SACRED MEDIA

Immersive Architecture &
The Aesthetics of Technosacred Space

by

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ABSTRACT

Through a principled exploration of the implications of ritual interaction, multimodal aesthetics, and computational technology in the intersection of spiritual and technological cultures, in this thesis I describe a contemporary approach to the creation of *sacred space.* Specifically, a multivalent aesthetic environment constituting an *immersive architecture* which I call the Sacred Sound Temple was presented at the Burning Man Festival in 2011, and is the subject of this exploration.

When it comes to the human endeavor of grappling with the Sacred, art has always been an indispensable vehicle for the experience and expression of the Sacred. Traditional cultures frame art not simply in terms of its aesthetic dimensions, but also for its transcendental utility in binding the material realm to the intelligible realm of the Sacred. There has always been a fundamental relationship between technology and the creation of sacred art, especially within the Persian artistic tradition. In more recent times, electronic and digital media have grown to constitute an emerging technological palette with which traditional principles of art may be reinvigorated through a contemporary effort termed *technosacred art.*

Through participatory design research, guided by traditional principles in art, this thesis charts an exploration of the symbolic and aesthetic agency of the visual, sonic, and architectonic dimensions of *immersive architecture*. Modes of embodied engagement within sensuous *space* are discussed as a form of 'aesthetic practice' which amalgamates with traditional modes of *ritual participation*. A grounded interpretation of the aesthetic and ritual dimensions of *technosacred* space based on hermeneutical knowledge from Sufism as well as neurotheology elucidates the relationship between aesthetic experience and the phenomenology of *sacred experience*.

Although the design of *technosacred* space explores the contemporary use of technology in the design of built environments, it simultaneously expresses a foundational orientation toward the Sacred, similar to traditional modes of art. Through the interfusion of the premodern with the contemporary means, as well as the real and the virtual*,* this research points towards the use of art as a *sacred media* – a technology which mediates between our outer and inner realities and therefore reifies our sense of 'being in the world.'

In humble obeisance to the One whom I seek

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INTRODUCTION

As an artist and researcher, I have always been interested in the connection between the creation of art and yearnings for spiritual transcendence. Having lived nearly my entire life in Western culture, my sense of spiritual orientation has nevertheless been rooted in the ancient traditions of the East, specifically Persian mysticism. Through my work in digital design and art, I attempt to explore the possibility of using contemporary technology to support traditional spiritual practices, and to investigate the agency of digital media on the experience of spirituality. I believe that, from an early age, many individuals possess a profound sense of wonder and curiosity about the fundamental nature of reality which they seek in order to clarify their ontological position in this world and to mitigate the apparent schism between inner and outer realities. Whereas traditional cultures have presented a gamut of animistic and theistic beliefs to explicate the nature of reality, Modern culture rushes to satiate this intrinsic sense of wonder with a material science which seeks an 'origin' in quantitative terms both outward through space and backward through time. The mystical traditions have instead pointed elsewhere towards the substantiative answers by which human beings may seek their non-material 'origin' – an origin which the mystics insist is invariably inward. To this end, sacred art acts to restore that spiritual felicity which was said to mark our emanation from the world of spirit.

Today, as contemporary culture seemingly rushes forward on the back of modern technology, I believe that there is a need for scholarship to not simply pile information onto the cluster of new knowledge, but to also interrogate the active paradigms in order to clarify cultural trajectories. Increasingly, "the diverse idioms of scientific, artistic and sacred representation are merging once again" (Rajah, para. 7) in contemporary culture through the interfusion of many of the most fundamental fields of knowledge including religious studies, technology, and the cognitive sciences. As the complement to an innate sense of wonder, for example, the study of consciousness "is the great mysterium that entices artists and scientists alike to enter its domain" (Ascott, 2004, p. 112). It has also been noted that the "pursuit of the spiritual and of an understanding of consciousness is perhaps more widespread in the West than at any time since the Enlightenment" (p. 114). Roy Ascott (2006) – a pioneer of interactive art – suggests that in "the context of the artist's use of technology to explore consciousness, the technologies of other cultures can provide important examples" (p. 68). My approach to research in interactive art explicitly seeks the sacred art of traditional cultures as an

example that may provide invaluable insight into the relationship between aesthetic experience and the experience of the Sublime.

If one can "accept the precept that each and every phenomenon is sacred" (Ajaykumar, p. 478) including the "technology that we may engender" (p. 478) then I believe that by enacting a technological approach towards the creation of *technosacred* art – based on traditional principles – it is possible to use art as a vehicle for "a personalized ontological journey" (p. 477). For its proponents, sacred art attests to Gadamer's (1986) idea that "the ontological function of the beautiful is to bridge the chasm between the ideal and the real" (p. 15) assuming of course that by this, Gadamer did not mean to relegate the ideal to the domain of the unreal. Increasingly within the contemporary scene, many traditional ideas such as 'myth,' 'imagination,' and 'spirit' have become synonymous with the unreal, through the efforts of a modern epistemology which insists on a criterion of sensibility – literally and perhaps figuratively. This epistemological bias pervades so deeply into even the linguistic foundations of modern scholarship that, for the contemporary artist interested in traditional principles in art, great effort must be made through scholarship to retrieve the original meanings of such commonly maligned terms. As a point of entry into my exploration of the idea of *technosacred* art, I must begin by distinguishing "first of all between the traditional and anti-traditional or modern point of view especially as it concerns art" (Nasr, 2005 p. 177), and it is there that I begin my present exploration.

RATIONALE

Tradition and the Pontifical Man

To understand the Modern attitude towards art, it is first necessary to consider what is meant by a 'traditional culture.' The revival of scholarly interest around traditional societies is due in large part to the works of a handful of scholars who, during the first two decades of the twentieth century, "were given direct instruction and initiation into the esoteric schools of various Oriental traditions by authentic representatives in these traditions" (Nasr, 1981, p. 100). Among them, Rene Guenon, Titus Burckhardt, Ananda Coomaraswamy, and Frithjof Schuon emerged as the leading scholars of what became known as the Traditional School. The work of these scholars and mystics resulted, for the first time, in a scholarly theosophical framework on which they would eventually rest a *perennial philosophy* – a philosophy which stood in opposition to academic orientalism and the pseudo-esoteric occult circles which had flourished in Western society. Today, many contemporary scholars in the field of Persian studies and philosophy have carried on the Traditionalist perspective, perhaps the foremost being Dr. Seyyed Hossein Nasr.

The etymology of the word *tradition* itself is related to transmission and "contains within the scope of its meaning the idea of the transmission of knowledge, practice, techniques, laws, forms" (Nasr, 1981, p. 67) and other elements of oral and written culture. Formally speaking, primitive and indigenous cultures as well as "all normal civilizations such as the Chinese, Indian, Islamic or medieval Western were traditional" (Nasr, 2005, p. 177). Specifically, a traditional culture is one in which all activities, whether pertaining to practical or spiritual needs, are "based on principles of an ultimately Divine Origin" (p. 178). In all facets of life, traditional societies "had no sense of a separate concept called tradition" since the premodern person "was too deeply immersed in the world created by tradition to have the need of having this concept defined in an exclusive manner." (Nasr, 1981, p. 66) There was not "any domain of artistic or intellectual activity which lay outside" (Nasr, 2005, p. 175) the spiritual principles of the traditional society. As such, the traditional perspective on art is that it is "in fact is none other than life, integrated into the very rhythm of daily existence and not confined to the segregated space of museums or rare moments" (p. 175). Moreover, this conception of art "was not confined to a particular type of activity carried out by a special kind of human being" (p. 175). Despite these assurances however, the premodern person may indeed appear to be a special kind of human being today – one who accepts the ontological primacy of the Divine and "lives in awareness of a spiritual reality which transcends him and which yet is none other than his own inner nature" (Nasr, 1981, p. 161).

In most traditional cultures, the human being is viewed "as the last manifestation of creation and the theophany of the Divine" who "stands between the sensible and intelligible worlds" (Ardalan, p. 9). In this view, the human being reflects the cosmic intelligence in an active sense and this "microcosmic intelligence is the inner link which unites all things to the Universal Intellect" (p. 5). Far from suggesting an incidental participation in the Divine, the traditional view of *anthropos* is inextricably linked to the concept of the human being "as the pontiff, *pontifex*, or bridge between Heaven and earth" which "lies at the antipode of the modern conception of man which envisages him as the Promethean earthly creature who has rebelled against Heaven and tried to misappropriate the role of Divinity for himself" (Nasr, 1981, p. 160). According to this traditional view, the human being occupies "a central position in the universe, where he is placed at the intersection between the transcendent vertical dimension leading towards the creator and the horizontal dimension of the temporal world" (Ardalan, p. 9). Human beings therefore possess both a quantitative and active aspect in relation to the universe, and a qualitative and passive aspect in relation to the Divine. The prerogative of the traditional person is therefore to balance "the material world on one hand and the spiritual world on the other" culminating in a "creative motion toward the Divine" (Ardalan, p. 9) which comprises at once the spiritual beauty and existential function of the human being.
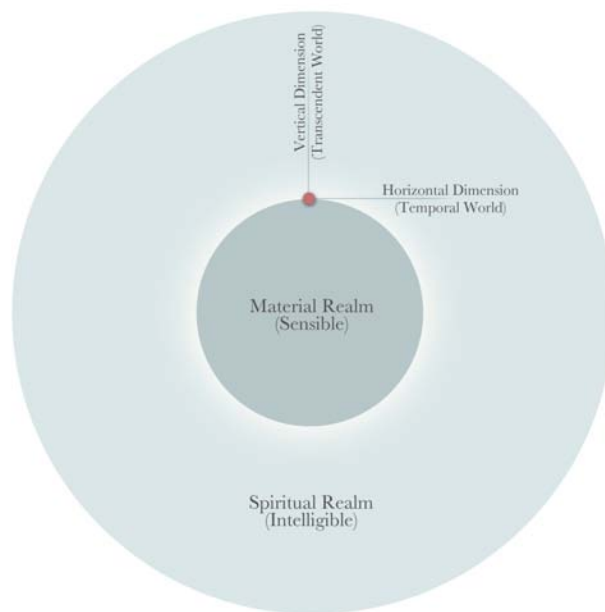
Figure 1. Theophanic Man as *Pontifex*

Modernity and the Promethean Man

It is perhaps anathema to the Modern sensibility to consider the pronouncements of a traditionalist scholar such as Nasr (1981) when he contends:

> The situation of man as a bridge between Heaven and earth is reflected in all of his being and his faculties. Man is himself a supernatural natural being. When he walks on the earth, on the one hand he appears as a creature of the earth; on the other, it is as if he were a celestial being who has descended upon the earthly realm. Likewise, his memory, speech, and imagination partake at once of several orders of reality. Most of all his intelligence is a supernaturally natural faculty. (p. 168)

This description leaves little doubt as to how far Modern culture, as "a civilization no longer governed by immutable spiritual principles" (Nasr, 2005, p. 181), has diverged from the monolithic spiritual perspectives of tradition. Although this profound desacralization has occurred in the Modern conceptions of both humans and nature (Sherard), the "decomposition and disfiguration, in the history of the West, of the image of man as being himself *imago Dei*, came into the open with the worldly humanism which characterizes the Renaissance" (Nasr, 1981, p. 162). According to Nasr, the desecration of the pontifical function of the human being reaches new heights during the rise of scientific rationalism which "not only mechanized the conception of the world but also of man, creating a world in which man found himself as an alien" (Nasr, 1981, p. 164). In turn, this Promethean individual "externalized his alienation from his own inner reality by increasing his sense of aggression and hatred against nature" (p. 193). But what was it that led to the "emptying of sciences of nature of their esoteric content and their quantification" along with "the rise of skepticism and agnosticism" (p. 163)? While it is not my intention to pursue an exhaustive exploration of the history of desacralization in the Modern era, it will be instructive to identify its origins in Western thought in order to elucidate the implications that this trend of modernity has had on the traditional view of art, and sacred art in particular.

The Origins of the Desacralization of Man

While the formal period of the Modern age began after the transitional period of the Renaissance, the shift from a theocentric to a ratiocentric culture may have its foundation in "the residues of Graeco-Roman civilizations mostly in their phase of decadence" (Nasr, 2005, p. 177). Nietzsche's treatise on the Athenian arts – *The Birth of Tragedy out of the Spirit of Music* – contains a revealing analysis of the history of the tragic art form in Greek culture which can perhaps contribute to an understanding of

where the seeds of Modern culture were sown. Nietzsche points to the presence in Greek tragedy of bivalent yet balancing forces – namely, the Apollonian and the Dionysian – which were represented in the visual and non-visual (sonoral) forms of art respectively. The Apollonian era in Hellenic culture was dominated by the plastic arts, emphasizing the sober, concrete, representational forms of reality. Referencing Schopenhauer's concept, Nietzsche (2009) describes Apollo as being "the marvelous divine image of the *principium individuationis,* from whose gestures and gaze all the joy and wisdom of 'illusion', together with its beauty, speak to us." (p. 23) The Dionysian aspect, in contrast, was expressive of an intoxicating reality undifferentiated into forms, evoked by a "mystical obliteration of the self" (p. 25) induced by the sonoral arts, namely the Greek chorus. According to Nietzsche, this dichotomy found the height of its expression in Greek tragedy in which the two opposing yet complementary forces were involved in a dynamic struggle which revealed the totality of the human condition as they engaged in ever intensifying cycles of conflict and breakthrough.

Apollo – "as the divine manifestation of the *principii individuationis*" (Nietzsche, p. 34) – shows us "how the entire world of torment is necessary, so that through it the individual is pushed to the creation of the redemptive vision and then, absorbed in contemplation of that vision" (p. 34) is "destroyed in the self-oblivion of the Dionysian condition" (p. 35). In this way, the "ecstatic sound of the Dionysian celebration rang out all around with a constantly more enticing magic" while the "muses of the art of 'illusion' withered away in the face of an art which spoke truth in its intoxicated state" (p. 35). This familiar leitmotif of the conflict between illusion and truth in ancient cultures grappling with mythological and ontological themes has the effect "that the state and society, in general the gap between man and man, give way to an invincible feeling of unity, which leads back to the heart of nature" (p. 50). Where then did the drive to "cut that primordial and all-powerful Dionysian element out of tragedy" (p. 75-76) arise, leading ultimately to what Nietzsche contends was an inferior and populist art?

Nietzsche (2009) finds his scapegoat in the person of Euripides who attempts to "rebuild tragedy as a pure, new, and un-Dionysian art, morality and world view" (p. 76) resulting in the death of the Dionysian impulse and its concomitant "smashing of individuality and becoming one with primordial being" (p. 56) which characterized the Greek tragedy. It is precisely here – in the rise of "an entirely new-born daemon called *Socrates"* (p. 77) – that we anticipate the presence of a fertile soil for a Modern culture which arises nearly two millennia later.   Nietzsche links the rise of the rationalistic method of Socrates to a

condition where "detached paradoxical *ideas* – substituted for Apollonian objects of contemplation – and fiery *emotions* – substituted for Dionysian enchantment" (p. 78) leading to a conception of aesthetics which is primarily concerned with appearances and which mutes any notion akin to Levy-Bruhl's *participation mystique* (Bruhl)*.*

The Existential Crisis of Modern Man

The death of Dionysian intoxication with the rise of the Socratic culture resulted in a condition in which the Apollonian impulse, unabated by the dormant Dionysian breakthrough, freely revels in concrete forms, the principle of individuation, and the illusion of dream, collectively grappling with man's place in the world through rationalization rather than a mystic participation. Viewed from this angle, it is perhaps not surprising that "from around the Renaissance onwards, western art increasingly concerned itself with the impression of the visible world on the senses and mind, and less with any noumenal content." (Hart, p. 8) Nasr suggest that this is in part a result of "the excessive separation between man as the seat of consciousness or the I and the cosmos as the 'not-I' or a domain of reality from which man is alienated." (Nasr, 1981, p. 162-163) In effect, this results in a uniquely modern condition in which the individual is hermetically sealed from both the inside and the outside – unaware of the supernal interior realities as well as occluded from external reality by the veil of perceptual forms and representations.

Nasr (1981) notes that for modern man, having "lost the sense of the sacred, he is drowned in transience and impermanence and becomes a slave to his own lower nature" (p. 161) and as a result, in the Modern era, one observes for the first time "the appearance of an art which is no longer based on supra-individual inspiration but which expresses more the individual rather than the universal order, an art which is anthropocentric rather than theocentric." (p. 182) Coomaraswamy (2007) also laments "our generation, in which the power of the intellect has been so perverted by the power of observation that we can no longer distinguish the reality from the phenomenon" (p. 28-29). Indeed, there is no shortage of voices deriding the Promethean rebellion and resulting spiritual alienation, but as Nasr (1981) points out, the "pontifical function of man remains inseparable from reality, from what he is" (p. 167). Indeed, for the born contemplative who "has felt the inner pull of the sacred at the center of his own being, the center which he carries with him wherever he may be" (p. 94) there may be hope in what Nasr calls 'the revival of tradition' especially as it pertains to an authentically sacred art, in the midst of contemporary technological culture.

BACKGROUND

Before exploring traditional principles of art in more detail, it is important to clarify that I believe that contemporary culture can act as a vehicle for both traditional and modernist ideas. Rather than to relegate notions of tradition and modernity to discrete historical eras, my approach in this thesis explicitly capitulates to the idea that culture – and certainly contemporary culture – is capable of expressing both traditional and modern *principles* which accord with the prevailing worldviews of their respective eras. This approach willingly accedes to the idea that traditional and modern ideas indeed find expression within the lived experience of *individuals*, and therefore may combine to create hybrid expressions within contemporary culture. Before exploring the hybridity of *technosacred* space through the artefacts described in this thesis, it is of course necessary to identify and elucidate the traditional and modern principles which are important to a discussion of sacred art. In the postmodern context in which agnosticism and scientific rationalism dominate, it becomes especially important to clearly describe the operative terms for a discussion of traditional modes of art. There is perhaps no better summary of the discrepancy between the traditional and modern view of art than in Nasr's (2005) statement: "Art is not for art's sake but for the sake of life itself." (p. 178)

Tradition, Sacred, Religious

Perhaps surprisingly, the modern notion of 'art' appears incongruent with what the traditional world referred to by the same concept. At the most fundamental level, traditional art "is essentially a science just as traditional science is an art" (Nasr, 1981, p. 265). Just as modern science is not conducted for the sake of aesthetic pleasure, the traditional work of art "is a reminder; the summons of its beauty is to a thesis, as to something to be understood, rather than merely enjoyed." (Coomaraswamy, p. 71) In this way, traditional art is concerned with both *knowledge* and the *sacred.* This concern for the sacred stems from an explicit ontological relation between tradition and the sacred: namely, the sacred "is the source of Tradition and what is traditional is inseparable from the sacred." (Nasr, 1981, p. 76) In other words, the sacred "resides in the nature of reality itself" (p. 75) and tradition forms a structure for its continued transmission. Therefore, the traditional view of art must necessarily be concerned with the sacred, just as it must be "concerned with knowledge in as much as man must know the manner of operation of nature before being able to imitate it." (p. 264)

If sacred art occupies "the heart of the traditional art of a particular traditional civilization" (Nasr, 2005, p. 179), what can one make of the modern conception of

religious art?   A category such as 'religious art' only becomes necessary in a context in which art has been stripped of its "symbolic and spiritual significance" (p. 178) and the term itself has meaning, as Nasr suggests, "only in the context of modernism and especially modern European civilization" (p. 181).   It is only in the Modern age which Nasr suggests "is anti-traditional and an anomaly if we consider the human history on a global scale" (p. 177) that one sees the appearance of an exclusively 'religious' art which is cut off from tradition. Sacred art, properly, is distinguished from a modern religious art in that not "only is its subject religious but its forms, manner of execution and formal language have a sacred origin." (p. 179) It is not through devotion to "religious themes and functions" (p. 182) that art is considered sacred however, but because it "is itself ultimately the result of divine inspiration." (p. 179) All traditional art therefore "binds the particular work of art in question to spiritual principles and aids the beholder of art to become aware of the Presence of the Divine" (p. 178)   and is thus religious in the deepest sense, but not 'religious' art.

A Criteria for Sacred Art

Although sacred art exists within every traditional culture in the world with a vast heterogeneity of forms and styles, through a review of major literature on sacred art, it is possible to arrive at an understanding of some of the indispensable characteristics of this traditional mode of art which can serve as a guide in our design of a technosacred art. By now, it should be clear that sacred art in tradition in not defined primarily by its aesthetics but by its anagogical utility.   While non-traditional perspectives on art may contest the metaphysical or spiritual agency of sacred forms of art, as the basis for my artistic exploration of the notion of the *technosacred*, I adopt a traditional position which sees sacred art as a manifold vehicle for the expression of the Sacred, fulfilling the crucial functions of *transfiguration, manifestation, mediation, inspiration,* and *interiorization.* Each of these dimensions of sacred art, like all things in mysticism, has an exterior and interior essence – a kind of reciprocal threshold or membrane conjoining the art and the artist in a *holistic sum.*

Sacred Art as Transfiguration

It is interesting to begin by noting that one meaning of the word *kosmos* in Greek is 'adornment.' Traditional art which "is based upon a science of the cosmic which is of a sacred and inward character" (Nasr, 1981, p. 253) can therefore be expected to participate in *transfiguration* or the adornment of the material realm with ennobled properties. In other words, sacred art rescues us from the need of having to gaze only

at the surfaces of perceptual appearances by giving us a glimpse into the archetypes themselves. This is the basis of Plato's criticism of naturalistic poets and painters, who Coomaraswamy (2007) quotes, suggesting "they know nothing of the reality but only the appearance of things for which their vision is overkeen; their imitations are not of the divine originals, but are only copies of copies." (p. 12) This implies that beyond merely recreating forms and ocular perspectives from an anthropocentric viewpoint – a literal naturalism "which is foreign to sacred art" (Burckhardt, p. 89) – the "many types of perspective used in icons help us to emerge from our egocentric world view and see in a divine way." (Hart, p. 3)   In the Islamic world, the "two-dimensional nature of the paradisiac world is reflected in Persian miniatures, which were painted in flat planes, without the perspective of a three-dimensional world." (Critchlow, p. 8) This orientation is also seen in the entire body of Islamic geometry. Contrary to the insistence of some scholars, this aversion to naturalism in traditional art, especially within Islam, is not simply due to an aniconic tendency, but is intimately tied to the metaphysical function of sacred art as *transfiguration*.

In the metaphysics of Platonic and Islamic spirituality, there is an ontological correspondence between mathematical dimensions and proximity to the Sacred. This is natural considering that in these traditions, numbers are not simply units of quantification but possess distinct symbolic and qualitative properties, which have their basis in higher dimensional orders. Geometry expresses the perfect formulation of this metaphysical epistemology in that it charts the ontological derivation of the material three-dimensional world (and its representational forms) from the ontologically prior dimensions. Beginning with absolute Unity – the point, of which a dot is only a representation – this progression moves to the first dimension which, though represented graphically as a line, references the ascending vertical dimension of existence. Metaphysically, the human being is the microcosmic intelligence which participates in both the sacred vertical and horizontal dimensions of existence.

Indeed within a qualitative mathematics, one can discover the hermeneutics of a transfigurative sacred art. The spiritual hermeneutics of traditional culture is predicated on the human being's identity as the heirophanic creature, whose center of being and knowledge – the heart – occupies the nexus at which the horizontal dimension of forms and the sacred vertical dimension overlap, resulting in the potential for an 'ontological collapse' in which the human subject can experience the theophanic presence. It is in this light that Coomaraswamy (2007) suggests that "God alone is truly beautiful, and all

other beauty is by participation" (p. 12). In this way, sacred art participates in the Sacred and transfigures material reality by relating forms and symbols from the dimensional realm of the Divine, thereby ennobling the material realm itself. In addition, since in a traditional view all higher dimensional orders (which correspond counter-intuitively with the lower numeric values) are enfolded within the lower orders, and not vice versa, a naturalistic art which transfigures nothing and which does not participate in the Divine Archetypes ceases to function as a sacred art, regardless of whether it deals with religious or profane themes.

Sacred Art as Manifestation

In this subtle sense therefore, sacred art is engaged in revealing *and* concealing essences since "sacred art, as with the whole material world, acts like a veil." (Hart, p. 6) In so far as the profane individual encounters in sacred art an object of aesthetic consumption, he or she will find there only concealment and what may appear as 'primitive' abstraction. But for the pontifical person who finds in everything an occasion for contemplation of the Divine, sacred art performs the crucial function of *manifestation:* revealing, through symbols and forms, a visionary topography of the Sacred realm. Islamic art specifically is engaged within "the purely spiritual archetypal world, and finally the world of similitudes (*alam-i-mithal* or *malakut)"* which is the place "which all traditional art forms reflect" (Ardalan, p. 9). Titus Burckhardt (2003), who devoted much of his extensive career to an exposition of sacred art insists that "a sacred symbol is not merely a conventional sign" but rather "manifests its archetype by virtue of a certain ontological law. As Ananda Coomaraswamy has observed, a sacred symbol *is,* in a sense, that which it expresses." (p. 88) A certain esotericism inheres in this statement – so counter to the modern sensibility – which invites further probing.

If the material dimension acts as a representational veil occluding the individual from access to the numinous realms, then what should one make of the claim that sacred symbols and forms – which are ultimately encountered as forms in that same material realm – are manifestations of that which they reflect? The relation is indeed very subtle and requires a more fundamental understanding of how the Traditionalists describe the human encounter with *beauty*. While the decoupling of beauty from art in the name of personal expression is a relatively modern phenomenon, traditional art "is of course concerned with beauty which, far from being a luxury or subjective state, is inseparable from reality and is related to the inner dimension of the Real as such." (Nasr, 1981, p. 269) Nasr suggests that all "manifestations of the Ultimate Reality are accompanied by

the aura which is beauty." (p. 270) In the traditional view, beauty is not a signifier of the Real, but rather its immediate manifestation – ontologically as objective as the material realm itself. Burckhardt (2003) hints at this subtle point in suggesting that "the beauty of an object is nothing other than the transparency of its existential envelopes." (p. 88) In other words, the aspect of sacred art which is a *manifestation* of the numinous realm is precisely in the experience of beauty, which is transmitted through forms and symbols. It may be the case then that what is understood in the Modern world as symbolism describes a literal ontological correspondence in the traditional conception of sacred art. This may be the reason why many Traditionalists echo the belief that "we have only one symbol available in human experience: namely, beauty." (Sovik, para. 5)

It is not through a literal *manifestation* in which the sacred descends into the material realm, but rather through beauty – which is itself a glimpse of the numinous realm – that sacred art functions as a manifestation of the spiritual realms. Another Traditionalist, Reza Shah-Kazemi (2003) confirms that "the earthly experience of beauty participates in its celestial archetype through essential identity" (p. 220) and it is for this reason that "beauty seen in the sapiential perspective, which always envisages beauty in its rapport with God, is a sacrament that elevates man to the realm of the sacred." (Nasr, 1981, p. 270) This relation speaks directly to the notion of sacred art as *mediation*; sacred art is a vehicle which not only has the power to *transfigure* the material in *manifesting* the sacred, but one which is also capable of transporting its viewers along with it in its anagogical ascent.

Sacred Art as Mediation

According to Nasr, for pontifical man, the more he becomes aware of sacred art as "a channel of grace which brings about recollection of the world of Spirit" (Nasr, 2005, p. 175) the more he is led back to the experience of the Divine. The degree to which this is true depends on if whether one is receptive and whether "this lesser mystery can point, as symbols point, to the greater mystery" (Sovik, para. 6). In this way, the forms and symbols of sacred art are merely the means by which it "reflects the beauty which guides us to the Source of all beauty, to the One who alone is beautiful in the ultimate sense." (Nasr, 2005, p. 185) Coomaraswamy (2007) notes that Levi-Bruhl and others "attributed to the 'primitive mentality' of savages what he calls the notion of a 'mystic participation' of the symbol or representation in its referent, tending towards such an identification as we make when we see our own likeness and say, 'that's me'." (p. 121) Whereas the Modern attitude may view art "as an isolated object of aesthetic

contemplation" (Hart, p. 1), the traditional mode of engagement with sacred art is one in which the pontifical (or 'primitive') person participates in the Divine referent and not simply in aesthetic surfaces. Despite its pejorative tone, this description clarifies that the experience evoked by sacred art performs the edifying function of *mediation* between the material and numinous realms, such that the participant is led toward the Divine Prototype to encounter the heirophanic identity. It is therefore only through participation and not the 'viewership' of Modern art, that the function of sacred art can be engaged. The aim of sacred art then "is to become redundant. Having led us to its archetype, it has fulfilled its role and in humility is happy to step aside." (Hart, 1)

Sacred Art as Inspiration

Having tasted a glimpse of the transcendental, "the possibility of attachment to the passing forms of beauty recedes" (Shah-Kazemi, 2003, p. 224) and the participant is left with the knowledge of sacred art as *inspiration.* The use of the term *inspiration* is intended to contrast with the modern notion of *personal expression*, which is a distinction made by the Traditionalist and renowned art scholar of the early twentieth century, Ananda Coomaraswamy. Inspiration has been defined as a "divine influence or action on a person believed to qualify him or her to receive and communicate sacred revelation" (Inspiration, n.d.). Etymologically, the word itself implies the presence of an indwelling spirit which operates on the artist, who is "certainly not inspired if 'expressing himself.'" (Coomaraswamy, p. 19) Nader Ardalan (1999) explains that the "operation of the artist-architect has not been consciously to express himself but to be the anonymous vehicle of realization." (p. 10) This is the reason why most traditional art "is unsigned, or, if the artist is named, little is ever known about his life." (p. 10)

The notion of an artist who "realizes himself while remaining anonymous" (Ardalan, p. 10) seemingly stands in stark contrast to the ambitions of most contemporary artists. With the dawn of the Modern era, Coomaraswamy explains that the "abandonment of its spiritual role has left art without a clear function in society, leaving the artist with the task of expressing his or her personal world-view." (Hart, 8) As a result, Modern culture has "gone on to invent a science of our likes and dislikes" (Coomaraswamy, p. 1) where "a majority of men judge works of art by the pleasure they afford" (p. 8) which takes for granted what is now commonly assumed: "that art is evoked by, and has for its end to express and again evoke, emotions." (p. 1) To associate art exclusively with its emotive aspect "is not to make art 'fine' but to apply it only to the life of pleasure and to disconnect it from the active and contemplative lives." (p. 1) Whereas traditional cultures

"have thought of art as a kind of knowledge, we have invented an 'aesthetic' and think of art as a kind of feeling." (p. 1)

The etymology of the word 'aesthetics' derives from *aisthesis* which refers to "perception by the senses, especially by feeling." (Coomaraswamy, p. 1) When applied to art, the term aesthetics refers to "that part of our psychic makeup that 'senses' things and reacts to them: in other words, the 'sentimental' part of us." (p. 1) Coomaraswamy leaves no doubt as to his regard for a purely aesthetic criterion for art when he describes that aesthetic perception is "a faculty that we share with animals and vegetables, and is irrational." (p. 1) For this reason, the rationalist "has no right to pretend that one can be 'inspired' by a sense perception, by which in fact, one can only be 'affected,' and to which one can only 'react.'" (p. 20)   Burckhardt (2003) confirms that the "ultimate objective of sacred art is not to evoke feelings or communicate impressions" (p. 89) but as Coomaraswamy (2007) notes, is closer to the Platonic and Aristotelean notion of *rhetoric* – "the art of giving effectiveness to truth" (p. 2). The experience of sacred art for the pontifical person is therefore "by no means an aesthetic or psychological experience but implies what Plato and Aristotle call a *katharsis*, and a 'defeat of the sensations of pleasure' or pain." (p. 6) Sacred art thus functions as *inspiration*: pushing beyond pure *aesthetics* through *katharis,* the art is no longer a personalized *expression* but rather a *rhetoric* which communicates supra-individual Principles.

While Coomaraswamy (2007) perhaps overemphasizes the duality of *aesthetics* and *rhetoric*, missing their potentially holistic function in sacred art, he reiterates the Traditionalists' view by discouraging a view of art that equates "the love of art with a love of fine sensations" which is in effect "to make of works of art a kind of aphrodisiac." (p. 2) From a traditional perspective, what is needed is a *katharsis* which "implies an ecstasy, or 'standing aside' of the energetic, spiritual, and imperturbable self from the passive, aesthetic, and natural self, a 'being out of oneself' that is a being 'in one's right mind' and real Self." (p. 6-7) In this respect, the "original intention of intelligible forms was not to entertain us, but literally to re-mind us." (p. 22) This ability of sacred art to push the individual beyond his or her senses into the inner dimensions speaks to the role of sacred art as *interiorization.*

Sacred Art as Interiorization

Reza Shah-Kazemi (2003) suggests that only "on the basis of the degree of inward beauty of soul can the experience of outward beauty be spiritually turned to account." (p. 223) He explains that it is contingent upon one's orientation whether the

> perceiving subject is interiorized or exteriorized: that is, whether the perception of beautiful form leads one to the formless source of beauty within the heart ... or whether on the contrary, the experience of beauty gives rise to a fixation on the transient forms as such and thus to a cult of aestheticism, an art for the sake of art. (p. 216)

In a sense, an *aesthetic* preoccupation in art is indicative of an exteriorizing influence which leads to a 'cult of aestheticism' as opposed to the *rhetorical* function of sacred art which has an interiorizing effect, pointing in the direction of the intelligible truth of the Sacred. Seyyed Hossein Nasr (1981) suggests that through sacred art, "man is able to penetrate into the inner dimension of his own being and by virtue of that process, to gain a vision of the inner dimension of all forms" (p. 261) which represents a threshold to the spiritual realms. Put another way, "the experience of formal beauty outside himself enhances and enriches the formless beauty within himself" (Shah-Kazemi, 2003, p. 223). Furthermore, to behold a work of sacred art "is to gain a vision of that reality which constitutes the inner nature of man as a work of the Divine Artisan, or that inner nature which man can reach through knowledge of the sacred and the realization of sacred knowledge." (Nasr, 1981, 274) Nasr makes explicit the *interiorization* of sacred art when he writes:

> Therefore, the 'art' of God implies an externalization and the art of man an internalization. God fashions what God makes and man is fashioned by what man makes; and since this process implies a return to man's own essence, it is inalienably related to spiritual realization and the attainment of knowledge. (p. 259)

It is precisely the abandonment of this sacred knowledge in favor of a pure aestheticism which the Traditionalists argue has led the Promethean being into a consuming obsession with surface appearances and pleasurable forms. Coomaraswamy (2007) laments the modern predicament in which "our aesthetic is nothing but a false rhetoric, and a flattery of human weakness by which we can account for the arts that have no other purpose than to please." (p. 30) Nevertheless, this distinction between *aesthetics* from *rhetoric* in the context of sacred art may be yet another veil over the eyes of the contemporary artist interested in Tradition.

Sacred art participates in a manifold function: the *transfiguration* of the material realm by emulating the Archetypal, the *manifestation* of the higher realms through beauty, the *mediation* of the material and spiritual realms through a mystic participation, the *inspiration* of a rhetoric of a supra-individual nature, and the *interiorization* of knowledge within its participants. While useful as a taxonomy of characteristics, the Traditionalists would insist that sacred art – being something which has its origins in the supernal dimensions – must also necessarily reflect transcendent *unity*. In other words, while it may be useful to think of sacred art in terms of the *multiplicity* of its characteristics, sacred art expresses a transcendent *unity* in which it participates.

If one is primarily interested in expounding a polemical against the transgressions of Modern art, as it may be argued Coomaraswamy was, then it may indeed be necessary to segregate the concept of *aesthetics* from *rhetoric* in a discussion of sacred art. After all, it is the abandonment of the intellectual and spiritual functions of art which the Traditionalists attribute to the rise of the pure aestheticism of Modernism. Considering the present study however, which seeks to discover a legitimate basis for a principled integration of traditional art into the contemporary context, an effort should be made to reconcile these two seemingly opposed concepts. How is it possible to neglect an aesthetic criterion for sacred art if the "love of beauty imposes itself upon man as an ontological imperative" (Shah-Kazemi, 2003, p. 216)? For the artist concerned with Tradition, one must come to terms with Sovik's (1982) notion that beauty "is also a mystery – ineffable, unknowable, but perceivable, remote but fascinating. We sense it, we do not deduce it. It is an experience, not a rational conclusion" (para. 6). Thus, does not beauty possess undeniably aesthetic dimensions? Perhaps Coomaraswamy's polemic may be attributed to his recognition of the dual nature which the experience of beauty enfolds – a dual nature upon which the Modern individual seemingly stumbled.

Shah-Kazemi (2003) highlights, in terms of Islamic spirituality, that when "the experience of beauty becomes a substitute for God, rather than a pathway to Him: it generates a *ghaflah*, a forgetfulness of God, rather than a *dhikr*, a remembrance of God" (p. 216). In other words, an aesthetic which is decoupled from its referent – Supreme Beauty – may result, as has happened so often in the Modern world, in an art which is "adored for its own sake, or more specifically, for the sake of the concupiscent gratification of the senses, a gratification which is a vulgar parody of that blissful contemplation of the archetypes that is the authentic fruit of aesthetic experience." (p.217). Herein lies the

dual nature – and danger – of beauty: it expresses the "fundamental ambiguity inherent in aesthetic experience" (p. 217).

Nevertheless, it may precisely be the *rhetorical* function of sacred art which ultimately abates this danger in traditional art.   Nasr (1981) explains that traditional art "is functional in the most profound sense of this term, namely, that it is made for a particular use" (p. 255).   The *rhetoric* of sacred art – its communication of truth – represents its function, while *aesthetics* represents the means by which is efficacious.   Therefore, sacred art exhibits a *holism* which encompasses both an aesthetic *beauty* and a rhetorical *utility*.   If the function of sacred art is to conjoin man to the Sacred, the Traditionalist viewpoint concedes that to "reach the formless man has need of forms" (p. 261) and that without beauty, art becomes inert and incapable of communicating sacred truths, while without communicating truth, art ceases to be beautiful. Perhaps then, the "distinction of beauty from utility is logical, not real" (Coomaraswamy, p. 13).
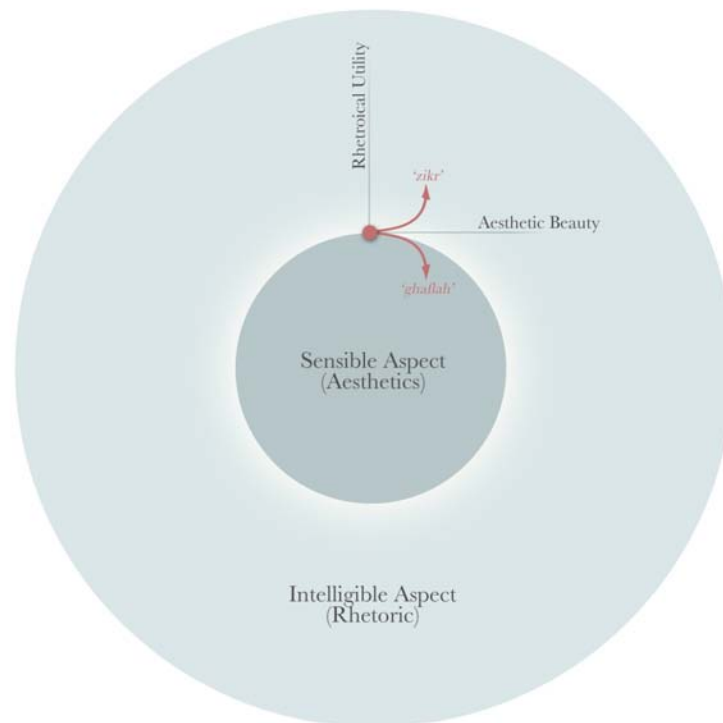
Figure 2. The Holism of Sacred Art

The notion of the holism of sacred art "brings us back again to the 'wholesomeness' of art, defined in terms of its simultaneous application to practical necessities and spiritual

meanings, back to that fulfillment of the needs of the body and soul together" (Coomaraswamy, p. 23) which is so foreign to the modern function of art. Coomaraswamy suggests that "it is in large part the loss of this holism, this loss of place and function that has led secular art into its present crisis." (p. 4) As a result, the secular modern and contemporary art "stands alone, and all it can do is vie for attention through shock of novelty." (p. 4)   Uncoupled from the source of all Beauty, the Traditionalists insist that a non-traditional Modern art begins a descent into pure aestheticism which at first produces objects of aesthetic contemplation which fulfill no function other than a vague gratification of the senses, and which ultimately may culminate in a nihilistic questioning of the notions of 'beauty' and 'meaning' altogether. According to this view, aesthetic experience becomes "at best a temporary relief from the suffocating egotism ... and at worst, the aesthetic experience strangles even further the egotistic soul by giving it an illusory plenitude, a sensuous justification" (Shah-Kazemi, 2003, p. 223) of a life without the Sacred.   In this condition, culture is drawn into a cacophony of competing expressions – each louder than the next – vying for a 'private property' of individual expression within the contemporary scene.

The Necessity of Forms

One may wonder how, in the face of the Goliath of modern culture, an artist would succumb to such a seemingly naive optimism as to consider traditional art capable of affecting the contemporary landscape.   After all, the Traditionalists insist that that the Modern world is one which has been built on a metered progression through a rational agnosticism which, by some accounts, has culminated in "its recent handmaid, technology" (Nasr, 1981, p. 204). Many may even deny the premise that contemporary society is in a state of decay, and may question the orientation of this discussion altogether. While a comprehensive justification of this fundamental position is outside the scope of this work, one may not need to look much farther than the increasingly rapid desecration of nature and man's habitat (not to mention the habitat of wildlife) to find evidence of the perils which face the contemporary world. While some may frame these challenges in purely secular or scientific terms, the Traditionalist viewpoint would insist that it is inherent within an anthropocentric world view that human beings find themselves master of a domain in which they are increasingly alien. Even for staunch secularists, it remains to be seen whether there will be enough progress to "prevent the applications of this science in the form of modern technology from bringing further devastation upon nature and destruction upon man himself." (p. 213-214)   Still others may attempt to address these challenges by attempting to bring about shifts in thinking

through rational discussion and by forging ideological shifts through public policy research and scholarship.

Nevertheless, in keeping with the traditional and "sapiential perspective, which lives in the sacred and sees the profane in terms of the sacred" (Nasr, 1981, p. 75) my approach opts to focus on the causes of the modern predicaments rather than its symptoms. It would be natural to question this fundamental bias altogether: why would we need to work on the material level at all through art, rather than the mental or intellectual level through scholarship? What need do we have of *forms* when we have ideas? Arguably, if only ideas and scholarship were enough, an intellectual exposition of spiritual values should be enough to reroute the entire adventure of Modernism towards a more Sacred ideal. If one considers a prolific scholar such as Rudolf Otto, who wrote extensively on most of the world's religions, the collected sum of his volumes "like most of theology – although it deals with the idea of the holy, cannot evoke in us the sense of the holy. Nor do other treatises on the subject. But beauty can." (Sovik, para. 6) As alluded to earlier, devoid of an aesthetic vehicle, truth may be incapable of affecting the modern individual in a meaningful way, regardless of how inundated one may be by rhetorical devices. For some then, art more than intellectual scholarship and scientific rationalism, becomes a vessel for transformative experience through the medium of *form,* a concept to which I briefly turn.

My intention is not the belabor definitions or to dwell upon the minutia of Traditionalist biases, but the modern connotations of such commonly understood terms as *form* have become so radically divergent from the traditional understanding that this work will benefit from a clearer exposition of its operational terms. To be clear, from a traditional perspective, *form* is a metaphysical concept which is related to the perceptual aspect of an object or work of art, but exists at a higher, more fundamental, ontological level. Whereas in the view of scientific rationalism, matter has primacy, with form being a derivative aspect, according to the doctrine of Aristotelean hylomorphism, "an object is composed of form and matter in such a way that the form corresponds to what which is actual and matter to what is potential in the object in question." (Nasr, 1981, p. 260) Far from being an accidental or derivative property of matter, "form *is* the reality of an object on the material levels of existence. But it is also, as the reflection of an archetypal reality, the fate which opens inwardly and 'upwardly' unto the formless Essence." (p. 260) The inversion from the Modern conception cannot be overstated: whether natural or man-made, it is *form* which "has an ontological reality" (p. 260) prior to matter. While

this may strike the Modern sensibility as being slightly esoteric, put another way, "an act of 'imagination,' in which the idea to be represented is first clothed in the imitable form or image of the thing to be made, must precede the operation in which this form is impressed upon the actual material." (Coomaraswamy, p. 19)

Metaphysically therefore, the *form* of a sacred work of art is that which enfolds its sacred 'content' through symbols and images, in such a way as to enable "them to become 'containers' of this sacred presence and transforms them into vehicles for the journey across the stream of becoming." (Nasr, 1981, p. 260-261)   According to this metaphysics, which appears as the reverse of the Modern position, "material form reflects the Intellect in a more direct manner than the subtle level of the psyche which is ontologically higher but which does not reflect the highest level as directly." (p. 267) In other words, the power of *form* to affect the experience of individuals lies precisely in its ability to reflect the Sacred within its 'content' but as Coomaraswamy (2007) warns, "we shall miss it if we consider only the aesthetic surfaces and our own sensitive reactions to them, just as we may miss the soul when we dissect the body and cannot lay our hands upon it." (p. 123) By carrying sacred content in the vessel of *form*, matter therefore has the ability to point towards the higher ontological realms, assuming one avoid the temptation to remain fixated upon surfaces. Indeed, the "miracle of the sacred form lies in fact in its power to aid man to transcend form itself." (Nasr, 1981, p. 261)

The Sacred Artist

If form is a container for sacred content, then the sacred artist, in whom the 'act of imagination' takes place, functions as a vessel for the sacred form to become manifest. To be sure, Nasr emphasizes that one cannot simply make a work of sacred art by copying a traditional form, since "Zen gardens are based on the science of sacred geometry and the metaphysical significance of certain forms but cannot be created by just anyone who might have a manual on the symbolism of space or rock formations." (Nasr, 1981, p. 201) On the other hand, it is "neither possible nor necessary that every artist or craftsman engaged in sacred art be conscious of the Divine Law inherent in forms; he will only know certain aspects of it, or certain applications that arise within the limits of the rules of his craft." (Burckhardt, p. 88) What is important is that tradition informs the artist and "transmits the sacred models and the working rules, and thereby guarantees the spiritual validity of the forms." (p. 88) Earlier, I alluded to a reciprocal threshold or membrane in which sacred art and sacred artist form a *holistic sum*.   To be clear, the qualities and attributes of sacred art – *transfiguration,*

manifestation, mediation, inspiration, and interiorization – apply not only to the work itself, but also to the sacred artist who acts as its 'creator.' On this level, the sacred artist both acts and is acted upon; "only through contemplation and inner purification" (Nasr, 1981, p. 263) can the sacred artist access those subtle inner dimensions where one may find the threshold to the Archetypal realms. In turn, the "knowledge of cosmic symbols goes hand in hand with that direct experience of a spiritual presence which results from spiritual realization." (p. 201)

By positioning myself as an artist and researcher interested in traditional principles in art, I am consciously seeking to engage in self-reflexive modes of participation in the subject of my enquiry. Not only are the criteria for sacred art pertinent to a foundation for *technosacred* art but they also influence an understanding of my experience as the creator of that art. According to the Traditionalists, in order "to produce a work of art which possesses beauty and perfection the artist must gaze at the invisible" (Nasr, 1981, p. 263) and in doing so the sacred artist "aware of his vocation, is not only the musician who plucks the lyre to create music. He is himself the lyre upon which the Divine Artist plays" (p. 257). It is in this sense that the artist, "if he is to be called a creator, is at his best the servant of an immanent Genius" (Coomaraswamy, p. 21). Figuratively speaking, the greatest release for the 'servant' then is submission – literally '*Islam.*' At this stage, in order to propose a more specific framework for an integration of traditional principles into the contemporary context – namely within the domain of media art – I will confine my discussion to a *particular* living tradition which has meaning for me and which I believe expresses a traditional aesthetic agenda.

The Persian Art Tradition

Perhaps the origin of the artistic tradition in Islam has its basis in the well-known Quranic *hadith* which relates that 'God is beautiful and loves beauty.' The Traditionalist viewpoint suggests that all human beings recognize and are edified by the experience of beauty since, unlike so much of the individual's internal struggle, there "is no skepticism in beauty." (Nasr, 1981, p. 269) Seyyed Hossein Nasr (1981) explains:

> In this sense, beauty is the means of gaining knowledge; for certain human beings particularly sensitive to beauty, the central means. That is why some of the masters of the sapiential path have gone so far as to assert that a beautiful melody or poem or for that matter any creation of traditional art can crystallize a state of contemplation and bring about a degree of intuitive knowledge in a single moment that would be impossible to even conceive through long periods of study. (p. 271)

This description is perhaps no truer than in the case of the Persian traditional culture and the esoteric spirituality of Sufism, which in many ways has been co-identified with its artistic tradition since inception. In fact, the Persian artistic tradition predates Islam, and in many ways came to inform the Islamic art tradition through Sufism. In Persia, "one can observe still the survival of the traditional arts in general and sacred art in particular" (Nasr, 1005, p. 184). There is in Islamic art generally, and the art of Persian Sufism specifically, a distinction between the 'masculine arts' of calligraphy and architecture, and the 'feminine arts' of music, poetry and miniature (Nasr, 1987). Indeed, for any living tradition to thrive, there is a necessity for both of these complementary aspects of a sacred art, which can provide both structure and meaning.

Persian Sufism

While it is outside of the scope of this study to present anything approaching a summary of Sufi epistemology, before looking more closely at the elements of a Persian traditional art which may form a basis for a principled approach to technosacred art, a brief summation of the notion of Sufism should be offered. To scholars, the word 'Sufism' has always suffered from an unclear etymology. Perhaps more troublesome however is the unclear reality to which this term and concomitant expressions refer. It has been true that one "easy way to avoid searching for Sufism's reality is to replace the name with another name." (Chittick, p. 1) Historically, Sufism refers to a spiritual tradition – formally associated with Islam – which emphasizes an esoteric and mystical path towards the Sacred. The canons of Sufism make a distinction between the _zahir_, or outer forms, and the _batin,_ or inner essence of religious teachings.   The exegetical efforts of the Sufi saints sought precisely to expose the Quranic 'secret' among the initiated _dervishes._

For the Sufi, Islam is composed of the 'Law' or _shariah,_ the 'Way' or _tariqah,_ and 'the Truth' or _haqq._   While in early Islam the jurisprudents or _ulema_ formed an orthodoxy which emphasized _mahabba_, or obedience, as well as "divine transcendence and the role of Law" (Lewisohn, p. 3), the Sufis "challenged the Muslim to find the transcendent dimension in human life and to see through appearances to the hidden reality within." (Armstrong, p. 241) There is perhaps no better expression of this sentiment than in the heresy of Yunus Emre's verse:

When you seek God, seek Him in your Heart
He is not in Jerusalem, nor in Mecca nor in the hajj (Schimmel, p. 106)

It is not surprising therefore, that the Sufi tradition has, in many ways, acted as the receptacle for the Islamic artistic tradition. Indeed, the Sufi sees in all of creation, the handiwork of a Supreme Artist: "one of God's Names being *al-Sani*, literally the Divine Artisan or Maker." (Nasr, 1987, p. 10) As such, the sacred artist in Sufism does not "imitate the outward form of nature" but rather "creates art in the full consciousness of his imitating God's creativity." (Nasr, 1981, p. 257) Given the endless diversity of creation however, one may wonder how art elucidates a "relationship between the unknowable Infinite and the multiplicity of the palpable world?" (Marks, 2006, p. 38) This issue explicitly inheres within one of most fundamental Islamic concepts: the elliptical notion of *multiplicity within unity* and *unity within multiplicity.*

From the Traditionalist viewpoint, while the material realm attests to the abundant multiplicity of creation, the Principle from which all things emanate is testament to the transcendent Unity of existence. Conceived another way, the human being, having descended from Unity into the realm of multiplicity, may again ascend the vertical ontological axis towards Unity through the Sufi *tariqah*. This universal theme exists in all traditional cultures, though it may be clothed in the language of Sufism in this discussion. Titus Burckhardt (2003) suggests that art "clarifies the world; it helps the spirit to detach itself from the disturbing multitude of things, so that it may rise up towards Infinite Unity." (p. 91) Laura Marks (2006), a contemporary media scholar, adds that the "best art invites a meditation upon the subtle relationships between unity and multiplicity. For art, as for philosophy, by this criterion there is no compulsion to collapse the infinity of forms to 1 but rather a desire to demonstrate the sophisticated relationship between them." (p. 39) Whether within the plastic or sonoral art, the artistic tradition of Persian Sufism reveals, at every turn, this subtle and mysterious secret.

Visual Dimensions of Persian Art – Geometry + Ornament

Islamic geometry is in many respects the most visible symbol of Islam itself. A pedestrian analysis of the prevalence of geometric representations in Islamic art, simply attributes it to an aniconic tendency; the Islamic artist, in other words, pursues an abstract decorative art because he or she is forbidden to do otherwise. Not surprisingly, Coomaraswamy (2007) has called this assumption "a pathetic fallacy, a deceptive projection of our own mentality upon another ground" (p. 83). A more thoughtful position, like that of Keith Critchlow (1999), recognizes instead that Islam's "concentration on geometric patterns draws attention away from the representational world to one of pure forms ... giving structural insight into the workings of the inner self and their reflection in

the universe." (p. 8) Aesthetically, Islamic visual art is "predominantly a balance between pure geometric form and what can be called fundamental biomorphic form" (p. 8) or *arabesque.* As alluded to earlier, the use of geometry in Islamic art is not primarily because of its aesthetic effect however, but rather for its metaphysical agency. Everywhere in Islamic history that one comes across a thriving artistic tradition, one almost invariably finds parallel developments in mathematics and theology. This is hardly surprising given that "discussions of the one and many, limits and boundaries, infinity, center and circumference, nature of the number one, and the signs of God ... were as pertinent to mathematics as to theological concerns" (Bier, p. 497).

One may infer that the Sufi's interest in geometric patterns has its origins in his experience amidst "this primordial mosque which is virgin nature" (Nasr, 1981, p. 203). Invariably within nature, "systems of patterns as geometric structures of form and proportion can be found from the minutest particles to the greater cosmos." (Hejazi, p. 1417) Especially within traditional cultures which in many cases were limited to "utilizing the compass and straight edge" (Sarhangi, p. 87), the visual creation of geometries was the result of a procedural repetition – an imitation of nature in her 'mode of operation' – rather than an exclusively conceptual mathematics.   In this sense, geometry was considered as "the practice of forms through the measure and relationships, by which means each form can be unfolded out of a preceding one, i.e. *geometrical archetypes*." (Hejazi, p. 1417) In other words, the act of representing geometry visually is in itself a profound symbol of *unity within multiplicity*.   Just as in nature we find "a system symbolizing the inexhaustible multiplicity of creation," (Ardalan, p. 6) in Islamic geometry the repetitive nature of geometric patterns come to symbolize an infinite and timeless Unity, while its procedural derivation manifests a multitudinous nature: "the effusion that emanates from the One" (Ardalan, p. 6).

Figure 3. Persian Geometric Design on Tile (Jami Mosque, Isfahan, Iran)

While it has been suggested that in the Modern era, "conditioning on the validity of perspective and chiaroscuro has been the basis of the condemnation of Islamic art as decorative" (Critchlow, p. 8), the tradition of Western philosophy has a long-standing appreciation of the "literal association of geometric patterns with metaphysical concerns." (Bier, p. 509) In fact, Plato and Pythagoras also presented "the idea that the Creator created the visible world similar to a geometric progression." (Hejazi, 1414) Coomaraswamy (2007) suggests that Plato's interest in geometric art was not "primarily for its decorative values ... but for its truth or accuracy, *because* of which it has the kind of beauty that is universal and invariable, its equations being 'akin' to the First Principles." (p. 10) Plato insisted that "only geometers could enter into the temple of Divine Knowledge" (Nasr, 1981, 202) since geometry is a crucial ancillary to the 'holy

grail' of Platonic metaphysics.   In this sense, the beauty and harmony of geometric patterns reflect a higher order which the pontifical being seeks as a means of understanding the Sacred.

The pervasive idea of Islamic geometric art as being merely 'decorative' is due in large part to the Modern attitude towards visual ornamentation in general.   While decorative ornament was often dismissed in Modernism as "shallow, external, and inconsequential" (Zielinski, p. 7), this attitude was "only rarely reflected in the art of non-western cultures" (p. 2).   Indeed, the irony of the modern rejection of Islamic art as being merely ornament, or "decorative elaboration of complete, functional forms exclusively for visual or tactile pleasure" (p. 2) is not likely to be lost on the traditional artist, given the superfluous nature of so much of Modern art.   From the Modern, largely Occidental perspective, "one easily and all too often infers that ornament as decoration is non-representational and, therefore, without meaning." (Bier, p. 491) This view of 'ornament' – the very term of which implies a superficiality – indeed "represents an aberration that has little or nothing to do with the purposes of 'ornament'" (Coomaraswamy, p. 71) as understood by the Persian tradition.   Interestingly, the word ornament derives from the Latin *onare* which means to equip or adorn.   This etymology is reminiscent of the Greek *kosmos* and seems to imply that Islamic 'ornament' may fulfill a cosmic function.

Spatial Dimensions of Persian Art - Sacred Architecture
If Islamic geometric art fulfills a cosmic function, it does so as a component of a more essential endeavor in Islam – namely, sacred architecture.   Nader Ardalan and Laleh Bakhtiar – two respected Traditionalists and architectural scholars – have dealt extensively with the subject of Iranian sacred architecture in their excellent book, <u>The Sense of Unity - The Sufi Tradition in Persian Architecture</u>.   At this stage however, it will be sufficient to simply characterize some fundamental distinctions between traditional sacred architecture and the Modern conception.   Specifically, it is elucidative to qualify the traditional concept of *qualitative space* as well as the role of sacred architecture in *isolating sublimity*.

The very term for architect-planner in the Persian tradition, *muhandis*, literally means 'he who geometricizes' and "who thereby embodies in his name the fundamental emphasis of the system." (Ardalan, p. 9) Within Persian sacred architecture, "the size of every part was related to every other part in some defined proportion. A building was not, therefore, a collection of odd components, but a harmonious configuration of proportionally related

elements, which gave movement to space and satisfied the eye." (Hejazi, p. 1423)   In other terms, sacred architecture in the Persian tradition employs the same system of harmony and proportion which is the basis of Islamic geometry.   Subsequently, "geometric patterns and their related numbers, as references to cosmological concepts, play a symbolic role in this architectural creation" (p. 1414) thereby confirming the reciprocity between geometry and architecture in the Persian tradition.   While any serious student of the Persian artistic tradition can attest that "Persians always placed a high value on beauty through many centuries" (p. 1413-1414), it must be clarified that the Persian conception of beauty is not a vague aesthetic notion but implies a correct use of harmony and proportion – a *scientia geometriae* – which also guarantees the structural stability or utility of the space. It has been noted that what is astounding about many traditional buildings is "how their geometric forms work not only symbolically but also structurally, acoustically, psychologically and liturgically." (Hart, p. 6)   One must, however, clarify the traditional conception of space itself in order to grasp the operative dimension of sacred architecture.

In the Traditionalist view, space "which is the central 'container' of all that comprises terrestrial existence, is viewed not as the abstract, purely quantitative extension of classical physics but as a qualitative reality which is studied through sacred geometry." (Nasr, 1981, p. 202) To the pontifical being, the Modern position which views space as being confined to a kind of 'objective' three-dimensional Cartesian plane is akin to staring at the body and not seeing its soul.   Of course, rationalists feel encouraged that we can agree on the stable surface of appearances, but even if this is granted, does the apparent stability of the material realm negate the reality of the dimension of experience?   Is the ontological space of imagination and inspiration made less real by the inability to localize it, to lay hands on it?   From the Traditionalist viewpoint, the rapport is precisely inverse – space itself is not confined to the material realm, it is the material realm that is confined within space. The importance of this point should not be overlooked: it is not that there is a 'qualitative' aspect to space, but rather that there actually *is* an ontologically real *qualitative space*.   It is precisely this space which is explicitly addressed by sacred architecture and by the sophisticated systems of spatial design found in traditional cultures, including the Oriental *feng shui* and the *vaastu* tradition of India.

Figure 4. Partial Exterior of Jami Mosque (Isfahan, Iran)

Therefore, space is shaped, not just by its 'objective' place in the Cartesian plane, but by a holistic qualitative dimension in which its participates. This is why the "orientation of cultic acts, the construction of traditional architecture, and many of the traditional sciences cannot be understood without grasping the significance of the traditional conception of qualified space." (Nasr, 1981, p. 202) Moreover, all of tradition is "agreed as to what kind of models are to be imitated" through architecture: the geometer is to emulate the 'divine original' and to "take their principles from that realm and from the thinking there" (Coomaraswamy, p. 11).   For this reason, nowhere in a traditional architecture is there room for an 'expressive individualism' since the role of the geometer is to ensure that "Universe, and Nature, created by the Absolute as a rational and therefore mathematical reality ... are reflected in a mystic and symbolic language by the sacred architectural buildings to express Divine Order, Harmony and Beauty." (Hejazi, p. 1414) In achieving this, sacred architecture also acts as a means of *isolating sublimity* therefore, predicated on the idea that "controlling the perception of the environment should be the primary starting point for affecting a spiritual or sacred experience." (Helm, p. 102) Since early antiquity, by "creating spaces that offered orientation and scale to the sublimity of a place, primitive societies ordered a metaphysical connection to their

location and built environments." (Helm, p. 104)   Thus sacred architecture not only participates in holding the experiential dimension of a *qualitative space*, but through the act of *isolating sublimity,* the space is fundamentally "modified by the presence of the sacred itself." (Nasr, 1981, p. 202) In this respect, sacred architecture and its geometric adornment constitute a structure or container, created for the purpose of being imbued with sacred meaning.   As 'masculine' arts, geometry and architecture seek their 'feminine' counterpart in music in order to reach their apogee. Despite the appearance of fundamental difference between these 'masculine' and 'feminine' aspects of the Persian art tradition, the underlying principles appear to accord.

Figure 5. Interior of Chehel Sotoon (Isfahan, Iran)

Sonoral Dimensions of Persian Art – Sufi Music + Sama

The metaphysics of the Neoplatonists and the theosophy of the Sufis both confirm that the bases for harmony and proportion within sacred geometry and architecture – namely, "the golden mean and the modular systems that come from it" – likewise "form the scientific basis for musical harmonies." (Hart, p. 7)   Seyyed Hossein Nasr (1981) elucidates the Sufi position when he states:

> If God is a geometer who provides the measure by which all things are made, He
> is also the musician who has provided the harmony by which all things live and

function and which is exhibited in a blinding and miraculous fashion in the cosmos. (p. 194)

This correspondence between beautiful form and music accords with the Platonic idea that the ratios which are pleasing the eye should also be pleasing to the ear. As such, musical "ratios have therefore a close relationship with art or architecture, and they can be regarded as a basis for artistic designs." (Hejazi, p. 1416) Not only this but, from the Traditional perspective, music "has a cosmological foundation and reflects the structure of manifested reality." (Nasr, 1981, p. 272)   In this respect, music is an indispensable vehicle by which many Sufis seek the Numinous encounter.

In many ways, Sufism has been identified by its musical aspect since inception. Conversely, within most streams of conservative Islam, music has been and in some cases continues to be considered *haram* or impermissible, since the musical arts "are also the most dangerous for those not qualified to bear the powerful attraction which they wield upon the human soul." (Nasr, 1981, p. 271)   Even the Sufis were divided among "advocates, adversaries, and moderates" (Lewisohn, p. 1) who debated the permissibility of music.   While a discussion of the extensive debate behind the permissibility of music in Islam is beyond the scope of the present discussion, I am interested specifically in the advocates of sacred music in Islam who insisted that "music was the *sine qua non* of Islamic mysticism" (Lawrence, para. 5). To be sure, even within traditional culture, the Sufis distinguish between a profane and sacred use of music, and there have been many exegetical efforts to identify music's proper uses, or *adab.* Nevertheless, the magnetism of sacred music for the Sufi owes to the fact that the "power of beauty to carry man upon its wing to the world of the essences and toward the embrace of union with the Beloved is particularly strong in those arts which are concerned with sonority and movement" (Nasr, 1981, p. 271).

The term *sama* – the Sufi spiritual concert – literally means 'audition' or 'listening' and the *sama* is a spiritual concert in which Sufis "listen to music and let themselves be drawn into ecstatic states" (Schimmel, p. 179). To be clear, *sama* represents the ritual occasion for the sacred music of Sufism, rather than a form of music itself. This musical occassion entails a contemplative reception of musical performance within an appropriate aesthetic setting. As a ritual, *sama* is a form of meditation characterized by "an attitude of reverently listening to music and/or the singing of mystical poetry with the intent of increasing awareness and understanding of the divine object." (Lewisohn, p. 4) The traditional music of Sufism permitted the use of certain 'mystical' instruments, such

as the *tanbur* and *daf*, in conjunction with the singing of mystical poetry. In effect, the sacred musical repertoires act as an emotional body of water, in which the Sufi can audit the mysteries of the subtle states of the soul, or *latifah*. Music thus plays an indispensable role in "the operative aspect of the path" (Nasr, 1981, p. 271) since "it enables the contemplative to recollect the supernal realities which lie within the root of the very substance of the human soul." (p. 272) The importance of *sama* as a means to the mystic's end therefore can not be overstated in light of its sapiential meaning within the structure provided through sacred architecture and geometric ornament.

Localizing Traditional Art in Technologic Culture

It is critical to mention that while my approach to this research is oriented on one level on particular aesthetic forms from the Persian sacred art tradition, the aesthetic particularities nevertheless satisfy the broader criteria of sacred art which I have described. My decision to frame my artistic efforts in the artistic space of Persian aesthetics is based on a personal and cultural foundation in this area, as well as a recognition of the congruence between the aesthetics of Persian sacred art and broader motifs in other traditional forms of art, including geometric mandala, sacred architecture, and contemplative or ritual listening. This approach enables me to purposely explore the intersection between traditional culture and contemporary technologic society, in a way which may elucidate notions surrounding hybridity. As a result of this approach which seeks to interfuse traditional artistic approaches with contemporary new media technology, my discussion surely will part ways with a dogmatic Traditionalism.

Indeed, there should be little doubt about the conceptual complications inherent in an attempt to describe and present a *technosacred* art, based on traditional principles, within the contemporary world which in many respects is utterly dominated by Modernism and its concomitant expressions. Nevertheless, I intend to continue to use the framework of traditional culture and to pursue this discussion through the lens of Traditionalism. Perhaps one may be more rightly inclined to seek to locate this *technosacred* art inside of "a living orthodox tradition with its sapiential dimension intact" (Nasr, 1981, p. 258) instead of treading into this perilous intersection. However, my fundamental bias in orienting a *technosacred* art towards modern culture stems more specifically from an interest in exploring the intersection between contemporary technologic society and traditional culture, in an effort to discover potential congruencies as well as valences. Rather than to confine a *technosacred* art to an existing traditional

culture – which presumably benefits from sapiential works of art already – I instead seek to navigate the challenges presented by the modern milieu.

Despite the fact that many Traditionalists speak about modern individuals as though they were a lost cause, one is surely not obliged to inherit this bias. Even the Traditionalists concede that the modern individual may still possess a "nostalgia for the Sacred and the Eternal and thus turns to a thousand and one ways to satisfy this need, ways ranging from psychological novels to drug-induced mysticism." (Nasr, 1981, p. 161)   This 'nostalgia' seems to express a certain ripeness within the contemporary world – more accurately, within certain subcultures – for the emergence of a contemporary art based on traditional principles. To be clear, my approach to the creation of this *technosacred* art has its basis in the principles of a living artistic tradition, yet seeks subsequently to transplant the aesthetic artefacts into the modern technologic context in order to explore its agency in *affecting* or *inspiring sacred experience*.   Thus, this research seeks hybridity within a spectrum which simultaneously avoids merely presenting traditional art inside of an orthodox or exclusively traditional milieu as well as placing *technosacred* art in a contemporary context which is foreign to traditional ideas entirely.   To identify a viable site in contemporary technologic society in which to explore the hybridity of *technosacred* art, the historical experience of Sufism is perhaps instructive.

Sufism in many respects, emerged as a 'secondary institution' in the spiritual landscape of early Islam precisely because it emphasized an esoteric interpretation of Islam which sought spiritual meaning in ways which were often not sanctioned by the orthodoxy.   To this end, the Sufi *khanaqah* (dervish houses) and the *jam* (spiritual gathering) – both of which were fundamentally infused with the sacred art tradition – operated as sites of transmission for alternative modes of spirituality, which often stood in opposition to the apparent monopolies of exoteric religious interpretation. In fact, it may be misleading to speak of Sufism as a formative 'religion' at all since it represents a spiritual Path, rather than a formal dogma. Within the contemporary climate, recently scholars have suggested that electronic dance music culture (EDMC) similarly operates as a site of transmission for alternative spiritual discourses and 'non-formative religions' (St. John; Lynch).   The events organized within EDMC, and specifically the 'conscious partying' and psytrance cultures, form occasions within contemporary culture for the "dramatizing of participants' 'ultimate concerns' within the framework of the 'visionary' music festival" (St. John, 2009). In many ways, these sites act "as a social and cultural network within which various alternative spiritual

discourses operate" (Lynch, p. 484) and where participants can "express and ritualize individualized conceptions of spirituality" (Gilmore, p. 2).

To be clear, my intent here is not to make the precarious argument that the *contents* of the alternative spiritual discourses presented in early Sufism and EDMC are congruent – although *thematic* similarities have been explored in a previous study (Ghahary) – but simply to suggest that both cultures respond to the exoteric orthodoxy of their time and act as 'secondary institutions' within their respective cultural landscapes, thereby presenting themselves as cultures which are navigating 'ultimate concerns.' It is important to note that this pursuit is typically achieved in both cases through a radical orientation towards a more immediate, personal experience of the Sacred adjacent to the orthodox channels. While the exact nature of the 'Sacred' as such may differ within these cultures, in many ways, either culture expresses a preoccupation with *experiential* knowledge in this pursuit – specifically with music and sacred art acting as a vehicle for the Numinous encounter. It is in this sense that we can relate Nasr's notion of the 'revival of tradition' to the revival of what Gauthier called, a time "when truth and meaning must come to be judged on the scale of experience." (Gauthier, p. 67) If a *technosacred* art is going to find fertile soil in the contemporary world, one may expect to find it not only within the formal limits of living traditional societies, but possibly in the liminal zones of contemporary culture which express this 'nostalgia' for experiential knowledge of the Sacred.

Technology and Islamic Art

In my approach toward *technosacred* art, the question of the use of *technology* within traditional art practice – specifically *digital technology* – must be addressed. One may indeed wonder what place technology has within traditional art given that technology is in many respects *the* culminating achievement of the modern endeavor, and is increasingly overtaking so many aspects of terrestrial life. A Traditionalist viewpoint could even argue that the contemporary obsession with technology is eroding what little room is already left for the Sacred in the life of society. Obversely, what should one make of the notion that the "the challenge of using only compass and straight edge for creating intricate structures were in harmony with the beliefs of religious scholars of the Islamic empire" (Sarhangi, p. 88)? Is it clear that there is not some fundamental incompatibility between the Persian artistic tradition and the use of technology in general?

It appears that the rapport is exactly the inverse. As Carol Bier (2008) has noted, technology has always been an indispensable part of the creation of traditional Islamic art since the "processes of pattern-making in all media rely upon the interactions of craft and technology" (p. 492). Since the visual art of Islamic geometry relies less on a conceptual mathematics than on a procedural repetition, in many cases the "pattern is not necessarily deliberative (although it may be)" (p. 492) but rather it is "dependent upon the interactions of a medium with a technology." (p. 508) The visible form of the art therefore, is fundamentally related to the *technology* employed in its creation, resulting in geometries and patterns are *emergent* through the process rather than prescriptive. Beyond geometric art, the sacred music and architecture within the Persian tradition were likewise contingent upon instrument and building technologies respectively. The use of technology has been more or less constant, with variations evolving according to its forms and applications.

A deeper inquiry suggests that although digital technology is a substantial leap from 'compass and straight edge' techniques, there may be even greater conceptual and technical compatibilities between Islamic art and digital technology.   Namely, the processes of repetition, rotation, translation, and mirroring inherent in the creation of Islamic geometric art are "indicative of algorithms, for which a mathematical understanding of algorithms is less relevant than an empirical understanding of the nature of pattern-making" (Bier, p. 498). It is noteworthy that the term *algorithm* – which today is immediately associated with digital technology – is credited to a Latin corruption of the title of a central text of the Persian mathematician, al-Khwarizmi. His term *al-jabr* – roughly meaning 'calculation' – formed the basis for 'algebra' and later 'algorithm' in the current usage.   Bier notes that the usage of the term *algorithm* in its current connotation was not employed until the 20th century indicating that "the algorithmic aesthetic exemplified by Islamic patterns may pre-date theoretical understanding of algorithms as a mathematical concept." (p. 498)   Surely, it is somewhat pejorative to suggest that the traditional artists of Islam – many of whom were polymaths and mathematicians themselves – possessed no concept of "algorithm as a sequence of steps, which when repeated consistently yields the same result" (p. 502) especially considering the pervasive use of this exact technique in the building and ornamentation of architecture.

A more thoughtful interpretation advanced by contemporary media scholar Laura Marks infers just the opposite: the *algorithmic* foundations of Islamic art constitute the basis for

an Islamic genealogy of new media art. To this end, Marks (2006) notes that while Western "intellectual historians have disavowed Arab/Muslim links or dismissed their importance" (p. 41), the parallels between tendencies in new media art and traditional Islamic art "are not happenstance but the manifestation of historical connections." (p. 37) Specifically, Marks proposes several formal properties which these arts share, including an *algorithmic* foundation, an *aniconic* tendency, the use of *latency*, a logic of *enfoldment and unfoldment*, as well as an emphasis on *performativity* rather than representation. Although a thorough discussion of her worthwhile analysis may elucidate our later discussion, it is important to briefly explain that the fundamental comparison between new media art and Islamic art has its basis in their common usage of *aniconic*, or non-representational, *algorithmic* structures which express *latency* and *performativity* by playing out over time across the attention of observers. These features cumulatively have the effect of *enfolding* an invisible underlying logic – which has its origin in the database or *algorithm* – while *unfolding* a perceptible experience which inheres in the underlying principle. In this light, Marks rightly points to the capacity of new media art to *enfold* notions of *multiplicity in unity* within computer art works, thereby corroborating our expectation that there are indeed significant compatibilities between traditional art in Islam and the use of *digital technology*.

Traditional Art and Sacred Experience

Regardless of the particularities of the technology employed in the creation of sacred art, it is crucial to remember that from the Traditionalist perspective, traditional and sacred artworks are never removed from their practical or functional purpose.   This notion presents a unique challenge within the contemporary context: how can one describe the practical role of a 'sacred' art in the contemporary world?   In other words, what is the expectation of what sacred art does?   Given its varied and culturally diverse manifestations throughout history, it is perhaps not surprising that sacred art has served a multitude of practical and spiritual purposes.   Sacred architecture, for example has provided shelter, housed liturgy, edified ritual, and facilitated civic and societal rites, while sacred art works have ornamented buildings and furniture, illuminated manuscripts, beautified carpets, and performed innumerable other practical functions. What differentiates sacred art works – including music and architecture – from other 'folk' or secular art however, is the indispensable role that sacred art plays in facilitating *sacred experience.*   In this sense, sacred art exists to support contemplative practices and bring people in closer proximity to the Sacred. All sacred art, in other words, must

fulfill a critical sapiential and anagogical function relating the contents of the Sacred realms to the perceptible realm of human existence.

The challenge in the contemporary context stems from the difficulty in describing a communicable framework for what constitutes *sacred experience*. The rational agnostic may reject the premise of an epistemic state which could be called 'sacred' altogether; certainly, one cannot be expected to take this for granted. To study the agency of *technosacred* art in the context of *sacred experience* however, it is important to establish – outside of the confines of the Traditionalist viewpoint – that such a state even exists. Beyond this, it is necessary to uncover a framework by which knowledge can be *communicated* about these experiences beyond the usual phenomenological accounts. The canons of mystical literature are replete with analogies, metaphors, and allegories which attempt to relate the ineffable and mysterious nature of this coveted experience, but there are few sources in modernity which can 'rationally' corroborate the experience of these mystics beyond subjective terms. Nevertheless, it is crucial to possess an understanding – at least initially from the standpoint of mystical tradition – of what constitutes *sacred experience* and how it can be characterized.

As discovered earlier, the various spiritual practices of Sufism, including the sacred music concert of *sama*, may contribute to the onset of spiritual experience for the adept or *dervish*. Specifically, the Sufi conceptions of *vajd*, *fana,* and *baqa* constitute a tripartite structure of sacred experience in Sufism. The term *vajd* itself means 'finding' and refers to a sense of impending ecstasy which overtakes the adept through the discovery of what they experience as an undeniably numinous realm; the *dervish* falls into an ecstatic state, having the distinct sense of being present among the beloved Other. Indeed, Mircea Eliade's term 'enstasy' may be more appropriate considering the *dervish* is carried more deeply inward, rather than outward. Nevertheless, the experience of *vajd* may eventually give way to *fana*, which literally means 'annihiliation' or extinction in God – an effacement of the 'otherness' of the Divine. In its simplest terms, the state of *fana* represents a complete dissolution of self-hood or any sense of a separate 'I.' Finally, the culminating station of *baqa* is the least common and is reserved in the Sufi canon for the highest saints and prophets. The notion of *baqa* refers to a 'subsistence' in the Divine, in which the Divine may imbue the 'annihilated' adept with the truth, or *haqq*, thereby returning them to the perceptible realm of human existence to fulfill a role as a guide, akin to the Hindu *avatar.* In general however, the discourse of

Sufism is concerned with the first two states since the third is mysteriously related to the inconceivable realm of Divine Will.

Despite the relative absence of scientific voices keen to address the persistent reality of *sacred experiences* within Sufism and other mystical and gnostic traditions, recently scholarly efforts by Dr. Eugene d'Aquili and Dr. Andrew Newberg have made considerable progress in studying the existence of mystical states of the human mind through modern neurobiology and medicine.   Specifically, these scientific scholars have proposed a model of 'neurotheology' which seeks to establish a neurological basis for mystical experience which operates across a diverse cultural spectrum. While their work remains controversial and debated, I intend to draw from their pioneering work since it represents a contemporary effort to understand a scientific basis for the phenomenology of sacred experience and therefore might suggest a basis by which a modern rationalist epistemology may corroborate traditional epistemological schemes. While a detailed exploration of a neurotheological model may prove invaluable for a later discussion, it suffices at this stage to confirm that their research corroborates the existence of a primary epistemic state – termed Absolute Unitary Being (AUB) – which corresponds closely to what is called *fana* in Sufism.

AUB is characterized as "a state, arising out of profound meditation, in which there is no perception of awareness of discrete beings and no perception of space or time and which even the self-other dichotomy is obliterated" (d'Aquili and Newberg, 2000, p. 41). This description accords very closely to *fana,* which Toshihiko Izutsu described as "the total nullification of the ego-consciousness when there remains only the absolute Unity of Reality in its purity as an absolute Awareness prior to its biurfication into subject and object" (Schimmel, p. 143).   Perhaps not surprisingly, there are also 'lesser mystical states' which relate strongly the Sufi conception of *vajd*.   The work of Newberg and d'Aquili seems to scientifically corroborate the reality of a gradient of primary epistemic states which could be called *sacred experience*, thereby establishing a dialogical bridge between the traditional and modern scientific viewpoints.

This research in neurotheology also posits the notion of a Unitary Continuum which may help to clarify the potential agency of art within *sacred experience*. Newberg and d'Aquili (2000) have noted that their research suggests that the qualitative distinctions in primary epistemic states – including stable 'baseline' states as well as higher 'mystical' states – can be considered as actually making up "a spectrum or continuum of unitary states in

which the sense of unity increasingly transcends the sense of diversity." (p. 43) Most interestingly, this model suggests an explicit relationship between two experiences which have generally been segregated in modern understanding – the aesthetic contemplation of art, and religious states of contemplation. As one moves along the Unitary Continuum "one moves out of the realm of aesthetics and into a realm that more properly would be described as religious experience." (p. 43) For this reason, the Unitary Continuum has alternatively been referred to as the Aesthetic-Religious Continuum. Inherent in this model is the implication that heightened aesthetic experience may be able to act as a bridge between the stable 'baseline' epistemic states and spiritual states – an implication which hopefully confirms the reasoning of my research approach thus far.

PRECEDENTS

After establishing the fundamental conceptual basis for this study, a review of existing approaches within the domain may be elucidative. To speak about the research 'domain' as anything other than an amorphous collection of preliminary approaches would perhaps be misleading. The domain remains sparsely populated, mostly with sociological research pertaining to the use of digital technology within religious communities, with relatively little knowledge firmly established. Fewer still are the studies which explore the role of aesthetics, or the use of *sacred art*, in supporting contemplative or spiritual practices more broadly. It may be instructive to still consider some of the existing work in any case, if not only to clarify the current approach towards this research.

Previous Work in 'Techno-Spiritual' Design

In the field of Human Computer Interaction (HCI), there has recently been some scholarly interest in exploring the intersection between digital technology, religion and spirituality. Susan Wyche's work in particular has explored the use of digital technologies – specifically, Information and Communication Technologies (ICTs) – to support religious practices and communication in certain religious communities (Wyche et al. 2006). Wyche's (2009) work is predicated on earlier studies which noted that communities have began using digital technology "to support religious practices such as meditation, communal worship, and abiding by Sabbath rules" (p. 55) – something that has been termed 'techno-spiritual' practice. While acknowledging the need to "go beyond traditional concerns of efficiency and productivity of technology when developing systems to support religious practices" (p. 3412), Wyche (2008) and others have instigated some preliminary design explorations which thus far have been limited to the incorporation of religious or 'sacred' imagery into ICT applications.

A representative example of a design exploration is 'Sun-Dial' which is a mobile phone based Islamic 'call to prayer' which incorporates a skyline composed of a generic mosque silhouette, a moving sun and colored sky which indicate the time of day of the particular prayer call. One can also observe some efforts in the industrial design sector to relate technology products to religious practices. One such example is Soner Ozenc's (2010) electroluminescent prayer mat 'Sajjadah 1426' which is digital design object which seeks to support the Islamic practice of prayer by lighting up when the rug faces east (Ozenc). Other examples of research consider the use of texting and internet communication among members of various religious institutions (Wyche et al. 2006). As

evidenced by these exemplars, general research into 'techno-spiritual design' has so far been focused on providing logistical support or enhancing ritual convenience. In some respects, this 'functionality bias' may be representative of the broader tendency in HCI research to emphasize utility and convenience, over aesthetic or experiential considerations. While there is obviously increasing interest in the domain of HCI regarding the aesthetic and experiential aspects of digital systems (Peterson, 2004), there is considerably less knowledge available in this respect in the case of 'techno-spiritual design' explorations.

It is also important to note that in most of the existing literature in this domain, the terms spiritual, religious and sacred are used interchangeably and not at all in the nuanced sense presented here. The distinction is not simply one of semantics; the Traditionalist viewpoint would insist that the incorporation of a simple, representational graphic, as seen in 'Sun Dial' does not qualify as 'sacred' imagery in any meaningful sense. Clearly, Wyche et al. did not intend to imply that their graphics qualified as sacred art, but merely to suggest that the incorporation of some relevant religious imagery may enhance the applications usability. Nevertheless, the absence of a meaningful definition of terms such as the one presented here, has presumably hindered the ability of researchers to communicate knowledge in the domain.

The issue of the usability of 'techno-spiritual design' reveals another important dimension of this challenge: the distinction between supporting *sacred experience* versus supporting a *way of life*. An illustrative example can be offered in considering how "people make use of technology's image capabilities to support religious practices." (Wyche, 2009, 55) This characterization being somewhat nondescript, a specific study describes the use of camera phone technology by a Buddhist to preserve the experience of being at a shrine on a pilgrimage. The difficulty with these types of inquiries into technology and spirituality is the vagueness with which they pursue their descriptions. In particular, is the monk's ability to take a picture of the shrine to "preserve the experience for his own reflection and to share it with others" (58, 1) really a religious practice? To what degree is it appropriate to suggest that the use of technology by a *religious person* is a *religious* use of technology? Surely, the problems which inhere in this ambiguity complicate efforts to meaningfully explore the use of digital technology within actual religious and ritual practices.

Elsewhere, there have been 'non-religious' efforts to create planetarium-style immersive artworks – such as Paul Grimmer's *Continuum* – as "a meditation on notions of beauty, perfection and difference focusing on a body, physically and digitally modified and transformed" (Grimmer, 2010). Grimmer's work combines kaleidoscopic visuals and a moody ambient soundscape in 5.1 surround sound presented in a seated planetarium context. Grimmer's work – which is not based on traditional or sacred aesthetics yet seems to allude to it – does suggest a more *affective* potential for the use of technologically mediated aesthetics, in terms of an *immersive environment*. In many respects, Grimmer's 'secular' work engages notions of beauty – and perhaps inadvertently, sacrality – more directly than the works of 'techno-spiritual' design. This approach highlights an immersive and multimodal use of aesthetics in terms of an 'environment' rather than merely as a digital 'interface,' which may represent a more affective usage of digitally mediated aesthetics.

Finally, a brief look at new media art inspired by the Islamic art tradition reveals the difference between art *about* Islam and Islamic art which fulfills its traditional *ethos* by aiding spiritual practice. One indicative example is a digital animation piece entitled "Allahu Akbar" by Usama Alshaibi (2003). This video artwork features various traditional Islamic patterns "superimposed and spun around their central axis, in a close rhythmic relationship with the lively soundtrack of traditional and popular Iraqi music." (Finkelstein, 2006, para. 5) The artist's use of rapidly pulsing kaleidoscopic graphics and popular Iraqi music renders a piece which is "a giddy playfulness, reminiscent of psychedelic Pop art, and far removed from the contemplative quiet" (para. 5) usually associated with mosques and courtyards of traditional Islamic architecture. In other words, while the piece uses traditional Islamic patterns and religious musical motifs – albeit in the outward form of *tarab* or profane music – it does so in a way which is not at all related to the aesthetics or function of the traditional contemplative atmosphere of spiritual practice in Islam or Sufism. One review aptly notes that the "bouncy sound track rebukes ultraorthodox Islam's prohibition of sensual pleasures, including music" (Camper, 2003). In effect, the piece appears more oriented towards expressing political or ethnic identity than on using Islamic art in a way which is inherently compatible with its traditional purpose. As a result, despite the artist's claim that the piece "attempts to come closer to that ultimate beauty and mystery which is God" (Alshaibi, 2003, para. 1), it does so in a manner which presumably ceases to benefit from the contemplative ambience in which Islamic art forms are traditionally encountered. Consequently, the artwork expresses

itself as a piece *about* Islam as opposed to an Islamic art which fulfills the *ethos* of the traditional art.

This brief analysis of previous design approaches is not intended to minimize or peripheralize the efforts and successes of their creators, but merely to present their approaches in a way which clarifies the present conception of *technosacred* art. Clearly, the domain of design and research pertaining to the intersection of technology and spirituality will benefit from a diverse and varied approach. Nevertheless, this review is aimed at clarifying an emphasis on: a stable taxonomy of terms; experiential and aesthetic considerations in design; as well as the fulfillment of the traditional *ethos* of sacred art. In other words, a *techonosacred* art must go beyond providing logistical convenience for ritual practice by employing an informed aesthetic approach which can enhance the experiential dimensions of the spiritual practices themselves. In addition to being aesthetically consistent with traditional practices, it is crucially important for *technosacred* art to continue to fulfill the traditional purpose of sacred art by supporting the contemplative ambience of spiritual practices. By satisfying these complementary components of sacred art, *technosacred* art may be capable of affecting or inspiring *sacred experience* in a meaningful way.

Research Questions and Statement

Ultimately, any meaningful instance of *technosacred* art should be expected to possess some agency with respect to affecting or inspiring *sacred experience*, by facilitating deeper spiritual practice and contemplation of the Sacred. The effort to create new media art work in the intersection of modern technologic society and traditional spiritual culture is undoubtedly a complex one which faces challenges from all sides – both in the form of religious orthodoxy as well as modern skepticism. Nevertheless, by positioning this research directly in the liminal boundaries of both modern rationalism and traditional studies, the exploration of *technosacred* art expresses what Erik Davis (1998) has called the 'techgnostic' sensibility "where the potential for self-liberation and awakening drives technological development" (St. John, 2009, p. 44). This sensibility must be clarified however with specific knowledge that addresses the relevant questions and challenges which pertain to this endeavor. Specifically, how can digital technology and new media – based on the principles of traditional art – work together with spiritual culture in a visceral way which affects the *experience* of spirituality? Regarding the intersection between traditional spiritual culture and modern technologic society, how can we understand the role of ritual, affect, and embodiment within a *technosacred* art, both in its creation and

its reception?   Lastly, what constitutes an appropriate means by which to communicate knowledge regarding *sacred experience*, with respect to the phenomenology of non-rational states?

I must concede that the fundamental bias of this research approach is predicated on a conviction that traditional culture – as the long standing precedent in human culture – has something to offer contemporary society concerning the construction of meaning in human experience.   Whether ancient or cutting edge, technology merely represents a tool which expresses the intentions of the artisans and technologists who wield it, and who in doing so, shape the external world as well as the inner landscape of our collective experience.   In this way, the critical dimensions of the design of digital artefacts can be related to the intention and orientation of the builders of those artefacts and artworks.   As Doree Seligmann asks: "What if we designed spaces where video displays, audio, lighting, and more were all controlled to create a rich and meaningful user experience based on content and intent?" (McGrandy, Michael J. et al., p. 4)   This research seeks to address this challenge explicitly through *ritual* content and *spiritual* intent within the creation of a *technosacred space*.   Over the course of my design research, through the creation of various media artefacts and artworks which combine traditional principles of sacred art with modern immersive technology, it will be possible to demonstrate an affective *technosacred* space by combining a *multimodal* aesthetic environment with *ritual* forms of participation to establish an environment conducive to *sacred experience.*   By investigating the relationship between aesthetics and spiritual practice in this way, I intend to highlight the capacity for digital media to interfuse with traditional principles of art in order to engender notions of the Sacred within modern technologic culture.

METHODS

<u>*Participatory Design Research towards a Technosacred Art*</u>

A cogent methodology for the creation of a *technosacred* space should be primarily guided by a principled consideration of the experiential dimensions of the system, in a way which balances aesthetic and interaction concerns. To be clear, this research which is located within the intersection of interactive digital technology and spiritual practice aims at developing within the framework of traditional principles in art, while also exploring enhanced agency through the use of digital technology.   My research approach accords with Peter Ehn's (1989) notion that design "becomes a concerted creative activity founded in our traditions, but aiming at transcending them by anticipation and construction of alternative futures." (p. 28)   As such, through participatory design research, it will be possible to create *technosacred* art through an iterative design approach which takes spiritual practice and technological understanding as the "ontological and epistemological point of departure" (p. 28) for the design and study of *technosacred* artefacts.

Participatory design research appears particularly well-suited for the effort to create *technosacred* art, given the centrality of experiential and affective dimensions in the traditional understanding of sacred art.   By conducting design as research, it is possible to envision and shape the emerging design through observations, close reading and analysis of artefacts, as well as through grounded interpretation.   In fact, given the sensitivity of most spiritual practices to intrusive methods of inquiry, participatory design research provides a means by which to explore tacit knowledge in a multitudinous way. Through iterative design cycles, not only are design efforts refined but also the understanding of the artefacts themselves become enriched. Furthermore, since the notion of a *technosacred space* presumably entails a multidisciplinary design approach, participatory design will allow for a study of tacit knowledge in the use of *technosacred* artefacts, without de-contextualizing the overall design effort by breaking it into discrete components.

It is important to notice that this inquiry into *technosacred* art is principally motivated by the prospect of designing artefacts and interactive systems which have the capacity to affect *sacred experience*. While traditional principles of art can form the foundation for a meaningful strategy towards *technosacred* art, it is not through a dogmatic adherence to Tradition but through an experience-centered design approach that I expect to be able to guide the emergence of affective designs.   Furthermore, given the challenges which

already exist in accessing and describing tacit knowledge, the implicit, holistic and often ineffable nature of *sacred experience* will be even more difficult to ascertain, without grounding the interpretation of the system through existing domains of knowledge. By alternating between design and reflection, in iterative cycles, there is a greater chance of ultimately creating *technosacred* artefacts with affective potential.

Addressing the Limitations of Participatory Design Research

The specific approach to this design research involves an initial exploration based on traditional principles in art, followed by the discovery of various design strategies which can be implemented through system prototypes. Through iterative cycles of design in this way, it becomes possible to combine participatory experience and critical reflection in order to better approximate the intended outcomes of the artefacts. There are however some inherent limitations in the methodology which should be addressed directly or through the corroboration of other methods of analysis.

Spinuzzi (2005) notes that participatory design research tends to exhibit a 'gradualist tendency' which "does not lend itself to radical change of the sort that sometimes must characterize new systems" (p. 168). This limitation may be especially applicable to this study, since *technosacred space* – and the artefacts and artworks which comprise it – indeed does represent a new system. One way to avoid 'tunnel vision' in design and address this limitation however, is to involve the participation of a varied user base in order to bring new accounts of the artefacts to bear on the design approach. To be clear, the idea is not to employ a random diversity of users but rather to make use of a diversity of user experiences from *within* the intended user base of the design system. In the case of this research, *technosacred* artefacts and artworks are intended for use by those individuals who are both spiritual practitioners and participants in technologic culture. By focusing on the experience of this diverse user base, it will also be possible to avoid the "tendency to focus too narrowly on artifacts" (p. 168) rather than the overall experiential dimension of the system.

Finally, due to the complexity of the role of the designer-researcher as both an interpreter and initiator of design change within the study as well as the inherent opacity of the tacit knowledge which is an integral object of study, some ethnographers have taken exception with participatory design research and suggested that "superficial social research may confer the illusion of increased understanding when in fact no such understanding has been achieved." (Forsythe, p. 136). In extrapolating their design

interpretations outside of their intended domain, these researchers "have no way of knowing whether they have really understood anything of their informants world view or have simply projected and then 'discovered' their own assumptions in the data" (Forsythe, p. 136)   To be clear however, the purpose of participatory design research is not to *extrapolate* its interpretations to another abstracted domain of knowledge, but precisely to *interpolate* knowledge, in an effort to continually return the analysis back to the domain itself in order to continue to shape and reshape the existing designs. Nevertheless, Forsythe's criticism is not an impossible one to overcome since if the aim of the research is not only improving designs within the applied domain, but also "pulling the data into another domain where it can be abstracted, analyzed, and used apart from the site" (Spinuzzi, p. 168) then it is possible to analyze the experiential dimensions of a *technosacred* design through alternative methods, including phenomenology and hermeneutics, a point to which I now turn.

A Traditional Approach to the Phenomenology of Religion

Since any meaningful analysis or discussion of *technosacred* art is bound to the notion of *sacred experience*, the design and study of a *technosacred* art must necessarily entail an understanding of its experiential dimensions, in a way which combines *embodied* and *phenomenological* approaches. In many ways, any hope of establishing the agency of *technosacred* art in facilitating spiritual experience is predicated on avoiding the limitations of many modern approaches to the study of *sacred experience* in general. To this end, it is elucidative to consider both Modern approaches to the study of the phenomenology of religion as well as the traditional *scientia sacra* of religion which is presumably more relevant to this research, given the ontological priority which it grants to the Sacred.

Both the traditional and modern perspectives can agree that there is no escaping the issue of phenomenology in *sacred experience.* While there may be some discrepancy regarding the nature and onset of such experiences, clearly 'affected' individuals are unmistakably *experiencing* something which presents itself as a non-delusional, visceral epistemic state. Newberg and d'Aquili (1999) confirm that these spiritual and mystical states – in contrast with dreams and psychosis – are almost universally described as being *more real* than even stable baseline reality "even when they are recalled from within baseline reality." (p. 192) Despite the persistent appearance of the reality of these experiences however, some scholars note that there is still a tendency to view spiritual beliefs as "passive fixed items of mental furniture" rather than a "mode of action" (Firth,

p. 16) which reinforces *sacred experience*. It is in this sense that William James (as cited by Dornan, 2004) suggested that "many persons possess the objects of their belief, not in the form of mere conceptions which their intellect accepts as true, but rather in the form of quasi-sensible realities directly apprehended" (James, p. 64). In other words, any attempt to reduce spiritual experience to mere intellectual activity will fundamentally miss the phenomenological and embodied dimensions of these experiences.

The proclivity to ignore the phenomenological dimensions of religious belief and experience is perhaps best exemplified by the historical study of religion. The reductive tendency of historicism in the study of religious experience has been noted as a primary reason why many strains of inquiry into religiosity and ancient religion "lack any exploration of the dynamic processes of interaction between individual religious experience, belief, ritual, and culturally salient religious symbols." (Dornan, p. 25) There appears to be a tendency to study religiosity in factual terms in which "religious systems are seen as structures perpetuated by the black box of an abstract 'society' while the subjective experience of the individuals that make up society is often ignored" (p. 25). That "there is still little attempt to explain why shared religious beliefs are internalized and heeded" (p. 25) is perhaps indicative of the Modern skepticism about spiritual experience which avoids the study of subtle phenomenological realities in favor of studying 'objective' factual and historical realities.

According to the Traditionalist perspective and Seyyed Hossein Nasr (1981), this "purely historical treatment of religion" eventually went so far "that a reaction began within the circle of modern thought itself in the form of phenomenology." (p. 285) Unfortunately within most phenomenological study of religion however, "there has been no metaphysical basis upon which they would be able to interpret the phenomena as the phenomena of a noumenal reality" (p. 286) resulting in a case where "some phenomenologists became more or less collectors of religious ideas and symbols, as if they were going to place them in a museum" (p. 285) rather than interpret them in light of the living traditions to which these phenomena belonged. In other words, while historicism omits the experiential dimensions of religion, a sterile phenomenology has "the unpardonable defect of studying a sacred reality by abstracting the sacred from it." (p. 294) In effect, many modern approaches towards the study of religious experience have been confounded by a historicism which considers context without experience and by a phenomenology which considers only experience without context.

A more meaningful approach to studying the phenomenology of *sacred experience* can perhaps be developed by considering "the ways that culture patterns experience as mediated through the body" (Dornan, p. 27). In this respect, the notion of *embodiment* as an integrative "somatic engagement with the world" (p. 27) forms an important component of a phenomenology of *sacred experience*. Thomas Csordas (as cited by Dornan) describes *embodiment* as defining 'somatic modes of attention' which are "culturally elaborated ways of attending to and with one's body in surroundings that include the embodied presence of others" (Csordas, p. 138). Furthermore, because somatic modes of attention are culturally elaborated, it is important "to look at the ways in which embodied experience and perception of the cultural world is both interpreted through and experienced by the body in the context of ritual and religious practice" (Dornan, p. 27). Approaches which emphasize analytical categories such as perception and sensation therefore fail to imagine "an individual's attending 'with' and 'to' the body, not as an isolated object, but through sensory engagement with the intersubjective world." (p. 27) Put another way, one cannot expect to assess the phenomenology of *sacred experience* outside of its *embodied* inter-subjective context.

The traditional study of religious experience – the *scientia sacra* – goes yet one step further in contextualizing the phenomenology of sacred experience. Given the centrality of the Sacred in the ontological schemes of traditional culture, according to the Traditionalist view, only "through an intelligence rooted in the sacred and a knowledge which is of the principal order and attached to the sacred can the sacred be studied without desacralizing it in the process." (Nasr, 1981, p. 303) This position considers it meaningless to speak of sacred experience without considering the metaphysical reality of the Sacred itself – an error which both historicism and phenomenology seemingly commit. To appreciate the subtle benefit of studying the phenomenology of sacred experience through the lens of tradition, it will be explanative to consider what Nasr and other Traditionalists mean by 'knowledge of the principal order.'

It is perhaps not surprising that Sufism and most other spiritual traditions do not share the Modern preoccupation with the 'cerebral' aspects of human experience and knowledge. Nasr suggests that the Modern tendency to equate the material with the 'concrete' and the mental with the 'abstract' is at the heart of what he notes is an inversion of the rapport of traditional metaphysics – an inversion which "has had the effect of not only destroying the significance of form vis-a-vis matter on the physical plane itself but also obliterating the significance of the bodily and the corporeal as a

source of knowledge." (Nasr, 1981, p. 262)   In this way, the Traditionalist viewpoint echoes Csordas' emphasis on the importance of *embodiment* within phenomenology. Ironically, Nasr notes that the Modern civilization "that has produced the most materialistic type of thought has also shown the least amount of interest in the 'wisdom of the body,' in physical forms as a source of knowledge, and in the noncerebral aspects of the human microcosm as a whole." (p. 262)

In contrast to the Cartesian dualism of mind and body, the 'anatomy' of knowledge in Sufism is predicated on a tripartite structure of head, heart and body. For the pontifical being, the heart is the *principal* instrument of knowledge – the nexus of the theophanic capacity for both being and intelligence – while the mind and body merely reflect aspects of the heart.   More specifically, the head or 'mind' is actually a projection of the intelligence of the heart, while the body is a projection of 'being.'   One can go a step further and describe "an element of being in the mind and of intelligence in the body which become forgotten to the extent that man becomes engrossed in the Promethean mode of existence and forgets his own theomorphic nature." (Nasr, 1981, p. 174) To be accurate, the Traditionalist viewpoint rejects the segmentation of knowledge in this way since this deconstructive view "marks the segmentation and externalization of man" (p. 174). Nevertheless, to the extent that the modern individual succumbs to the Cartesian duality of body and mind, he or she becomes alienated from the capacity to "quest for the heart which in the spiritual person, aware of his vocation as a man, 'penetrates' into both the head and body, integrating them into the center" (p. 174). Nasr notes that this is the reason why "those contemporary men, in quest of the sacred and the rediscovery of pontifical man" seek precisely to calm the mind and allow it to *be,* while alternatively attempting to reawaken the intelligence and wisdom of the body through "yoga, Oriental forms of medicine, natural foods, and the like." (p. 174)   According to this view, it is by reintegrating both body and mind into the principal instrument of knowledge – the heart – that the human being reaches "the center of the horizontal dimension." (p. 174)

One may wonder: why is the heart necessary in this traditional Sufi scheme of knowledge at all?   The key to understanding the 'anatomy' of traditional Sufi knowledge lies in the position of the heart as the centre of both the horizontal material dimension of experience, as well as the vertical ontological dimension. The heart, in other words, is not merely an instrument of material knowledge but represents the actual *pontifex* – the bridge to the Numinous – which, as the "invisible centre of both the subtle and the physical body, is the seat of intelligence and the point which relates the terrestrial human

state to the higher states of being." (Nasr, 1981, p. 174) As such, within the Traditionalist approach to phenomenology, *embodiment* ought not only to account for inter-subjective contexts, but must also consider *intra-subjective* realities – the metaphysical constructs of a particular spiritual universe. In other words, it is not just the cultural and interpersonal context that dictates the phenomenology of spiritual experience, but more importantly the metaphysical and 'intrapersonal' realities which sacred experiences are predicated upon. In this light, it should not be surprising to find that Traditionalists insist upon assimilating the ontological *reality* of the Sacred into the attempts to understand the phenomenology of sacred experience. While taking stock of *intra-subjective* realities may appear to complicate efforts to communicate knowledge regarding the experience of spiritual states, from the Traditionalist viewpoint, a failure to do so would amount to studying the Sacred without the Sacred.

Fortunately, the consideration of the particular metaphysical constructs of a spiritual tradition along with the *embodied* and *phenomenological* aspects of spiritual experience is not impossible, nor does it necessarily result in an unstable, subjective understanding. The entire domain of spiritual hermeneutics describes a relatively stable body of knowledge within the Sufi tradition which encompasses the cosmographic and topographic dimensions of visionary experience, and spiritual experience more generally. Moreover, Sufi hermeneutics represents a particularly rich tradition of exegesis which can help elucidate the correspondence between phenomenological states and subtle metaphysical realities which describe a particular spiritual world view. It would undoubtedly be easier to skip the metaphysics of the Sacred in studying sacred experience altogether, but in order to go beyond "polite platitudes and fanatical contentiousness' (Nasr, 1981, p. 303), it is necessary to incorporate *intra-subjective* knowledge of an esoteric nature if as Nasr suggests, the human being cannot "penetrate into the inner meaning of a form except through inner or esoteric knowledge." (p. 301)

RESEARCH

I must begin by conceding that the impetus for this research stems from a profoundly personal engagement with the subject of the Sacred. The sustained design efforts conducted throughout this study were first shaped by an earnest desire to enrich and cultivate a personal spiritual practice which involves contemplative practices from several traditions, including yoga, mindfulness meditation and Sufi practices. Any subsequent effort to communicate knowledge pertaining to significant understandings gained through these efforts is, in my understanding, wholly predicated upon a corporeal, intellectual, and spiritual engagement with the subject of this enquiry. It is through this integrated and embodied approach towards *technosacred space* that the iterative design cycles of this study gained their shape and trajectory – a trajectory which shares the hermeneutic emphasis on contextualism, constructivism, and multi-perspectivalism. Although traditional principles of art offered a framework by which to pursue the design of technosacred art, my research effort shares in the bias of the American Transcendentalists in seeking a direct, immediate encounter with the Real apart from prescriptive dogmas or orthodoxy. Ultimately, these confessions are offered with the understanding that "the subjective perspectives we bring to any theoretical undertaking are not only unavoidable but essential." (Barrie, p. 27) As both a designer and researcher, one is required ultimately to 'take a position' as a "means to reveal the presuppositions one brings to places we seek to understand and to focus our inquiry." (p. 38)

The Path to a Technosacred Space

Through a combination of participatory design research and grounded theory, it became possible to incrementally develop the various dimensions of the final immersive environment of the *technosacred space*. While the iterative cycles of design, reflection and analysis which helped to refine the approach towards the creation of a *technosacred* art, are outside of the present focus of these research findings, a detailed processional overview of the development of the design of this study's final artefacts is presented in Appendix A. It is my hope that the findings presented within the appendix can help to clarify the strategic approach employed towards the gradual development of a meaningful *technosacred space*, as well as to elucidate some of the procedural thinking which effected the final designs. Presumably, the meaningful design of artefacts is predicated upon these sorts of incremental efforts and enquiries which have the effect of shaping not only the final artefacts, but also understandings of their meaning and agency. Summarily, these combined design efforts had the effect of transforming my

ambition to create *technosacred art* into a recognition of the need to create a multi-modal, immersive environment as a *technosacred space,* in order to truly access the agency of digital media to affectively influence spiritual practice and experience.

The Sacred Sound Temple at Burning Man 2011

After nearly two years of sustained design and research effort towards the creation of a *technosacred space*, final preparation began in August of 2011 in Ojai, California at the property of Elevate Films.   Along with a core team of nearly ten individuals – which included fabricators, interactive lighting designers, projection specialists, digital artists, and musicians –   work began on the final production and staging of an immersive environment which I call the Sacred Sound Temple.   Over the course of a three week period, the installation was first staged on the property in Ojai for a dry technical run and subsequently prepared for transport to the site of one of the largest performative arts festivals in the world – Burning Man.

Event and Project Overview

Burning Man is an annual festival which has been held for over fifteen years and is currently staged in the middle of the barren Black Rock Desert in Nevada.   Although framed as a festival, Burning Man is in actuality a temporary civic infrastructure know as 'Black Rock City' (BRC) which, during the time of the festival, is the third most populated city in all of Nevada.   With over fifty thousand visitors and participants over its six day duration, Burning Man is often recognized as a 'Temporary Autonomous Zone' – a termed coined by Hakim Bey to describe a liminal societal space which is temporarily freed from the conforming constraints of the 'default world' (Bey, 2003).   This festival – which by most accounts is nearly impossible to summarily describe – has evolved from a variety of cultural movements including but not limited to camp revivals, "contemporary outdoor festivals, so-called New Age and other alternative spiritual movements, countercultural and utopian movements of the 1960s (and before), rebellious movements of the 1970s and 1980s, and the electronic music and dance scenes." (Gilmore, p. 45) The city which is laid out "along a carefully surveyed system of streets forming an arch of concentric semicircles" (p. 1) stretches over two miles from end to end, and is populated with a panoply of "interactive and often monumental art installations" (p. 1).

While scholarly works regarding the complex and layered dimensions of Burning Man as a cultural phenomenon are beginning to emerge, I am interested in establishing the

context of the festival as the site of the *technosacred space*. Similar to the psytrance and 'conscious partying' sub-scenes within EDMC, for many of its participants Burning Man operates as a site for "creative expressions of spirituality and alternative conceptualizations of religions" (Gilmore, p. 2) in which individuals participate by "ritualistically and self-consciously de- and reconstructing ad hoc frameworks in which to create and perform self-reflexive spiritualities" (p. 5). Given the scale of the event however, it should not be surprising that thousands of participants "state emphatically that Burning Man does *not* entail any sense of individual or collective spirituality per se" (p. 5); indeed, one would expect such variability among the population of any 'city.' Nevertheless, the attitude of these Burning Man participants – or 'Burners' – "need not preclude its spiritual, introspective, and transformative qualities." (p. 6)

For those participants who consciously or even inadvertently seek spiritual transformation at Burning Man, the event functions as "an interactive stage on which to perform, interrogate, and negotiate the meanings of religion, spirituality, ritual, identity, and culture, alongside a multitude of concurrent themes and possibilities" (Gilmore, p. 11) Furthermore, it has been noted that the festival simultaneously navigates "toward the primitive and the high-tech, the premodern and the postmodern" (p. 139) and as such, represents an exemplar of a viable *hybrid* cultural space in contemporary society in which to explore the intersection of traditional and technologic cultures. It is important to clarify that the decision to present the *technosacred* space at Burning Man does not represent the only approach explored, as is detailed in Appendix A. Over the course of this research, the iterative design of *technosacred* artefacts led me to ultimately consider the design of an architectural space through which I could explore traditional motifs in architectural and aesthetic design within the context of the civic infrastructure of Burning Man. Specifically, the culture of Burning Man presented a context which expresses a hybridity of traditional and modern motifs in which many participants engage in self-reflexive modes of spirituality. Both in the media and in scholarly works, the role of Burning Man as a site for negotiation of these cultural intersections is explicitly noted in that the "free-form and dynamic syncretism of Burning Man can readily be seen as a pastiche of the 'primitive' or 'premodern' that is unfolding in a distinctively 'high-tech' or 'postmodern' context." (p. 152) In fact, the 'village' in which the Sacred Sound Temple was located – the 'Red Lightning Camp' – deliberately expressed both of these streams.

The Red Lightning Camp was comprised of three 'pods' of smaller theme camps which "share some collective identity and organizational effort" (Gilmore, p. 33) as a loosely-

knit collective and social network of members from Portland, San Francisco and the Bay area, Los Angeles, and Canada. The entire village was presented as a 'Sacred Arts and Healing' camp, composed of numerous spaces offering various forms of massage and energy work, sound healing and other therapeutic services. Physically, the camp consisted of tents, RVs, and other living quarters as well as a communal Hare Krishna kitchen, structured around a central 'sacred teepee circle' which featured four traditional Aboriginal teepees and surrounding fires. Our installation team arrived on the desert – known to Burners as the 'playa' – in the days leading up to the opening of the festival to complete the build of our *technosacred space* as well as the rest of the camp. Thanks to the reputation of the Red Lightning Camp among Black Rock City organizers for creating "an exceptional venue for interactivity and participation" (p. 34), our village was given preferential placement along the most active strip in the city, known as the Esplanade.
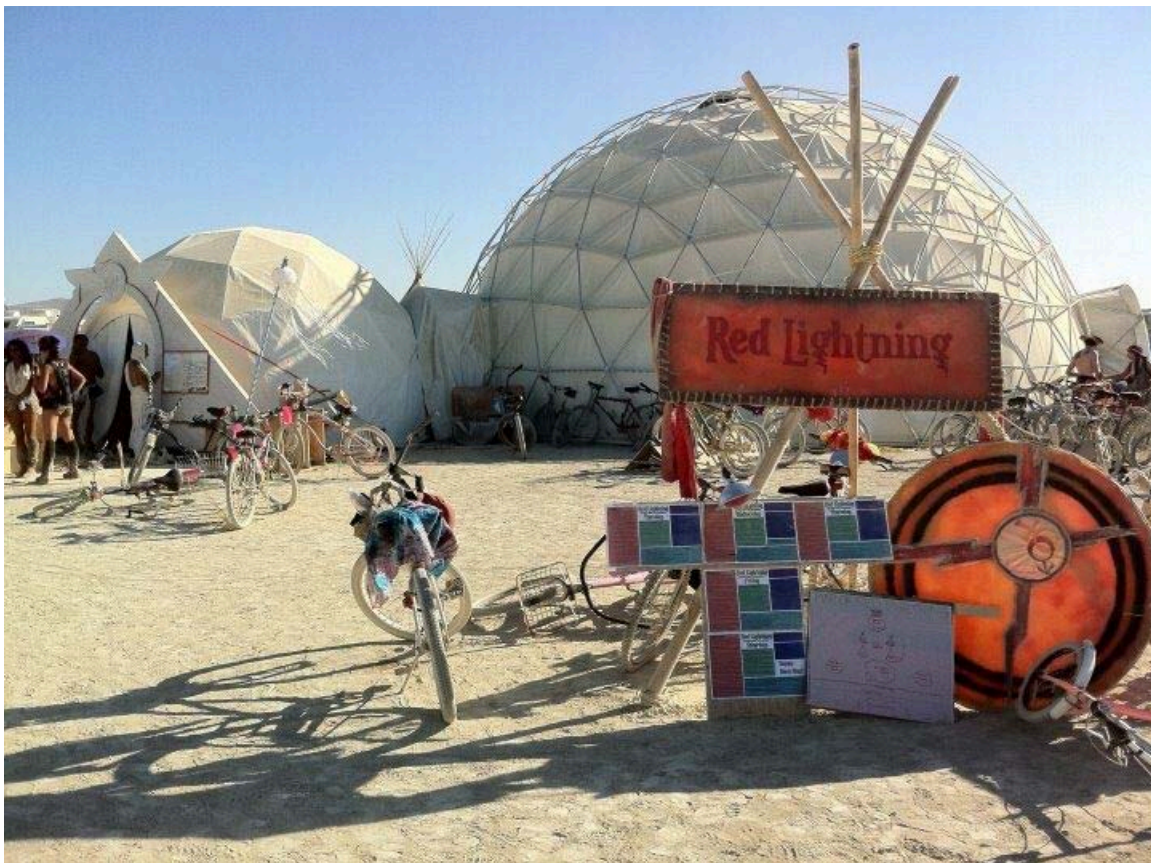
Figure 6. The Sacred Sound Temple at the Red Lightning Camp

The Sacred Sound Temple was located at the front of our camp, directly facing the heavy foot traffic of the Esplanade. Approximately twenty feet from the door of the Temple was a 12-ft tall obelisk designed by Christopher Wunderlich which featured a

wooden tower, capped by a homemade pyramidal crystal with inlaid copper tubing which cycled water up and down the obelisk and through the crystal. The overall structure of the Temple consisted of two conjoined hemispherical geodesic domes: a 22-ft vestibule leading to the main 44-ft dome chamber. There was a circular vinyl door separating each chamber as well as a fabricated white wooden archway lining the outer door of the overall Temple space. The vestibule was arranged as a transitional space where visitors could find repose from the desert sun, meditate, chat quietly, or wait to enter the main chamber for sacred music performances. A central geometric metalwork hung from the

Figure 7. The Obelisk

ceiling, acting as the fulcrum for layers of draped white fabric which descended along the inner sides of the vestibule down to the floor. The floor of the vestibule was covered with beige carpet, as well as a small central Persian carpet and the walls were lined with an array of cushions, pillows, and bean bags. Two 3 inch memory foam mattresses framed the circular space from the left and right, acting as the location for the Temple 'guardians' who served tea, coconut water, and conducted ritual blessings. An altar of assorted sacred items – mostly belonging to a shaman named Jahrazen – was dynamically configured along the right wall of the vestibule on top of a circular animal skin rug.

Figure 8. The Vestibule

As one crossed the threshold from the vestibule to the inner chamber, one was met by a distinctly different space.   Whereas the vestibule possessed a comforting, earthy ambience replete with beige and brown tones along with the aroma of incense, sage and hot tea, the inner chamber opened up as a voluminous space almost uniformly dressed with white fabrics and fixtures.   This chamber featured an angular 'technology hub' where most of the space's electronics were housed directly opposite the entrance as one entered.   A massive uncut crystal sat perched on top of the desk in its centre, illuminated from underneath by a modulating LED light. Directly in front of the command desk was a raised platform which consisted of a wooden frame and nine inch memory foam, draped in white fabric, concealing two tactile audio speakers beneath the frame of the platform.   Flanking the left and right sides of the circular room were eight reclining vibroacoustic beds, complete with 3-inch California King memory foam mattresses and several tactile bass drivers ('buttkickers') each.   These beds were similarly draped with white fabric and formed a roughly circular arrangement around both sides of the room. Nearly two dozen white foam beanbags of various shapes and sizes were interspersed as well within the room. The entire chamber was covered with beige carpet, and centrally placed in the room was a 40 foot handmade beige and white Persian Carpet. In the centre of the Persian Carpet was a geometric arrangement of over 100 crystals ranging in size and shape, as well as several LED lights. Finally a single rope light was

used to line the outer ring of the dome all around, out of sight, to create a soft ambient glow at the base of the circular space.

Figure 9. Main Chamber (during setup)

The room was outfitted with four 2500W professional audio speaker cabinets arranged circularly around the room, in addition to a large bass cabinet positioned to the left of the command desk.   All microphone stands and cables were arranged around the raised platform, and were covered in white fabric when not in use during a performance, as were the speaker and bass cabinets.   There was a collection of various musical instruments including several didgeridoos and gongs, as well a complete assortment of both crystal and Tibetan singing bowls laid out around the room.   The expansive inner roof of the geodesic dome was lined with an inverse-pressure grey screen, which was vented from the opening at the top of the dome to create a tight vacuum sealed 360° hemispherical projection surface.   A single 10,000 lumen HD projector was situated on top of a custom built housing on the right side of the dome facing the closest outer wall, directed at a first-surface convex mirror used in warping the video feed into a dome projection mapping.   At the command centre, a number of computers and outboard

hardware were being used to coordinate audio output, live performance mixing, spatialization of sound, as well as the dome projection feed which was accomplished through real-time warping with DomeView software.

The programming of the Sacred Sound Temple was dynamically coordinated, usually on the day of, and included workshops, yoga practices, meditation classes, as well as various sacred music performances every evening until the early hours of morning. Perhaps counter-intuitively, the outer shell of the geodesic dome was lined from top to bottom with LED strips which had the effect of blanketing the entire surface of the 44-ft dome with an almost psychedelic modulation of the color spectrum. Due to this visibility – by some accounts, from even miles away across the playa – each night hundreds of visitors streamed to the Temple wanting to participate in whatever was inside. As a result, the space was nearly always full, morning and night, and typically had a huge line outside out to the Esplanade – something which many Burners can attest is quite uncommon given the carnivalesque atmosphere of Burning Man and the incredible array of experience available. Nevertheless, by the time the festival opened on August 29, 2011, the Sacred Sound Temple – which was unknown by name – became a hub of performance and artistic activity in which hundreds, if not thousands, of Burners participated.

Immersive Environment

Over the course of the design research conducted throughout this study (see Appendix A), the various elements which came to comprise the final immersive environment were refined and developed. Here I present the evidence of the visual, sonoral and spatial dimensions of the final artefact in the form of descriptions, images and audiovisual support.

Visual Dimensions

Apart from the decorative aesthetics of the fabrics and furniture within the Sacred Sound Temple, the central visual dimension of the interior of the dome relates to its projection content. Given the dominance of the surface area of the dome roof compared to the rest of the room, the aesthetic ambience of the chamber indeed came to depend on it. The principal computational tool used in the creation of the projection content for the dome was *Illuztrator* – a digital drawing interface created in the Processing programming environment through this research specifically for the creation of Persian geometric mandalas as well calligraphic art forms. In order to generate content suitable for

projection mapping a 44-ft dome, an iteration of the software was coded which featured zoom and pan capabilities as well as the ability to independently export each layer of a composition as a separate graphic file at the desired resolution. To create video frames large enough to cover the entire dome surface after mesh warping, it was necessary to create 4K square video, which is over twice the size of the best HD resolutions. After testing a static image on the dome to ensure that the real-time warping would be successful, work began on production of video sequences which could be used for the dome.
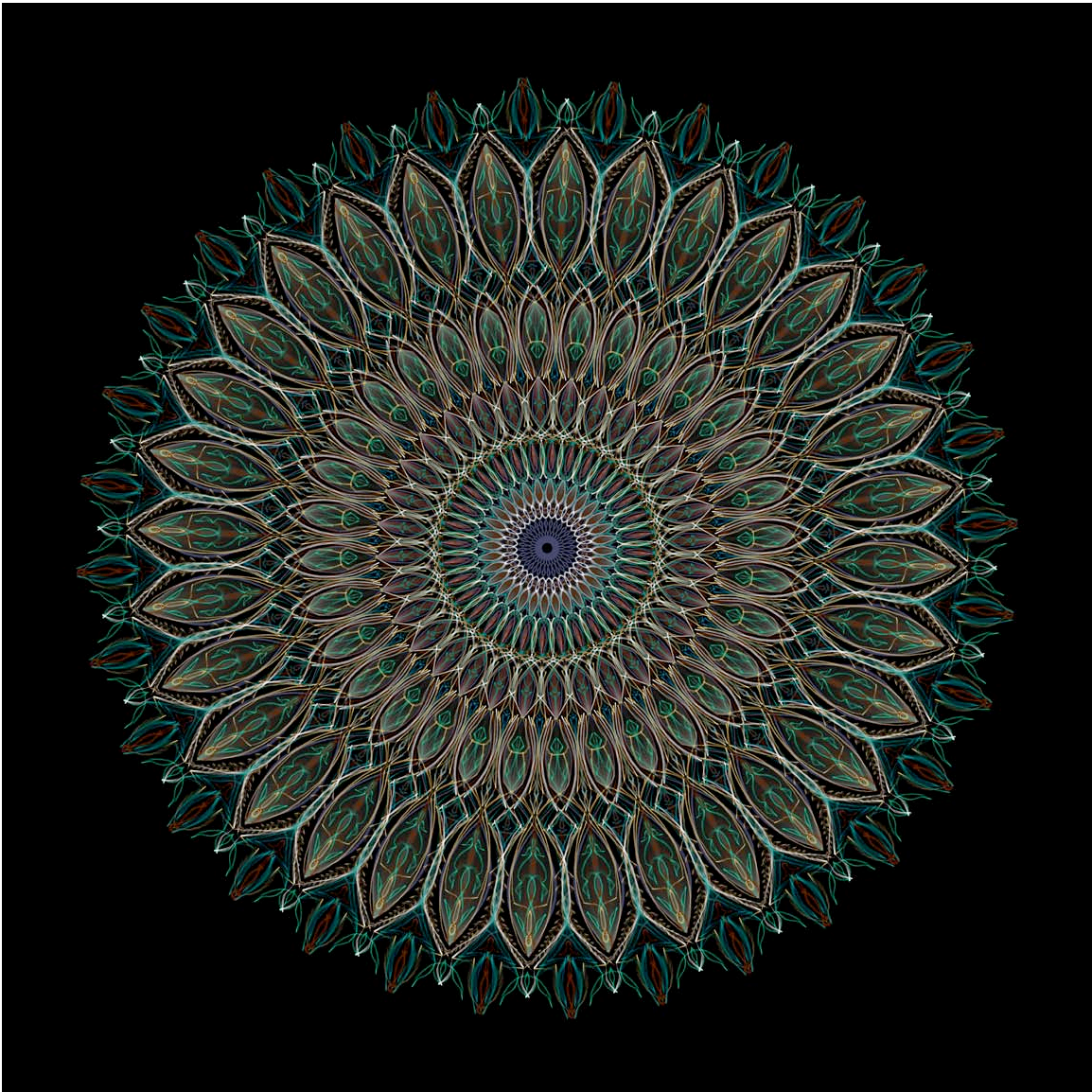
Figure 10. Temple Mandala

Based on the precedent in the traditional use of geometric ornament to adorn temple structures in the Islamic and medieval Christian world, animated radial Persian geometries were designed to cover the encompassing canopy of the dome surface overhead. Various artworks inspired by Persian geometric motifs and carpet designs were drawn in *Illuztrator* using a graphics tablet, and subsequently exported as high resolution layered compositions. These compositions were taken into motion graphics software and animated and effected using a variety of tools, in order to generate an assortment of looping videos which could then be projected onto the roof of the dome. Each of these videos featured a slowly evolving array of fine lines and radial spokes undulating and revealing themselves from the centre outward until ultimately the entire roof was blanketed with an encompassing multi-colored geometric structure, reminiscent of a temple roof. Once fully developed, the geometric form would collapse back in on itself and retreat back into the central axis, which aligned with the top of the dome. Some of the videos additionally featured a view of moving through stars – effectively turning the projection roof into the canopy of the night sky – from which a central star would birth the geometric form and eventually absorb the same form collapsing. Several animating designs are provided as audiovisual support (see DVD *Digital Obeisance*).

Figure 11. Main Chamber (during Meditation)

Although the location and layout of the dome within the larger camp, as well as the interior spatial dimensions of the Temple have already been described in detail, it may be necessary to make brief mention of the significance of some of the architectural forms and structures which were used in the construction of the Temple. Specifically, the geodesic dome – by now a familiar structure to most people – is a lattice shell structure created through a complex arrangement of struts which form triangles, pentagons, and hexagons which are complementarily arranged to form a curved, enclosed spherical or hemispherical space. With exposed metal latticework on the outside of the geodesic dome, the thick white vinyl envelope created a perceptual experience of a uniform, sealed hemispherical space from the inside. In addition, the use of 'block-out' vinyl created total isolation from the desert sun, even at the height of the day. Several circular vents in the side of the dome provided points of access for an industrial swamp cooler which air conditioned the space during the hottest hours of the day, creating a consistent atmosphere of coolness complementing the ambient lighting, morning and night. These structural and material considerations were critical in creating a conducive environment for the ritual and immersion.

Figure 12. Geodesic Dome Lattice (pre-build)

The architectonic structure of the geodesic dome, combined with its material implements, also has important implications for the acoustic properties of the space as well. The importance of creating a rich acoustic environment in sacred architecture and temple structures is well established (Baumann et al.). Favored by a long precedent in human building traditions, domes traditionally "served as acoustic amplifiers for the invocation, singing of praises and instruments." (Baumann et al., p. 57) Specifically, a geodesic environment has the dual effect of naturally amplifying *and* delocalizing sound within its space due to the circumferential reflective surfaces. As a result, "our aural perception combines the direct sound and the successive sound reflections to an overall impression of the sound" (p. 54) which gives us perceptual information not only about the size of the space, but may also 'brighten' or create a more lucid, or more spacious sound. The soft materials used within the space in the form of beanbags and mattresses, as well as the fabric lining of the dome also helped to absorb unwanted reflections in order to control the sound. No additional sound insulation was used however since this "causes sacred spaces to lose one of their essential qualities: the sense of otherworldliness, the atmosphere that creates the conditions for transcendent experience." (p. 57)

Sonoral Dimensions

Whereas the visual and spatial dimensions of the Temple established its *identity,* the sonoral dimensions displayed the *purpose* of the Temple as a site for the performance of sacred music and music-centered contemplative practices. The Sacred Sound Temple was a place to encounter a panoply of sacred music forms on the playa 24 hours a day; even as guests and Temple guardians slept, low level ambient music still reverberated around the dome's interior. As the principal programmer of sacred music within the Temple, I was responsible for presenting a constant stream of ambient and traditional contemplative music in coherent sessions and episodes of listening, often to match the diverse array of workshops and spiritual practices within the space. The Temple featured an assortment of music ranging in style, tempo, language, and country of origin, but all of which shared a common foundation as 'traditional' or 'sacred' music. Specifically, traditional Sufi music from Senegal, Turkey, Pakistan and Iran, as well as sacred devotional hymns from India were commonly presented within the space – most often through the 'technophagic' agency of the *sacred DJ* in addition to live performers. In addition, newer forms of electronic music featuring elements from these world music traditions – sometimes described as 'ethnodelic' – and other ambient polyphonic forms of music including Gregorian chant, were also presented within the Temple.

While the musical format of the Temple in the daytime was dynamically adjusted to coincide with the workshops and practices, the evening program consisted of live musical events featuring performers from various musical traditions. Every night was opened with a *kirtan,* which is a style of Indian devotional music which features 'responsory' chanting and the singing of sacred hymns or mantras with the accompaniment of various instruments – most prominently the harmonium. After *kirtan*, the devotional style of music was continued and elaborated by Avari – an electroacoustic duo from Los Angeles who combine classical Indian vocal singing of hymns and mantras with polyphonic electronic soundscapes. These invocatory performances were often followed by a shamanic sound journey from either the Indigenous tradition of North America or the African tradition, both of which used ancient instrumentation and indigenous vocalization to create an environment of primordial sound. Although other performers from the playa were eventually invited to perform in the Temple, for the present discussion, I will concentrate on those elements which were more of less consistently encountered within the Temple – including music from the Sufi tradition.

Figure 13. Soundcheck

In addition to devotional music from the Indian tradition and the shamanic sound journeys, nearly every night the Temple featured a performance of Sufi music – either in a live format or through a 'technophagic' mediation. In the main performances of Sufi music, electronic sets were crafted using audio sequencing software which allowed for 'harmonic mixing' – a technique which helps create seamless and often imperceptible transitions among multiple songs in a composition; this style of mixing not only helps create a continuous flow of musical expression but also releases the *sacred DJ* to facilitate other activities, including participating in ritual or distributing sound dynamically around the room. Equipped with a diverse collection of Sufi music – including the sacred musical rites of the Mevlevi dervishes of Turkey, the mystical Ahl-e-Haqq of Kermanshah, and the Sufi brotherhoods of Senegal – as well as various electronic innovations of these forms, the traditional music of Sufism was presented in a contemplative atmosphere similar to that of the Persian *sama.* While the traditional music of the sacred rites of the Sufi orders were presented unaltered, the innovatory styles of music were at various times accompanied by vocal performers and Persian instrumentalists who were invited to improvise along with the music.

It is important to briefly clarify the implication of the terms 'innovation' and 'improvisation' with respect to their usage here. The 'innovation' to which I am referring pertains to the sense in which a musical style is adapted or altered in some recombinatory or interpolated way which may result in the discovery of new phrasing or musical expression, without completely extracting its 'traditional' character.   The addition of harmonic electronic atmospheres to traditional Persian instrumentation for example simply elaborates upon, rather than replaces, the traditional format of the sacred music. In a similar way, live 'improvisation' also augments the traditional music in the sense that within the Persian and Indian musical traditions, 'improvisation' constitutes a highly elaborate compositional and performative style which is well established (Nooshin, 2003) and not at all synonymous with the arbitrary or whimsical connotations which the term usually carries. Through this combination of tradition, innovation and improvisation, the music presented in the Sacred Sound Temple encompassed several traditional cultures, and ranged from 'pure' sacred compositions to many styles which explicitly sought to explore the intersections between electronic and traditional formats.

Interactive Dimensions
As one would expect, the Sacred Sound Temple was not encountered as a sequestered collection of independent aesthetic dimensions but rather as a holistic sum in the form of

an immersive environment.   While not everyone at the Burning Man festival was necessarily a spiritual practitioner, the aesthetic dimensions of the space as well the modes of interaction encountered in the Sacred Sound Temple served to establish the identity of the space as a 'temple' or a sacred space among the 'citizens' of Black Rock City. This in turn helped to attract individuals and participants to the *technosacred* space who were self-selected to explore modes of spirituality and contemplative practices. The important thing to clarify is that this research approach was intentionally unbound to any particular set of spiritual practices exclusive to a specific tradition, but rather the use of traditional aesthetics within a hybrid cultural space established a context in which individuals could engage in self-reflexive modes of spirituality. The visual, spatial and sonoral aspects of the space additively constructed the impression of an interactive ritual environment in which participants could engage in meditation and contemplative spiritual practice for the most part. In this way, the multimodal nature of the space entailed both explicit and implicit forms of interaction – most of which revolved around ritual and spiritual practice.

The 'threshold interaction' – entry into the Temple – was usually preceded by a queue in which participants awaited entry to upcoming workshops or musical performances. To protect the contemplative atmosphere, intake was limited to a period immediately preceding shows and all guests in queue were asked to commit to the duration of the 60-90 minute workshop or performance. Once guests removed their shoes as well as bags and personal belongings, shortly before a show they were invited to wait in the vestibule which served as a transitional space between the playa and the main chamber of the Temple. As they sat along the periphery on cushions, visitors would typically be offered tea or cold coconut water as well as a fine misting spray of rose water, tea tree oil and various herbs prepared by Jahrazen. Though they may seem trivial, these explicit forms of interaction were critical to ensure the creation of a conducive and respectful atmosphere inside of the Temple, without explicitly dictating to visitors how to use the space. Once inside, visitors were instantly confronted with a contemplative and serene atmosphere with Temple guardians engaged in meditation or contemplative practice, and many guests immediately followed suit by visibly engaging in their own meditation, or at the very least quiet reflection.   The vestibule was also the site of elaborate shamanic ritualizing by Jahrazen who routinely performed blessings, often explicitly for new guests, through the burning of sage, vocal toning and mantras, and traditional herbal remedies which he constantly prepared.

Interaction within the main chamber of the Temple occurred in multitudinous ways which dynamically traversed implicit and explicit modes. In responding to the contents of the immersive environment, an overwhelming majority of individuals could be seen to engage in various forms of meditation, relaxation, and in some cases ecstatic practices. To be clear, each person was welcome to ritualize and interact with the contents of their experience in any way they saw fit, granted of course that it was respectful and not disruptive of other practices. Many individuals performed yogic asana, many engaged in breath work and gazing, others worked with progressive relaxation techniques, while others could be seen to engage in traditional forms of seated mindfulness meditation. It is interesting to also note the presence of traditional prostrated forms of prayer as well as reverential gestures within the space, including the placing of one's forehead on the ground of the Temple. At various times, both in workshops and musical performances, participants were invited to collectively engage in chanting practices, which involved vocal harmonizing as well as 'droning' or chanting of sacred mantras or *aum*, the primordial syllable of the Hindu cosmogony.

Figure 14. Meditation and Contemplative Practice

It is noteworthy that collectively, these forms of practice were routinely observed whether participants were explicitly invited to do so or not. In fact, there was very little discourse in the Temple except for logistical purposes or in very limited cases, for explicit ritualizing and invocation of blessings. As a result, most of the interaction which occurred was implicit and not externally imposed by any arbiter.

Those individuals who could not explicitly be seen to be engaged in recognizable forms of spiritual practice or ritual could nevertheless be observed to be engaged in a number of other self-directed activities. Most often, these individuals would be wholly engaged with the immersive projections within the dome. The combination of music and immersive hemispherical projection presented a rich opportunity for a 'theatrical' style of interaction in which participants 'viewed' the dome projections along with its musical accompaniment. In this respect, the vibroacoustic beds also provided a unique channel by which individuals could experience the music of the space through spatialized *and* tactile sound simultaneously. Some other guests could be seen to be holding hands or laying closely together, with eyes closed, in a kind of conjoined romantic embrace as they listened to the musical performances. Still others appeared to be sleeping outright. Another small minority began to confine themselves to the vestibule in order to engage in partnered ritual, such as the practice of gazing, as well as to participate in quiet discussion and engage in discourse with Temple guardians and other contemplatives. Irrespective of the particular interaction which individuals chose to engage in within the Temple space, each was participating in the aesthetic ambience and contemplative atmosphere of the immersive environment in dynamic and self-directed ways.

Thus, the explicit interactions which established a basic expectation or tone for the space were ultimately elaborated through the implicit interactions which participants themselves brought to the space. While a distinct majority of these interactions pertained to spiritual practice, contemplation, ritual, discourse, or theatre-style 'viewing' it is also important to describe some of the atypical responses which were observed. At various times, numerous individuals could be observed having emotionally overwhelming or cathartic experiences – most often as prolonged crying or compulsive movement either individually or with others. On more than one occasion, individuals were observed to almost instantly begin crying when they entered the main chamber of the Sound Temple, seemingly overcome by a latent emotion. On another occasion, a marriage ritual was performed for two individuals who were inspired to begin this sacred rite within the *technosacred* space. On several other occasions – both within ritual and

seemingly spontaneously – individuals appeared to enter non-ordinary states of consciousness, some of which appeared traumatic while others appeared serene. Lastly, although every effort was made to explicitly prevent individuals from entering the Temple while under the influence of psychoactive substances or alcohol, given the reality of substance use within the festival and EDMC in general, on at least one occasion guests under the influence of hallucinogenic drugs left the space voluntarily due to a negative or terrifying experience. Altogether, the typical and atypical interactions observed may help corroborate an understanding of the agency of the immersive space in the affectation of experience – an understanding which is nevertheless hinged on a phenomenological and hermeneutic approach which entails "the self-conscious participation of the interpreter with their object of study." (Barrie, p. 28) As both a designer and interpreter of the immersive artefacts presented here, the understandings gained through this study were the result of both a corporal and intellectual participation with the subject of enquiry.   This first-person engagement was a fundamental, rather than incidental, consequence of my design and research approach since even the most rigorous analytic methods could not presumably provide access to the interiority of non-ordinary states of sacred experience.

Figure 15. Marriage Ritual

ANALYSIS

Through a close reading of the individual components of the immersive environment as well as the system and context as a whole – indeed, a hermeneutical interpretation of designed space as 'text' – it will become possible to suggest the use of interactive and immersive technology within a framework of an *immersive architecture*. By presenting a notion of an immersive environment which fulfills the qualities of a traditionally understood sacred architecture, it will be possible to elucidate the operative dimensions of immersive media in the affectation of spiritual experience. As such, it is possible to suggest how the sensuous, affective dimensions – the *aesthetics* – of an immersive sacred space, in conjunction with the *rhetorical* capacity of ritual and symbolic interactions, can support contemplative spiritual practices, and inspire sacred experience.

A Civic Context

Before examining the specific architectonic and aesthetic dimensions of the *technosacred space*, it is elucidative to explore the hybrid context in which this syncretic initiative was located. While I have alluded to the conceptual possibility of locating artistic works motivated by traditional principles within the electronic dance music culture, the implication of locating a sacred architecture there demands a more stringent standard and makes necessary a more direct exposition of the merit of doing so. In ancient Persia, the traditional principles of art served as the basis for not only the creation of sacred works of art and architecture but also for the construction of entire cities. Many of the symbolic and architectonic structures within traditional cities are themselves expressive of a traditional orientation toward the Sacred; as such, traditional cities play an indispensable role in establishing the context in which the pontifical person encounters both the macrocosmic and microcosmic dimensions of spiritual life. For many of the participants in Burning Man culture, the traditional motifs in the civic design and infrastructure reinforce spiritual modes of engagement and corroborate the festival as a site for spiritual exploration. While it is hardly my intention to suggest that the culture of Burning Man is formally speaking a traditional culture, it can be illustrated how, drawing upon 'premodern' influences, the construction of Black Rock City exhibits many of the dominant motifs found in traditional cities, including cities in ancient Persia.

Describing the influence of the Sufi tradition on the building practices of Persia, Nader Ardalan and Laleh Bakhtiar describe several levels of order which are exhibited within the design of traditional cities. While the simplest level – natural or rhythmic order – is

typically encountered in nomadic cultures, one finds in the temporary civic structure of BRC a geometric order which expresses a cogent traditional motif in city design. Similar to the ancient city of Ecbatana, the layout of BRC features a regular geometric design of nested concentric semicircles, organized around a central axis. An aerial view of the city shows the concentric semicircles nested within the passive geographic space of a pentagon, an important platonic shape in sacred geometry.

Figure 16. Aerial View of Black Rock City 2011
(Retrieved from http://sociable.co/science/geoeye-captures-burning-man-2011-from-above)

In addition, naming the radial spokes of the city channels after the times of day in such a way as to suggest charting the sun's movement, explicitly expresses an "identification of

these forms and relationships with cosmic laws." (Ardalan, p. 85)   In this sense, the structure of BRC can be seen as a "microcosmic externalization of a macrocosmic conception" (p. 87) and like the traditional cities of Persia, the "strong symbolism of this plan follows ancient cosmographic concepts embodied in the mandala" (p. 87).   In fact, various ethnographers have noted that the semicircular layout of BRC "is reminiscent of a labyrinth or mandala" (Gilmore, p. 35).   The incorporation of a single entry point into the entire festival as well as multiple centripetal channels into the city's centre create the visual impression of a cross between a unicursal labyrinth – whose "vacillating closeness and distance from the sacred center" (Barrie, p. 109) symbolize the spiritual path – and a functional civic street system.
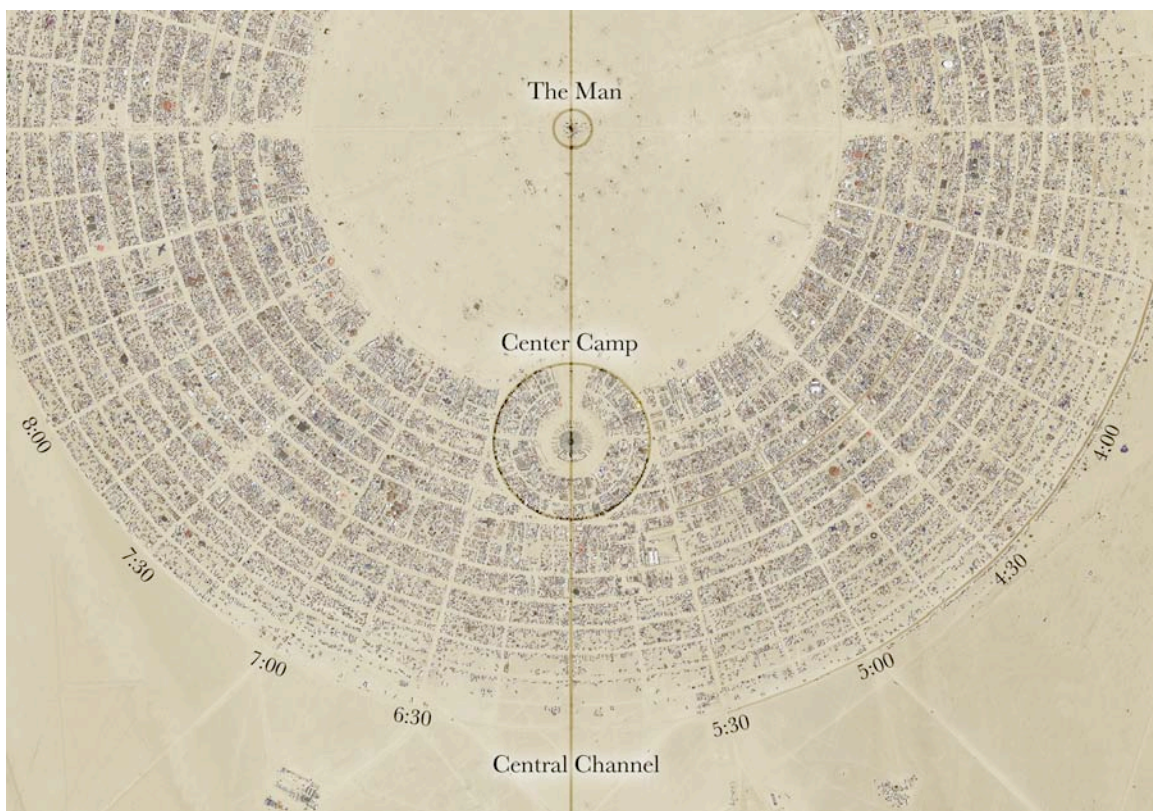
Figure 17. Traditional Motifs in Black Rock City

The primary channel into the centre of the city – 6:00, a road which is continuous with the entry gate – acts as a dividing line "that separates the two symmetrical halves" and "is broadened into a connecting space" (Ardalan, p. 93) – the circular center camp and the interior of the playa where most of the monumental art installations are located. Despite the prohibition of commerce at Burning Man, as a primary communal site, center camp functions as a kind of *bazaar* in which cafes and various 'gift-economy' shops can

be found. Thus, like the 'veined' design of the city of Isfahan, BRC features a "primary movement system" (p. 126) through the *bazaar* toward the central node of the city, simultaneously giving rise to a "secondary movement system" (p. 126) of the residential pathways. While the traditional cities of Persia are organized around the sacred mountain or grand mosque, the primary movement system of Black Rock City is organized around its central monument – the Man, a towering wooden sculpture which is sacrificially immolated at the end of the festival. While there has never been an official description of the significance of the 'Man,' the placement of this primary symbol at the center of the city's concentric semicircles and radial spokes is reminiscent of what Mircea Eliade called the *axis mundi* – the sacred pole of the cosmos and the location of the "eruption of the sacred into the profane world." (Gilmore, p. 35) Indeed, the design of BRC seems to explicitly suggest that "the Man forms the axis around which space and time are fixed" (p. 35).

Taken together, all of these formal elements describe a constant and basic form of the city. Like in Isfahan, within BRC "the major systems of the city were the responsibility of those who governed, while the 'in-fill,' or body proper of the city, remained the domain of the populace." (Ardalan, p. 126) Within these boundaries, elements "may be distributed regularly or irregularly, they may fill space in rapid succession or leave it empty for long periods of time ... they may follow patterns of space with certain variations or run contrary to it" (p. 96).   Much like in traditional cities, the freedom of arrangement and distribution within the formal boundaries of Black Rock City expresses a dynamic rhythmicity and symmetry, "making the city into a total fabric." (p. 96)

It is obviously not my intention to suggest that we had any part in the design and layout of Black Rock City as part of this design research. By drawing parallels between the 'premodern' motifs of BRC and the traditional cities of Persia however, I am suggesting that the context in which the *technosacred space* was located facilitates its reception as an *immersive architecture*, rather than simply as an isolated art installation.   A fundamental notion within architecture is the idea of organizing or delimiting space and any attempt to do so in a way which capitulates to the Sacred within the built environment will undoubtedly benefit from being located in a context which reflects these underlying motifs, especially within a 'civic structure.'   In this sense, Black Rock City "created boundary conditions within which all the city's inhabitants acted" (Ardalan, p. 126) thereby establishing a social and for some a spiritual and ecological framework through which one could meet with issues of 'ultimate concern' and navigate sacred

notions of space.   Similar to Isfahan and other ancient cities, the combination of geometric design, oriented space, movement systems, as well as cosmographic and natural symbols in the city's design "established a superconscious design basis that served as a point of departure for the individuals themselves." (p. 126)   That point of departure marks the threshold into the architectonic and aesthetic dimensions of the *technosacred space* of the Sacred Sound Temple.

<u>*Architectonics and Traditional Concepts of Form*</u>

Looking at the specific site and structure of the Sacred Sound Temple, it is possible to identify several denotive traditional forms including *minaret, porch, dome* and *socle* which together comprise a traditional architectonic canvas for the media contents of the *technosacred* space.   This analysis is primarily based on the scholarly ideas of both a traditional architectural scholar, Nader Ardalan, as well as a contemporary Western scholar of architecture, Thomas Barrie.   To be clear, the analysis of architectonic motifs presented here constitutes only an overview of traditional motifs in sacred architecture which were incorporated into the design of the Sacred Sound Temple.   While an in-depth analysis of the varied architectonic approaches to sacred architecture and the individual motifs employed is beyond the scope of this thesis, the overview offered here is intended simply to suggest how the design of *technosacred* space benefits from the incorporation of traditional architectural motifs in order to establish its identity as a lived architectural environment and sanctified space in which individuals could engage in self-directed spiritual practices.

The traditional rapport between macrocosm and microcosm suggests that many of the empyrean motifs expressed in the design of the traditional city will be mirrored within the specific *forms* of traditional built structures.   Indeed, Ardalan suggests that the traditional concept of building explicitly recapitulates the relationship between enduring "archetypes of spiritual and celestial qualities" (Ardalan, p. 67) and temporal forms that "serve as a bridge between the qualitative, abstract world of the imagination and the quantitative artifacts of man." (p. 67)   Titus Burckhardt (2003) clarifies however that despite the fact that traditional spirituality transcends form, "this in no way implies that it can be expressed and transmitted by any and every kind of form.   Through its qualitative essence, form has a place in the sensible order analogous to that of truth in the intellectual order" (p. 87).   As such, the traditional concept of *form* is the cornerstone of both the aesthetic and rhetorical capacities of the built environment in the Traditionalist viewpoint, both in a physical and metaphysical sense.

Minaret

Within the expanse of the civic infrastructure of Burning Man, the traditional forms of the architectonic structure of the Sacred Sound Temple at once signaled both its primitive beauty and structural function. Located directly outside of the main door of the Sound Temple, near the foot traffic of Esplanade Street, a solitary wooden obelisk stood as an inconspicuous way-finder reminiscent of the traditional *minaret* of Islamic culture. While the minaret eventually evolved into a more conspicuous structure puncturing the skyline above the mosque, the simple stone obelisk predates the Islamic concept of the minaret and is "perhaps one of the most ancient of man's architectural creations." (Ardalan, p. 73) In either form, this primordial symbol archetypally "reflects man's ontological axis, the vertical and transcendent dimension which provides a spiritual depth or height to man's otherwise 'two-dimensional' material existence." (p. 73) It at once stands as an external symbol of upright man and internally "recalls the soul of man yearning to return to its primordial place of origin." (p. 73) Traditionally, these "positive vertical shapes serve as exoteric landmarks leading to significant esoteric places" (p. 73) and therefore recall the minaret which signals the site of the devotional temple.

Porch

By orienting one towards the place of worship, the obelisk or *minaret* designates "the axial approach through the gateway to the ultimate unity, the dome." (Ardalan, p. 74) Within the Sound Temple, this gateway or entry point acted as a threshold into the holding vestibule which preceded entry into the main domed chamber. This smaller transitional space is akin to the traditional concept of *porch* which for Robert Mergerauer (as cited by Thomas Barrie) is an 'in-between' space that spatially and metaphorically provides "a transition in spatial form and meaning. The shift is from the 'rest of the world' to another place or manner of being'." (p. 119) As in Saint Benedict's Abbey, the entry path through a vestibule signifies "a 'mean' between the secular and the sacred" (Barrie, p. 155) which can prepare the contemplative for the spiritual movement of reabsorption. The vestibule in turn connects to the ultimate space for this contemplative attempt at spiritual integration – the *dome.*

Dome

Perhaps the most universal form in traditional building is the *dome.* While the domical structures of traditional sacred architecture were "developed more for symbolic than structural reasons" (Barrie, p. 169), E. Baldwin Smith (who Barrie cites) proposed that "the earliest of domestic structures were circular in plan and covered by expediency by

curved roofs of whatever light and flexible materials were available" (Barrie, p. 169) As a result,

> in many parts of the ancient world the domical shape became habitually associated in men's memories with a central type of structure which was venerated as a tribal and ancestral shelter, a cosmic symbol, a house of appearances and ritualistic abode. (Smith, E. Baldwin, p. 6)

Ardalan (1999) confirms that the "idea of a 'cosmic house' evolved from associating the domelike ceilings of these structures with the heavens" (p. 74).   Structurally, the dome "shape is the 'container,' built according to objective laws of mathematics and statics." (p. 7) The traditional attitude toward building maintains that "the functioning and stability of a building follow its geometry; a perfect geometry guarantees the stability." (Hejazi, p. 1425) While this principle can be traced in many historical buildings, Mehrdad Hejazi suggests that it is nevertheless "meaningless to consider structural phenomena such as strength, stiffness and stability as the main and determinant design criteria" (p. 1424) of traditional architectural forms.   Presumably, the longevity of the dome as a traditional concept in building can be attributed to both its structural *and* symbolic integrity.

The symbolic significance of the dome dwelling can hardly be overstated. In traditional cultures, "the terms 'cosmic tent,' 'majestic parasol,' 'cosmic egg,' and 'heavenly bowl,' to give but a few, preserve an ancient memory and convey something of the ancestral beliefs and esoteric meanings associated with the dome" (Ardalan, p. 74). Symbolically the dome represents a "microcosmic manifestation of the macrocosmic heavenly vault, the sky" (p. 7) – at once terrestrial and transcendent – whose curved surface "creates the psychological sense of embrace, of gentleness." (Hart, p. 6) In addition to being acoustically ideal for many rituals, it is the dome's inherent function to "encompass a hemispherical space while leading to a central point" (Ardalan, p. 7) symbolically referencing "the Universal Spirit which encompasses the universe, the Source from which all creation emanated." (p. 7)   Moreover, the unique form of a dome encompasses the symbolic attributes of centre (point), circumference (circle) and surface (sphere) in a way which relates "the locus of the Spirit and the point whence the ascending arc of realization reaches its zenith and the descending arc begins its course towards the *mulk*" (Ardalan, p. 37) or material realm.   In other words, the *dome* simultaneously suggests an expansive horizontal or material dimension as well as a transcendent vertical dimension, which symbolically corresponds to the ontological axis.

Wall, Oculus and Socle

Within Islamic culture specifically, the dome or *gunbad* "maintains its ancient imagery while providing a vivid manifestation of fundamental Islamic cosmogony" (Ardalan, p. 74), most often through the geometric ornamentation of its roof. As an immersive digital environment and a fully domical dwelling, the architectonic form of the Sacred Sound Temple was purposely stripped however of the traditional concepts of *wall* and *oculus* which typically accompany the dome structure.   The *oculus* of the dome – typically an opening "to the sky creating an 'eye' to the heavens" (Barrie, p. 170) which is perhaps "the most convincing symbolization of the *axis mundi"* (1, 172) – was fitted with a negative pressure venting system which was mandatory in creating the necessary tension for the hemispherical projection screen.   Despite plugging this *oculus* opening from which diffuse light could enter creating "a sense of heavenly glory" (Hart, p. 7), the combination of ambient lighting and projection animation achieved within the dome symbolically and functionally substituted for the *oculus.*   Also, while traditional Islamic domes – as symbols of a perfected heavenly abode – typically sit on top of cubical building structures which symbolize terrestrial existence, the design of the Sound Temple omitted this walled structure, since it was both structurally and symbolically redundant. By placing the *dome* structure directly on the surface of the earth, the design of the structure enacted yet another *form* in traditional building – the *socle.*   As a "revered and elevated temporal place that, in its architectonic sense, manifests 'mountain'" (Ardalan, p. 68), the *socle* or *takht* in Persian, can be an elevated seat or bench but alternatively the floor "as the earth, becomes a socle, providing the base upon which man and the microcosm stand" (p. 73).

Taken together therefore, the Sacred Sound Temple can be clearly described by invoking many central *forms* and concepts from traditional architecture. As an orienting marker, the obelisk (*minaret)* indicated the location of the gateway (*bab)* through which the vestibule (*porch* or *ivan)* mediated between the terrestrial profane and the sacred inner sanctum of the *dome.*   Through specific architectonic interpretations, the entire space of the dome was cast as a *socle*, elevating the space symbolically as a site of ecumenical realization. Indeed, the specifics of the temporal forms are not as essential as their ability to evoke the archetypal since the "idea of the dome, for example, does not specifically recall any quantifiable aspects of size, material, or technique. Its symbolic form alone conveys its qualitative aspects" just as "socle, porch, gateway, room, and even minaret are symbolic generic forms, each capable of many means of physical realization." (Ardalan, p. 67) Collectively, the architectonic agenda of the Sacred Sound

Temple employed numerous traditional motifs in sacred architecture, thereby establishing the site as a lived architectural environment and signaling its identity as a sacred space, rather than simply an isolated canvas for mediatic content or audiovisual installation. Although every individual who encountered the space need not have been familiar with the specific architectural motifs discussed here, following the Traditionalists, this overview is intended to suggest that as long as the perceptual experience of human beings continues to inhere within the confines of terrestrial existence, it is natural to expect traditional *forms* of architecture to continue to possess real meaning for both traditional and modern individuals as well to convey the *identity* of the built environments which employ them in their design.

Mithal and the Visual Aesthetics of Technosacred Space

Amidst the context of this viable traditional canvas, "we must recognize the power of the visual and the fact that physiologically we are predominantly visual creatures" (Barrie, p. 17) by carefully considering the *visual* aesthetic dimensions of the immersive environment. Considering the elements of *light, mandala* and *animation* can highlight the visual elements of an *immersive architecture* that supported contemplative and ritual interactions in the path towards sacred experience.

Light

As a complement to the mechanisms employed to control one's environment through sight in premodern societies, traditional building approaches have also "modulated the quality and intensity of the light that penetrates its walls and illuminates its interiors." (Barrie, p. 209) To be sure, the "special quality of light" has been a potent symbol of the Sacred since antiquity and is often "believed to a be a medium that could co-join humans with the divine" (p. 209). Through this unique agency of light, any space "that heightens or deprives the senses can produce feelings of discomfort or ease, anxiety or peace" (p. 45) depending on the sequential and spatial properties of one's encounter with light. Shielded by a dome cover blocking out the sun and augmented through ambient lighting around the entire temple, the Sound Temple was "a vessel for the subtle rendering of direct and ambient light" in which the soft, controlled use of light "is subdued, a recreation of a cool grove – subtle and peaceful." (p. 209) Unlike certain religious architectures which present abrupt confrontations with both luminosity and darkness or which manipulate the scale of architectural form to impose "feelings ranging from grandeur to insignificance" (p. 45), the subtle cadence of ambient light and shadow in the *technosacred* space instead "creates a place of sublime repose." (p. 209)

Figure 18. Ambient Lighting Conditions

Figure 19. Dynamic Lighting Conditions

Whereas the lighting of a traditional dome is controlled through the strategic placement of openings (including the *oculus),* the hue and intensity of ambient lighting of the inner sanctum of the Sound Temple dome was primarily modulated through the projection ornamentation of the dome roof.   In this sense, the use of digital media within the immersive environment fulfilled the practical function of creating the ambient lighting conditions inside the Sound Temple in addition to expressing symbolic and representational content.   The technological agency of digital projection therefore enables the simultaneous satisfaction of both *utility* and *beauty* – the practical and spiritual requirements of a traditional art.   The *beauty* of the dome ornamentation however depends on its accordance with traditional principles in sacred art, a point to which I now turn.

<u>Mandala</u>

In the viewpoint of the Traditionalists, all representational forms can in a sense be viewed as ornamentation since alone "God, 'taken naked of all ornament' is 'unconditioned' or 'unqualified' (*nirguna).*" (Ajaykumar, p. 83)   Ornamented through the multiplicity of creation, the Divine "is endowed with qualities (*saguna),* which are manifold in their relations and intelligible." (p. 82)   Ornamentation therefore constitutes a visual basis for sublimating the inexpressible into intelligible forms in traditional art. While some in Modernism have viewed ornament as "a means for the artist or artisan to establish an aesthetic that avoided the void" (Bier, p. 493), the Traditionalist conception requires no such apotropaic magic.   Following the Persian and Islamic art tradition, the visual artworks presented within the technosacred space were presented both as pure geometric forms along with the biomorphic forms of *arabesque.*

Unlike the representational artworks of many traditional cultures, the design of technosacred space enacted an Islamic sensibility in the design and articulation of sacred space which aims "to express divinity through non-iconographic imagery, space, structure, geometry, and light" (Barrie, p. 204).   In a spiritual sense, geometric ornamentation not only accedes to the "doctrinal iconoclasm" (p. 204) of Islam but is also employed in the "service of depictions of cosmogonic models and perfected worlds" (p. 169) thereby fulfilling an important metaphysical function while simultaneously expressing an absorbing obeisance to the Divine.   Practically speaking, attendant to the multiplicity and complexity of representations of the Divine, the non-representational approaches of Islamic and Persian art constituted an especially appropriate model given the cultural and ideological diversity of Burning Man participants.   Our visual approach

towards the ornamentation of sacred space therefore accords with the traditional Islamic sense and inheres within Thomas Barrie's suggestion that geometry may indeed be "the most potent media to communicate" (p. 207) the symbolic content of the numinous realms, even across traditions.

Expressing these symbolic contents, the projection artworks presented within the *technosacred* space combined geometric and biomorphic forms – symbolizing the pure realm of the Sacred and the perfection of virgin Nature – in the creation of geometric motifs reminiscent of a Persian *mandala*.   Similar to Islamic patterns, the mandala in Persian art is a powerful symbol of the reciprocity between *multiplicity and unity* which relates that the "First can only be understood through the Manifest." (Ardalan, p. 31) A Persian geometric mandala therefore "works through numbers and geometry, beginning with Unity, moving through the theophany, and coming back again to Unity." (p. 31) In many traditional cultures, *mandalas* are transformative, meditative mediums "where a symbolic path that leads to the sacred center circumambulates through a sequence of realms" (Barrie, p. 125) and "recapitulates at one and the same time the permanence of Paradise as an idea and its impermanence as a temporal reality." (Ardalan, p. 31) While the creation of the *mandala* is accomplished in space and time, the visual expression of its infinite mathematical rhythmicity acts as a vehicle beyond the temporal into the intelligible realms of the Sacred expressing a sense of timelessness which is "consciously sought in all traditional art as a complement to the static earthly existence." (p. 45)

Like the pure geometric forms which "combine space and time in endlessly repeated patterns" (Ardalan, p. 43) the biomorphic forms of *arabesque* "essentially recreate Nature through the cosmic processes of the Creator" (p. 43).   Visually, arabesque exhibits rhythmicity and reflects "movement marked by the regular reoccurrence of features, elements, phenomena; hence it has periodicity." (p. 43) It therefore expresses fundamental characteristics of Nature "in the sense that the motifs are given in temporal succession as waves, or as a combination of flux and cycle" (p. 43). Incorporated upon a geometric base, the biomorphic form of arabesque cyclically "coalesces in ascending spirals of spiritual realization" (p. 45) merging with pure geometry in "the esoteric culmination" (p. 45).   While the 'spiral stems' and 'cosmological trees' of arabesque *"*glorify the concept of the Garden of Paradise" (p. 43), the underlaying base of pure geometric form activates *mithal* – the realm of the heavenly archetypes.   It is here –

through the mathematics of pure geometry – that the metaphysical agency of the Persian mandala reaches its apogee.
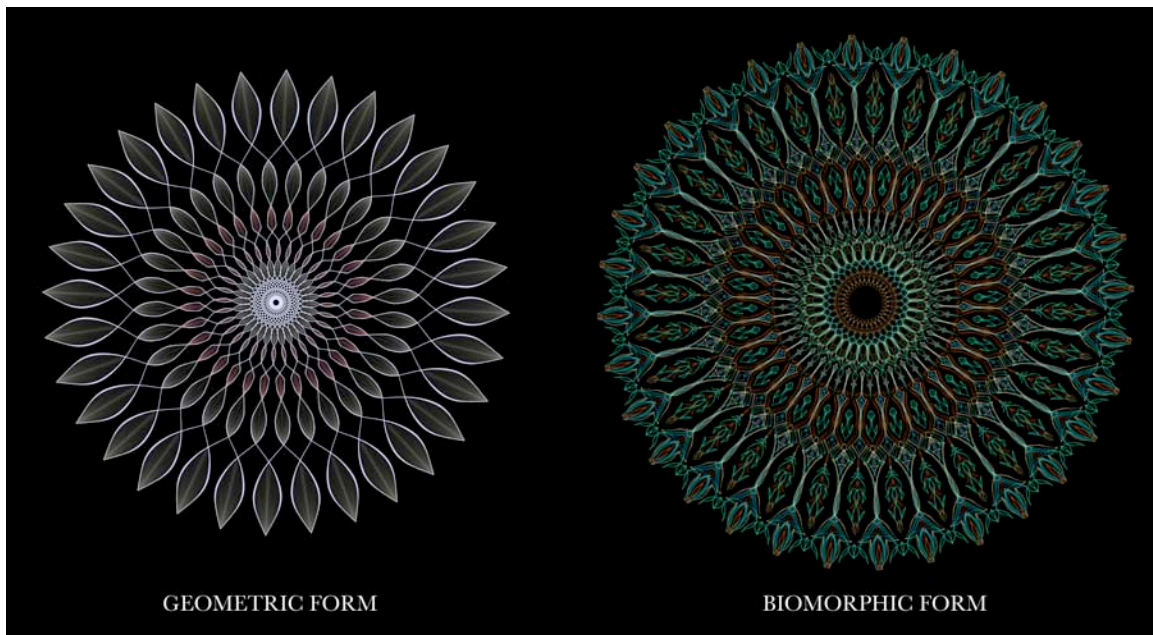
Figure 20. Geometric and Biomorphic Elements of Temple Mandala

The term *mithal* in Arabic refers to a 'likeness' or 'similitude,' a bearing of resemblance to a realm of pure spiritual Archetypes. The esteemed Persian Studies scholar Henri Corbin described the *alam-e mithal* or 'mundus imaginalis' as an 'imaginal' realm which constitutes "an intermediary place, somewhere between the realm of the visible and the idealized, between the empirical world and that of the abstract intellect" (Bier, p. 507). Corbin's use of the term 'imaginal' is meant to contrast with the modern sense of 'imaginary' as *unreal;* the 'imaginal' describes a topography of visionary experience replete with forms that possess "an 'immaterial' materiality in comparison to the dimensionality of the sensible world" (p. 507) yet "have a corporeality and a spatiality all their own" (p. 507). Geometric forms therefore "may be considered as images or maps of the visionary realm – they neither map a memory, nor depict an objective reality" (p. 508) but should, according Corbin and the Sufi canon, be understood as being as ontologically *real* as the sensible and intelligible realms. According to the Sufi tradition, the pure mathematics of geometry acts in this way as a parabolic language or *ta'wil* – a spiritual hermeneutics – leading from the sensible realm to the world of spiritual Archetypes through *mithal,* a celestial similitude.

A traditional understanding of the Persian mandala therefore shifts "focus from style and history to ontology and cosmology" (Bier, p. 497). Beyond literal representations, the geometric and biomorphic forms of the mandala capitulate to the traditional reverence of celestial cosmography and paradisal Nature. The word 'paradise' interestingly stems from a Persian word which signifies a walled or protected garden – an archetype evoking Eden, signaling a marriage between the celestial and terrestrial. The Persian mandala thus simultaneously conveys both the natural and supernatural, in an effort to activate the inter-dimensional realm of the 'imaginal' – the highest phenomenological state which bears resemblance to the immaterial spiritual realms. While the *mandala* artworks presented in the technosacred space of the Sacred Sound Temple accord with the compositional bases of *mithal* in the Persian tradition, the use of immersive and digital technology enabled an innovative approach through the *animation* of the mandala artworks. Indeed, anyone who has understood traditional art "becomes aware of the presence of an impressive amount of science which makes such an art possible" (Nasr, 1981, p. 265) and the use of technological science – when applied in the service of traditional principles – presents an opportunity to extend the aesthetic dimensions of traditional artworks.

Animation

To be sure, a cursory glance at the literature on Persian geometric design reveals an abundance of descriptions which seem to *imply* the animated quality of these mandala forms. Nevertheless, the traditional art of Persian geometry is *not* animated but rather it is through a perceptual act – "the act of following such lines with one's eyes" (Marks, 2009, p. 230) – which creates the impression of movement or *animation*. Remarkably, this perceptual act "can take place, even centuries later, on the part of the subject who unfolds the work" (p. 233). One encounters *arabesque* forms that appear to 'spiral' and 'coalesce' in rhythmic cycles and geometric patterns that "burst upon domical surfaces like blossoms" (Ardalan, p. 75). In this vein, Laura Marks' (2009) view of Islamic geometric art emphasizes performativity rather than representation in that a mandala "plays out in time, unfolding image from information and information from experience, in the performance of algorithmic instructions and/or the attentive recognition of observers" (p. 230). Both the craft of designing geometric art and the act of perceptual reception, in other words, entail performativity as "a line is drawn out from a point in duration" (p. 230).

No matter the medium, the design of a geometric artwork clearly entails a performative act – an animated processual task.   Within the artistic tradition, "it is the process of repetition that carries the artisan from initial step to the completion of a pattern" (Bier, p. 492) although "geometry is not entirely present at the outset, but rather it becomes emergent through process" (p. 492).   Persian geometric art, in other words, has an algorithmic foundation which must be 'performed' by the artisan in order for the geometric aesthetic to emerge.   By using interactive digital technology in designing Persian mandalas, "the computer's facility for numerical manipulation could be applied to expedite lexical 'processing'" (Rajah, para. 7) of the algorithms underlying geometric art. This technological approach transforms the artisanal 'performance' by collapsing the time-scale through which the geometric aesthetic emerges.   Obversely, while the perceptual act of reception "gives the eye freedom to follow it in any direction, suggesting the possibility of infinite growth" (Marks, 2009, p. 232), a digitally animated approach to Persian mandala art goes beyond mere suggestion by explicitly enacting a rhythmic and cyclical structure – in effect 're-performing' the creative act.   The use of digital tools therefore – created expressly for this purpose through the course of this research – alters both the creative and receptive acts involved in the *unfolding* of Persian geometric art.

Relating Islamic art to new media, Marks (2006) suggests the notion of *enfoldment/ unfoldment* to describe how in both Islamic and computer art, the perceptible dimensions of artwork *unfold* while concealing or *enfolding* an underlying logic.   The image in computer art is "the mere skin of an artwork whose underlying structure and raison d'être lie elsewhere: in its algorithm and database" (p. 38) while the geometric art of Islam "is an expression of a divine "logic" that may or may not be made perceptible" (p. 38).   To be accurate, Persian geometric art *enfolds* both an underlying algorithmic basis as well as a divine logic according to the Traditionalists, expressing a "variety of strategies for unfolding the perceptible image from the imperceptible elements that drive it" (p. 38). The artworks presented through this design research combine the strategies of *enfoldment/unfoldment* of both Islamic geometric art *and* new media art in a way which "invites the perceiver to marvel at the richness with which the perceptible image unfolds from the numeric base" (p. 40).

Mirroring the manner in which "the infinite multiplicity of the world unfolds from the infinite unity of God" (Marks, 2006, p. 39) in the Traditionalist viewpoint, by visually depicting the generation of complex layered mandalas from a central point or *halqa,*

animation can express "the marvelous inventiveness by which multiplicity is shown to spring from unity" (p. 39). All the while, an animated mandala does not "collapse the perceptible image to its numeric basis in database and algorithm" (p. 40) nor does it "remain statically at the level of image" (p. 40) but rather "exploits the complexity of unfolding-enfolding relations" (p. 40). In some sense then, animation activates a visual aesthetic which is intermediate between the acts of creation and reception of static Persian geometric art. An animated mandala simultaneously preserves the possibility for the perceptual act of 'animation' while explicitly codifying movement by animating the growth by which the *multiplicity of* geometric and biomorphic motifs spring forth from a single point or *unity.* The ontological relationship between *unity and multiplicity* permeates the entire perspective of a traditional understanding of sacred space in that proportion is to geometry as "rhythm is to time and harmony to sound" (Ardalan, p. 21). As the meditative complement to the visual and architectonic dimensions of sacred space, music and "harmony dwell in the very being of that archetypal reality through which all things were made" (Nasr, 1981, p. 193).

Sacred Music and the Sonoral Aesthetics of Technosacred Space

Like all sacred forms of art, sacred music fulfills a 'cosmic' function by adorning the sensible realm with ennobled properties. The harmony and rhythm of traditional music express a celestial similitude that "reflects the structure of the cosmos" (Nasr, 1981, p. 198) clarifying the Platonic idea that "music on earth can act as a reminder of the heavenly harmonics which man heard prior to this earthly exile" (Shah-Kazemi, 2003, p. 219). The capacity of sacred music to affect its listener in this way is contingent on a complex musical agency which characterizes the contemplative reception of music and sound. As such, the musical artefacts presented within the technosacred space of the Sacred Sound Temple made use of a *technophagic repertoire* for the performance and delivery of musical sound, highlighting the potential for a 'traditional' use of technology which communicates the essential *ethos* of sacred music despite the instability of its various styles or *eidos.* By considering a hybrid approach between technological and traditional expressions of music, the subtle varieties of the affective *ritual* environment in which the contemplative engages notions of sacred space may be reached.

Technophagic Repertoire

To be sure, the presentation of live and digitally mediated music in the Sacred Sound Temple was facilitated by a powerful array of acoustic and electronic technology. The implication of this use of technology extends to both performance and reception, which

are intimately tied to the affective dimensions of sacred music. In the first, technology was employed to *support* the perceptual reception of music within the technosacred space. The arrangement of powerful amplified speakers and bass cabinets broadcast a field of sound that could be spatially manipulated to create a dynamic impression of sonic immersion. Further, the use of vibroacoustic technology embedded in the reclining mattress structures around the room introduced a haptic dimension to sonic reception "in order to help users feel sound through vibration" (Ozcan, p. 326) and better "understand the nature of the sound and the rhythm of the music through the vibrations transferred to the surface" (p. 327).   While an in-depth exploration of the agency of tactile modes of sonic perception is beyond the scope of this study, by technologically modulating the various attributes of the sonic field – including through haptic stimulation – it became possible to emphasize a psychoacoustic and embodied perception of sonic space rather than relying on a conventional mode of listenership that "establishes an almost magical relation between gesture and sound" (Corness, p. 22).   Presumably, the use of technology in the reproduction of traditional music should not be problematic since regardless of whether it is acoustically or electronically produced, all sound is of the same physical nature – "that of a wave propagating through a medium" (p. 23).

Figure 21. Vibroacoustic Reclining Beds

The control of not only the means of perception but also the performance of sacred music is described within the technophagic repertoire of the electronic music performer. By enacting a technophagic repertoire through audiovisual production and performance techniques, DJs are better able to "control the means of perception" (Takahashi, p. 254) as well to engage in expanded notions of performativity. The digital performer finds "in machines the means to refine their control over selection and reproduction of sound" (Ferreira, p. 19) which at a basic level enables a continuous 'performance' of music or ambient soundscape in a way which does not rely on constant and rigorous human agency.   Beyond simple convenience, through this capacity the use of technology in the Sacred Sound Temple facilitated the creation of a contemplative and spiritual atmosphere of sonic immersion while simultaneously activating a transpersonal ability to 'perform' – by means of digital mediation – an almost endless array of traditional and sacred music compositions. The use of a technophagic repertoire in this way enables the creation of musical performances that "allow for a continuous flow between mental, musical and physical states" (Gerard, p. 176) as well as reflected an intentional capacity to aesthetically operate across a diverse spectrum of musical and contemplative world traditions – which despite differing in style or *eidos*, inhere within a sacred *ethos* which is universal amidst Tradition.

The Ethos and Eidos of Sacred Music

Whether stylistic variations are found *between* musical traditions or *within* a particular tradition, sacred music resists a stable stylistic identity.   The unavoidable reality of innovation which lies at the heart of musicality – though it vexes orthodox attempts to ensconce Tradition – blossoms in a multitudinous *eidos* which nevertheless testifies to the underlying Principle which invigorates the *ethos* of all traditional art. With respect to the exploration of sacred music in the context of technosacred space, this *ethos* can be unambiguously described: essentially all sacred music – irrespective of tradition – inculcates a love (or a fearful awe) of the Sacred while sublimating the interiority of the human experience through the creation of a contemplative or reverential atmosphere. Though a considered adherence to this sacred *ethos* was the guiding principle by which the various musical traditions were incorporated into the programming of the Sacred Sound Temple, this analysis will focus on the *eidos* of Sufi music which by extension, can communicate some common traits despite the variability of musical *eidos.*

Even among Sufi music itself, one encounters an incredible multiplicity of musical forms and cultural styles.   While an orthodox view of tradition would seek to prescribe a rigid

musicality which avoids "the continual search for innovation" (Moody, p. 32) whereby one supposedly becomes complicit in "the elevation of man to the place of God" (p. 23), a more considered understanding of Tradition accedes to the fact that an affirmation of the *multiplicity* of the Sacred does not amount to a denial of its *unity.*   Indeed, the exquisite variations in Sufi music – from the sounds of the Senegalese *kora* to the Pakistani *qawwali* and the mystical *radif* of the Persian Sufis – reflect the reality of geographically diverse cultures which nevertheless inhere within a traditional *ethos.* As Pir Inayat Khan (who von Gunden cites) has stated, beyond culture, every person "whether he knows it or not, has a predilection for a certain sound" (Khan, p. 85) which translates into a certain 'aesthetic sensibility' by which they are musically affected. In light of this unique identification, the question remains whether it is at all possible to describe anything of the *eidos* of sacred music without either fiercely regulating it or simply conceding its total instability.

To this end, it is important to understand that there has always been an intimate, if not inextricable, link between musical composition and poetical structure in traditional ritual. Anders Hammarlund (2001) has dealt with the struggle for the 'aesthetic emancipation' of music within traditional cultures in a particularly insightful analysis which explains that the musical *poesis* "was supposed to be subservient" (p. 36) to the "dominance of poetry" (p. 36) since the "medium was not allowed to become the message" (p. 36). From his analysis we can glean that despite the 'musical aestheticism' which emerged as a result of this aesthetic emancipation – which was instigated in the Islamic tradition by the Sufis – a deep and lasting relationship exists between musical forms and poetical structures in sacred music.   Whether this purely musical expression "emanated from sacred *ratio* or *emotio"* (p. 37) as a result of rationalization or its "opposite trend, towards orality and emotionalism" (p. 37), a sense of linguistic communication is nevertheless implied. Indeed, any one who has bore witness to the Sufi *dhikr* – the rhythmic recitation of the Divine Names – or the mantric recitals of the Hindu scriptures can presumably attest to the deep musicality of these poetic performances.   Conversely, the purely musical expressivity of the Senegalese *kora,* the Persian *tanbur* or the Indian *sitar* demonstrates a capacity for complex musical 'phrasing' which approaches an almost linguistic capacity despite being "regarded as an outflow of the verbally inexpressible and intellectually inconceivable deity" (p. 36).

Recognizing the musicality of poetic structures in ritual as well as the verbality of pure musical expression enables us to make some characterizations regarding the affective

dimensions of the *eidos* of sacred music. Perhaps the perfect exemplar of the sacred union between verbality and musicality in the Sufi tradition is the ritual of the *dhikr*. Despite its diverse manifestations across cultures, the *dhikr* can be described in relatively stable terms as a kind of template for both poetical and musical expression in ritual practice. Specifically:

> Two musical processes, melodic modulation (*tariqiyya)* and rhythmic acceleration (*kartah)*, structure the dhikr and, in conjunction with specific kinesthetic, visual, olfactory, and tactile cues, affect the sensate body to inculcate experiences of transformation and condition a spiritual and musical self. (Shannon, p. 381)

Just as the term *tariqiyya* "implies elevation, promotion, and upward development" (p. 385), the Persian *sama* similarly expresses the bifurcation of music and poetry in that its "rhymes and rhythms, its rhapsodic trance uplift the soul and elevate it to that peak where alone it is able to grasp the sublime intellectual message" (Nasr, 1981, p. 273) of mystical poetry. Whether the pure musical expression of *sama* was a direct outgrowth of the musicality of *dhikr*, or if the performance of the *dhikr* was influenced by the musical phrasing of *sama*, what is crucial is that both reflect a common – but *flexible* – structure for the *eidos* of sacred music which is neither rigidly regulated nor completely unstable.

It is quite interesting to note that beyond the Sufi practice of *dhikr*, the dual technique of 'melodic modulation' and 'rhythmic acceleration' can indeed describe a variety of ritual music forms ranging from the trancing music of antiquity to the contemporary trance music of electronic dance music culture.   The agency of accelerating rhythm and melodic modulation in conditioning and affecting a 'musical self' is precisely related to their ability to reinforce an emotional or excitational state in the listener. While the issue of music and trance has been dealt with extensively by Gilbert Rouget (1985) and explored in an earlier study (Ghahary), what is important in the context of this discussion is that regardless of whether one encounters the *inducted, emotional* trance of the Persian *sama* or the *conducted, excitational* trance of *dhikr* and the 'neotrance' of EDMC (St. John, 2009), the complex aesthetic and aural qualities of music constitute an "emotional body of water" (Lewisohn, p. 15) or what Rouget (1985) calls the 'sensitive form of meaning' without which the semantic and semiotic content of mystical poetry or spiritual discourse can hardly be expressed. Therefore, while music "by the action of its sound alone" (p. 268) is capable of affectation, "it is understanding (*fahm)* of what one hears that opens the path to ecstasy" (p. 268).

The Musical Encounter and the Sacred Music DJ

Thus the aesthetics of sacred music again affirms the necessity for spiritual understanding to have a vehicle – a beautiful form – in order to be revealed. In conjunction with the architectonic and visual dimensions of the technosacred space, the use of a technophagic repertoire enables the creation of a contemplative atmosphere and meditative context for musical listening as well as to initiate a unique type of performative interaction – that of the *sacred music DJ*. The advent of digital mediation in the electronic performance of sacred music seemingly stands in contrast to a traditional mode of performance yet a closer look suggests that both interaction types may share meaningful comparisons. At first glance, the ability of a technophagic repertoire to coordinate and automate sophisticated processes appears to negate the necessity for live human agency in the form of a traditional musician or ensemble. To be sure, the sacred music DJ can reach across cultures and musical repertoires and present a variety of sacred music, all in the space of a harmonically mixed and rhythmically elevating composition which itself follows the leitmotifs of the *eidos* of sacred music. One could go even further and suggest that the mediatic means of electronic performance results in "the technological obliteration of the body of the performer" (Ferreira, p. 17) – a notion presented by Ostertag (who Ferreira cites) – thereby negating the need for a 'performer' at all.

However, the notion that the agency of either the traditional musician or the electronic performer can be merely reduced to their acoustic function is a shallow estimation of what amounts to a complex agency. Both performers enact multivalent roles which extend well beyond the physical act of acoustic production and into the embodied reenactment of social and spiritual motifs. Both in the culture and literature surrounding electronic music, one frequently encounters the idea of the DJ as a 'shaman' – "the de facto ceremonial leader ... who guides the participants through their spiritual experience" (Sylvan, p. 112). While frequently exaggerated, the idea of 'DJ-as-shaman' nevertheless suggests a basis for a meaningful comparison between seemingly disparate repertoires. Indeed, a traditional understanding of the role of the sacred musician suggests that they "mediate between the human and spirit worlds, and require deep knowledge of both in order to be efficacious" (Jankowsky, p. 201). Like traditional musicians who "are privy to the cumulative ritual knowledge ... the entirety of which is never performed in a single ceremony" (p. 201), the sacred music DJ also possesses a cumulative knowledge and collection of a wide array of sacred music, which is never

performed in a single set but rather selected and mixed intuitively in order to facilitate a *ritual* engagement and interaction.

Although divergent in means, both traditional and electronic repertoires are formally bound by a 'history of reproduction' which enframes their ritual enactment. While the electronic performer relies on a mediatic reproduction of digital recordings, the performance of the traditional musician – which appears 'live' in comparison to an electronic performer – is nevertheless dependent upon a *ritual* reproduction of a 'recorded' oral tradition. Moreover, the transmission of this oral tradition through musical training results in adherence to a complicated musical conditioning which inheres within the learned repertoires of a specific musical tradition.   Therefore, both types of performance are predicated on a 'recorded' history which prescribes formal limits within which musical knowledge is reproduced.   Furthermore, while digital mediation may 'obliterate' the body of the electronic performer by releasing him or her from a strict corporeal involvement in the acoustic production of music, the traditional musician in Sufism undergoes an 'egoic obliteration' which – through a rigorous musical and spiritual training process – releases the musician from the shackles of a technical act of reproduction.   In so far as the formal training of a traditional musician has culminated, his or her corporeal involvement in the creation of music can be said to be 'automated' by means of a sophisticated process of muscle memory, analogous to the computational memory of the sacred music DJ.

In some respect therefore, the technophagic repertoire of the sacred music DJ can be understood as a powerful extension of traditional modes of memory and the reproduction of 'recorded' knowledge. Whether corporeal or digital, memory represents a means by which the performer of sacred music can engage alternative notions of performativity and enact a musical agency which transcends literal linkages between gesture and instrumentation. Roy Ascott (2006) concretizes the comparison when he notes that the modern "codes and protocols of computer access find their equivalent in the rituals and procedures of sacred ceremonies" (p. 68). Like the Sufi *munshid* – the lead reciter in *dhikr* – who "needs to have some knowledge of music and needs to know by heart a number of texts" (Harrak, p. 496), both the traditional musician and the sacred music DJ do not simply participate in the technical reproduction of a 'memorized' musical knowledge but are capable of pursuing an embodied interaction with the Sacred itself through a *ritual interaction.*   In this way, both 'spectator' and 'performer' are

amalgamated as *ritual participants* in an interaction in which "the artist is no longer the center of attention" (Ferreira, p. 17).

Experience and the Interactive Dimensions of Technosacred Space

Thus far, this analysis has described the aesthetic dimensions of the Sacred Sound Temple as illustrative of a technosacred space in which technological means and traditional principles in art have been reciprocally engaged. The combined architectonic, visual and sonoral aesthetics of the artefacts presented in this research constituted an immersive environment in which participants routinely engaged in *ritual interaction.* By establishing a ritual context for immersion therefore, technosacred space acts to highlight alternative notions of interactivity which emphasize *reciprocality* and *affect.* By engaging in both active and subtle modes of interaction, participants engage in a *multimodal, sensuous* awareness which describes an *embodied* approach towards sacred space and digital media. This sensuous engagement may actually constitute a form of 'mindfulness' practice and may have agency in affecting sacred experience. By describing the interactivity of the immersive technosacred environment in these terms, the Sacred Sound Temple can be understood as an *immersive architecture* – a characterization that can extend existing notions of both traditional art and 'virtual' environments.

Ritual and Reciprocality

Just as "architecture is unfinished until its ritual use completes its totality" (Ardalan, p. 54), the various aesthetic artefacts presented in the Sacred Sound Temple relied on *ritual interaction* "to animate their spaces and articulate their meaning" (p. 54). From the ritual pilgrimage which preceded arrival to the playa to the various spiritual practices performed within the space, participants engaged in *active* and often *subtle*, forms of interaction which emphasized the *reciprocality* of ritual engagement and the *affective* dimensions of the aesthetic environment. Even before the creation of the Sacred Sound Temple at Burning Man, all participants underwent a journey to reach the playa, which for many enacted a theme of *ritual pilgrimage* that "involved the departure from everyday life, a journey along a defined route, the arrival at the sacred place, and their return, presumably changed by the experience" (Barrie, p. 105). This 'outer pilgrimage' is continued within the labyrinth-like city as participants can be found "wandering from site to site and thereby undertaking a series of internal pilgrimages" (Gilmore, p. 103).

These actions – although formally outside the boundaries of the Sacred Sound Temple – are critical to consider since a traditional understanding of sacred space suggests that "the path served as a mediator between the outside and the inside – the profane and the sacred – and underlined the importance of entering the sacred place" (Barrie, p. 104). In this way, "the pilgrimage path can be understood as a discrete symbolic and experiential place" (p. 105) which establishes the setting for the *ritual* approach to *technosacred* space. These ritual processions which precede entry transition the pilgrim "from outside to inside, edge to center, profane to sacred, and from one mode of being to another" (p. 53). A Traditionalist understanding would suggest that this explicit, active form of interaction performs the indispensable function of *ontologically* orienting the participant towards a ritual engagement – an opportunity which culminates upon arrival at the threshold of the Sound Temple's gate.

The explicit modes of interaction which visitors encountered upon arriving at the Sacred Sound Temple further elaborated "the clear delimiting of sacred space" (Barrie, p. 53) thereby reinforcing a ritual mode of interaction within the space. Although seemingly peripheral, the act of removing one's shoes and offering a time commitment upon entry serves to deepen a visitor's understanding of their identity as a *participant* rather than a passive spectator. Once inside, the aesthetic dimensions of the technosacred space cumulatively established an identity of a sacred enclosure that acts as "a place of power where divine ancestors, spirits, or divinities are believed to be mysteriously present, embodied in the architecture and often evoked through ritual" (p. 51). The vast majority of participants who engaged in contemplative and meditative spiritual practice – most often without being formally invited to do so – therefore embraced their role as ritual participants, interacting in implicit and subtle ways which emphasized the *reciprocality* of their engagement with the mediatic contents of the space.

It is important to clarify the specific connotations of the term *reciprocality* in order to clarify the nature of ritual interaction. Contrary to many interaction models in human-computer interaction which typically modulate mediatic content due to user input, the ritual interaction within technosacred space emphasizes the modulation of the experiential content of the users due to mediatic output. In other words, this research in technosacred space intentionally attempts to invert the expected rapport: instead of the computational experience changing due to human input, human experience is altered through computational output. By engaging in reflexive modes of ritual interaction therefore, participants express a capacity to explore subtle and implicit relationships

between their experiential states and the aesthetics of the immersive environment through engagement in contemplative and meditative practices. It is however necessary to localize the space in which the *reciprocal* interaction occurs – namely, within the *embodied* awareness of the ritual participant who is aesthetically affected.

Sensuous Space and Embodiment

To be clear, this exploration of technosacred space suggests that ritual participants both act and are acted upon by the aesthetic dimensions of the immersive environment. While it may be easier to understand how the combination of traditional architectonic motifs, animated Persian mandalas and the "inebriating effect of music" (Nasr, 1981, p. 272) can affect the participant, it is perhaps less clear how, through ritual interaction, participants also *act upon* the technosacred space. To clarify this position, it is important to elaborate upon the nature of affect in the multimodal engagement of *sensuous* space*.*

It is interesting that both a Traditionalist understanding of *ritual interaction* and a phenomenology of new media emphasize the *embodied* nature of knowledge. Challenging the idea that 'electronic digitality' contributes to the "dematerialization of the observer altogether" (Lenoir, p. xiii), Mark Hansen has developed a new phenomenology "which emphasizes the role of the affective, proprioceptive, and tactile dimensions of experience" (p. xvii) which highlight "the centrality of the body as framer of information" (p. xxi). For Hansen, "there is no information (or image) in the absence of the form-giving potential of human embodiment" (p. xxi) since all information requires interpretation through the "material human body grounded in the wetware of our sensorimotor systems" (p. xxii). Reversing the Deleuzean effort linking *affect* to the 'movement-image' and not the body, for Hansen the "affective body is the 'glue' that underpins consciousness" (p. xxiii) and in "a very material sense the body is the 'coprocessor' of digital information" (p. xxiv). Musical experience by extension "whether observed or listened to, involves the entire body" (Corness, p. 24) since through "the perception of the sensation, we build knowledge about the lived experience, which includes physical acoustics but also includes a self-awareness" (p. 22). Thus both perception or awareness necessarily implicate the *embodied* human agent since "the process of perception places the listener not in the world of music ... but rather in an interactive union with the whole environment" (p. 24)

A traditional understanding also highlights the embodied nature of consciousness in analogous terms, emphasizing a multimodal engagement with sensuous space through

'corporeal techniques' and 'aesthetic practices' which are "the primary means through which ideologies, whether sacred or profane, are cultivated in the bodies of actors as participants in communities of practice" (Shannon, p. 382). While semiotic approaches to ritual interaction "neglect the 'feelingful' nature of experience" (p. 382) and fail to incorporate the "awareness of body feelings in the production of meaning" (p. 382), embodied approaches highlight the site of the body as "an active agent and vehicle" (p. 383) for engagement within sensuous space. Though visuality "plays an important part in this sensuous gastronomy" (Saniotis, p. 20), Saniotis (2008) describes the aesthetics of spiritual practice in Sufism as a multimodal engagement whereby sensorial involvement expresses a "need to gain intimacy with the spiritual landscape" (p. 20). Beyond vision, touch and taste represent important ways of "sensuously consuming" (p. 21) the sacred space, while smell "makes it possible to sense the body's inner topology" (p. 22-23). Ritual listening – as in the case of *sama* – frames sound as "touching and penetrating both the body's fleshy recesses and the 'sentient landscape'" (p. 23). To the Sufi, this multimodal engagement within sensuous space is a means by which the Other may be incorporated into the body of the practitioner highlighting that "the relationship between Self and Other is not always founded on conceptual or cognitive modes, but rather on the various sensory perceptions" (p. 23).

To be clear, a Traditionalist understanding of *embodiment* would reject the materialist implications of many new media phenomenologies. Since within this understanding the immaterial realms of the Sacred are always ontologically prior to the sensible realms, one must take care not to invert the epistemological rapport by considering 'information' and 'image' to be *predicated* on the human body, rather than experienced *through* a corporeal embodiment. In this way, the affectation and spiritual transformation of the participant, which is "mediated by repertoires of musical, kinesthetic, and other bodily and sensual practices" (Shannon, p. 388), corroborates the body as the *site* of sensuous awareness without limiting *awareness* itself to the sensible realms. This is an important distinction to consider since it may help clarify the notion of *reciprocality*. Although the corporeal presence of the ritual participant does not literally affect the mediatic contents of the technosacred space, an embodied awareness of the media environment results in an *attentional,* and often *intentional,* modulation of sensuous engagement in such a way as to refine and revise – indeed to fundamentally alter – our aesthetic experience of the space itself. This form of interaction ultimately alludes to the nature of embodied experience as being in flux, mediating between attendant modes of presence.

Mindfulness and the Heart

The importance of ritual interaction is that it describes the mode of presence which mediates between the *aesthetic* and *experiential* dimensions of technosacred space. Ritual participation involves performing 'corporeal techniques' and 'aesthetic practices' enacting what Csordas (1993) referred to as 'somatic modes of attention' which are "culturally elaborated ways of attending to and with one's body in surroundings that include the embodied presence of others" (p. 138). By exploring the ways in which ritual participants interacted within the *immersive architecture* of the Sound Temple, it becomes possible to describe multimodal, embodied engagement within sensuous space as an aesthetic, contemplative practice in and of itself.

Just as "we can understand the embodied actions of religious ritual as being about both the patterning of religious/bodily experience and the intersubjective constitution of meaning through that experience" (Dornan, p. 27), a multimodal engagement with an immersive environment makes use of somatic modes of attention, through which participants are "attending 'with' and 'to' the body, not as an isolated object, but through sensory engagement with the intersubjective world" (p. 27). Csordas' notion of somatic engagement with the world refutes the characterization of the body "as a cognitive way of perceiving the world" (p. 27) instead emphasizing the indeterminate and culturally elaborated ways in which individuals engage in the intersubjective world. Whether an individual perceives their engagement in the world as describing a spiritual reality ultimately depends on the ways in which their perceptive involvement in the world is interpreted. The difference between 'ritual theatre' and true 'ritual engagement' in other words, reflects the ontological orientation of the participant.

Considering the centrality of *embodiment* as the perceptual frame, it is possible to relate a traditional Sufi epistemology of knowledge to the phenomenological schemes described by Hansen's tripartite structure of perception, affection/image, and action. Hansen's idea of affection/image is actually a revision of the Deleuzean movement/ image, and can be simplified to a simpler concept of attention. To be clear, this attention is not equivalent to the 'somatic mode of attention' which properly could describe the entire tripartite structure. Nevertheless, both *attention* and *affect* can describe a "process of repeatedly re-articulating the sense object, building up the conception of a perceived object and providing a base of embodied knowledge" (Corness, p. 22). From the Sufi lens, we recall that all knowledge is experienced through a similar tripartite structure of head, heart, and body and by relating the two schemes through a traditional

view, we can suggest an amalgamated scheme of head-attention, body-perception, heart-interpretation. While conflicting views may challenge this grouping – indeed, a materialist view could relegate all three faculties to the head – the scheme does accord with a traditional perspective, which considers the immaterial Sacred to be ontologically prior to all things including the material body. In accordance with the *holism* of this traditional view, this segmentation simply represents a model of understanding rather than a 'real' structure per se. Nevertheless, the body can be understood as the agent of perception by way of its embedded sensory apparatus which repeatedly relays perceptual data to the brain, where it is progressively 'built up' eliciting a sensory *affect* or, considered another way, is brought to *attention*. Indeed perhaps *affect* may better describe a passive kind of *attention*. Nevertheless, perception and attention reciprocally engage in this way to build up a sensate awareness of the environment which culminates in a precognitive act of *interpretation.*

From the Sufi perspective, the interpretation of phenomenological experience entails a numinous dimension and occurs in the 'immanent space' of the heart. This interpretative act is precognitive in the sense that it is not 'deduced' but 'known' and in fact, the body/mind dualism is in many ways insufficient in describing the manner in which perceptual interpretations "are influential in not only the account of the experience, but play a role in the construction of the phenomenal experience itself" (Goldberg, p. 327). Thus, the heart is not only responsible for perceptive *interpretation* of subjective experience, but as the *pontifex* which unites the *intersubjective* horizontal dimension and the *intrasubjective* vertical dimension, the heart also acts as the site of the epiphanic encounter. A hermeneutic approach would infer the presence of something even yet interior to our tripartite structure, which could resolve the apparent difference between secular and religious interpretations of similar sensory experiences. Namely, the difference appears to reside in a subtle mode of attention – *intention* – which appears to have the capacity to adjust the 'flavor' of phenomenological experience which, according to the Sufi tradition, must be 'tasted' to be known. The *intention* to attend to one's sensory environment in specific ways in effect converts *affect* from a passive sensory process into an active mode of *attention* which enframes the phenomenal 'taste' of experience.

Perhaps the chasm between secular and spiritual interpretations need not be far at all. The ways in which individuals attend to and through their bodies reemphasizes a common existential ground for a sensuous awareness of sacred space by which the body enframes phenomenal experience. Within ritual practice, the multi-sensorial

experience "of sights, smells, touching, and tastes constitutes the experiential ground for the realization of these higher states of knowledge and awareness, producing a condition of 'mindful-ness' in the body" (Shannon, p. 387). Similarly, Saniotis (2008) postulates how sensuous interaction and awareness of spiritual places "could be considered mystical practice" (p. 24). The multimodal engagement of *sensuous space* therefore contributes to a somatic engagement with the environment which promotes attending to and with the corporeal body through which the participant can approach a state of 'mindfulness' which itself describes a type of *contemplative practice*.
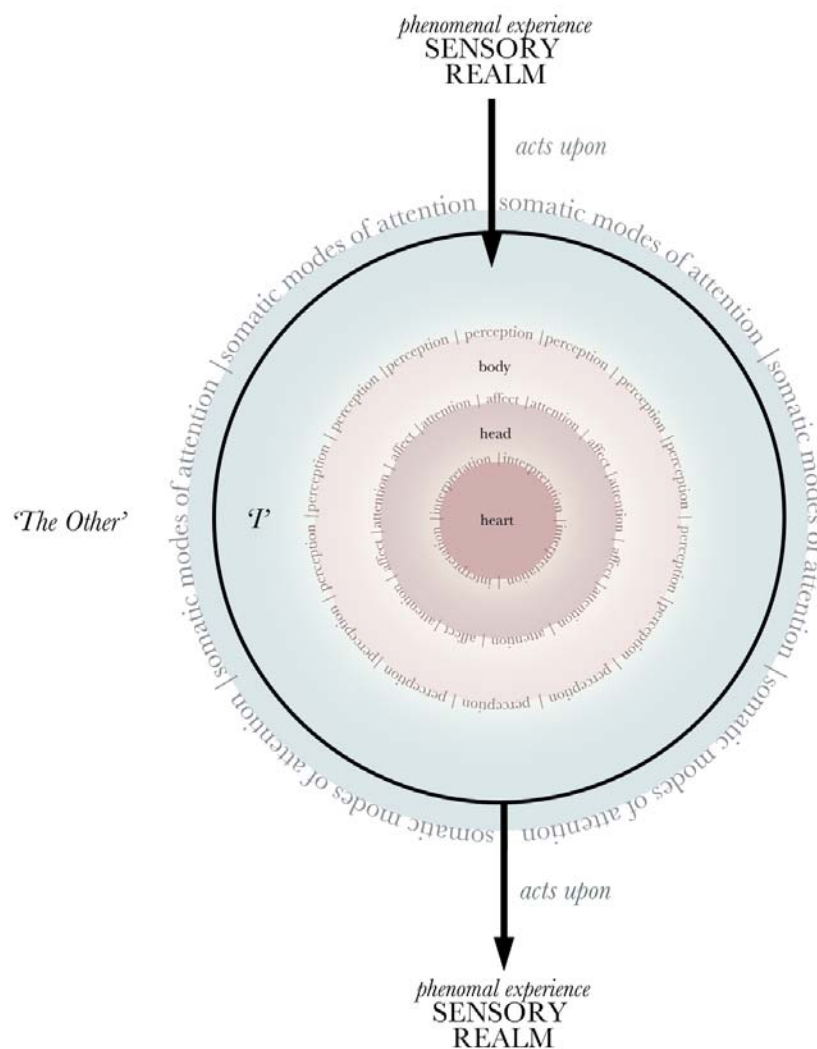
Figure 22. Reciprocality of Ritual Interaction

<u>*Contemplation and Interiority*</u>

Ultimately, the way in which participants attend to their embodied experiences – and the *intention* to orient oneself either toward the Sacred or the profane – determines not only the understanding of those experiences but may also *alter* the phenomenological experience itself. In this way, ritual enables the individual to both affect and be affected by the sensible realm. Whether the interaction being considered pertains to the design of sacred art, ritual performance, or simply perceptual reception, technosacred space makes use of immersive technology in such a way as to promote a sensuous engagement with the environment, which I have suggested constitutes a form of contemplative practice in itself. The importance of 'contemplation' in both creation and reception of technosacred space cannot be overstated since contemplation describes a somatic 'standing at attention' so to speak – an *apperceptive* potential – which is capable of inculcating spiritual sentiment. The sacred artist – the architect, geometer, musician – creates from a deep interiority since as Nasr notes, it is "only through contemplation and inner purification" that the artist is able to gain vision of the Archetypal realms. Likewise, Coomaraswamy (2007) confirms that in the reception of sacred art "it is evidently 'not by observation' but in contemplation that they must be known" (p. 12) since the intelligible models of the Sacred realms are "supersensual and invisible" (p. 12).

The traditional perspective in Sufism reiterates the critical role of contemplation in anchoring *apperception* – the attainment of full awareness of a sensation – admonishing the "soulful or sentimental self" (Coomaraswamy, p. 5) to seek past "the aesthetic surfaces of natural and artificial things" (p. 5).   The Sufi poets also hint at an apperceptive faculty beyond simple 'sensation' calling on the adept to see with the 'eye of the eye' and hear with the 'ear of the ear.' Coomaraswamy clarifies that the pontifical self – in reality, the *spirit* – "is much rather a fastidious than a sensitive entity" (p. 5) which seeks "not a sensible shape, but an intelligible form, that it tastes" (p. 5). At every point, one is confronted with a sensate body which vacillates between the viscera and the outer recesses, all the while signaling the presence of a powerful *interiority* which is revealed through apperception and a contemplative orientation.   Thus even beyond sensory data, beauty "is not limited to formal and scenographic tableaux, but more importantly can be defined as the ability to lead one to perceive the intrinsic beauty of the world" (Ardalan, p. 221).

The ability of sacred art, and by extension technosacred space, to lead individuals into the *interiority* of their own embodied experience perhaps best describes its powerful

agency to *affect* and *inspire.*   Whereas a profane orientation towards sacred art may evoke 'sentimental' affect through a sensate engagement with aesthetic surfaces, a sensuous engagement promotes a contemplative orientation which can transcend the sensible and enter into a powerful interiority which can inspire – literally to fill one – with sacred experience*.*   By pointing towards the interiority of the Sacred, *technosacred* art localizes the space of ritual interaction and sacred experience, not through representation but "through a trajectory" (Marks, 2006, p. 39).   The archetypal forms of traditional building, geometric mandala and ornament, and sacred music – all of which were presented in the immersive technosacred space – are "not then, a representation with a specific meaning, but rather pointing to something else" (Bier, p. 504) just as the circle signifies a boundary, all the while hinting at its centre.   By encouraging the ritual participant to "gaze into its absence, beyond it, towards the unknowable face of God" sacred art forms are capable of acting not merely as *signs* therefore but as "*vectors towards the divine*" (Marks, 2009, p. 333).

DISCUSSION

From its inception, the aim of this research has been to establish the nature of the relationship which exists between the aesthetics dimensions of sacred space and its agency in affecting sacred experience. By positioning my artistic efforts within the intersection of traditional culture and contemporary new media, I also hope to expose potential ways in which traditional cultures could inform contemporary artistic efforts, particularly in the domain of immersive digital environments. Through a close reading of the designed artefacts as well as a review of the interactive dimensions of technosacred space, I have suggested that by combining immersive technology and architectonic motifs of sacred architecture, the Sacred Sound Temple presented at Burning Man 2011 constituted a form of *immersive architecture*. Far from being received as an isolated art installation, the technosacred space was literally and symbolically met with as an architectural space which expressed traditional principles and could establish a context for a spiritual engagement with the world. This holistic architectural approach created a dynamic basis for the construction of an aesthetically responsive *sensuous space* in which individuals could enact ritual participation. By overlapping with the traditional role of sacred architecture, immersive architecture represents a powerful expansion of the repertoire of interactive art in that it too can offer "societies a place for existential orientation" (Perez-Gomez, p. 109) by contributing to "an understanding of one's place in the world" (p. 109).

Immersive Architecture and the Sense of Place

Traditionally, the act of building "however simple or primitive, serves to delimit one place from another" (Barrie, p. 81) and participates in the fundamental human need for *placemaking.* Since all building necessarily occurs on the surface of the earth in the liminal space between earth and sky – akin to Heidegger's 'gathering middle' – the built environment serves as a "potent means for humans to materially articulate otherwise vague, ephemeral understandings of their 'place in the world'" (p. 75) by folding their corporeal existence into the terrestrial and cosmological schemes. The act of delimiting space paradoxically expresses "a shared agenda of both separating or delimiting a particular place and connecting it to a larger, perhaps unknown, context" (p. 84). As a means of 'ordering reality,' architecture provides a sense of *orientation* for human existence and acts as a visceral "antidote to disorientation" (p. 167) which Mircea Eliade suggests is the most uncomfortable condition for human beings. The architectural act therefore has traditionally expressed the fundamental human need to locate oneself

within time and space – creating a literal 'place' – in order to clarify one's environmental position in the world.

Going further, the architectural agenda of human culture expresses an intrinsic part of the spiritual imperative through the creation of sacred architecture.   While sacred architecture "is a means to construct one's place in the world – to make it concrete and palpable" (Barrie, p. 168), the goal of traditional religion is to "establish an ontological position in the world – an orientation for one's temporal existence" (p. 168).   In this sense, the creation of sacred architectural spaces "*re*-presents the figural content of religion by providing the places and serial spaces required to symbolize and deliver its symbolic content" (p. 168).   The principal act of delimiting boundaries – which is "often the first task of sacred places" (p. 51) – exerts "tactical control over the perception of one's surrounding environment" (Helm, p. 102) as a way of *isolating sublimity* by providing physical and symbolic separation from the profane, consecrating the notion of 'centre' as "the only or most propitious place for contact with the otherworldly" (Barrie, p. 51).   By creating an interstitial place that mediates between the profane and the sacred, immersive architecture "seeks to build a world through art that reflects equilibrium, serenity, and peace" (Ardalan, p. 10).

The effort to sacralize space through the creation of technosacred space relies not only on the ability to *isolate sublimity* through a controlled perceptual environment, but also on what Juhani Pallasmaa (2005) calls the "existentially mediating task" (p. 43) of architecture which "serves in part to integrate our inner worlds and outer experience" (Barrie, p. 37).   Within immersive architecture, this is accomplished through ritual activation of a *qualitative space* which mediates between the material and experiential dimensions of the space.   This notion of qualitative space accords closely with the concept of 'place' or *makan* in Persian architecture which is "composed of both the container (*jism)* and the contained (*ruh* or spirit)" (Ardalan, p. 13)   The act of *placemaking* therefore "does not have a tangible existence, but exists in the consciousness of the beholder" (p. 13) signaling the ability of sacred architecture to symbolically transform one's physical place into an ontological place.   Nasr (1987) explains that sacred architecture "is not the quantified space of Cartesian geometry but the qualified space related to the sacred geometry" (p. 45) which is "an empty space to be filled with devotion" (Barrie, p. 208).   The literal space of architecture then is merely a container for its enacted contents – both symbolic and ritual – by which one's physical

orientation may be sublimated into an ontological orientation through *structures of reabsorption*.

The combined aesthetic dimensions of the immersive architecture of the Sacred Sound Temple – what I refer to as its *sacred media* – constitute temporal forms that are reflections of "archetypes of spiritual and celestial qualities" (Ardalan, p. 67) which point to the Sublime and "serve as a bridge between the qualitative, abstract world of the imagination and the quantitative artifacts of man" (p. 67)*.* Accordingly*, sacred media* do not act as *representations* of the Sacred, but as *symbols* in the original etymological sense of the Greek *sumbulon* or 'tokens of remembrance.' The entire activity of creating sacred space therefore aims to use aesthetics "to refer the symbol to its origin" (p. 6) making use of the fact that symbolic forms "are sensible aspects of the metaphysical reality of things" (p. 5). Architectonically, both forms and spatial sequences "can embody potent symbolic narratives" (Barrie, p. 213) while the use of Persian mandalas "are used to trigger inner visualizations of subtle cosmological environments within which the adept locates himself or herself" (Rajah, para. 13) thereby "giving structural insight into the workings of the inner self and their reflection in the universe" (Critchlow, p. 8). The mandala is a "symbol of emanation and reabsorption" (Ardalan, p. 31); its forms originate within the archetypal realms and aid the imaginative faculty to return there. Through enacting a powerful *symbolic* agenda, the use of *sacred media* in immersive architecture transforms the positive geography of Cartesian space into a qualitative space which must be experienced to be known "just as the essential difference between red and blue cannot be discovered through quantitative means alone" (p. 27).

Specifically, the means of accessing the nuanced meanings of *sacred media* is accomplished through a *ritual participation*. Whereas the aesthetic dimensions of sacred space transform quantitative space into a qualitative space through a *symbolic* relation, ritual participation is capable of creating a profound rupture in temporal experience through the use of *rhythmicity.* The ritual use of sacred music and other contemplative practices performed in the Sacred Sound Temple make use of *rhythmicity* – continual periodic repetition – contributing to a sense of "spiritual transformation by altering the participants' perception and experience of temporality" (Shannon, p. 388). Everywhere in ritual one meets with a "reaffirmation of the rhythmic nature of the lifeworld" (Saniotis, p. 99) and Ardalan suggests that it is only through rhythm that "one is able to escape the prison of time" (Ardalan, p. 96). Through ritual participation in a variety of rhythmic aesthetic practices, participants perform "temporal transformations" (Shannon, p. 388)

which have the power to guide the practitioner "from *chronos* time to *kairos* time, from the temporal world to the sacred world" (Barrie, 110).
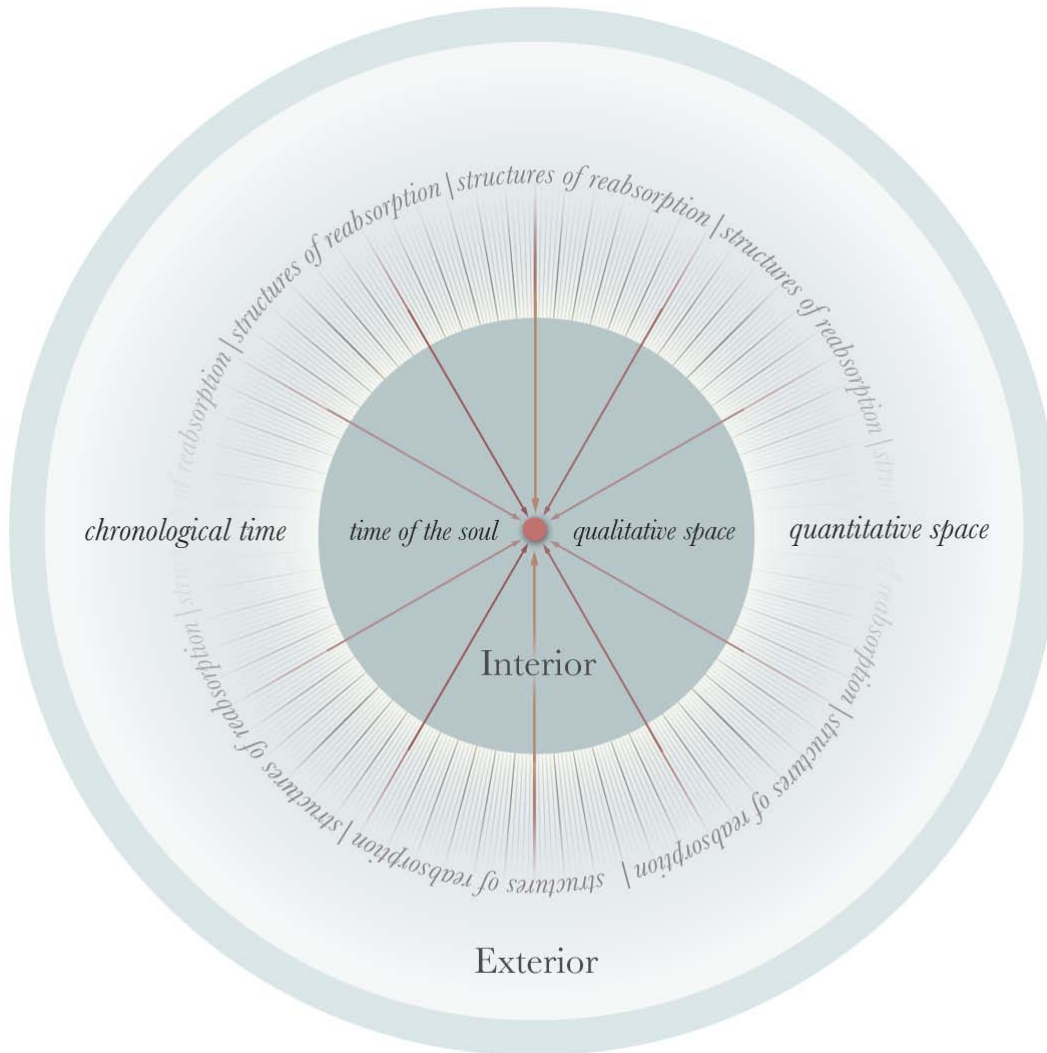
Figure 23. Placemaking and Structures of Reabsorption

Taken together, *sacred media* and *ritual participation* have the cumulative potential to shift an individual's sense of 'place' from quantitative space and chronological time into a *qualitative space* and what Ardalan (1999) calls "the inner time of the soul" (p. 5). This experiential mediation occurs through the dual action of *symbolism* and *rhythmicity* which both signal beyond the profane world towards the Sacred. In most cases a cogent approach to sacred space – irrespective of the diversity of means and media – encodes an integral *redundancy* which reiterates at every level the essential interiority of the

contemplative orientation.   In other words, every device in the repertoire of sacralizing space essentially expresses an identical and precise purpose: to yoke the individual to the Sacred through a mediating relation that leads "the contemplative mind from the sensible to the intelligible" (p. 27).   By providing *structures of reabsorption* through a cogent ritual-architectural program, the creation of technosacred space therefore provides a means of not only clarifying one's physical position in the world, but also enables the spiritual aspirant to seek "an orientation towards a vertical axis uniting earth with the heavens" (p. 5).

Orientation and the Mystic Orient

If technosacred space can clarify one's *orientation* in the world, what is the nature of this orientation and how is it achieved?   Beyond the distinction between the capacity of immersive architecture to literally 'orient' us within geographic space and chronological time and its ability to provide a container for our ontological orientation, the spiritual significance of 'orienting' oneself in the world resounds within the timeless esoteric themes of the mystic Orient.   Etymologically, a nominal relation is surely implied.   By pursuing a discussion of what Ali Shariat (1989) has called an 'archaeology of self,' it is possible to tread deeper into the interiority of the phenomenology of sacred experience aided by a repertoire of hermeneutical knowledge from the Sufi tradition.   By venturing into this precarious intersection of ontology and epistemology, a better understanding of the site of the *body* as the agent of sacred experience can be sought as well as a more meaningful understanding of the agency of the aesthetics of immersive architecture in facilitating *sacred experience*.   While subtle, this exploration into the esotericism of traditional Sufi concepts and hermeneutics hopefully have the capacity to reveal something of value for this exploration.

In the literature of Iranian Sufism – most notably in the illuminationist theosophy – one of the leitmotifs is the mystic 'quest for the Orient' or *istishraq*. The Orient in Sufism does not refer to the geographic East since it is "neither localized nor localizable in the realm of positive geography" (Shariat, p. 93) but is "located at the 'heavenly pole'; of the cosmic North" (p. 93). The mystic Orient is the existential point of Origin and of Return which is disturbed by the 'Western exile' or *qhorbat* which is initiated upon "separation from the mother's belly" (p. 95). The entire mystic itinerary in Sufism can be understood as a departure of the exiled 'Oriental' or *ishraqi* from the Western 'personal City' – the "disturbing universe tormented by upheavals, marked by unease and strangeness" (p. 96) – back to the Orient, "the world of light" (p. 96). The Sufi is "one who is conscious of

his solitary condition originating in inner dis-orientation" (p. 99) and yet "ardently desires to return home, to his Orient-origins" (p. 99). The quest for the Orient within the illuminationist theosophy of Iranian Sufism therefore enacts a mythic structure for "an archaeology of the deepest Ego" (p. 99) wherein the mystic overcomes "this ontological exile, without which the solitary 'I' would forever experience the world, the self and the Other strangely" (p. 99).

The mystic's return to the Orient – the *orientation* – can certainly not be defined in spatial and temporal terms but pertains instead to the deepest psychical structures of man. Viewed in this way, the quest for the mystic Orient is none other than "the conquest of the citadel of the Self" (Shariat, p. 98) whose culmination results in the emergence of a transfigured Self to replace the ipseity of 'I.' Thus, the mystic enacts the perennial drama of the human spirit, seeking at every turn to discover the essential nature of this troublesome relation between the 'I' and the Other. Enabled by the mystic pedagogy of the Sufi Path or *tariqah,* the Sufi performs aesthetic and contemplative practices by which he "meditates on the phenomenon (*zahir)* to unveil what is hidden therein (*batin)*" (p. 100). One must take care to note that there is a proclivity for the mind conditioned by rational materialism – faced with esotericism of this kind – to commit the error of assuming that the mystic seeks a literal 'hidden essence' in the same way a material scientist might. Indeed both in mysticism and material science, we are confronted with the notion of the outer and the inner, the apparent and the hidden.

Whereas the material scientist seeks the hidden essence inside of matter itself, for the mystic the outer forms point to a hidden essence which is experienced *within.* The mystical insight expresses that the "vision of the profoundest interiority of events thus flows from the interrelation of the within and the without like a two-way mirror." (Shariat, p. 100) Sufi hermeneutics reaffirms that "consciousness and its object are here ontologically inseparable" (Corbin, para. 27). In other words, everything 'out there' is experienced 'in here'; everywhere there appears to be an object, there is necessarily "a world of Image-Ideas, which is a second sensible world, perceptible through the active imagination" (Shariat, p. 100). This world is the sensible aspect of the *mundus imaginalis*, the realm of the Imaginal which is the interworld between the sensible realm and the intelligible realms of the Sacred. This interrelation between "the sensible and the suprasensible, between profound interiority and apparent exteriority" (p. 100) becomes the essence of the 'creative imagination' or 'imaginative faculty' in Sufism. To be sure, this mystic 'imagination' certainly does not imply the 'make-believe' of the

modern usage of 'imagination' but refers rather to an apperceptive faculty which is conditioned through contemplative and aesthetic practices.

It is through "the transfiguration of the psychosensorial faculties" (Shariat, p. 98) in this way, that the "extrasensorial or imaginative perception appears" (p. 98). This imaginative faculty has profound consequences on the experience of the body and the phenomenological experience of space itself. To be clear, through the awakening of the imaginative faculty, "the entire body is experienced as a rarified body endowed with exceptional powers, of unlimited space" (p. 98). The body of the mystic becomes experienced as a microcosm and through this view "two fundamental dimensions of being overlap, the body and space" (p. 100). At the heart of the 'mystic depth psychology' is the idea that the "body becomes that through which is born an imaginal structure of space, a mystic and lyric dimension of the within that is projected on external space by reconstituting it in its own image" (p. 100-101). Therefore, the imaginative faculty entails a "spatialization of the within" and a "transfiguration of the without" (p. 102) which sublimates the lone ipseity through the "corporalization of the soul and the spiritualization of the body" (p. 112). In this way, it is through an awareness "that recognition of the Other must take place through knowledge of the self" that one may seek the mystic Orient.

Thus, immersive architecture not only helps clarify one's physical position in the world but also provides an aesthetic structure which may liberate the individual from the quantitative and chronological abstractions. As one moves *inward* into an experience of the *qualitative* dimensions of space and the *rythmicity* of the lifeworld, one is capable of ontologically orienting oneself, awakening a rarified body which interfaces with an imaginal realm which "is hidden in the very heart of the phenomenal world." (Shariat, p. 103) At its height, this orientation overlaps with a certain phenomenology of the spirit or *kashf al-mahjub* – the 'unveiling of what is hidden.' This phenomenology is made possible by an imaginative faculty which deduces that "there is a spiritual place and a corporeal place" (Corbin, para. 25) and that the "transfer of one to the other is absolutely not effected according to the laws of our homogeneous physical space" (para. 25) since in relation to the corporeal place, "the spiritual place is a No-where" (para. 25). Beyond the phenomenal world of the senses then, one encounters a literal 'ou-topia' – a term coined by Thomas More "as an abstract noun to designate the absence of any localization, of any given situs in a space that is discoverable and verifiable by the experience of the senses" (para. 9). The question remains however: how can we

understand the imaginative faculty which enables "the transition of the physical cosmos to what constitutes the first level of the spiritual universe" (para. 8)? Beyond the esoteric implications of seeking the inner dimensions of experience, how can we describe an 'aesthetic technique' which awakens the imaginative faculty of spiritual experience?

Synesthetic Perception and the Phenomenology of the Spirit

To be clear, I have suggested that the experience of embodied engagement within sensuous space constitutes an 'aesthetic technique' by which the sensible materiality of form may act as a gateway, through the senses, toward the supersensible and numinous realms. To clarify this position, it is important to explicate the relationship which exists between form, the senses, and the body as the ontological ground. While at the height of mystical experience the ability to speak of 'where' and 'when' is irreversibly denied, according to the hermeneutic tradition in Sufism, the 'No-where' experienced by the mystic "does not designate something like unextended being, in the dimensionless state" (Corbin, para. 9) but rather a sublimely more subtle perception – indeed, a spiritual *apperception* – of the phenomenal world which becomes accompanied by the greater impression of unity until even objectivity itself is swallowed in the apprehension of the Sacred. The immersive architecture of technosacred space does not express a sense-denying asceticism but precisely its opposite: a sensuous aesthetic approach to sacred forms which sublimates the senses into a holistic bodily perception that itself is a gateway to the subtle levels of the spiritual universe.

Indeed, there is one point on which new many new media phenomenologists, neurotheology scientists, and mystics can agree: within the "microcosmic life, everything begins with the body" (Shariat, p. 116). To that end, in all its forms and traditions, the aim of aesthetic and contemplative practices is "to allow our senses to more directly engage the world" (Barrie, p. 38). While the modern individual is "more or less, fluent in the language of vision, for physiological and cultural reasons, we are less versed in either engaging or critically examining our other senses" (p. 16). The prevailing ocular centrism of the Modern world has contributed to what Jose Arguelles, who Slattery (2004) cites, calls "an overelaboration and separation of the senses" which imagines each sense as a "narrow chink walled off from the other senses but in a state of communication with them" (Slattery, p. 126). It is precisely as a result of this excessive cerebralization of the senses that the interfusion of the senses – the condition of *synesthesia* – is viewed by most neuroscientists as either a fictitious, abnormal or possibly pathological condition (p. 125).

Other scholars including David Abram and Jose Arguelles argue that, far from being a remnant of 'primitive perception,' this synesthetic unity resides in the very nature of perception itself. For Arguelles, synesthetic perception is "presupposed by a consciousness in which body and soul are realized to be one" (Slattery, p. 126) and Abrams clarifies that the "intertwining of sensory modalities seems unusual to us only to the extent that we have become estranged from our direct experience" (p. 126). In this sense, the ability to facilitate access to 'direct experience' is precisely the aim of technosacred space. Both architecture and new media are capable of repositioning one's epistemological biases affirming, as Hansen does, "the primacy of affective and interoceptive sensory processes that generate a 'haptic spatiality,' an internally grounded image of the body prior to and independent of external geometrical space" (Lenoir, xxii). Remarkably, Hansen's new media phenomenology appears to accord with the mystical conception of "the body experienced as foundation and origin" which is "experienced as the very site of the transfiguration of the sensible" (Shariat, p. 101).

Herein lies a crucial homology between synesthetic perception, the phenomenology of new media and the spiritual hermeneutics which relate a phenomenology of the spirit. Specifically, Henri Corbin (1964) relates that in the mystic, perceptive powers:

> are gathered and concentrated in a single faculty, which is the active Imagination. Because it has stopped dispersing itself at the various thresholds that are the five senses of the physical body ... the imaginative perception can finally show its essential superiority over sensory perception. (para. 27)

The revered Persian Sufi of the seventeenth century Mulla Sadra Shirazi (who Corbin quotes) also reveals that when the powers of perception "become as though a single faculty," (para. 28) the "imagination has itself become like a sensory perception of the suprasensory" (para. 28). Specifically, all of the imaginative senses "are themselves like sensory faculties, but regulated to the suprasensory" (para. 28) and "although *externally* the sensory faculties are five in number, each having its organ localized in the body, *internally*, in fact, all of them constitute a single *synaisthesis*" (para. 28) or what Persian Sufis call *hiss moshtarik* – literally, a 'unified sense.'

Thus, although perception entails a gross corporeality, its synesthetic nature simultaneously establishes the possibility of a psychosensory unity in which the "primitive body becomes the embryonic space in which they psychic body is formed" (Shariat, p. 116) – the rarified body which remains coextensive with imaginal space. Therefore synesthetic perception or the *hiss moshtarik* has the effect of

reestablishing the body as the ontological ground of experience which "experienced as diagram of representation is thus the *a priori* of space, of the universe" (p. 101). Understood in this light, the *mundus imaginalis* "is not at all an imaginary or fictitious world" (p. 103) but a "real world, stable in its own reality" (p. 103) just as the sensible world appears stable and real. Corbin (1964) clarifies even further by suggesting that it is "a matter of a world that is hidden in the act itself of sensory perception, and one that we must find under the apparent objective certainty of that kind of perception" (para. 33). The discovery of this 'unified sense' which lies at the heart of perception – and the aesthetic and contemplative practices which support it – thus "makes possible apperception, in imaginal forms, of events that take place in the depths of the human soul" (Shariat, p. 102). These imaginal forms constitute "the theater (*mazhar)* in which is manifested the very essence of experienced states" (p. 102).

While the *mazhar* of the imaginative faculty operates as a theater for internal sense events, the long precedent of traditional building practices reflects an insistence on the creation of external 'theaters' as well since "the outer world must be transfigured so that it can simultaneously receive and reflect the reality of these events" (Shariat, p. 102). It is the task of sacred art forms – and therefore *technosacred* space – "to concretize and symbolize psychological conditions and spiritual perspectives in a tangible, material way" (Ardalan, p. 77) since as Nasr (1981) suggests, it is necessary to "remold the world not only mentally but also formally ... since most human beings are much more receptive to material forms than to ideas and material forms leave the deepest effect upon the human soul even beyond the mental plane" (p. 255). In this way, technosacred space can help demystify sacred experience by refuting "those ideas and teachings which present mysticism as the formless without indicating the crucial significance of sacred form" (p. 288). As the great Sufi Kirmani (who Nasr cites) relates:

> I gaze upon forms with my optic eye,
> Because the traces of spiritual meaning are to be found in forms.
> This is the world of forms, and we reside in forms,
> The spiritual meaning cannot but be seen in forms. (Nasr, 2005, p. 185)

The Raft is not for Grasping: Beyond Sense and Form

Thus, form can lead us to the formless; the apperception of sacred art forms is a matter of 'internalizing the externals' through a holistic bodily perception which is a gateway to the imaginative faculty. Obversely, the "artist who works through the tradition projects his inner spirit upon the outside world" (Ardalan, p. 10) effectively 'externalizing the internals' through the very same imaginative faculty. In other words, the artist draws the

formless image-archetypes outward through traditional craft into form and the "receptive mind of the viewer, stimulated by his sense perceptions, internalizes the forms and completes the circle of communication" (p. 10). Taken together, the "completed art thus imbues space with sensible forms that extend the intellect, beyond its delimited space, to a higher plateau of awareness and into the realm of the infinite" (p. 35) Thus, sacred experiences can be understood as deeply embodied experiences of the reciprocal inclusion of sense and form; these experiences "break the reciprocal isolation of the consciousness and its object, of thought and being: phenomenology is now an ontology" (Corbin, para. 56). Through an understanding of the unitary nature of the 'knower and the known' – akin to Merleau-Ponty's 'reciprocal commonality' (Saniotis, p. 17) – the admonition of the Traditionalists to avoid the 'cult of aestheticism' is redoubled since in their view all aesthetic experience of beauty – like all symbols – ought to be referred to its Sacred source. Indeed the argument can be taken a step further: it is not only aesthetic forms which act as symbols, but the *act of sensation itself.*

Sacred art forms have a representational as well as symbolic nature: they signify archetypes, celestial cities, and visionary topographies as well as to indicate beyond. Yet the hermeneutical insight of many mystical traditions also posits a thoroughly 'un-scientific' corollary: sense perception itself can be taken to literally represent reality or to point in the direction of the Real which lies beneath aesthetic surfaces. Thus the experience of psychosensory unity contributes to an apperception which "is no longer 'attached' to the visual and more or less 'idolatrous' experience" (Coomaraswamy, p. 179). In this view, "the aesthetic support of contemplation is not an end in itself, but only an index, and becomes a snare if misused" (p. 179) since the "man never gets to the underlying truth who stops at the enjoyment of its symbol" (Eckhart, p. 186). When entreated by a contemplative disposition, art "makes manifest, in the physical order directly perceivable by the senses, the archetypal realities and acts, therefore, as a ladder for the journey of the soul" (Nasr, 1987, p. 7) from the sensible to the suprasensible Sacred – an ineffable reality which is unverifiable by the senses precisely *because* it entails an abandonment of the literal representational mode of sensory perception. One is reminded of the Buddhist story of the raft of the *dhamma* by which one passes over to the 'other side': once there the raft should be abandoned "being for the purpose of crossing over, not for the purpose of grasping" (Edelglass et al., p. 183)

By positioning technosacred space as an immersive architecture which necessitates a multimodal sensuous engagement, it becomes possible not only to overcome the ocular centrism of modern perception but also to promote a holistic bodily perception of the aesthetic environment. By expressing a cogent ritual-architectural program – expressing what Thomas Barrie calls a 'packed agenda' – immersive architecture encodes redundant and multivalent symbolism which reiterates at every level its aesthetic identity as a sacred space – a sanctified space which possesses unquantifiable qualities which can only be known through *experience*. Along with its symbolic function, the ritual dimensions of the immersive architecture provides a corporeal and aesthetic structure by which participants may experience 'temporal transformations' and come into more intimate experience of the *rhythmicity* of the lifeworld.
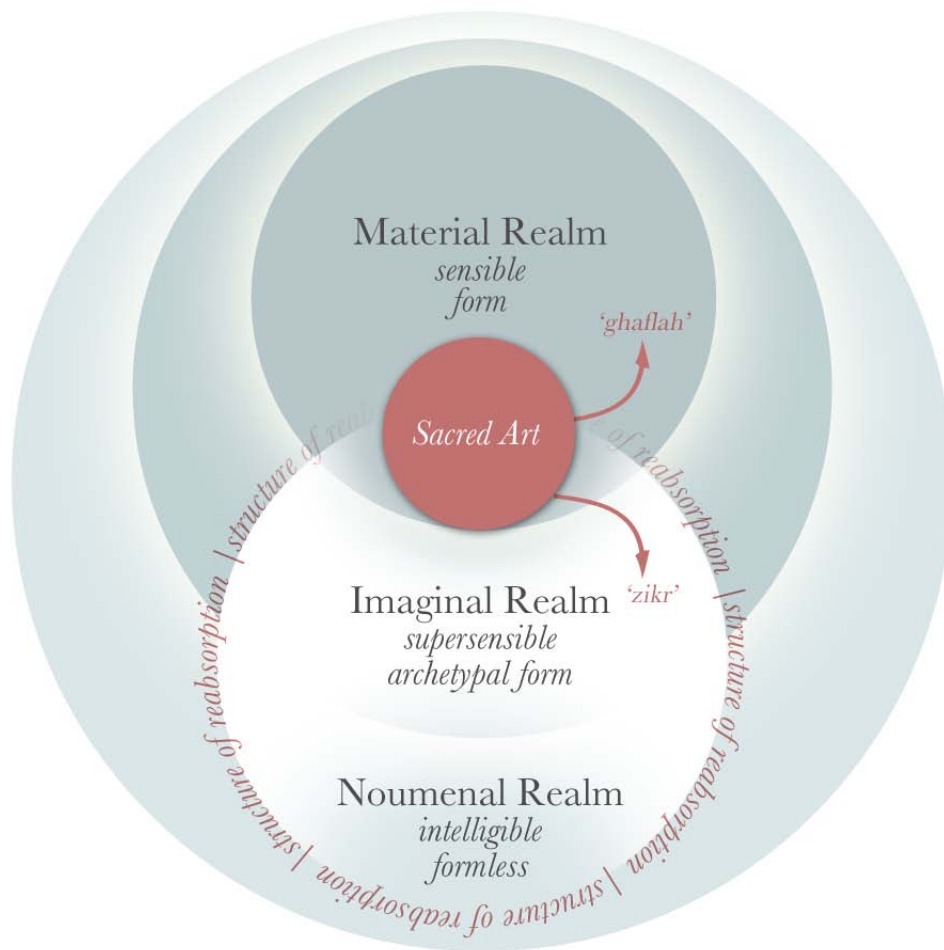

Figure 24. The Ontological Return

By drawing participants into embodied awareness, the aesthetic supports within the space – the technosacred art created on the basis of traditional principles in art – bring the participants into a mode of experience which is grounded in the bodily and the corporeal as well as the phenomenal and the imaginal. Cumulatively, the aesthetic regime of technosacred space not only provides a contemplative context and enables a "human ambience" (Burckhardt, p. 91), but also presents a *real* opportunity for meaningful sensuous engagement with sacred forms. While it is not the aim of this research to suggest that aesthetic environments can – or ought to – *induce* mystical experience in and of themselves, when combined with meditative or ritual practice, the traditional aesthetics of technosacred space provide an affective gateway towards extra-rational and supersensible modes of experience. As confounding as the suggestion may be to the Modern epistemology, the canons of mysticism and spiritual hermeneutics affirm that sacred forms – when encountered in ritual settings – are capable of revealing phenomenology as an ontology.

Elementary Agency – A View from Neurotheology

As antithetical as it may be to the Modern sensibility to accept the idea of phenomenology as an ontology, the science of neurotheology corroborates this possibility and postulates how aesthetics and ritual combine to contribute to sacred experience. To be sure, the hermeneutical knowledge communicated here represents the *potential* of technosacred space but certainly, not every ritual participant can be expected to effortlessly embody these esoteric understandings. Nevertheless, it is still possible to allude to the role that aesthetics plays in facilitating *sacred experiences* even in novice or non-meditators by turning to the domain of neurotheology in which the Modern empirical bias is applied to the most ineffable states of being.

Despite the diversity of meditative traditions in the world, neurotheology summarily describes two main streams: a passive and active approach. The passive approach is typified in most forms of mindfulness meditation which involves "simply trying to clear one's mind of all thoughts" (d'Aquili & Newberg, 1999, p. 110) where nothing in particular is the focus of attention. The active approach or *via positiva* "begins by the subject's willing or intending not to clear the mind but to focus either on a mental image or on an external physical object" (p. 110). While a description of the complicated neurological mechanisms involved in either form of meditation is beyond the scope of our discussion, it is interesting to note that both the passive approach and the active approach with eyes

closed enact an advanced approach which relies on a conditioned ability to *intentionally* activate certain neural pathways involved in meditative experience. For non-meditators however, focusing "upon a visual object of meditation in the external world with eyes open" (p. 114) may be the simplest path since explicitly stimulating the sensory pathways can reliably engage the neurological pathways which are implicated in meditative brain states – states which otherwise would have to be maintained through a rigorous conditioned discipline. In other words, the aesthetic contemplation of a sensible mandala, for example, may be more easily achieved than the contemplation of a mental image of one.

In addition, while the immersive architecture established a context in which participants could participate in self-directed meditation – "an individualistic approach to mysticism" (d'Aquili & Newberg, 1999, p. 95) – a *ritual* approach was also enacted among participants.   The science of neurotheology suggests that "states that can be produced during ceremonial and religious ritual seem to overlap with some of the unitary states generated by various meditative practices" (p. 96).   While meditation enacts a 'top-down' approach, ritual behaviors "can elicit various states along the unitary continuum from a 'bottom-up' approach" (p. 99). Although neurotheology suggests that meditative experiences "produce more intense and extended unitary states" (p. 96) than ritual, scholars suggest that it is "probably not too strong a statement that human ceremonial ritual provides the 'common man' access to some modified forms of mystical experience" (p. 96).   The rhythmicity of ritual not only alters one's temporal experience as previously suggested, but may also "drive neuronal rhythms in the brain and eventually produce an intensely pleasurable, ineffable experience" (p. 89) of the lesser and greater mystical states.

Thus, both ritual participation and a *via positiva* meditation which focuses on an external aesthetic object are able to stimulate neural pathways even in novice or non-meditators, contributing to a sense of unity first to others in a group and ultimately "to the universe as a whole, and even to apparently transcendent reality" (d'Aquili & Newberg, 1999, 97) The neurological correlates of sacred experience reveal that whether active or passive, meditative or ritualized, the unitary states of being are achieved when the quiescent and arousal systems of the human body become simultaneously active – a condition which almost never occurs except in rare cases, excepting sexual orgasm. Passive meditation and slow rhythmic ritual both condition a "deeper and deeper serenity" (p. 97) which results from maximal activation of the quiescent system, while active meditation and

rapid rhythmic ritual have the opposite effect "through the intense 'flow' experience of hyperarousal" (p. 99). Whether a conditioned quiescent state 'spills over' into hyperarousal, or a hyperarousal state spills over into hyperqiuescence, the phenomenological consequence appears to be an ineffable unitary experience.

From the neurotheology research, it is possible to glean several points of interest. Previously I described the dual structure of 'melodic modulation' and 'rhythmic acceleration' as a prevalent leitmotif in the *eidos* of sacred music. Furthermore, research in neurotheology suggests that within active meditation, interestingly the aesthetic object of contemplation "need not necessarily be a religious symbol" (d'Aquili & Newberg, 1999, p. 114) but usually must carry "powerful emotional overtones that help stimulate the limbic system" (p. 114). Taken together, the implication appears to be that melodic modulation of music and the overtones of aesthetic symbols transmit significant *emotional* feelings which may be instrumental in inculcating spiritual sentiment – especially within the 'positive-affect' paths such as Sufism and other devotional practices.   In effect, "the unitary continuum consists not only of the experience of unity but also of the emotional response to that unity" (p. 97) highlighting the role of emotion or 'affection' in not only in the mystical practice itself, but also in the resultant experience. Rhythmic acceleration on the other hand – and its corollary, rhythmic deceleration – appear to function as 'marked actions' within ritual, signaling a breakthrough from arousal to quiescence, or vice versa (depending on the type of practice). Other sensory modalities such as smell may also function as arousal drivers.

Thus, scientific research in neurotheology reiterates the idea that the height of aesthetic experience may contribute to the onset of sacred experience. The aesthetic dimensions of sacred space present *symbols* that point to the Sacred and are invigorated through the *beauty* of traditional forms – which convey a "sense of wholeness, or *integritas*" (d'Aquili & Newberg, 2000, p. 43) –   and a positive *emotional* affect which causes symbols to have *meaning* for the receiver.   To be sure, a rich sensorial environment alone does not constitute an adequate aesthetic; it is only when "the sensory is joined with the symbolic and brought to life through ritual" (Barrie, p. 20) that it becomes possible to support sacred experience in a meaningful way. Ritual is "more than representation or symbolic expression of belief" (Dornan, p. 29) but rather "instantiates, reinforces, and authenticates belief through subjective experience" (p. 29). Thus, the study of sacred experience brings us into a precarious realm in which

phenomenology and ontology mutually inform and reinforce one another, in a way which appears to challenge Modern epistemologies.

Technosacred Space as Mixed Reality

In the contemporary context, the advent of *technosacred* space can have important implications for the contemporary understanding of aesthetics within immersive environments. Although an in-depth discussion of the implications of this research to current approaches to immersive virtual reality environments (VRE) is beyond the scope of this thesis, some preliminary thoughts are presented for scholarly interest in Appendix B. The discussion offered in the appendix is intended to suggest a basis for future efforts in the space of immersive technology, especially as it pertains to the continuation of this research stream into immersive technology and spiritual practice. In the context of this thesis, what is important to mention however is that the aim of *technosacred* space alludes to "the evolution of immersive experiences that, like the tea ceremony, will increasingly involve the totality of our sensory faculties" (Ajaykumar, p. 480). As such, in order to facilitate the crucial element of *ritual* as well as multimodal *sensuous* engagement, technosacred space should be understood as what Milgram and Kishino (1994) termed a Mixed Reality Environment (MRE).

The creation of *immersive architecture* enacts a mixed reality approach which augments architectonic structures and surfaces with computationally driven aesthetics, dynamically invoking *rasa* – a Sanskrit word which refers to aestheticized moods, flavors, tastes, and affects (Ajaykumar, p. 479). Whereas the emerging domain of video projection mapping focuses on exterior architectural structures, *immersive architecture* seeks to ornament and adorn the interior of lived environments with traditional motifs in art in order to extend the aesthetic repertoire of static architecture. In this way, by positioning technosacred space "between the extrema of the *virtuality continuum*" (Milgram & Kishino, p. 1321), it is possible to make use of technology's capacity to dynamically invoke diverse *rasa,* while simultaneously empowering *ritual participants* to experience real-world *embodiment* in a lived architectural setting. In this way, presenting technosacred space as a MRE expresses an explicit intention to participate in the social functions of technology by supporting human ceremonial ritual and by exploring the digital augmentation of architectonic structures. Following Thomas Barrie when he quotes Christopher Alexander (1977), the creation of *technosacred* space corroborates the belief that when "you build a thing you cannot merely build that thing in isolation, but

must also repair the world around it, and within it, so that the larger world at that one place becomes more coherent, and more whole" (p. xiii).

By adopting a mixed reality approach to creating *immersive architecture,* technosacred space attempts to explore the notion of 'humane spaces' which "suggest habitation instead of monument" (Sovik, para. 19).   Perhaps contemporary artistic efforts in interactive art can increasingly explore the idea that the role of artists "is not to provide meaning but to offer creative contexts in which new meaning can be built and from which new meaning might emerge" (Ascott, 2006, p. 113).   In this way, the agenda of technosacred space reiterates Ascott's canon of interactivity by emphasizing construction over representation, immersion over perspective, context over content, and process over object.   This shift towards what Ascott calls *technoesis* exposes the centrality of *mediation* as a central metaphor for not only the designed artefacts of human culture but fundamentally for the experience of *embodiment* itself.

Media and the Deconstruction of Duality

In this exploration of traditional art, sacred architecture, immersive environments, and sacred experience,"what is evident is the importance of relation, not that of individual objects" (Ajaykumar, p. 477).   Whereas Modern epistemologies tends to emphasize the 'objective' reality of the external world, it is nevertheless the case that the individual sense of reality is experiential and therefore inherently relational. Viewed in this way, it is possible to describe all the designed artefacts of culture as *media* in the original etymological sense of an 'in-between' – a intermediate and intervening condition which reveals the intrinsic connection between seemingly disparate entities or states. Within art and architecture "objects alone do not create meaningful connections – it is only through interaction, a dialectical dance" (Barrie, p. 222) that the melding of participant and space can result in the construction of experienced *meaning.* Sacred architecture in particular explicitly embraces its *mediating* role, acting as "both a means of communication and medium of spiritual engagement" (Ajaykumar, p. 46) by symbolically and metaphysically becoming "an intermediary believed to co-join separate worlds" (p. 46).   Ajaykumar suggests that within "such a relational world an 'art work' is not an objectified, hermetically sealed-off entity, but one that remains in *ekaksana,* manifested through spectatorial engagement" (p. 478). The daunting fact remains that the artefacts of culture fail to 'exist' in and of themselves in any meaningful way without being subsumed through the interactive relation between 'object' and 'subject.'   The contemporary creation of digital *media* only reinvigorates this 'relational' world view. The

convergence of material specificity under the digital regime simply reinforces the idea that "there is no information (or image) in the absence of the form-giving potential of human embodiment" (Lenoir, xxi).

The *mediating* role of the created artefacts of human culture – whether traditional or modern – ultimately lead to an underlying principle which is reiterated at every level: *embodied awareness* itself represents perhaps the most fundamental form of *mediation*. The relational nature of *embodiment* is summarily expressed by David Abram, who Arthur Saniotis (2008) paraphrases:

> It is in this sensorial encounter between body and Other that the world is perceived as a kind of carnal dance between the human body and the body of the world. Here the sensing body melds with the sensuous landscape where both are interwoven. (p. 25)

Mystic phenomenology goes yet a step further by subsuming the act of *sensation* itself within "a theory of imaginative knowledge and imaginative function – a function truly central and mediatory, because of the median and mediatory position of the mundus imaginalis" (Corbin, 1964, para. 22).   By emphasizing the *mediating* role of not only aesthetics but also the experience of *embodiment* itself, the creation of technosacred space enshrines a relational understanding of the world which interrogates dualistic notions of *identity*. The use of traditional principles in art suggests a basis for a renewed effort to respectfully deemphasize the object-subject dualism of modern epistemology by reasserting "a definition of self that exists in an interstice between what we conventionally think of as our bodies and the external space" (Ajaykumar, p. 478). Moreover, the potential of technosacred space is not simply to conceptually or cognitively recast notions of *identity* but, by "providing an indispensable spiritual climate and contemplative support for those who understand its veridical message and whose vocation is to follow the sapiential path" (Nasr, 1981, p. 268), to provide a *medium* – a means – of experiential access to this relational being.

Thus, it is through *media* that we come into the essential confrontation with what Frithjof Schuon called 'the one thing needful.' Perhaps all media can be seen as *sacred media* in so far as it brings us into an awareness – indeed, an experience – of the *im-mediate* or *unmediated* dimension of being. To be sure, aesthetic consumption initially acts to *mediatize* separation, redressing the object-subject duality yet increasingly, as we allow form to lead us into the formless, sense to open into psychosensory unity, and *media* to conjoin us with the *immediate*, the individual comes into a more intimate *direct*

experience which abrogates the experience of hermetic separation. This understanding clarifies Nasr's (1981) assertion that "art is seen as a veil that hides but also reveals God" (p. 256) Similarly, the aesthetics of art and architecture provide a *means* by which persons may *orient* themselves in relation to the world yet eventually, as one learns to inhere within the *immediate* dimension of being rather than the representational act of sensation, the "persona will gradually lose the ability to orient him or herself within the usual frame of reference that is based on five senses" (d'Aquili & Newberg, 1999, p. 98). Thus, the act of sacralizing space can be understood as a *means* of fashioning the conditions for an 'ontological liberation' – an *orientation* towards the mystic Orient outside of Cartesian space – an allusion to the reasons why sacred sites have traditionally been understood as portals or thresholds into other 'dimensions' of being.

By recasting the epistemological bias of dualism in favor of "a hypothesis of relational being and nonanthropocentric being" (Ajaykumar, p. 475), the chasm between Traditional and Modern world views can be abated since *direct* experience prioritizes the processual nature of reality and being – a nature which is anterior to unitary or dualistic conceptions of it. Similarly, the prospect of *sacred experience* – indeed, the promise of any deeply *embodied* experience – mitigates subject-object duality in favor of a more *fundamental* dimension of being.   Surely, any experience of this relational dimension must be 'objectively' unverifiable by the senses precisely because its primacy is anterior to sense, to conception, or communication. Some cultures have come to represent it as a transcendent Unity which persists in the *median*, even as all of manifest reality testifies to the endless procession of being. Other cultures, including ours, instead opt to limit valid notions of knowledge to the sentient *extrema* rather than to enter into the precarious intersection of the relational space of being.   The design of technosacred space seeks to attest to the fact that "through the confrontation of the ritual with the means of mediatic reproduction and diffusion it becomes understood that the secret, the mystery, and the sacred are not enclosed in relics, objects, words, sounds, or books" (During, p. 154) but rather must be sought inside "the space where the 'secret game' takes place" (p. 154). The relational space of being is in fact both here and there, both future and past.   It cannot be localized either spatially or chronologically, yet is immanently *here* and *now* in a literal 'utopia' that eludes scrutiny from the 'agnostic reflex' of scientific rationalism.   It is perhaps love – that *median* which the mystic pedagogy offers its every obeisance to – that may instruct us best on where to find that which appears occulted:

Love has nothing to do with journeys
through time and space.
Love wants only to feel drawn
toward the Friend.
After that, secrets
may be told.
A secret moves toward
the knower of secrets. (Rumi, p. 65)

CONCLUSION

The iterative design approach of this research culminated in the creation of an architectural scale *technosacred* space in the form of the Sacred Sound Temple at Burning Man. Although other approaches and contexts for the presentation of *technosacred* art were explored, my artistic agenda in this thesis had its foundation in the principles of the Persian artistic tradition, as a basis by which to not only pursue participatory design research but also as a framework through which I could pursue a discussion of my efforts. It is essential to clarify that the specific elements from the Persian artistic tradition which I drew from – namely, geometric mandala, sacred architectural motifs, and contemplative or ritual listening – were intentionally chosen from among a broader design space, since they have analogues in other traditional cultures, and are therefore able to invoke broader agendas in sacred art within Tradition. As research into the intersection of traditional and technologic cultures, I purposely sought to avoid confining my artistic efforts to the formal boundaries of an orthodox Islamic art without simultaneously succumbing to an aesthetic universalism which would abrogate the particularities of sacred forms. Moreover, I deliberately sought to present *technosacred* space in a social context which expressed similar hybridity – one which was not limited to practitioners of a specific spiritual practice but also not one presented outside of a context in which individuals engage in self-reflexive modes of spirituality.

In this way, this thesis expresses deliberate artistic choices which enabled an exploration of notions of hybridity in culture through the use of traditional principles of sacred art coupled with contemporary immersive technology. Through a cogent aesthetic agenda, the *technosacred* space created through this research constituted an *immersive architecture* which aligned with the traditional rapport which exists between designed space and ritual participation within the sacred spaces encountered in traditional cultures. By this approach, I was able to locate the hybrid aesthetic agenda of *technosacred* art within a multivalent and hybrid social context of an event such as Burning Man, in such a way as to promote its reception as a lived architectural sacred space in which individuals could ritually participate in contemplative and spiritual practices. As both a design agenda as well as a framework for a discussion of traditional notions of art within a contemporary context, my interest in presenting traditional Persian aesthetics was a personal rather than essential aspect of the notion of *technosacred* space presented in this thesis, yet one which enables me to establish a dialogical link between traditional and contemporary ideas as well as rational and extra-rational notions of experience.

The considerable challenge of this research is not only related to the design of technosacred space but also pertains to *communication* of knowledge regarding the experiential affects of the space.   Specifically, this discussion of technosacred space suggests that "even though it employed material means, its effects were essentially *immaterial*" (Barrie, p. 214) thereby complicating efforts to validate knowledge of them. As an *immediate* experience and not merely a concept, relational being accesses a deeply embodied awareness which – unfortunately for one's efforts to communicate knowledge – can not simply be related through exclusively rational or empirical language.   Indeed, this is the reason *sacred experiences* and the most profound states of insight or illumination are described as being ineffable or uncommunicable.   If however the canons of mystical and gnostic knowledge are to be taken seriously – which I suspect they should – what *order of knowledge* does the realm of sacred experience pertain to and how can this order of knowledge be situated dialogically within the scheme of 'rational' knowledge?

The Presiential Order of Knowledge and the Limits of Science

It appears that any attempt to communicate knowledge regarding sacred experience within technosacred space brings us headlong into a confrontation with modern epistemological biases.   Some have argued that Modern civilization is increasingly "addicted to the external and the rational" (Slattery, p. 125) while the "insistence on a third-person, 'objective' understanding of the world has just about swept aside all other forms of knowledge" (p. 125) and relegated the anagogical functions of art to the domain of allegory.   While many views contrast modern 'rational' knowledge with a 'primitive' order of traditional knowledge, traditional societies in fact possessed an understanding of empiricism and rationalism as orders of knowledge, which is clearly reflected in their sophisticated systems of cosmological and terrestrial sciences.   The modern shift in epistemology towards an exclusively rational knowledge did not represent the creation of a *new* order of knowledge so much as it reflected the subversion of a traditional one.

In order to relocate this traditional order of knowledge, it is instructive to consider an understanding from Tradition itself.   Within the Sufi tradition, as a result of the mystic itinerary the "presence rising in the inner orient" (Shariat, p. 93) culminates in what is called *ilm hozuri* – a 'presiential' knowledge.   This notion of presiential knowledge appears mysteriously at the antipode of the modern conception but should be understood as constituting a different *order* of knowledge entirely. The Transcendentalist

Ralph Waldo Emerson alludes to this order of knowledge when he relates: "when a thought of Plato becomes a thought to me, when a truth that fired the soul of St. John fires mine, time is no more" (Richardson, p. 258) since the epiphanic encounter – the understanding of insight or illumination – is always "firmly positioned in the present" (Barrie, p. 31). While the modern epistemological bias is primarily concerned with the accumulation of knowledge through empiricism and rationalism, the traditional notion of presiential knowledge represents an *embodied synthesis* of knowledge which is "acquired in the presence of an oriental relation with everything known" (Shariat, p. 119). In this sense, presiential knowledge is the synecdoche for a gnostic knowledge of self which clarifies and reifies one's ontological *orientation.* In other words, despite the bias of modern epistemology, hermeneutical insight from the Sufi tradition relates that knowledge is not merely limited to the use of sensory faculties to produce empirical knowledge, but also extends to the capacity to 'make sense' of one's knowledge within the relational space of experience.

This discussion suggests that, as a deeply *embodied* form of knowledge, the ability to figuratively and literally 'make sense' of one's knowledge relies on a synesthetic bodily perception – the direct experience of psychosensory unity –   which opens to the imaginative perception.   In this respect, the *ilm hozuri* refers to an order of knowledge possessing an unmistakably *noetic quality*, a term coined by William James to describe

> a feeling of insight or illumination that, on an intuitive, non-rational level and with a tremendous force of certainty, subjectively has the status of Ultimate Reality. This knowledge is not an increase of facts but is a gain in psychological, philosophical, or theological insight. (Pahnke, p. 6)

Corbin (1964) confirms that imaginative perception or "the spiritual Imagination is a cognitive power, an organ of true knowledge" (para. 29) to which "we must attribute a noetic or plenary cognitive value" (para. 32) although presiential knowledge "remains beyond the empirical verification of our sciences" (para. 32). Slattery (2004) also notes that the experience of profound *noesis* – often a part of synesthetic perception – is today "edited out by the 'phenomenological' psychologist" (p. 125) and "stripped from the 'primary experience,' invalidated, and tamed by the scientific reduction of 'only the facts'" (p. 125).

Perhaps one may question why it is necessary to take seriously at all an order of presiential knowledge that is "neither of the fictive order nor the pure rational

order" (Shariat, p. 121).   Nevertheless, the inability to speak of *sacred experience* in purely empirical or rational terms does not invalidate it as knowledge but rather affirms the idea that the *noetic quality* of experience can only be validated through a presiential order of knowledge which is proper to it and which is accessed experientially. Even the science of neurotheology – a science which itself is firmly grounded in empiricism and scientific rationalism – can not but confirm that if reality "seems to consist fundamentally only of the vivid sense of reality" (d'Aquili & Newberg, 2000, p. 50), then it follows that "the essential or underlying reality of hyperlucid experiences must be said to be real or the word *reality* has no meaning whatsoever" (p. 50). The sense of absolute certainty which accompanies profound *noesis* – like mystic experience of the imaginal realm that Corbin (1964) describes – is almost universally experienced as "more evident even and more coherent, in its own reality, than the real empirical world perceived by the senses" (para. 33) which, according to neurotheology "leaves us with the interesting situation of what might be called superior and inferior realities with respect to baseline" (d'Aquili & Newberg, 2000, p. 50).

The Traditionalists suggest that 'imaginant consciousness' appears more *real* than baseline reality precisely because it is "the *hic et nunc* vision of things; it is the perception of the totality of things, in their original form" (Shariat, p. 121-122). In other words, *sacred experience* appears more real because it entails imaginative perception of a realm which *is* ontologically *more real* through its proximity to the sacred Real. While neurotheologists avoid traditional metaphysics at all costs, they still accede – even against their will – that if the veritable criteria for reality is "the compelling presence that generates a vivid and lucid sense of reality" (d'Aquili & Newberg, 1999, p. 191), then there is "no choice but to conclude that in some sense, these states are, in fact, more real than the baseline reality of our everyday lives" (p. 192). Newberg and d'Aquili clarify that the word "*real* is not here used poetically or metaphorically" but rather in the "same sense as in the utterance 'This rock and this table are real'" (p. 192) While this notion may be anathema to a modern epistemology, Traditionalism insists that the presiential order of knowledge which is proper to the realm of sacred experience is intrinsically valuable and valid despite eluding verification through the instruments of scientific rationalism. Even as contemporary society undermines the value of *noetic* moments "by devaluing the spiritual experience as an integral part of being human" (Helm, p. 104), the design of technosacred space speaks to the need in modern and contemporary society for the creation of contemplative environments which validate presiential modes of knowledge adjacent to the modern accumulation of empirical knowledge.

Unfortunately, the fissure between scientific and sacred knowledge has apparently exacerbated the contemporary crises which have faced contemporary society. The charge of sacred art has traditionally been to act as an attenuating agent contributing to a perception of 'wholeness' which is linked to both the aesthetics of art and a sense of well being. This research suggests that at the height of aesthetic experience, one awakens an imaginative perception which "comes to stand for the promise of reconnection, of noesis, of recovery of some long-lost unity, within ourselves, among ourselves, within the world" (Slattery, p. 126). Neurotheology confirms that during sacred experience, the brain increasingly forfeits the ability to distinguish between constituent parts in favor of a very real perception of becoming unified within the whole, leading invariably to feelings of well being which simultaneously encalm and energize. The obverse experience appears, both phenomenologically and neurologically, to be a perception of the world as being inherently *fragmented* rather than whole, causing feelings of alienation and isolation and the concomitant symptoms of anxiety and depression (d'Aquili & Newberg, 2000, p. 40). Interestingly, the science of neurotheology suggests that this sense of *fragmentation* may neurologically be precisely the opposite of the experience of wholeness and well-being, and may be due to certain brain structures becoming "overloaded with input" (p. 44).

Thus the dysphoric experience of *fragmentation* may in a very real sense, be the result of sensory and informational overload unmitigated by a presiential knowledge that understands the *relation* of the informational parts to a holistic view of the world. Similarly, the Modern world has presided over an explosion of scientific knowledge – a canon of 'sensible' information – while in many cases undermining the legitimacy of presiential modes of knowledge which would seek to clarify and *orient* the disparate parts into a unified whole. Whereas in traditional culture, the aesthetic and rhetorical agenda of sacred art presented a means of ontological *orientation* towards the whole, today "we live in a scientific civilization that is extending its control ... even to images" (Corbin, 1964, para. 52) This 'civilization of the image' pervades through Modern art, magazines, cinema and television yet as Corbin suggests:

> instead of the image being elevated to the level of a world that would be proper to it, instead of it appearing invested with a symbolic function, leading to an internal sense, there is above all a reduction of the image to the level of sensory perception pure and simple, and thus a definitive degradation of the image. (para. 52)

This degradation of the image is symptomatic of the broader bias of modern epistemology towards reducing reality itself into a kind of sense phenomenon. Thus the study of *sacred experience* within *technosacred* space inadvertently brings us into a confrontation with the limits of science. This understanding is not intended to challenge the validity of scientific knowledge entirely but only its proposed hegemony. The defense of a veritable 'presiential' order of knowledge – proper to the realm of *sacred experience* – challenges the refusal of modern science to acknowledge "the boundary for its legitimate activity" (Nasr, 1981, p. 205) and its current attitude which "is to oppose the real to the imaginary as though to the unreal" (Corbin, 1964, para. 31). Corbin (1986) astutely notes the ingenuity which has elevated the scientific interpretation of phenomenon to the level of fact, while simultaneously degrading the fact of the *urphenomen* into its interpretation (p. 185). The outcomes of this research affirm to me that the realm of sacred experience is and will continue to be unverified by the senses *by its very nature* and yet its persistence through the ages only affirms its primacy as a *real* and *veritable* – not verifiable – phenomenon.

Technoesis and the Limits of Orthodoxy

Indeed, the creation of technosacred art faces not only the challenge of Modern skepticism, but also may expect the charge of *innovation* from dogmatic Traditionalists who insist that "tradition implies orthodoxy and is inseparable from it" (Nasr, 1981, p. 78). Traditionalists often bemoan the fact that orthodoxy "has become identified with simple conformity and has gained an almost pejorative sense among those concerned with intellectuality" (p. 78) without acknowledging that in many respects, Modernism itself was a rebellion against the dominance of an orthodoxy which sought dominion over all orders of knowledge, including the empirical and natural sciences. Indeed, the threat of empiricism to traditional knowledge during the Medieval period was met with unequivocal censure from the orthodoxy, especially in cases where the production of new knowledge conflicted with the existing schema of traditional knowledge. Surely, either extreme presumably ought to be avoided: an orthodox knowledge that is based on scriptural Revelation and nothing else *and* a scientific rationalism that denies the reality of all knowledge that is not verified through the senses.

When it comes to sacred art, a better ideal may be to avoid "one the one hand, innovation that has no roots in spiritual truth, and on the other hand, a fundamentalism that identifies copying with faithfulness to tradition" (Hart, p. 5). In this way, the creation of *technosacred* art does not capitulate to the orthodox transmission of specific forms of

art, but rather seeks to enact an *orthopraxy*. The notion of *orthopraxy* in art seeks to "find a rhythm between permanence and impermanence" (d'Aquili & Newberg, 1999, p. 105) by pursuing a traditional 'mode of action' rather than replicating the predefined action of orthodoxy. Although much of the contemporary world no longer participates in a traditional culture, many spiritual aspirants continue to seek "a thorough immersion in life without resorting to orthodoxy or dogmatism" (Barrie, p. 35). The aversion to orthodoxy – both scientific and religious – appears as an antidote to the codified transfer of external knowledge in the place of an *orthopraxy* which provides a framework of action which nourishes the *internal* approach to knowledge. This contemplative mode of action helps to reify ritual agency by awakening 'imaginative' perception which, as previously noted, is enabled through the creation and reception of sacred art forms.

Thus, the innovatory approach of technosacred art affirms Ascott's (2004) notion that "art is an agency of Becoming – a constructive, more than expressive or decorative, process" (p. 112). It is for this reason that

> the artist must be prepared to look anywhere, into any discipline, scientific or spiritual, any view of the world, however banal or arcane, any culture, immediate or distant, in order to find those processes that engender this becoming. (p. 112)

The creator of technosacred art is therefore interested primarily in the transfiguration of the soul rather than ideological constancy and therefore engages in what Roberto Unger (who Ascott cites) called "a struggle against the defects of the limits of existing society or available knowledge" (p. 112). The immense challenge of enacting an *orthopraxy* without resorting to either fundamentalism or baseless innovation may only be met through an expanded notion of the role of the artist and renewed insight into the *embodied* act of 'creative imagination' itself. The artist of technosacred art should be expected to embody the notion of *tekhne* – an ancient Greek word which "contains a sense of practice and form that encompasses more than art, one that incorporates philosophy, science, and what one refers to today as 'craft' and 'technology'" (Ajaykumar, p. 477). By creating "the external art form in light of the inspiration which he has received from spirit" (Ardalan, p. 7), the charge of the artist is to become more than a technician in order to embody *demiourgos* – the demiurge who works through a traditional mode of action.

By enacting a trans-disciplinary approach that is based on Tradition yet understands technology "in the amplified meaning that embraces non-Western, unorthodox culture,

and art" (Ascott, 2006, p. 68), technosacred art participates in a retrieval of meaning that "can serve to integrate the repressed 'material' of past cultures with present understandings" (Barrie, p. 91).   This innovatory approach seeks not only to interfuse the modern with the premodern, but also the real with the virtual.   The idea of technosacred space as 'mixed reality' however should not "disguise the fact that what is commonly regarded as 'unmediated' or 'directly apprehended' reality is as much a construction as the virtual reality with which it becomes technologically fused" (Ascott, 2004, p. 114).   By seeing the "tools of mixed-reality technology as an extension of our own organic systems of perception and cognition" (p. 114), the impetus of technosacred art demonstrates Ascott's notion of *technoesis,* through which the interfusion of *tekhne* and *noesis* affirms that it is "within consciousness that our imagination is at work, and it is in imagination that we first mix the realities of the actual and the virtual" (p. 112). Understood in this way, the 'creative imagination' – far from being an idle epiphenomenon – comes to represent the original realm of possibility, an embodied potentiality which is engaged through the *immediacy* of experience.

Transformation and Validity

In a way then, research pertaining to the use of technosacred art within sacred experience cannot merely be validated through the instruments of scientific rationalism or by demonstrating rigid fidelity to a traditional orthodoxy.   The domain of sacred art has never been understood by the Traditionalists or traditional cultures as a means of empirically verifying sacred experience, but rather as a powerful *media* through which a traditional mode of *aesthetics* – as a sensible aspect of the metaphysical – is able to sublimate the soul of the human being into the deep interiority of an experiential realm of being that is proper to the Sacred.   As Coomaraswamy (2007) points out, within the sacred arts the "chant is not for the approval of the ear, nor the picture for that of the eye ... but to effect such a transformation of our being as is the purpose of all ritual acts" (p. 22).   To be sure, in connecting *aesthetic* experience to *sacred* experience, this research has not sought to 'prove' its claims in the same way that both scientific and religious orthodoxies claim to.   Instead, my intention has been to reinstate the *interiority* of experience to the order of *reality* and to reiterate the need to recognize a 'presiential' order of knowledge that connects the sensible artifacts of the material world with the 'imaginant consciousness' which clarifies an ontological position among them.   In doing so, this research seeks to connect the validity of *technosacred* art to Unger's (1997) notion of "self-fulfillment and transformation" (p. 415).

As Barrie (2010) suggests, "the artifact acts as a mediator between who we are now and who we were" (p. 91) empowering us to ennoble our practical and imaginative realities. Through technosacred art, individuals may not only become transformed but also transform the world around them. For the artisan "who is closely related in his world view to the alchemist" (Ardalan, p. 63), this effort "replaces the historical sense of the artist's role as an 'honorable calling' with the idea of such work as a 'transformative vocation'" (Ascott, 2006, p. 112). This notion also accords with Ascott's "canon of interactive art, the five-fold path of *connectivity, immersion, interaction, transformation* and *emergence*" (p. 67). Through *immersion* in technosacred space, ritual *interaction* "is the means, transformation of consciousness is the goal" (p. 67) and the *emergence* of presiential knowledge is the outcome.   Therefore, the outcomes of this research should rightly be sought in the transformed *orientation* of its participants, and not in the objective reality of its aesthetic artifacts. This view affirms the position of Henry David Thoreau (who Barrie cites) when he suggests of the sacred artist: "It is what he has become through his work. Not how is the idea expressed in stone, or on canvas or paper, is the question, but how far it has obtained form and expression in the life of the artist" (p. 222).

Final Thoughts

There is little doubt that the intellectual study of spirituality and sacred knowledge can be as endless as it is opaque. The aesthetic experience of technosacred art, on the other hand, presents a visceral opportunity for an engagement in which "the spectator does not hold himself aloof at the distance characteristic of an aesthetic consciousness enjoying the art with which something is represented, but rather participates in the communion of being present" (Grondin, p. 46).   In turn, this invitation to be present instills a "regular appreciation of embodied consciousness and its reciprocity with the soul – the sense of being in the world" (Barrie, p. 38). Neither ecumenical insight nor scientific 'objectivity' is apparently capable of abrogating the radical subjectivity of lived experience – a subjectivity which the Traditionalists and a long precedent of traditional cultures insist participates in orders of reality beyond the material realm.   As Barrie notes, the "power of both scripture and sacred architecture is that they are multivalent" (p. 60) and therefore capable of clarifying the hermeneutical context of the spiritual aspirant in a way which contributes to 'presiential' understanding – truly, an *internal* path to knowledge that, like the hermeneutical method, "occupies a middle ground between the positivist insistence of unitary 'once-and-for-all meanings,' and the post-structuralist embrace of infinite progressions of relative signifiers" (p. 27).

Perhaps the problem with both religious and scientific orthodoxies is that they so often seek to invalidate internal paths to knowledge, in favor of external or transcendent realities from which humans appear irreversibly abstracted. Both scientific rationalism and religious orthodoxy have historically attempted to present unified world views that, in effect, expedite 'presiential' modes of knowledge for the 'common' person. In other words, all orthodoxies typically seek to clarify an ontological position on our behalf rather than to submit to the tenuous need for *embodied* 'knowledge-in-the-present.' Nevertheless, the old Sufi idiom which relates that 'there are as many paths to the Divine as there are souls' speaks directly to the notion that each individual has an existential onus to clarify their ontological position in the world – whether intentionally or unintentionally – in order to achieve a more thorough immersion in life. As the contemporary world becomes more complex and more informationally driven, there is indeed a danger that new applications of technology "could be spiritually hollow and as such exacerbate rather than attenuate the excessive materialism of our time" (Ascott, 2006, p. 65). This research suggests that there is a need to recognize that the accumulation of new knowledge may not be enough, but rather must be balanced with an ability to construct meaning from what is known, in order to clarify our ontological *orientation.* In this way, the *immersive architecture* of technosacred space is able to "assist those who are committed to a more substantial and authentic engagement with the world" (1, 218) by addressing the need for *contemplative spaces* in society, in which individuals can meaningful explore *all* forms of knowledge – including the embodied forms of 'presiential' and sacred knowledge which have been marginalized.

By enacting an approach which fuses the modern and premodern, the real and virtual, technosacred art acts as a vector towards the Sublime exposing the real seat of the Sacred: the circle of *sacred media* signals insistently towards the centre of *immediate* experience. Regardless of how society may attempt to ensconce the Sacred within objects, relics, or artifacts, the most cherished ideas of traditional cultures insist that the Sacred has always been and will continue to be an *experience* in the *here* and *now*, felt within the deepest *interiority* of our being. Through an embodied engagement with *sacred media* and the *immersive architecture* of technosacred space, a visceral opportunity is presented for a *noetic* insight

> in which body is not in contradistinction to space; mind not in contradistinction to body; human being not in contradistinction to nature; material not in contradistinction to 'spiritual'; and where there is not an apprehension of or

alienation from technology, nor is technology seen as inherently dissimilar to nature. (Ajaykumar, p. 477)

Perhaps the thrust of this research "may appeal to some deep longing for knowledge not delivered as information arranged in hierarchical tree structures, carefully categorized, 1.0, 1.1, 1.11," (Slattery, p. 126) but rather a sense of certain *knowing* which trumps efforts to subject it to the rigors of rationalism, empiricism, and dogmatism. Perhaps ultimately, the ability to seek the elusive space of this sublime *noesis* will sooner unleash the Sacred dimension into our world.

Future Directions

As with most design research, the work presented here points to more questions than its does answers. The exploration of the intersection of Traditional and Modern cultures – as well as the implications of mixed reality technology – can only be expected to become increasingly relevant as the contemporary world seeks its entelechy. The notion of *immersive architecture* presented here suggests a trajectory of an aesthetic philosophy which "provides the foundation for the employment of the sublime as a unitary device to enable a transcendent connection between the human spirit and designed space" (Helm, p. 102). By extending and extrapolating the findings of this research, it may become possible to incorporate artistic principles from traditional culture "in ways that will bring mixed-reality technology into our lives as environment rather than merely a tool" (Ascott, 2004, p. 113). The dynamic *mediation* of aesthetic environments by digital technology suggests a supple domain for research which traverses technology, aesthetics, design, philosophy, and religious studies.

To extend the current design research of technosacred space based on the artistic tradition of Persian Sufism, there are several streams that may prove fruitful. Specifically, by making use of advanced video mapping techniques within the technosacred space, it will be possible to explicitly incorporate architectural models into the aesthetic environment of the *immersive architecture.* Nader Hamekasi and Dr. Faramarz Samavati have developed 3D modeling software for complex Persian architectural motifs and *muqarnas* – a type of corbel ornamentation employed within vaulted domes found in Persian and Islamic architecture – as well as demonstrated algorithmic generation of Persian geometric motifs as textural mappings of these virtual architectures. Through this collaboration, the projection dome can be converted into a mixed reality environment that creates an immersive aesthetic environment based on

three dimensional representations of the interior of traditional architecture. By exploring a more representational approach to the visual dimensions of *immersive architecture*, it will be possible to highlight the various modes of aesthetic agency which are involved in the reception of mixed reality environments.

Further design research will be conducted into the inclusion of additional visual and architectural motifs that can augment the *sublimity* of the present approach to technosacred space. Specifically, the context of Burning Man and the inhospitable conditions of the desert playa prevented the incorporation of several motifs that could prove affective within the aesthetic trajectory of technosacred space. It will be interesting to investigate the creation of technosacred space within a more lush, natural environment – enacting the leitmotif of the paradisal garden – similar to some Persian architectures in which water fountains, "green carpets of grass, gardens, and cedar trees create cool shady spaces of repose that directly communicate the peace and divinity of nature" (Barrie, p. 205) Yet another important and immensely rich area of further study pertains to the metaphysical and aesthetic affects of color within *immersive architecture.* As the *sine qua non* of the metaphysics of *qualitative space* in the tradition of Sufism, the role of color in technosacred art and its affective agency should not be overlooked since colors possess not only emotional and affective qualities, but also "have dimensional qualities" (Ardalan, p. 53) and "exhibit an apparent relative size" (p. 53). While an in-depth exploration of this topic was beyond the scope of this study, future studies should certainly make an effort to explore the agency of color within technosacred space – color being the sensible aspect of the empyrean light in many spiritual traditions.

Future studies may also extrapolate the approach of this research by exploring the incorporation of additional *ritual* and *aesthetics* elements within technosacred space, including those drawn from a variety of traditional cultures. One must however heed the caution of the Traditionalists who rebuke a 'pseudo-esoteric' sentimentalism

> together with a supposed universalism which opposes the particularity of each tradition on the level of that particularity, thereby destroying the sacred on the tangible level in the name of a vague and emotional universalism which is in fact a parody of the universalism envisaged by tradition. (Nasr, 1981, p. 287)

Indeed, this research has sought to highlight that the symbolic agency of *sacred forms* is "accomplished within a context that is influenced by the hermeneutical or interpretive reality surrounding the individual having the experience" (Goldberg, p. 327) and therefore any serious approach to technosacred space based on traditional principles

must oppose a sentimental approach that "is not capable of penetrating into the meaning of sacred forms because it does not even accept the significance of these forms on their own level" (Nasr, 1981, p. 287).

One of the most encouraging aspects of a mixed reality approach to the creation of sacred space pertains to the capacity of digital technology to dynamically present diverse aesthetic content in a way which reflects the particularities of a specific tradition, without either remaining at the static level of 'brick-and-mortar' architectures or else subsuming all variety of sacred forms into the type of universalism witnessed within much of psytrance and electronic dance music culture – including Burning Man. While my approach in this research was founded on the Persian artistic tradition, the aesthetic agenda of geometric art, sacred architecture and contemplative listening within the Sufi tradition represents an exemplar of traditional agendas of sacred art more broadly. Therefore, future works ought to not only explore diversity at the level of the particularities of an artistic tradition or culture, but also to present a cogent aesthetic agenda which prioritizes the intersubjective contexts in which the ritual space is enacted. In other words, by enacting digital mediation of diverse aesthetic agendas within the structure of the same domical canvas, technosacred space can present the sacred art and ritual of each tradition – Islamic, Hindu, Buddhist, Indigenous, Christian and the like – within an aesthetic and symbolic universe proper to it. In this way, *immersive architecture* can be "deliberately designed as an open framework to symbolize its openness to all traditions" (Gilmore, p. 97).

This use of technology in a mixed reality approach to technosacred space – in a way which preserves rather than subverts Tradition – parallels what Reza Shah-Kazemi (2005) has called a 'prophetic usage of sacred space' in which the physical structure of architecture is understood to be merely a container for its ritual and symbolic contents, which are enacted through contemplative and devotional modes of being. In the future, a technological approach to sacred space may demonstrate how "disagreement on the plane of dogma can co-exist with a deep respect on the superior plane of religious devotion, that is, on the plane of sacred space, which is the exclusive property of no one religion" (p. 1-2) It is my hope that this trajectory of research may enable a more humane understanding of 'sacred space' that simultaneously denies the zealotry which accepts only its eschatological use and the materialism which annuls any possibility of the inescapable Sacred.

APPENDIX A

The design research leading up to the creation of the Sacred Sound Temple at Burning Man 2011 took place over nearly two years of concerted research effort. The aesthetic and interactive dimensions of the final project emerged first as discrete elements of design over the initial course of this study, and through subsequent presentation of the initial artefacts in various case settings it became possible to elucidate a path towards the final immersive environment of the *technosacred* space. Here, I will detail the computational and aesthetic artefacts which were designed and the various settings in which they were presented in order to inform my iterative design research. Through reflection on the experiential dimensions of the various cases, I intend to highlight the grounded interpretation which finally emerged as a framework for the design approach and understanding of the final immersive environment.

First Design Cycle

At the outset of this research, a digital illustration software was created in the Processing programming environment. This application was initially designed as a Persian calligraphy tool, and subsequently expanded to include geometric styles of illustration. Illuztrator features a set of 12 algorithmic 'brushes' which follow spring-like and motion-based physical parameters, which can be variably set by the user. In addition to color, stroke, and opacity control, the various brush sets can be adjusted by two 'flare' options which control the density and motion behavior of its actions. The program included editing as well as undo/redo capabilities. In addition to the basic drawing styles, the application featured a geometric drawing mode, based on radial translation with a definable order of symmetry set by the user. Through this mode, the various geometric bases that are commonly found in Persian geometric patterns could be explored with relative ease through this sketch-based interface.

During the same time, a 45 minute musical set was crafted using harmonic mixing software and a variety of traditional and electronic music. This musical set incorporated Persian music styles and an electronic ambient style of music known as 'psyambient' music, in a harmonically mixed composition which traversed a range of meditative musical styles and tempos. Using modern DJ techniques, music was selected and mixed in order to intuitively create a sonic composition which would be appropriate for a sacred ambient performance, intended to coincide with a downtempo event space during the Earthdance Festival in Vancouver in 2010.

The first effort to present digitally mediated artworks based on traditional Persian art forms occurred at the Earthdance Festival in Vancouver, BC in September of 2010. With a simple laptop, tablet, and projector setup, the digital illustration application was used in a live performance setting to demonstrate sketch-based creation of mandala art forms. The mandalas were projected in the foyer of the W2 Media Centre, which served as the central hub for the dance music event happening in two adjacent rooms.   Over the course of the night, people viewed the live artworks being created, with some individuals stopping for longer periods of time (ranging from 1-20 minutes).   While there were a small number of viewers who seemed to be fixated on the mandala forms for short periods of time, the 'demonstration' atmosphere of the live illustration – including the fact that the applications control panels were visible – prevented a meditative use of the artworks created.   While some users expressed interest in understanding the mathematical principles at work, or alternatively asked to try the software for themselves, the artworks on display were largely seen as what they were – works-in-progress generated through live demonstration. At the end of the evening after the projector were shut down, in a separate room designated as the 'downtempo' room of the Earthdance event, I performed the sacred ambient music set for an audience of roughly 150 people. From its onset, as people began to apprehend the nature and direction of the music, most of the people began to sit on the floor or recline, in meditation or relaxation modes. In fact, through the course of the set, nearly everyone in the entire room made a transition from dancing upright to a seated or lying relaxation, often with eyes closed.

The event at Earthdance revealed several keys points which contributed to the subsequent design cycle. In terms of visual artefacts, the 'demonstration' setting of the live illustration appeared to prevent the reception of the artworks in any meaningful sense as traditional art.   The meditative utility of the mandala was only sporadically accessed (according to observations and conversation which occurred), and in general the presentation of the artworks was received largely in terms of its aesthetic rather than rhetorical dimensions, at least explicitly.   Also, since the projection artworks were presented in a general use foyer near the entrance of the main event room of the festival, the artworks were situated in a completely transitory space which was intended more for *passage* than *arrival.* As such, without the benefit of an *isolated* atmospheric environment, the mandala artworks became mingled amongst a multitude of lights, posters, and miscellaneous items.   Finally, the musical performance – perhaps surprisingly – was generally successful in terms of being received in a contemplative

mode which accords with the traditional notion within Persian Sufism. Rather spontaneously, the emotive and melodic qualities of the ambient music set created a serene and contemplative atmosphere, and after several individuals began to sit and relax and/or meditate, very shortly the entire room seemed to follow this cue. Considering the fact that the entire Earthdance event was programmed with electronic music oriented for dancing, it was quite unique to witness a relatively spontaneous conversion of a dance floor into a seated theatre for contemplative listening. Several individuals even mentioned recognizing different sacred music traditions and poetry within the musical set, while many others expressed thanks through gracious and quiet gestures, typical of a temple rather than a dance music event.

Case 2: Science and Non-duality Conference

One month after Earthdance Vancouver, I had another opportunity to present the visual and musical artefacts at the Science and Non-duality (SAND) Conference in San Raphael, California. The audience at SAND 2010 was comprised of scholars and enthusiasts interested in the intersection between science and spirituality, and included 'non-dual' teachers, cognitive scientists, physicists, and spiritual aspirants of many denominations. Our previous experience at Earthdance informed the performance approach in three primary ways. Firstly, software was used to limit the projection display of live mandala illustrations to only the active canvas, therefore hiding the control panel and brush views. This adjustment was made in hopes of achieving a visual aesthetic more conducive to the meditative qualities of the mandalas, rather than the previous 'demonstration' scenario. Secondly, I organized to present the artworks in an isolated space dedicated for this use in the conference hotel, in order to promote the reception of the artworks in a contemplative setting, rather than a transient corridor. Thirdly and perhaps most importantly, I decided to present the music simultaneously alongside live illustration of mandala art forms, as opposed to separately. By using sacred ambient music to condition a serene and contemplative environment, I hoped to also create a conducive atmosphere for the contemplation of the visual art forms as well, while promoting contemplative and meditative modes of interaction.

My presentation occurred on the final night of the conference, and coincided with a live dance music event in the adjacent room of the hotel which was also part of the conference. Over the course of the night, some conference participants ventured into the room to witness what was happening. Despite a sign on the door, not many people were aware that there was a presentation happening in this room, or what the nature of

the presentation would be. In any case, sacred ambient and traditional music was played as live mandalas were created in a live setting. Chairs were lined against the walls of the room, while the center of the room remain open except for a projection table and projector. The interaction within the room seemed to be split between people sitting in chairs along the walls watching the mandala drawings, and other visitors who danced performatively to the music, or with one another. The room had no more than two dozen people in it at any time, and visitors self-selected their mode of interaction since there was an absence of any explicit cues for how to participate within the space.

The presentation at SAND made a number of points very clear, in terms of honing an approach towards *technosacred* space. First of all, the mandala artworks – although received positively *when completed* – were still perceived in a 'demonstration' mode rather than a contemplative mode. The fact that there was a computer station for the artist, who sat and sketched mandalas live through a graphics tablet seemed to create a focal point of attention and an emphasis on gestural movement which distracted from the mandala artworks themselves. Also, the live drawing of a mandala was often quite subtle in its progression – especially as it neared completion – resulting in an image that appeared to remain static, while it had appeared dynamic in earlier stages. Through observation, it became clear that most seated viewers would tune in and out to the mandalas, in a way that seemed to coincide with the dynamic phases of mandala creation, opting to view people dancing or around the room as I put the subtle 'finishing touches' on a mandala. Alternatively, many of the individuals who were dancing along with the music seemed to pay little if any attention to the mandalas, only sporadically glancing at the artworks. Also, there was almost no meditative activity observed at all in response to this presentation, except to the degree that expressive dance can be thought of as meditative. The room itself was brightly lit, empty of comfortable seating except for the old banquet chairs along the walls, and aesthetically as neutral as one would expect of an old hotel.

Second Design Cycle

Based on observations and feedback from the first two presentation cases, I began to revise my design approach towards a *technosacred* space. It is important to indicate that during this time, one of the primary approaches towards design became deeply grounded in meditation and imaginative contemplation of the aesthetic and interactive qualities of what a *technosacred* ought to possess, based on the impressions of the previous cases. The clear outcome of the previous efforts was that a live illustration

scenario was not ideal for promoting a meditative reception of mandala artworks, although mandalas did appear to serve as a visual focal point. Using the digital illustration software, I began to experiment with animating mandala artworks through various VJ software, including Resolume Avenue. Through a series of filters and effects, a kaleidoscopic style of animation was applied to several mandala artworks, and subsequently linked to a MIDI controller to control various animation parameters, including tempo and color range. In addition, a new set of music consisting mostly of sacred music from the Persian Sufi tradition was assembled, in order to coincide with the animated mandala artworks. Overall however, I gained a much clearer understanding of the need to consider the aesthetics of the entire environment, rather than just the visual artworks being presented, as well as the importance of establishing an interactive setting appropriate for the receptive of sacred music and traditional art forms.

Case 3: Sattva Meditation Practice with Rameen Peyrow

The occasion of a private retreat was organized in the spring of 2011 in Horseshoe Bay, BC for seven individuals, including myself and several advanced yoga practitioners and teachers. A waterfront home was outfitted with traditional rugs and seating within an open space that was ambiently lit. A music system was set up and placed out of view, while a digital projector was set up towards a clear wall area above the fireplace mantle in the open area. All the participants gathered in a seated circle as the music began to play ambiently in the background. Rameen Peyrow, the founder of the Sattva School of Yoga, began a guided pranayama practice, leading participants through a series of breathing exercises followed by a brief conversation about yogic concepts of unity. Over the course of the next 3 hours, all the participants engaged in meditative and contemplative exercises to the backdrop of traditional Sufi music and projected animations of kaleidoscopic mandalas. At various time, individuals moved into physical yoga sequences or ecstatic dance practices during rhythmically accelerating portions of the musical performance, eventually returning to seated meditations or contemplative gazing at the mandala artworks.

The setting of this presentation was indeed much better equipped for supporting contemplative and meditative practices, through its aesthetic and interactive environment. The arrangement and design of the physical space helped to establish a contemplative context as well as to create a space of physical comfort which could support spiritual practice. The sacred music provided a rhythmic structure for affective conditioning, while the led breath practices established a mode of *ritual interaction.*

While it was clear that the animated mandala artworks were more engaging during this presentation, the visual aesthetics of the presentation were still challenged in a number of ways. Firstly, feedback confirmed that the kaleidoscopic animation style of Persian mandalas resulted in an aesthetic which suggested more psychedelic rather than traditional mandala. Secondly, the small size and position of the projection artworks above the fireplace mantle resulted in a situation in which participants had to deliberately direct their attention to the artworks which were only visible from certain directions.

Grounded Interpretation of Design

The key categories which emerged over the course of the initial cycles of design research pertain broadly to the aesthetic and interactive dimensions of the spaces presented. Aesthetically, it became clear that it was necessary to consider not only the visual and sonic artworks, but also the architectonic dimensions of the space in which they would be presented, including such things as the spatial dimensions, furnishings, as well as light – collectively a *qualitative* sense of space. I discovered first that there was a need for a separate space, then a serene space, pointing finally towards a sublime immersive space with a cogent architectonic agenda, which could support a contemplative reception of traditional art forms. Visually, live 'demonstration' of mandala gave way to a live 'presentation' of mandala and finally to an animated presentation of mandala artworks. There was however a need to integrate the visual aesthetics of Persian mandala artworks within the architectonic structures, as well as to progress towards an animation style which was not kaleidoscopic and therefore non-traditional. To address this challenge, a new geometric style was implemented in Illuztrator, combining radial and lateral symmetrical modes. Also, changes were made to allow for the opportunity to export each mandala as individual layers which could then be sequentially animated in Adobe After Effects, resulting in a dynamic and engaging animation which retained the traditional aesthetic. Sonically, the various efforts confirmed the power of ambient and electronic music to establish an affective atmosphere, while it became clear that traditional sacred music was perhaps better at suggesting a contemplative or ritual setting.

Through these design cycles and presentations, I began to clear a path towards a meaningful integration of traditional principles in art within a technological environment. It became apparent that the contemplative reception of *technosacred* art required a contemplative *setting* – in other words, a *technosacred* space rather than a *technosacred* 'art' in the limited sense of an artefact. Also, it was clear that it would be

necessary to consider the aesthetics of the entire environment holistically rather than in terms of its discrete visual and sonic elements; in other words, *technosacred* space is necessarily *immersive*. Finally, it would be necessary to establish an appropriate mode of *interaction* in order for the aesthetic dimensions of an immersive *technosacred* space to engaged contemplatively; in other words, a ritual *participation* should replace passive modes of spectatorship. Through this trajectory, it became possible to develop an immersive environment as a *technosacred* space, using a multivalent approach to the design of the visual, sonic, and architectonic dimensions of the space. This approach to *technosacred* space in turn could support a *ritual interaction,* which supported contemplative and meditative modes of action.

APPENDIX B

Although there is a diverse and varied history of approaches to virtual reality immersion, some approaches to immersive virtual reality environments (VRE) can be understood as reproducing the epistemological biases of Modernism. Specifically, by engendering "perceptual and cognitive modes that index a singular, homogenous human 'self,' the representational technologies of the Renaissance" (Rajah, para. 6) are in full view in many contemporary approaches to immersive VRE. By reinforcing "a visually oriented illusion of space" (para. 8), many VRE paradoxically seek to recreate "the idea or notion of a body in space" (para. 8) even despite the fact that "the immateriality of the impinging optical stimulation causes the immersant to loose touch with his or her sense of corporeal being" (para. 8). The encounter between virtual body and virtual space simultaneously reiterates the ocular centrism of modern perception, the familiarity with the Cartesian terrain, as well as the naturalistic impulses of Modern art. By enacting an approach which mirrors Modern epistemological biases – even in the face of considerable computational challenges – many VRE remain limited to the production of inferior 'environments' when compared to baseline reality, not to mention a compromised sense of both virtual and actual corporeality.

In accordance with the aims of *technosacred* space, it is possible to enact entirely different epistemologies through the use of immersive technologies. A scholar of post-traditionalism Niranjan Rajah (1999) explains that

> VR representation is inherently cosmological, with the body as root metaphor in an immersive, interactive, real-time 3D cosmography. Indeed, the parametric nature of VR makes it well suited to the representation of cosmological environments. (para. 11)

Paralleling the mystic phenomenology, the body in virtual reality is not simply a 'body in space' but the origin and source of the 'virtual ontology' itself. By engaging "the 'viewer' in a participatory mode of 'viewing' in which the prior ocular encounter becomes a holistic bodily experience" (para. 7) it is possible to create VRE which deliberately expose alternative representational modes that resist the simulation of perspectival space. Rajah points to the virtual reality work entitled 'Osmose' by Char Davies as an example which explicitly sought to establish the body "as a reintegrated site of being" (para. 11) by presenting "an enveloping, womb like, experience of space" (para. 10). By emphasizing 'being' rather than 'doing' within VR, Davies "hoped to find a way to dissolve boundaries between interior self and exterior worldscape" (Davies, p. 199).

Echoing the language of a 'phenomenology of the spirit,' the hermetic isolation of the body is subverted in the VR cosmography since the "distance between viewer and the viewed is dissolved as the viewer is transported into the view" (Rajah, para. 7). By exploring representational modes in virtual reality which reinstate the unity of the traditional world view, the "physicality of the body is delicately reaffirmed, albeit with a subtle energetic and not a gross corporeal ontology" (para. 11). Beyond the potential to recapitulate notions of holistic *embodiment* through VRE, it is possible to explore notions of virtual space which forgo naturalistic representations in favor of visionary topographies furnished with sacred forms and traditional architectural motifs. By incorporating mandalas, archetypal symbols, two dimensional depictions of the 'paradisal' or imaginal realm, celestial cosmographies, and other motifs in sacred art, interactive immersive art – including VR – "may increasingly take on a more psychoactive complexion" (Ascott, 2006, p. 65). Indeed, Roy Ascott suggests that, like the psychoactive 'VR' of 'vegetal reality' in shamanic cultures "so too might virtual space be seen as the generator of altered consciousness." (p. 68)

To be accurate, both VRE and real world embodiment can be understood as body-brain achievements. Mark Hansen's new media phenomenology affirms that the "source of the virtual is thus not technological, but rather a biologically grounded adaptation to newly acquired technological extensions provided by new media" (Lenoir, xxii). It may be misleading to contrast the experience of *embodiment* in the real and virtual worlds as though one were inferior to the other since in so far as all experience is *embodied* experience, perhaps it should not make a difference whether the environment is 'real' or 'virtual.' Nevertheless, there should be no doubt that certainly the experiences *qualitatively* differ.

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