectator is borrowed, feeling one’s insignificance in the face of the majesty of God tends to cultivate future real worship (Richardson, 1914).

While worship is a powerful tool, the use of background music in churches is widely unexplored. If ominously looping music can cause anxiety to gamers, calming, energizing or somber background music should cause a mood shift in churchgoers as well

(Donnelly, 2014). The power of setting an atmosphere of worship before the service begins is an exciting opportunity for church sound operators. Even small churches without the infrastructure to perform certain styles can implement background music such as live worship recordings from rallies in order to encourage reverence.

### **The Dark Side of Sound**

Despite audio's tendency to influence an expectant heart for good, it can also be used as a tool for evil. Every good and perfect gift, "coming down from the father of heavenly lights," has been perverted by the enemy to trip unsuspecting souls (James 1:17, New International Version). Work becomes thievery, marriage becomes adultery, and worship becomes idolatry in the playbook of the enemy. The fact that a medium is being used for evil should serve as an indicator of its potency. Just as worship leads souls toward God, music can pull hearts in the opposite direction. The story of Daniel and other Hebrew captives' exile to Babylon contains a valuable example of music leading to idolatry. Only "when all the peoples heard the sound of the horn, flute, lyre, trigon, psaltery, bagpipe and all kinds of music" did they fall in worship before a statue of Nebuchadnezzar (Daniel 3:6 English Standard Version). In some parts of the world, a similar style of music in relation to image worship is still in use. One study examined devotional practices of Hindu worshippers in Southern India (Greene, 1999). Paul Greene of Pennsylvania State University found that the use of devotional cassette recordings tended to increase worshipful attitudes and perceived connection with Hindu deities. It is common in some Japanese subcultures to play multiple songs at one time to dispel evil spirits (Greene, 1999).

The book of Second Timothy warned against an attitude that can be observed in modern society (2 Timothy 4:3, English Standard Version). One verse cautions the reader that a future generation would not tolerate truth, but would find teachers to soothe their “itching ears” with false doctrine (2 Timothy 4:3, English Standard Version). The original false teacher, Satan, was described in the Bible as a being who disguises himself as an angel of light (2 Corinthians 11:14, English Standard Version). The prophet Isaiah foretold that Satan’s pride, along with the noise of his harps, would eventually be brought down to the grave (Isaiah, 14:11, New International Version). For now, however, the good in the world remains mixed with that which is evil. The chaff must be allowed to grow alongside the wheat, until the day when all will be brought to light (Matthew 13:30, New International Version).

### **Guidelines for Christian Sound Engineers**

There are many opportunities to manipulate sound through video presentations, music and internet distribution (Bowler & Reagan, 2014). Any of the methods outlined in the first section can be leveraged for the church and not only the cinema. Because of the vastness of the market and the idiosyncrasies of each congregation, it would be impossible to say that one method is a universal solution. Instead, drawing guidelines from scriptural mandates is a more enduring strategy. These guidelines can be applied to any media career, and provide assurance to Christian audio professionals of the future that their labor is not in vain. Three scriptural calls are supported by scriptural mandates. While audio professionals are not mentioned by name in scripture, they can allow Biblical guidance to integrate the following principles with professional practice. First,

they must further the work of the local church. Second, audio practitioners must emphasize the name of Jesus over individual fame. Last and most crucially, they must cede all soul-winning authority to the Holy Spirit, rather than individual effort.

### **Help the Local Church**

The local church is the primary avenue for reaching future believers for Christ, as indicated by the Apostle Paul's commitment to planting and strengthening churches across the known world (Acts 20:28-35, New International Version). Multiple new testament verses outline the roles of the church, which include meeting together, doing good works for the benefit of others, and encouraging one another (Hebrews 10:24-25 English Standard Version). Bringing the gospel to unreached areas is important (Mann, 2018). Lasting impact is only ensured by establishing or strengthening a local church rooted in that community (Titus 1:5, New International Version). Because of these realities, Christian audio specialists should consider their work in the local church as the highest priority (O'Brien, 2016).

Providing opportunities to worship is one of the vital functions of the church, based on the scriptural mandate to "address one another in psalms, hymns and spiritual songs" (Ephesians 5:19, English Standard Version). Many modern churches play worship songs with driving melodic lines, ascending fifths and repetitious phrases (Miller & Strongman, 2002). Popular worship songs of today share these characteristics with trance music which can encourage dissociation or out-of-body experiences (Miller & Strongman, 2002). In the absence of substance use or mental disorders, true dissociative experiences are not typical (Miller & Strongman, 2002). However, one study showed a

correlation between the arena style of worship and significant positive mood change in congregants (Miller & Strongman, 2002). Many congregants involved in the study also expressed the belief that music helped them express feelings to God which could not be described with words (Miller & Strongman, 2002). Some described physiological responses such as chills in response to worship music (Miller & Strongman, 2002). Whether this was due to high levels of emotional engagement or the frequencies being played is inconclusive. Making use of natural physical responses to sound is not inherently manipulative. The fact that almost every culture has a form of traditional dance suggests that we were created to be affected and to affect others through music (Exodus 15:20, New International Version). Research on frequency effects indicates that equalization and mixing done by the church sound board operator plays a significant role in the physical response of worshippers (Kuchinke et al., 2013). Emphasizing infrasonic frequencies such as bass tones may help the brain connect to a worshipful attitude following the initial visceral response (Kuchinke et al., 2013).

Sound board operators hold a distinct platform because the technical skill level and subjective choices they make can create varying environments from any given song, space and band (O'Brien, 2016). Even the factor of volume control can be the difference between a subdued or an immersive worship set (O'Brien, 2016). The aspects of interaction between film dialogue and music discussed earlier translate to church services as well. Consonant or supporting music is the most useful in the ministry context, because generally accompanying background music should support the message being presented (Schwindt, 2018). The musician and sound operator should work together to

ensure that the style of playing and the volume balance is ideal for the congregation and message being preached. However, exceptions to this are possible.

Just as entrainment filters out the sound of an air conditioner to the ear, repetitive messages presented in a predictable way can do the same to the mind (Sonnenschein, 2001). Producers of audiovisual packages for churches could use counterpoint to create depth in audiovisual aids (Kalinak, 2010). This could bring new power to familiar content by presenting it in an unexpected way (Kalinak, 2010). The emotional cue linked to a sudden drop in volume could lead congregants to search for meaning during transitions from upbeat to contemplative songs (Russell, 2006).

Another use of audio media is to multiply the efforts of local pastors by providing access to specific teaching materials. Peter Chow (1987) said the goal of Christian media should be to equip existing community ministries to share the gospel with parishioners within their reach (Chow, 1987). A pastor in a small community may not have the time to personally counsel each church member throughout the week. He can, however, point a person to recorded resources that may help with a situation. James Dobson's Family Talk radio show airs on over 1,200 radio outlets in addition to offering free web access to many of the materials (Dobson, 2019). The radio show focuses on Biblical counsel for spouses and parents, and episodes tackle issues from discipline to finances. Dr. Dobson could not have personally counseled the number of people who have heard his show on the radio or online (Dobson, 2019). Media enables Christian leaders to share specific teachings with those who need guidance in niche areas. The prophet Isaiah shared a message from God's point of view that scripture "shall not return unto me void, but it

shall accomplish that which I please, and it shall prosper in the thing whereto I sent it” (Isaiah 55:11, King James Version). Therefore, sending out scripturally steeped materials across channels such as radio and social media is an action which will not return void. Audio professionals have a unique ability to stand between pastors and the flock as providers of emotional content that brings people closer to God.

### **Emphasize Jesus’ Name Over Individual Fame**

According to the Bible, exalting oneself over others is just as flagrant a sin as premeditating an evil act (Proverbs 30:32, English Standard Version). The Book of Proverbs admonishes readers to feel a holy sorrow if they have done either of these things (Proverbs 30:32, English Standard Version). In a world of selfish gain and ever-flashier production techniques, it is easy to prioritize personal success over ministry. A blend of the lighting and musical styles of arena rock has become almost ubiquitous in the modern church (Bowler & Reagan, 2014). However, no worship style guarantees or prevents positive influence in a person’s life. Whether an individual has worshipped or only pretended to in any setting, whether austere or technologically advanced, is between that person and God (1 Samuel 16:7, New International Version). State-of-the-art production is by no means the problem. Instead, the underlying temptation in worship production is to seek fame or profit by creating a unique sound (Bowler & Reagan, 2014).

Many have expounded on the theology of work, or the way Christians should view their occupations and faith. A popular contemporary American view has borrowed a traditional Quaker stance on the theology of work. That is, a laborer should find his passion and only participate in a career that brings him happiness and “inward light”



(Waalkes, 2015, p. 137). Luther took a different approach, placing emphasis on daily diligence and self-sacrifice for coworkers and family (Waalkes, 2015). His view went so far as to cite a verse from 1 Corinthians which teaches that people should remain in the situation they were called from. In context, this verse is not so much a reference to typical career choices as it is to circumcision and slavery (1 Corinthians 7:17, New International Version). Taking a moderate approach, some have blended the resignation of Luther with the optimism of the Quakers or Friends, as many modern adherents refer to themselves (Waalkes, 2015). In other words, it may be possible to be both resigned to a humble career of servanthood while seeking passion for one's vocation (Waalkes, 2015).

This is the goal for many Christian media professionals (O'Brien, 2016). While most want to find the perfect, most exciting jobs for their own enjoyment, this desire is tempered with a surrender to uplift Christ at any cost (Waalkes, 2015). Although this balance is achievable in a so-called secular career, it is perhaps more challenging when employed by a dedicated ministry or church (Waalkes, 2015). In cases like this, a person is held to a higher standard of conduct than the layperson (Luke 12:48, New International Version). By consciously steering away from personal exaltation, church audio engineers can take steps to avoid the snare of pride. If gifted with musical recording skills, a Christian audio engineer could, for example, use excess profits to support gospel-centered ministries. If writing or performing is involved, scripture provides guidance in that vein as well. Scripture soundly renounces increased effectiveness of communion with God through the abundance of words. "And in praying use not vain repetitions, as the Gentiles do: for they think that they shall be heard for their much speaking" (Matthew

6:7, American Standard Version). This verse states that many words do not guarantee special blessings from God. Instead, music is only valuable as a worship tool that falls under the sovereignty of God (Matthew 6:7, American Standard Version). It is a gift to the Christian, which can help bring the heart into an attitude of submission to the spirit. The same principle of emphasizing the gospel would apply to any kind of cinematic or mobile media production project.

In remote areas where literacy is limited, audio serves as an introduction to the name of Jesus. Ministries like Wycliffe, Global Recordings Network are already harnessing the power of audio Bibles (Mann, 2018). Audio Bibles and sermons spread the gospel where the written word has little effectiveness. Founded in 1942, Global Recordings Network is a ministry with a goal of providing Biblical access in every spoken language on earth (Mann, 2018). In one anecdotal account, the organization brought rugged hand-cranked MP3 players to remote Simba villages in Canada. Bill Mann, a minister working with Ethnos Canada, partnered with Global Recordings Network to distribute them. Mann reported that many of the elderly people were unable to read, but the audio players caused a significant change in the community (Mann, 2018). After one woman became known for always carrying what she referred to as her teacher, others began asking her about the lessons (Mann, 2018). Many villagers borrowed it and have been exposed to Biblical teaching as a result (Mann, 2018). People like Bill Mann, who are employed by a ministry, may find it hard not to take credit for accomplishments like this village's transformation (Mann, 2018). However, a Christ-centered approach removes the illusion that ministry successes come through personal

goodness or skill (Ephesians 2:1-10, Berean Study Bible). In any culture, emphasizing hope in the gospel of Jesus is the only way to stay grounded in personal or church-led ministry.

### **Acknowledge the Holy Spirit**

Despite the power of audio to prime the heart for good or evil, audio itself must come under submission as a mere tool and not the means of salvation. The Holy Spirit's call, including but not limited to His influence through believers, is the sole agent of drawing people to sincere repentance (John 16:8-11, New International Version). The Spirit's presence guides believers "into all truth" and brings conviction about sin, righteousness and judgement to the world (John 16:13, New International Version). A 1910 study showed the importance of personal relationship in cultivating spiritual growth and moral excellence. Even then, researchers saw the connection between uplifting relationships and the experience of salvation and discipleship (Helming, 1910). Almost thirty years later, Dietrich Bonhoeffer (1937) emphasized the spiritual element of earthly relationships in his argument that for believers, there is no direct relationship between two human souls (Bonhoeffer, 1937). This, Bonhoeffer argued, is because all relationships are mediated by the Holy Spirit in a willing believer's life. Thus, human relationships are a vital channel for the Holy Spirit's wooing of future Christians (Bonhoeffer, 1937).

Face-to-face interaction has always been the church's method of sowing gospel seed in their communities. This interaction has been tempered with Holy Spirit-based influence over the words being spoken. Evangelist and founder of Methodism John

Wesley began preaching in the fields on April 2, 1739 after converting during a public reading of Luther's commentary on Galatians (Encyclopaedia Britannica, 2018). Wesley attributed the success of his preaching to the constant use of scripture in his exhortations (Encyclopaedia Britannica, 2018). Many who witnessed his orations would argue that some of the persuasive power was due to a good use of words (Encyclopaedia Britannica, 2018). The Bible does not condemn powerful speech techniques. Instead, it exhorts Christians to try to persuade people in light of God's message of reconciliation (2 Corinthians 5:18, Christian Standard Bible). No believer is exempt from this call, but a defining passage on spiritual gifts makes it clear that some but not all Christians are given a particular gift for preaching or encouraging groups through exhortation (1 Corinthians 12:28, Berean Study Bible). Studies have shown that humans can distinguish many nuances of emotion and context from the prosodic elements of the human voice (Frick, 1985). Prosody includes many of the characteristics of sound that were discussed earlier, including pitch, variance in loudness, rate and timbre (Frick, 1985). All these nuances contribute to a speaker's ability to persuade through speech (Frick, 1985). As elements of the pastor's spiritual gift, they should be shared as authentically as possible with the congregation (O'Brien, 2016).

In the age of the modern church, unamplified communication in the church is often limited to small group events in homes or classrooms. In most church services, audio is processed through an amplification system (O'Brien, 2016). Part of the burden of Christian media specialists should be to bring the voice and emotion of the pastor to a large congregation with as much sonic integrity as possible. Producer and worship team

coach Mike O'Brien advocates using seamless production to help "remove obstacles to Jesus" (O'Brien, 2016, p. 9). The current culture is distractible and accustomed to seamless production outside the church. This means that even small errors like microphone feedback can steal attention during crucial moments (O'Brien, 2016). Research shows that the attention span is getting shorter as history progresses (McSpadden, 2015). A study conducted by Microsoft found that an average human's attention span has dropped below that of a goldfish in recent years (McSpadden, 2015). Citing the Biblical account of a crippled man being lowered through the roof to meet Jesus, O'Brien likened distractions to physical barriers that make it more challenging for the wounded to reach the healer without help (O'Brien, 2016). Though the man's friends did not heal him, they did bring him closer to the presence of Jesus by forcefully removing obstacles (Luke 5:20, New International Version). Similarly, choosing the right microphones and amplification systems for optimum vocal delivery and minimal distraction is a valid way to further the gospel.

The word of Christ will find its way despite the abundance or scarcity of resources (Philippians 4:12, New International Version). When Jesus made a triumphal entry into Jerusalem, the scriptures say the rocks would have cried out had his disciples not given him praise (Luke 19:40, Christian Standard Bible). The Holy Spirit will use any means necessary to relay the message of the gospel. However, this should not deter Christians from doing the same. Instead, it should spur the believer to use all avenues, including audio, to send the gospel forth and encourage discipleship. If the goal is to

become more like Jesus, then believers who work in audio must strive to share the gospel in this fragmented and lost world, which offers empty solutions to doubting hearts.

Notwithstanding the prominence of exhortation and relational discipleship as the primary tools of evangelism, audio in all its modern forms can be considered an extremely useful tool for spirit-led ministry. In his letter to the Corinthian church, Paul advocated using a variety of methods to spread the gospel. The diverse body of Christ reaches an equally diverse range of unbelievers who are in its acquaintance. Paul writes, “I have become all things to all people, so that I may by every possible means save some” (1 Corinthians 9:22, Holman Christian Standard Bible). O.C. Helming (1910) warned against revivalism, the theory that a single presentation method is equally effective for all audiences (Helming, 1910). Audio is an art form, comprised of just as many sonic shades as there are colors in the spectrum of light (Murch, 2005). One person may be moved by a particular painting, while another only sees a landscape. Similarly, an audio method may reach one person rather than another due to differences in personality, experiences and psychological makeup. Revivalism does not take into account the extent to which the Holy Spirit is responsible for wooing the lost soul (Helming, 1910).

The apostle Paul explores the concept of contentment in every situation in Philippians chapter 4. He stated, “I have learned the secret of being content in every situation, whether well fed or hungry, whether living in plenty or in want” (Philippians 4:12). While the passage is often applied to personal outlook, the wisdom of being content with little or much carries over into the art of audio presentation. Some churches have made such strides toward audiovisual excellence that spectacular and immersive

worship productions have become mundane (Bowler & Reagan, 2014). For these churches, an occasional return to an unplugged sound could offer much-needed aural white space and a contemplative atmosphere of worship (Bowler & Reagan, 2014). For others accustomed to a calm, choral worship arrangement, an electrifying youth-rally style experience may offer fresh spiritual perspective. There is a place for every worship style, including hymns, the arena rock style, and gospel. Releasing churches from the confines of a dedicated genre may provide a more inclusive atmosphere for newcomers, as well as help established worshippers find a new sense of focus during pivotal opportunities for spiritual grounding for the coming week (Miller & Strongman, 2002).

Although an array of methods exists, evangelism can be reduced to one sentence. In fact, it is outlined specifically in the Bible. “Go, therefore, and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit” (Matthew 28:19, Holman Christian Standard Bible). This verse has been quoted often for good reason, because it is the crux of the New Testament’s call to believers. An integral part of effective evangelism is the manifestation of Jesus’ call to be salt and light (Chow, 1987). It follows from this analogy that Christians ought to arrest social decay and illuminate the path to redemption for those who are lost (Chow, 1987). One way to be salt and light is to speak into cultural debates with a Godly perspective. A way to maximize reach for certain discussions is to broaden the base of possible listenership through internet distribution (Deepika & Palmer-Keenan, 2014). The study mentioned above regarding Omega 3s and shopping choices can be applied to deeper realities as well. Hearing Biblical truth tends to create action in the listener (Romans 10:17, New

International Version). With today's youth in a position of constant bombardment by digital content producers, it is imperative to provide uplifting alternatives. Considering the call to use any means available to make and instruct disciples, audio can be manipulated and disseminated in strategic ways to the benefit of the body of Christ (1 Corinthians 9:22, Holman Christian Standard Bible).

### **Conclusion**

Audio professionals stand in a unique sphere of influence. Audio is a potent medium because its influence is invisible and often undetected (Sonnenschein, 2001). Intrinsic in the encouragement of the Book of Proverbs that skilled workers will “stand before kings” is the idea that honing one's craft leads to a greater opportunity for influence (Proverbs 22:29, English Standard Version). As scripture further asserts, those who have been entrusted with a greater measure will be held to a higher standard of expectation (Luke 12:48, English Standard Version). In popular culture, great power and great responsibility are inextricably associated (Lee, 1962). In the current discussion, this relates to the heightened influence those in the media profession have over unsuspecting consumers of the content they create (Sonnenschein, 2001). Based on the many characteristics of audio and its influence on mental, spiritual and physical processes, the charge to Christian media professionals is not to be taken lightly. Throughout scripture, the believer is called to uphold the two greatest commandments by loving God with his entire being and loving his neighbor as himself (Matthew 22:35-40, New International Version).



Times change. Media platforms change. The industry is an unstable amalgam of the consumer's whim and the producer's taste for profit, often steeped in corruption (Chow, 1987). The quest of man is to reach synthesis between the many facets of truth that appear to be present in the world (Romans 1:20, New International Version). Composer and indeterminate music theorist John Cage saw humanity and nature as producing an endless stream of meaningless sounds. The tragedy, as he saw it, was in realizing that music was beautiful but pointless when cast against a heedless cacophony (Cage, 1961). To him, the ultimate composer, chance, was both unpredictable and cruel by nature. This plight, felt by Cage in the 1960s, only worsens as the demand for consumer audio burgeons. For the Christian, this is not the only conclusion which may be reached.

God still hears every prayer that rises from cacophony of earth to his heart (John 10:27). He called Lazarus forth from the grave with a phrase (John 11:43, King James Version). He rebuked the wind and commanded the sea to stand still (Mark 4:39, King James Version). He drew Balaam back into his will by allowing a donkey to speak (Numbers 22:28, King James Version). He blessed one small gift of loaves and fish and used them to feed a multitude (John 6:9, New International Version). The minute details of every soul are known to him, yet His story is so vast that the entire space-time continuum is too small a page to hold it (John 21:25, New International Version). The call to evangelize the lost and to glorify God through our labor remains unchanged in the face of modernity (Colossians 3:23 New International Version). No matter what vocation he finds himself in, every Christian may offer up the loaves and fishes of a life well-lived,

that the almighty God might use them for His glory (John 6:9, New International Version).

In becoming “all things to all people,” as Paul encouraged, we might save some (1 Corinthians 9:22, New International Version). Notably, Paul does not say that all things are effective for all people, or that human effort can save all. Rather, the church is called to take a diverse approach in hopes of touching hearts for Christ. Audio professionals should explore all avenues of using their gifts to this end. Even if only a few lives are changed by these often-unnoticed acts of service, the value of changed lives far outweighs the effort.

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