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*“Immersive Sonic Elements from Greek and Roman Ritual through Contemporary Christian Worship: A Closer Walk with Thee”*

As the lyrics to the traditional nineteenth century gospel hymn state, one of the goals of many magical and religious practices is to experience ‘a closer walk with Thee,’ coming into the presence of the holy in both figurative and arguably literal terms (lyrics via the Selah Jubilee Singers, Decca 7872, 1941). One of the many ways to improve this likelihood of achieving the deep and immersive presence of the holy—described by the scholar of comparative religion Rudolf Otto as the “gentle tide, [the] pervading [of] the mind with a tranquil mood” numinous experience—is through the careful use of various sonic elements (1950, pg.12). To this point, an exploration of physical worship spaces themselves, a review of the means of creating sounds within worship, and a study of the related uses of sonic technology during worship rituals can help to elucidate just how these sonic elements compare in their utilization between ancient magic and more contemporary magical and religious applications. It is my contention that the overall goal of creating an immersive environment for worship and ritual practice has remained a constant from Ancient Greek and Roman times through to the present, while the technology available to achieve this goal (both in the creation of an immersive physical space and in the use of engaging and relatable musical instruments and instrumental styles) has continually progressed. Put another way, the methods in which we might best utilize various sonic elements to achieve the most numinous experience—the *‘how’*— have certainly changed over time, but the underlying *‘why’* and the core goal of using sound to increase this sense of a presence with the holy has remained largely unchanged.

            As noted, the two key concepts we will be discussing here center around sonic elements and the idea of the holy. The sonic elements we’ll be focusing upon will roughly break down into three categories, namely physical worship spaces, musical instruments and voices and devices in which participants in the various rituals utilize to create sounds within the physical worship spaces, and technologies which can capture and/or amplify sounds such as radio, microphones, amplifiers, public address (PA) systems, etc. While physical worship spaces can vary and include any area where worship is occurring, we will focus especially on purpose-built spaces from ancient temples to modern ‘mega-church’ structures. Likewise, for brevity’s sake, those instruments and vocal styles which are most paradigmatic to worship ritual use will be paid special attention here, particularly given the extremely wide range of musical instruments and styles which may have been used at some time throughout history in a worship application. While it seems obvious that Ancient Greek worship would not include modern devices such as radio and microphones and immersive ‘surround sound’ audio systems, it will be argued that the functional goals of these sorts of technologies does align closely with the original earlier intent behind many of the technologies they did have available. Similarly, while the theological and philosophical conceptions of the ‘holy’ have changed and expanded over time, the definition set forth by Otto as a transcendent experience of the mysterious and powerful (*Mysterium tremendum*), comforting and fulfilling (*Mysterium fascinans*), mystical presence of the ‘other’ will suffice (Otto, 1950, pgs. 12-24, 31-40).

While the concepts and definitions outlined above are generally straightforward and fairly precise, narrowing down the definition of what sorts of practices count as ‘magic’ and ‘religion’ will require a bit more work. If we are to successfully compare ancient magic and religious practices with more contemporary magical and religious practices, it will be necessary to be clear as to what we mean by these terms. Providing a rigorous and all-encompassing definition of magic and magical practices has proven to be a difficult endeavor (see Meyer & Smith, 1999, pgs. 1-9), a project which is further complicated when combined with the task of separating magical practices from religious practices and attempting to craft a distinct definition of religion and religious practices. For our purposes here, we will define magic (broadly construed) as the set of ritual activities performed outside of the prevailing official or mainstream cult within a given society which are focused on the manipulation of divine powers for the benefit of those individuals engaged in these activities (see Davila, 1997). As Mauss notes, “Magical rites are commonly performed in woods, far away from dwelling places, at night or in shadowy corners, in the secret recesses of a house or at any rate in some out-of-the-way place” (Mauss, 1975, pg. 22). In this context, a key delineation arises between magical practices and religious practices as it pertains to the prevalence and cultural acceptance of the practices in question. Magic is not *merely* defined as a subset of religion which resides outside of the mainstream ritual practices and norms at any given time, but this is an important element that generally (although not always) holds to be true. Our working definition of religion for the purposes of this paper will largely turn on whether the individual or group of individuals performing the ritual (reciting scriptures or spells, chanting, praying, asking for divine intervention into human affairs, etc.) is in the mainstream of the culture at the time or not. As we will require a working definition to make the case for our thesis at hand, in general terms the two domains will be carved out according to the idea that performing ritual activities outside of the prevailing official or mainstream cult in a given society is categorized as magic, while performing ritual activities within the prevailing official or mainstream cult in a given society is categorized as religion. Perhaps the most important element of these working definitions for our purposes here will be around the presumed causal connection between the manipulation of divine powers for the benefit of those individuals engaged in these activities—magical and religious rituals are both rooted in the expectation that an appeal to divine forces may result in a supernatural response. It is in this context that we support the claim that individuals who perform certain physical acts (such as singing, making music, creating sounds) in both magical and religious contexts believe that they may be drawn closer into the presence of the holy and elicit a response from the supernatural realm which will manifest in the physical world.

            Laying out the case for emotional effects (such as the numinous experience of the holy) additionally arising in response to sonic cues and environments is a much more straightforward path to follow. As Algargoosh et al. note, “worship spaces require acoustic environments that support spiritual needs and enhance faith … [and] such spaces offer an example in which the human experience is dependent on the acoustic environment” (2022, pg. 86). Their research presents the following three questions, concluding with an affirmative ‘yes’ in response to each question after completing extensive scientific research:

(1) Does the acoustic environment enhance the emotional impact considering the   
match between acoustic and visual features of the built environment?

(2) Does the intensity of the emotional impact vary based on different acoustic environments?

(3) Does the intensity of the emotional impact differ based on the cultural background and familiarity of the sound (chant) and acoustic environment?  
(Algargoosh et al., 2022, pg. 88)

It would seem clear that the visual environment, olfactory cues, and the full range of sense modalities (the full realm of ‘space and place’) would also come into play during worship rituals, but our initial focus (as with Algargoosh et al.) will remain solely aimed at auditory elements. To this point, there is no real doubt that “acoustic environments can impact the occupants’ emotions and enhance their experience and connect the experience and emotional impact with the cultural background” (Algargoosh et al., 2022, pg. 88). If we assume that ancient magical and religious practitioners were aware of these positive emotional and experiential impacts (even without the advanced modern scientific tools to precisely measure them), does it follow that the efforts to purposely create and enhance these sonic effects existed from the beginning as well? Is it the case that the goal of actively creating an ‘immersive’ and engaging physical space and acoustic environment is largely unchanged as we compare ancient magical and religious practices to the practices of today? Is the presence of electric guitars and synthesizers in contemporary Christian worship music a truly new phenomena or an extension of a trend that began in ancient magical and religious practices? As we’ll see in the following sections, it would seem to be the case that the only thing that has changed are the particular technologies and musical tastes over time—while the goals and rationale for the various acoustic elements have remained the same.

            As D’Angour notes, “rhythm was as central to ancient as it was to modern music, and arguably more so in the classical period” (2019, pg. 34). He expands on this point further in stating that not only did rhythm and the particulars of sonic compositions in the classical period happen to result in an enhanced auditory effect, but many compositional “devices show the undoubted awareness of Greek musician-poets that meter and rhythm might be employed for auditory effect” (D’Angour, 2019, pg. 35). In other words, it was intentional. These sounds should be viewed as encompassing not only those which emanate from musical instruments or a more traditional singing voice, but any auditory impulse which was introduced by practitioners of magical or religious rituals or the ritual space itself. Looking to an example of this ‘non-musical’ auditory element from the “Mithras” Liturgy, we see an instruction in the text to say “Silence! Silence!,” create “a long hissing sound,” followed by “a popping sound,” etc., in response to “[seeing] the gods staring intently at you and rushing at you” (Meyer, 1976). In making a similar argument, Loisel highlights the fact that not only does the *content* of sound being intentionally created have a strong connection to auditory effects, but the *location* of a sound was of great importance (and possibly indicated divine intent) since “within the  divinatory  system  of  ancient  Mesopotamia,  the moment and the location of a sign—even if it is just a sound—is of great importance in understanding the inner significance of the divine message” (Loisel, 2016, pg. 305). Clearly if “every noise [had] to be clearly identified so as to fight the evil it [might announce],” every sound within a magical or religious ritual was to be viewed as having an intentional meaning behind it (Loisel, 2016, pg. 305).

These examples (and many others) would seem to point to a similarity in the view around the creation of sounds in ancient magic and religion to our more modern conception—we are utilizing the most effective means of creating emotional effects through the creation of whatever instruments and sounds we have at our disposal and reflecting carefully on their received and reflected effect in the worship environment, including those sounds which may seem to be ‘above and beyond’ those which we have created ourselves. Whereas these additional sonic elements may be the creaking of a house or the sound of the wind in Ancient Mesopotamia (not created by the practitioners themselves), non-musical pops and hiss sounds like those required within the “Mithras” Liturgy, or a careful composition of the most modern rhythmic devices in Ancient Greece, the totality of the sounds and the spaces in which they were occurring was important. Furthering this idea of intentionally enhancing this totality of sounds, Polychronopoulos et al. (2013) note examples of very specific uses of acoustic vases, “‘*echea*’, which are actually Helmholtz resonators, [which] were placed in ancient Greek and Roman theaters in order to improve their acoustic performance” (pg. 64). To this point, Valière & Palazzo-Bertholon (2019) present archeological evidence around the use of specially designed pots embedded in medieval European churches with the specific intention of enhancing the overall sonic experience in a later 11th- to 17th-century CE period (pg. 31). Similarly, the acoustic design of a modern church is developed (frequently in collaboration with trained acousticians) to best present the most modern and high-tech musical instruments and professional audio reproduction systems. Even without the modern scientific tools that we have access to today, the ancient ritual practices were likely very much aligned with the findings of Algargoosh et al. (2022) which point to a heightened intensity of emotional impact based on different acoustic environments (pg. 88).

The prevalence of purposeful ‘immersive’ audio designs in modern church sound and AV system design is apparent via a quick search of audio production and design trade publications and journals such as ProSoundWeb (Live Sound International), the Audio Engineering Society, MIX Magazine, etc. A search on ProSoundWeb.com for the term ‘immersive’ yields 60 pages of results (with 12 articles per page), netting well over 700 articles from just 2007 through 2020 in their archives (Live Sound International, 2022). In an article which presented a *2021 Live Sound Review*, pro audio industry CEO Alan Macpherson highlighted immersive audio as a key movement in the space, stating that “user-friendly and inspiring immersive audio is the future. We’ve been working to bring this kind of experience to concert goers, houses of worship, theaters, and live performances of all kinds” (Hawley, 2021). The goal of using cutting-edge audio technology to ‘inspire’ and ‘immerse’ audiences within houses of worship is still going strong today.

            In further support of this claim of a similar goal of heightening emotional impact through the combined acoustic elements within worship environments, Asselineau (2019) is clear in his view that “worship spaces are meant to foster cohesion between members of the community and help transmit the message delivered by either the priest or the whole group of members. While such a message is usually vocal, it can also draw on musical instruments, or deploy a mixture of both. Large worship spaces are usually meant to impress, which is often achieved through large – if not monumental – proportions” (pg. 13). In this framing, the ‘message’ is the medium we happen to be utilizing to realize the underlying magical or religious goal—which seems to align with my conception here of coming into the presence of the holy and witnessing the transcendent *Mysterium tremendum* via the sum of those sonic entities and the imposing size and design of many magical and religious spaces. This last point on the imposing design of religious spaces certainly applies well to structures like the Temple of Olympian Zeus, the Temple of Hephaestus, and the Parthenon. In modern times, we might look to examples like Life.Church in Edmond, Oklahoma (roughly 30,000 weekly in-person visitors), North Point Community Church in Alpharetta, Georgia (over 30,000 weekly in-person visitors), and Lakewood Church in Houston (43,500 weekly visitors) (Fieldstadt, 2018). It would seem that on the whole, the overall goal of creating an immersive physical space for worship and ritual practices has remained the same over time—utilizing the available technology to craft an environment in which sound plays an important part in enhancing and triggering emotional responses (a sense of presence with the ‘holy’), fostering the sense of a communal space, optimizing the effectiveness of the transmission of musical and non-musical sonic elements, and generally working to heighten the sense of a transcendent *Mysterium tremendum.* For both the ancient practitioner of magic and religion as well as the modern participant, the musical/auditory compositions (sum contents of sounds) and building designs (location of sounds) comprising their worship environment were purposefully and carefully crafted to the best of their cultural abilities at the time.

            To ensure that we are making this claim as clear as possible in relation to both magic and religious contexts (as we’ve defined in this paper), it is important to include several examples of this sort of purposeful sonic environment design within cases where the participants were clearly *not* in the mainstream (religious) group of the time. Lakewood Church can gather over 43,5000 weekly visitors because it is a Christian church and Christianity is the leading religion in the United States by a wide margin. Greek temples were also in use by large numbers of the population at the time of their conception since they represented various popular local religious ideologies of their day. But what about the “Magical rites … commonly performed in woods, far away from dwelling places, at night or in shadowy corners, in the secret recesses of a house or at any rate in some out-of-the-way place” that Mauss speaks of in his definition of magic? (Mauss, 1975, pg. 22). It is on this point that I would claim the sense of *Mysterium tremendum* is amplified not by the scale and technology utilized in the purposeful design of worship spaces but via the proximity to the supernatural ‘audience’—be it a divine power or the target of a binding spell, etc. According to Jordan, “defixiones [curse tablets] are found, rolled up into scrolls or folded into small packets, in tombs, in chthonic sanctuaries, or in what were once underground bodies of water” (2004, pg. 152). Just as a church or a temple is designed to heighten a sense of closeness to the holy through their location and sonic design, the place in which magical rituals were performed also shared the aim of being physically close to where the supernatural power would be.

            In modern magical (Wiccan) contexts, ritual ceremonies occur within a specially designated circular sacred space—calling upon the presence of supernatural forces to join them in this physical area during the ritual and releasing the forces at the close of the ritual ceremony. According to this more limited and strict definition of magic (clearly satisfying the case of ritual activities which are performed outside of the prevailing official or mainstream cult in a given society), I would concede at least *some* of the force of my claim of purposeful sonic design  (although the chosen sonic environment may still contribute considerably to the overall experience) while emphasizing that the broader aspect of carefully selecting and/or creating the most ‘holy’ place and space is still very much part of the magical equation. While I may shy away a bit from a full-throated defense of purposeful sonic design and the creation of new holy spaces like churches and temples in this one respect, that is not to say that these cases don’t exist at all for more strictly defined magical cases. For instance, Rountree (2006) notes that “for the last 30 years or so Neo-Pagans have been visiting a vast range of sites in Europe and elsewhere once connected with ancient Pagan religions, deities, and ritual. Stonehenge, Avebury, Glastonbury, Newgrange, Delphi, Crete, Ephesus, Catalhöyük, Luxor and Malta are just a very few of the popular destinations” (pg. 95). Interestingly, “Through somatic modes of attention – by attending to and with one’s body in surroundings that frequently include the embodied presence of others – pilgrims experience themselves not as isolated subjectivities but as sharing an intersubjective milieu with other pilgrims and with the Earth itself (they might be more likely to say ‘herself’) (Rountree, 2006, pg. 98). The mention of the importance of one’s surroundings seems to align with our broader claim of the continued importance of space and place within both magical and religious practices from earlier ancient periods up until modern times with very few (if any) exceptions.

            While the previous section made the case for a continued focus on creating and utilizing specially designed holistic and immersive spaces and places for magical and religious ritual and worship writ large, a similar trend emerges around the continued selection and use of particular musical instruments in ritual and worship throughout history. Keeping in mind this distinction between the space in which music and sound is created to the instruments and sounds being produced, we can compare the reasons for selecting particular instruments and draw a similar through-line. As Power (2019) notes, “Ancient Greek religion was strongly oriented towards activity rather than contemplation, outward displays of worship rather than inwardly felt devotion, and diverse ritual practices circumscribed by local cults rather than universal adherence to a unifying dogma” (pg. 15). Within this context (which arguably could allow for us to include Ancient Greek ‘religion’ as ‘magic’ due to its lack of ‘unifying dogma’), the outward creation of sounds was particularly important within the various ritual practices of the time. These “emotionally and symbolically charged sonic [elements] … [were] distinctive to a cult’s local and/or material expression, be it in features of the natural landscape, manmade structures, ritual practices or some combination thereof,” importantly functioning to “[inspire] in worshippers fascination and awe as well as a sense of involvement in a numinous moment” (Power, 2019, pg. 22). These regional sonic elements may involve the use of percussive instruments (like bells and chimes), stringed instruments, choirs of voices, and even special ‘echoing’ effects within the design of the choir placement and musical composition.

            Jumping forward to contemporary Christian uses of musical instruments and outward displays of worship, Ingalls (2018) describes a similar dynamic “when participants sing contemporary worship songs together, [since] they imagine the … gathering as an embodiment of the heavenly community and their singing as the ‘sound of heaven’” (pg. 72). What Power refers to as “a sense of involvement in a numinous moment” seems to align closely to Ingalls’ “embodiment of the heavenly community” in its connecting of an outward display of worship through the creation of sound and the shared experience of those who are within earshot of the combined sonic worship landscape (Power, 2019, pg. 22; Ingalls, 2018, pg. 72). Just as the Ancient Greeks would carefully select sonic elements (especially those which carried a special affinity to their local culture) to draw out numinous experiences and a closer connection to the holy, contemporary Christian congregations design their worship songs and musical settings and even their audio systems for much the same reason. According to Howald (2016), the same sort of use of musical instruments to set the stage and invite the presence of the supernatural exists in modern Wiccan public rituals, as “the priestess used a bell in the beginning of the ritual, a symbolic way of clearing the air [through] … invitational rhetoric” (pg. 43). Whether we want to include magic as a subset of religion and therefore count at least some aspects of modern Christian worship as being akin to magic or not for our purposes here, many practices which are more generally accepted as being strictly magical in nature (like Wicca) can also demonstrate how ancient magical selection and uses of musical instruments line up very closely to the goals within musical element selections in contemporary magical rituals. Musical instruments were an important element in ancient magic in bringing practitioners into the presence of the holy and they remain a key element in magical and religious rituals and worship today. Whereas ancient Greeks might have used simple bells or stringed instruments or groups of choral voices as their selection of musical instruments (see Cerqueira, 2014), modern worshippers could call upon contemporary musical instruments such as guitars, drum sets, synthesizers, or even pre-recorded background ambient music to set the mood and bring forth the experience of the holy.

            As we noted in the first section on creating a holistic combination of space and place and sonic elements for worship, “rhythm was as central to ancient as it was to modern music, and arguably more so in the classical period” (D’Angour, 2019, pg. 34). We plotted a continuum in the purposeful creation and selection of worship spaces and musical instruments used in worship—but what about the actual stylistic elements being performed on musical instruments in these worship spaces? D’Angour highlighted the importance of rhythmic elements in ancient times and in modern times, but how might we best characterize the connection between the two periods regarding musical compositions and stylings and cultural influences? As we saw with Power (2019), “Ancient Greek [worship included] diverse ritual practices circumscribed by local cults,” which were “distinctive to a cult’s local and/or material expression” (Power, 2019, pg. 15; Power, 2019, pg. 22). This seems to be an indication that local cultural influences and the prevailing musical trends of the time (and place) where readily incorporated into the worship practices of the time. Clear evidence for the existence of various classes of musicians exists, with texts describing popular musicians with high degrees of virtuosity and humbler and less ‘in-demand’ performers, just as with today’s popular music scene (Cerqueira, 2014, pg. 3). Is this indicative of yet another continuum from ancient magic and religion to modern magic and religion with music styles simply evolving as new technologies and cultural elements become available to apply to the same root goal of enhancing the connection to the holy? I would argue that this is exactly the case here as well.

While a full survey of musical styles and influences from ancient times to modern would be well beyond the scope of this paper, I think that simply working from roughly 1900 CE to today can illustrate how this gradual impact of technology has layered upon the initial goal of enhancing the overall numinous experience of magical and religious practitioners via the performance of familiar musical styles throughout history. Recalling back to the findings of Algargoosh et al. (2022), it seems that the scientific evidence points to a heightened intensity of emotional impact based on the familiarity of the sounds and musical styles utilized within worship (pg. 88). According to Harstock’s review of Cusic’s 1990 book, *The Sound of Light: A History of Gospel Music*, “the phonograph and the radio played their mass-disseminating roles,” coinciding with an “interchange between European and African influences [as] African Americans adopted the hymns and songs of the white communities, altering them rhythmically” (Cusic, 1990; Harstock, 1993, pg. 179). In this simple example, we can imagine how the proliferation of phonographs and radio created a cultural sharing between European and African musical styles, a heightened familiarity with different sorts of musical styles, and eventually the idea of ‘pop’ music within a given culture. In the United States, popular secular songs were becoming more and more the familiar and comfortable conception of what represented ‘good’ music (more likely to elicit a positive emotional response)—and many aspects of these secular songs were finding their way more and more into religious music. Taken to the extremes of this sharing and co-evolution of musical styles in the progressions of contemporary secular and gospel music, Cusic claims that “in a certain sense, there is really no such thing as gospel music because gospel embraces all musical forms” (1990, pg. 219). What was strictly in the secular realm in one decade would inevitably find its way into the forefront of religious worship music in the next. If we are following Cusic’s line of a complete merging of secular and religious music, then my previous claim of new musical worship styles simply evolving as new technologies and cultural elements become available looks to be even more likely the case—who would argue against the continual evolution of secular music? As mentioned earlier, this “[embrace of] all musical forms” that Cusic proposes to be the stance for gospel music could very well be argued to exist in Ancient Greek approaches to musical style, one which is “distinctive to a cult’s local and/or material expression,” while incorporating new forms and styles and evolving over time (Cusic, 1990, pg. 219; Power, 2019, pg. 22).

The broader argument presented here does not simply boil down to the claim that musical styles or architectural design or sound reinforcement technology changes and improves over time, that would not be surprising or interesting to many of us—of course technology progresses, and cultural tastes change over time. Perhaps the key point in the thesis defended in this paper is that throughout these obvious advances and continual evolution, the core driver behind utilizing the ‘latest and greatest’ technologies and cultural devices within magical and religious practices has remained unchanged. The goal of achieving a closer and deeper connection to the holy (however that may be defined in any given magical or religious context over time) has stayed with us since time immemorial. We know that there are very real positive emotional effects that are brought about by optimizing the ‘immersive’ aspects of the auditory and visual elements of a worship environment, the effective design of acoustic elements in a ritual space, and the heightened familiarity with the particular musical styles and overall design of the ‘place and space’ of worship (Algargoosh et al., 2022, pg. 88). Whether it is the addition of *echea* to enhance the acoustic properties of a temple, making popping and hissing sounds in the “Mithras” Liturgy to represent non-musical sounds, or rocking out on an amplified electric guitar at a contemporary Christian worship service via ‘licks’ (short musical phrases) borrowed from secular jazz and blues decades earlier, the goal has always been to enhance the total immersive experience and come into the presence of the holy. If we look at examples which many might label as falling into the category of religion, treat magic as a subset of religious practice, or only look to those cases in which most people would label them as obviously magic—no real distinction in this root goal seems to appear. The magician and magical practitioner may have a slightly different conception of exactly what the ‘holy’ entails vs. a participant in what could be deemed a religious practice would have, but the fact that they are aiming to enhance this closeness with the ‘other’ and to use all the tools available to them to achieve a numinous experience still stands. In conclusion, the overall goal of creating an immersive environment for worship and ritual practice has remained a constant from Ancient Greek and Roman times through to the present, while the technology available to achieve this goal (both in the creation of an immersive physical space and in the use of engaging and relatable musical instruments) has continually progressed.

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