

**The Irruption of Time in Music:
From the Pre-rational to the Arational**
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“Structure in music is its divisibility into successive parts from phrases to long sections. Form is content, the continuity. Method is the means of controlling the continuity from note to note. The material of music is sound and silence. Integrating these is composing.”-John Cage

“It is the destination of music to be free since its matter is transparent.” -Ferruccio Busoni

In his magnum opus, *The Ever-Present Origin*, Jean Gebser convincingly explicates mutational shifts in human consciousness and their manifestations in such media as art, society, poetry, and science. During the decades of research he dedicated to this monumental task, Gebser collected an enormous volume of data and insight connected to the five (if one includes the incipient Integral) structures of consciousness, their various characteristics, and, perhaps most importantly, their relevance to the current movement toward integrality, diaphaneity, and the *achronon* (time-freedom). As a writer still subject to the restrictions and anxiety of space and time, I will not attempt an overview of Gebser’s vast work in illustrating the various structures of consciousness; for that I will refer the ambitious reader to the original work and trust that it will speak for itself.¹ I will instead do my best to excite in the reader both the wonder and the importance of Gebser’s work in its application to the promise of this modern age. Though I will refer to literary and visual art forms I will be restricting my scope to the medium of music (though the term “music” may come into question at a certain point).

¹ For your reference I have included as an appendix a summary chart illustrating the archaic, magical, mythical, mental, and integral consciousness structures from the back of *The Ever-Present Origin*. I would encourage the reader new to the material to examine it as a point of departure for the material herein.

Though the question of aesthetics will most definitely come into play I will attempt to avoid any dualistic judgment calls pertaining to beauty/ugliness, good/bad, simple/sophisticated, and restrict myself to qualities of space-time as they have appeared in music through the centuries. As an introduction to the material I will speak briefly about the evolution of consciousness through a lens of music but, thereafter, I will focus primarily on western music of the twentieth century and the many manifestations of the irruption of time in the past one hundred or so years.

A Brief History

Since there are really no known examples of manifestations of the archaic consciousness in western indigenous music I must broaden our lens for just a moment to include the music of the Australian Aborigine – specifically the music of Arnhem Land and the didjeridoo.[♯] The music of Arnhem Land is an expression of their spirituality, which they refer to as The Dreaming. “It [The Dreaming] is a complex network of knowledge, faith, and practices that derive from stories of creation. It pervades and informs all spiritual and physical aspects of an indigenous Australian's life. They believe that every person essentially exists eternally in the Dreaming. This eternal part existed before the life of the individual begins, and continues to exist when the life of the individual ends. It was believed that, before humans, animals, and plants came into being, their 'souls' existed; they knew they would become physical, but not when. Traditional Australian indigenous peoples embrace all phenomena and life as part of a vast and complex system-reticulum of relationships, which can be traced directly back to

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the ancestral Totemic Spirit Beings of The Dreaming.”² The echoes of Gebser’s descriptions of *origin* in this quote should not go unnoted. But where the Aborigines see The Dreaming as an eternity in which one perpetually dwells, perhaps as a still-point in consciousness; Gebser transcends this idea by positing that *origin* is that out of which *experience emerges*. *Origin* is a dynamic process as opposed to a static backdrop for reality. It is this very difference that betrays the magical/mythical quality of Aboriginal consciousness. According to Gebser, the *origin* is Time, whereas the Aboriginal conception points much more to a spaceless/timeless dimension, abnegating duality in favor of a polar pre-perspectival construction of reality.

The music, which is our main topic, blankets two structures of consciousness simultaneously: the magical and the mythical. (Some modern didgeridoo players have successfully incorporated elements of the mental and combined them in such a way as to approach a level of diaphaneity that Gebser might have seen as approaching integrality. More on that later.) Traditional didgeridoo music is said to date back 40,000 years but the earliest traces of the instrument can be traced to cave paintings over 2000 years old, so it is no surprise that the music would reflect such early levels of consciousness. Through a process of circular breathing and inflections of embouchure, a didgeridoo player creates a *drone* with intricate harmonic colorations. This drone could be said to be the eternity upon which reality is merely a play of sound and color. This aspect I would liken to what perhaps may be a vestige of the archaic consciousness structure³ – it is spaceless and timeless attuning the listener into an ego-lessness, a universal or cosmic emptiness; it is

² http://en.wikipedia.org/wiki/The_Dreamtime

³ This would admittedly prove impossible to verify, as there is little to no evidence to support any claim regarding the archaic structure. Even Gebser says very little regarding this mysterious stage of human evolution.

the sound of the basic wisdom of source – oneness. There is no beginning, middle, or end, only that from which all phenomena foams forth. We will return to the concept of the drone below when discussing the transition of western classical music from tonality to atonality. (See page 32)

Though I believe one could argue the existence of magical consciousness in western music, in my opinion they would be examples of deficient magical thinking. As Westerners immersed in the mental mutation we can only *conceptualize* a magical frame of consciousness; at best we may be able to feel into it or have momentary flashes of insight into the time-free, space-free oneness characteristic of a magical mind. The examples that come to mind are the music of the shaman, the healer, and music of some sacred religious ceremonies.[♯] “All magic, even today, occurs in the natural-vital, egoless, spaceless and timeless sphere. This requires – as far as present day man is concerned – a sacrifice of consciousness; it occurs in the state of trance, or when the consciousness dissolves as a result of mass reactions, slogans, or ‘isms’.” (Gebser, 1985, pg. 49) At this point in history there are few places that still remain untouched by the West, so these musics are becoming quite rare and literally on the verge of extinction. Pat Moffitt Cook is one of the privileged few that has been allowed into these sequestered cultures in an attempt to preserve the roots of an art that is only now gaining some level of notoriety in the scientific domain. She writes, “Healing-music repertoires are rare and sacred possessions. They are not easily shared with outsiders. Even traveling to remote parts of India, Tibet, Nepal or Northern Mexico does not guarantee the traveler an opportunity to witness or participate in a healing session. As a result, there are few

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authentic field recordings available. This is one reason scholarly research has not focused on it in the past. Only recently, prompted by ecological concerns, new interests in Western sound healing and the fact that indigenous wisdom is disappearing, are steps being taken to uncover and preserve ancient traditions.” (Moffitt-Cook, 1997, pg. 9) One of the healers Cook has documented is a Tuvan shaman named Alexander Tavakay[♯].

This quote from Tavakay is exemplary in the pure manifestation of magical consciousness:

“In a perfectly performed ritual the drumming is good, and the shaman’s soul will go out of his body. It will fly high over the mountains and the earth for long distances. I use my drum as my vehicle... it is the horse that I ride into the other world. There, in my trance...I have visions of pleasant people, helpful animals, and beautiful flowers.” (Moffitt-Cook, 1997, pg.46)

Though there is a movement away from the complete integrality with the whole one would imagine in the archaic, we can feel here a radically vivid synchronicity of the healer’s consciousness and what we would see as objects in his outer, sensory world. In him they have become one in a dreamlike experience of totality. One gathers from the words of the shaman a deep sense of shared memories and experiences that typify magical thinking.

Tomes could be written on the presence of mythical consciousness in the modern world; but again, most examples one might point to could be argued to be examples of deficient mythical thinking. I am attempting to focus, in this paper, only upon the efficient modes of each stage as I feel that they are the most helpful in coming to an understanding of the various factors involved in arriving at an Integral vision in general, and its manifestation in music in particular.

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In the mythical mind life becomes equated with time, time that has been opened up by the emergence of polarity (as opposed to the duality which arises in the mental stage). Opposites are contained in a continuum – day refers to night, night refers to day. Life and the world have become an endless series of cycles, infinitely turning back upon themselves. Where the magic human was inextricably intertwined with nature, here in the mythic stage we see the emergence of *soul*. The human has extricated herself from her surroundings and become aware of a sense of temporality – not the kind of “time” we will be discussing in the mental mutation however – that could be illustrated by the word *again*. The point-like character of the magical consciousness has been replaced by a stellium of interrelated events, all connected to but outside of the mythical person. The soul is not the isolated soul we think of today, but a soul in deep communion with the events of daily life. “It is true that in the magic, and even the mythical, period everything seemed to be ‘by chance’ as we have said; but in those structures it was a world of meaningful accident. Everything, including the least consequential detail had significance.” (Gebser, 1985, pg. 63) Gazing back to the ancient world of the Greeks and the Romans through our modern eyes, we might be tempted to see only the flowering of the mental mutation of consciousness – the science, the roots of western philosophy, ethics, etc – but in doing so we would be willfully ignoring the deep mythic roots providing the underbrush to the towering trees of our modern achievements. A deep polar relationship between self and other, above and below existed in Greek thought that not only still existed, but informed Greek civilization and spirituality (although from a mythical viewpoint, the word spirituality would be meaningless, as the spirit and the body and the natural world and the cosmos were intimately interconnected). One may

think of Pythagoras as the iconic mental man, but the Pythagorean idea that certain tones, mathematical ratios, and forms directly correspond to specific planets is highly mythical thinking. This is important to keep in mind as we begin to explore the music of the ancients: It is true that the very systems upon which modern music is based came directly from Greek thought, *and* it is also true that the union of music with poetry, for instance, also came *through* the Greeks via the ancients. Donald Grout, in *The History of Western Music*, states that, “Actually it is incorrect to speak of a ‘union’, for to the Greeks [music and poetry] were practically synonymous.” (Grout, 1980, pg. 7) The effective quality of music was perhaps one of the most important aspects of Greek thought about music and led to the doctrine of *ethos*, directly addressed by both Plato and Aristotle and still found today in political arenas like dictatorships, and certainly in the religious contexts. On this Grout writes, “The doctrine of *ethos*, or the moral qualities and effects of music, seems to be rooted in the Pythagorean view of music as a microcosm, a system of sound and rhythm ruled by the same mathematical laws that operate in the whole of the visible and invisible creation. Music, in this view, was not only a passive image of the orderly system of the universe; but was also a force that could affect the universe – hence the attribution of miracles to the legendary musicians of mythology.” (Grout, 1980, pg. 70) The polar relations here cannot be denied.

One of the earliest examples of music from this period so far found is a piece entitled “Oxyrhynchus papyrus”[♯] written around the 3rd century C.E. In it one can hear certain qualities that would define Western music for the next several centuries. Music in the ancient world was a strictly oral tradition. It was not until the mental mutation that

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music began to be preserved in written form. There are important differences in what the modern mind considers a written score and what the ancient, still mythical, mind accomplished. As mentioned earlier, the music was intimately connected with language and poetry- they were inseparable – so what we now understand as “time” in music only existed insofar as a note was held for as long as the syllable took to pronounce. There was no strict division into the type of musical fractions (whole notes, half notes, quarter notes...) that one now associates with written notation. One will also be unable to grasp any kind of certain rhythmic consistency – a firm ground that we refer to as beat. The music was largely if not solely *monophonic* as the concept of “space” had not yet irrupted into consciousness as it would in the early Renaissance and coming to full bloom in J.S. Bach’s explorations of counterpoint. There is a passage from Grout’s *History* that I find to be a fascinating reification of the transition of the musical art form through the mythical and into the mental. He is beginning his discussion on the early Christian Church and sums up the qualities passed on from the ancient world to the Middle Ages:

“To summarize: although there is much uncertainty about details, we do know that the ancient world bequeathed to the Middle Ages certain fundamental ideas about music: 1) a conception of music as consisting essentially of pure, unencumbered melodic line; 2) the idea of melody intimately linked with words, especially in matters of rhythm and meter; 3) a tradition of musical performance based essentially on improvisation, without fixed notation, where the performer as it were created the music anew each time, though within communally accepted conventions and making use of certain traditional formulas; 4) a philosophy of music which regarded the art not as a play of beautiful sounds in a spiritual and social vacuum of art for art’s sake, but rather as an orderly system interlocked with the system of nature, and as a force capable of affecting human thought and conduct; 5) a scientifically founded acoustical theory; 6) a system of scale formation based on tetrachords; and 7) a musical terminology. ...Part of this heritage (Nos. 5,6,and,7) was specifically Greek; the rest was common to most if not all of the ancient world.” (Grout, 1980, pg. 11)

I'd like to quickly unpack this in terms of the Gebserian perspective in this paper. The part, first of all, that I think deserves the most attention is the last sentence; that only the last three qualities, which are also the most typical of the mental mutation, are the Greeks' gift to music. All the rest – the single melodic line (which, in all the music of this time, followed the law of *ambitus*, or “going around” – the course of a melodic line through the other notes within its family), melody linked with words, improvisation (where the creation and the creator are an inseparable whole), and music as a affective element of human life (as above so below) are inarguably mythical in nature.

Introit Is 9 : 6 ; Ps 97

VII

P U-ER * na- tus est no- bis, et fi- li- us

da- tus est no- bis : cu- ius impé- ri- um su- per

hú- me- rum e- ius : et vo- cá- bi- tur no- men

e- ius, magni consí- li- i An- ge- lus. Ps. Can- tá- te

Dómi- no cánti- cum no- vum : qui- a mi- ra- bí- li- a fe- cit.

Unto us a child is born, unto us a son is given. Dominion is on his shoulder and his name shall be called the Angel of Great Counsel. ∅ Sing unto the Lord a new song, for he has accomplished wondrous deeds.

Even a cursory look at an early score of Gregorian Chant (above⁴) reveals these aspects as pervasive elements of early church music that have survived from the mythic consciousness. The bar lines, which in most modern scores divides time into four parts or three parts, etc., are, in this example a termination of a line of verse. Notes have no inherent “time” value but are connected to breath, syllable, and flourish. The words have no egoic character but are felt to be a communion with the numinous realm.[♯]

Gebser points to Petrarch’s ascent of Mount Ventoux in 1336 and the irruption of a new concept of “space” into his consciousness. He then goes on to explore through poetry, architecture, and painting this very new quality of human consciousness, but nowhere does he mention music. I would love the privilege of filling in this missing piece. At almost exactly the same time as Petrarch’s famous climb, the composer Guillaume de Machaut[♯] who was the first to give the voice of the inner heart to the traditional musical form – the *motet*. Machaut may have been the first to engage a self-reflective usage of himself as his lyrical persona – the first instance of an “I”. Gebser says of Petrarch, “Man is henceforth not just in the world but begins to possess it; no longer possessed by heaven, he becomes a conscious possessor – if not the heavens, at least of the earth. This shift is, of course, a gain as well as a loss.” (Gebser, 1985, pg.15) For Petrarch the gain was the “externalization of space out of his soul”, the loss the dispersion of soul. In the music of Guillaume de Machaut, the pain of this shift in consciousness becomes apparent.

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http://www.edwardschaefer.net/catholic_church_music/teaching_aids/chant/chant_vatican_notation.gif

[♯] Track 5

[♯] Track 6

*With sighing suffering heart I make my complaint,
and it is right that I do so,
for now that I have taken courage to tell of my great suffering
I must keep silent.
And so am I confined to looking, and because I so much fear Refusal,
who could never please me, and Resistance,
my enemy, who wages such fierce battle against me,
I must soon receive from Love
my sweet lady's grace or else die languishing.⁵*

Though Machaut was, on one hand a product of his time and, in that way, tied to tradition, his ingenuity cannot be underestimated. For it was in his use of polyphony – a further manifestation of the realm of space into human consciousness – that he showed his most progressive tendencies. When one places Machaut as a product of society, religion, and culture he appears to have “invented” certain novelties of traditional form, but when one places him as a progenitor of a new phase of consciousness his novelties can be interpreted as clear insights into the consciousness of his time. One sees explicitly the crossroads at which Machaut stands in his *Ma fin est mon commencement* a piece from his *Messe de Notre Dame*. “Its enigmatic tenor text – ‘Ma fin est mon commencement et mon commencement est ma fin’ (My end is my beginning and my beginning is my end) – means that the melody of the tenor is that of the topmost voice sung backward; the melody of the contratenor also illustrates the text, because its second half is the reverse of its first half.” (Grout, 1980, pg. 124) But looking more deeply, past technique and invention one sees a man who is playing with the spatial qualities of the music. The fact that Machaut is playing with paradox is also symptomatic of perspectival thinking: “From the mental point of view, paradoxical thinking actually establishes the bond or *religio* to the irrationality and pre-rationality of the mythical and magic

⁵ Guillaume de Machaut, “With Sighing Suffering Heart”.

structures. It is a form that mediates between oceanic and perspectival thinking and contains both rational and irrational elements.” (Gebser, 1985, pg. 259) One could thus interpret the text as a man at the end of the mythical stage and the beginning of the mental stage. Just as Petrarch gazed out at the horizon, Machaut gazed out at the future of music.

Space truly opened up in the music of the 14th and 15th centuries with the properties of music known today as *cadence* and *counterpoint*. These reached their zenith in the music of J. S. Bach in the 17th century. It is highly possible (and I am being admittedly speculative here) that this zenith may have been reached a century earlier, in the time of Leonardo da Vinci, had it not been for the limitations imposed upon performers and composers by the conventions of the tuning systems – vestiges of the Greek lineage. As most music was in service to the Church, and as mentioned earlier, a certain *ethos* had to be strictly adhered to, inventions in tuning systems would have to wait. *Cadence* is chord progression – what one hears and feels as one chord pulls toward another. *Counterpoint* is a system of composition obeying the laws of cadence but in highly creative spatial relationships of one chord to another. Compare, for instance, the Bach Chorale below with the Gregorian chant above and it becomes obvious to a person with absolutely no musical training that the music has moved from a strict linear progression from one note to the next to a highly spatialized organization of sound – it has verticality as well as horizontality.



The image above marks the striking transition into the apex of the mental structure – precise note value, highly intricate chordal patterns following austere laws of harmony, the imposition of the bar line so that time was now strictly metered, and the laws of counterpoint that would govern music for the next two centuries.

In the previous pages I have attempted to illustrate manifestations in musical language as representations of specific structures of consciousness. From Gebser's perspective, once a certain quality has fully irrupted into consciousness (space, for instance, in the Renaissance) a new quality is at the ready and begins to edge into something new. For example, when the mythical consciousness realized the equivalence of soul with life in the form of temporicity, the consciousness was consolidated; it was time to turn to a new task. For Gebser, the Integral mutation begins to manifest as an intensity of *time*. Not the *temporicity* experienced in mythical consciousness, or the divisiveness of time in the deficient rational, but *temporality*. Gebser says, "The fourth dimension is not the concept of merely measurable time but the *form* of the temporal or temporistic principle which we have described as time-freedom."

The Irruption of Time

Though leaving out an *enormous* span of time and many important composers who have laid the groundwork for what I am about to discuss, I feel the need to jump to the late 19th and early 20th century both to see the radical shift in consciousness as it is reflected in the music of that time period and to bear witness to the exciting manifestations of the Integral structure of consciousness latent in modern humanity as the Integral continues to blossom into reality. I will be moving through a sequence of composers and compositions in chronological order and attempting to speak to aspects of them that have been perplexing or enigmatic in relation to currently held views in musical theory. My hope is that, when viewed from above in a more philosophical light, qualities that have been formerly attributed to rebellion, capriciousness, or simply art for art's sake, take on a more meaningful representation of a form of consciousness just below and intersecting with the limen or as seen through a rent in the fabric of the mind. I do not necessarily see the chronological trace as a suggestion of *progress*. I see each of these examples as qualities of the next stage of human consciousness; as strokes or gestures that will eventually blossom into a fully formed work of art that, seen from the future, will be as obvious as the discovery of our spherical Earth is to us today. Thus I am not engaged in a linear discussion of this leads to that, but rather using chronological time as a hand-rail for us to stabilize ourselves in this journey into the new.

Let us begin!

In 1893, Erik Satie (1868-1925), a French composer who is only now coming into his due as the influential composer that he was, has been known for the character of experimentalism and whimsy in his compositions. He has been interpreted as

deliberately enigmatic and satirical in his notations for the performer of his pieces; unduly cryptic in his negation of the barline⁶ in favor of a certain freedom of movement and expression. Rather than the traditional modes of tempo communication (adagio, allegro, etc.), Satie preferred instead to use language such as the following: “Be clear sighted”, “Alone for a moment”, “Strive for a hollow effect”, and “Very lost”. It seems to me that Satie was attempting to free both himself and the performer from the former rigidities imposed by traditional musical standards of “clock-time”. In the removal of the barline the performer is forced to allow the melody to resonate from within, to find her own sense of phrase, her own beginnings, her own ends. The performer, and therefore the music, is allowed to breathe into a life outside of the chronos, into something closer to the kairos. His “enigmatic” directions are only enigmatic to the literal, rational mind. When allowed to permeate the performer’s soul, the performer’s interior, in the same manner as poetry, these suggestions unlock the mysteries that lie timeless in every individual. Satie wished to re-enchant a music that had become petrified under the weight of rationality – a rationality that understood itself to be the alpha and omega of all human thought. It is doubtful that Satie was fully conscious of his perturbations nor his reactions to them, he was expressing a certain zeitgeist however that was to permeate music for the next hundred years and defy any firm grounding in the history of western music. But to chalk up these great composer’s contributions as merely experimental, I feel, is to do them a great disservice. When examined from a Gebserian perspective of the intensity of a new dimensionality bursting forth (or perhaps foaming forth), the

⁶ A barline denotes measures in a musical score. A measure is a unit of musical time consisting of a given number of beats; a metrical unit set off by barlines. (One can see the obvious rational inflection in this musical device.)

gropings (in Teilhard's language) of our modern composers takes on new meaning. In light of the above, I'd like to call attention to a particular score written by Satie in 1893, entitled (appropriately) *Vexations*.⁵ The score consists of a single manuscript page (see below) with the following instructions: First of all the score is to be repeated 840 times. Second the score is accompanied by the following instruction - "In order to play this motif 840 times to yourself, it will be useful to prepare yourself beforehand, in great silence and serious immobility."

[A₁] Très lent
 ⊕ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

[A₂]
 ⊕ 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 ⊕

Thème [A]
 ⊕ À ce signe il sera d'usage de prendre le thème de la Basse, dont:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

⁵ Track 7

One will notice, again, the lack of barlines, the use of all twelve tones of the scale, and the insistent use of the tritone⁷ (A-Eb, C#-F, etc.) as the centerpiece for the score.

All of these elements upset the character of stability, resolution, and tonal center that the listener expects to feel when experiencing a piece of music. All of these characteristics begin to crumble the spatial foundations of our common experience of musicality and urge the performer/listener into the realm of the aspatial – a world that is floating free of its tethers to the known ground of existence. And then we come to the bare fact that this piece is intended to be repeated 840 times. John Cage in the Pocket Theater, in New York, organized the first complete performance of *Vexations* on September 9, 1963. It lasted 18 hours and 40 minutes. In a paper entitled *Understanding Satie's Vexations*, Robert Orledge has written a thorough, yet inconclusive, treatise using the tools of traditional music theory and placing Satie within a tradition of modern tonality. He comes to the following conundrum,

“I have taken the line here that Satie was expressing his own vexations in music in this extraordinary, private piece, which at the same time would vex (or intrigue) anyone else who came into contact with it – from performers and audiences to later musicologists like myself – in both its harmonic language and its unique concept.”

He then goes on to cite Satie's interest in the occult as a motivation to create a new hermetic language of hidden secrets and concludes,

“Whatever the truth may be, it does seem that with his 840 repetitions (possibly a magic number) Satie intended that *Vexations* should seem to go on for eternity...and that in so doing they should transcend the normal concepts of time and space, passing into another world of hypnotic forgetfulness and spiritual oblivion.” (Orledge, 2000)

⁷ A tritone is a span of six semitones, placing it exactly in the center of the octave. The tritone, for centuries was referred to as the *diabolus in musica* ("the Devil in music"), due to its unstable character.

Orledge, here, makes the mistake of first attempting to analyze this piece from a purely mental/rational perspective and only succeeds in reifying its enigmatic character. He then regresses, and attempts to place Satie into a past consciousness, that belies the insistently innovative quality of the composition. It becomes painfully obvious that neither of these approaches works. In order to play this piece 840 times, the performer would have to be far from “hypnotic forgetfulness and spiritual oblivion”. This kind of activity would require a completely different kind of wakefulness which could only be precluded by the kind of instructions Satie began with: "In order to play this motif 840 times to yourself, it will be useful to prepare yourself beforehand, in great silence and serious immobility." One can only imagine that if one were to truly *listen* to this motif in its entirety, all 18 hours and 40 minutes, that the level of nuance, the fine detail of character inscribed within each interval, the mysterious bass line repeated throughout, would emerge to the listener as different each time, like snowflakes that from a distance appear as a sheet but under closer scrutiny reveal a character utterly unique. To listen in this way would be a meditative activity that would not lull the attentive listener into a trance but, instead, allow them into the very essence of music itself – the nuance of sound. Yes, I do believe that Orledge was correct that Satie wished to “transcend the concepts of time and space”, but it was not to dissolve them into some deficient form of a past consciousness, it was to raise them to a new level, one that perhaps Satie had experienced himself and was attempting to express.

The Unanswered Question

“Maybe music was not intended to satisfy the curious definiteness of man. Maybe it is better to hope that music will always be a transcendental language in the most extravagant sense.” (Charles Ives, 1920)

Charles Ives was born in Danbury, Connecticut on October 20, 1874 to Mary and George Ives – a noted bandleader in the American Civil War. It is to his father that Charles attributed any success he may have felt as a composer. It was George’s “unorthodox” music practices that planted a seed in young Charles that would continue, throughout his life as a composer, to branch, flower, and, eventually seed, the world of serious music. One such incident is worthy of note here. “On a given afternoon,

George Ives had arranged for his own band and another band to march around the Danbury town square in opposite directions, each playing a different piece and thereby setting up a fearsome cacophony. The Danbury citizenry was not amused; surviving reports dismissed the stunt as merely ‘discordant’. But in one of Charles Ives’ most daring compositional experiments, the movement from *Three Places in New England* entitled *General Putnam’s Camp*[♯], two brass bands within the full orchestra play conflicting tunes in conflicting rhythms, creating a diabolical chaos for listeners and players alike (not to mention the conductor, who must control two separate rhythmic patterns).” (Rich, 1995, pg. 35)

One wonders what irrupted in the mind and imagination of young Charles at the Danbury event – the imprint it must have left that would later inspire the arduous task of composing a work that would be bitterly criticized, a work that would be “corrected” of its “discordancy” by would-be conductors (Ives rejected Walter Damrosch’s attempts to conduct his First Symphony in 1910). The piece is now honored as a resplendent example of early modernism, but the focus is upon Ives’ use of cacophony, dissonance, and opposing rhythms. These observations do nothing to reveal the transcendent quality

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of the music and the consciousness expressed within. Very little is written about the moment occurring about two minutes into the piece – the moment where time grinds slowly to a halt. If Ives were motivated solely by the “opposition” of two orchestras, why add this middle section? He obviously had little to no desire to relieve the listener of her tension, and had even less desire to maintain some kind of status quo. In this brief interlude time slows and the listener is transported into a time and space-free dimension of confused stillness. The feeling is vertiginous – like that of standing upon a precipice, gazing into an abyss at once terrifying and strangely peaceful. (Was he here recalling the ‘eternity’ of his own father’s premature death, at a time when, in Charles’ words, “he needed him most”?) But, before we are drawn any further into the unknown, we must turn around and enter the world of shifting spatial metaphor – the simultaneity of plurality. The cacophony can only be resolved in an utter stillness of being that one brings to the multi-spatiality. Do we not experience the same ‘chaos’ when first approaching the Cubism of Picasso for the first time? But when one allows oneself the opportunity to relax the rigidly isolating gaze of rationality and perceive the multi-perspectival quality presented in its raw, unadulterated form, does one not experience a distinct feeling of transcendence?

This concept was brought distinctly to the fore in Ives in the mystical composition *The Unanswered Question*[♯] (1908). Ives wrote in his instructions to the orchestra the following,

“The strings play *ppp* (*very quietly*) throughout with no change in tempo. They are to represent ‘The Silences of the Druids who Know, See and Hear Nothing.’ The trumpet intones ‘The Perennial Question of Existence,’ and states it in the same tone of voice each time. But the hunt for ‘The

[♯] Track 9

Invisible Answer' undertaken by the flutes and other human beings becomes gradually more active. . . . 'The Fighting Answerers', as the time goes on, and after a secret conference, seem to realize a futility, and begin to mock 'The Question' the strife is over for the moment. After they disappear, 'The Question' is asked for the last time, and the 'Silences' are heard beyond in Undisturbed Solitude."

Leonard Bernstein commented on the piece,

"Ives assigns this question to a solo trumpet who intones it six separate times. And each time there comes an answer or an attempt at an answer, from a group of woodwinds. The first answer comes very indefinite and slow; the second is faster, the third still faster, and by the time we get to the sixth it's so fast, it comes out like wild babbling. The woodwinds are said to represent our human answers growing increasingly impatient and desperate, until they lose their meaning entirely. And all this time, right from the very beginning, the strings have been playing their own separate music, infinitely soft and slow and sustained, never changing, never growing louder or faster, never being affected in anyway by that strange question – and – answer dialogue of the trumpet and the woodwinds. (Bernstein, 1967)⁸

Why are the answers "growing increasingly impatient and desperate"? Why do they "lose their meaning entirely"? What lies within the 'Silences of the Druids' that signifies the kind of wisdom that may hold the answer? I would contend that the answer is there all along, within the Silence – the unerring flowing forth of experience – the ever-present origin. By the time that Ives wrote this piece empirical science (especially in quantum physics) had found itself questioning the very fabric of reality. The insistent cries for "knowing" reality had only led to a deeper unknowing. Ives beautifully synthesizes and integrates (as opposed to the traditional view of contrasting) fields of experience in time and space. It should be noted that 'the perennial question' remains strangely unemotional and yet at each query of the singular trumpet one feels a growing longing, as if the answer is right there, in the corner of the field of vision; but like admiring a galaxy in the

⁸ <http://www.statemaster.com/encyclopedia/The-Unanswered-Question>

night sky can only be viewed by directing one's gaze elsewhere. What are the perennial questions after all but, "Why are we here? What is our purpose? What is the nature of time and space? What is reality?" I believe that, though Ives himself was struggling with his own transcendence, Integral consciousness had irrupted in his imagination and his expression through *The Unanswered Question* was just that – an expression – but not of some new experiment for the sake of modernity, but an expression of humanity's quest for answers in a consciousness that had grown deficient.

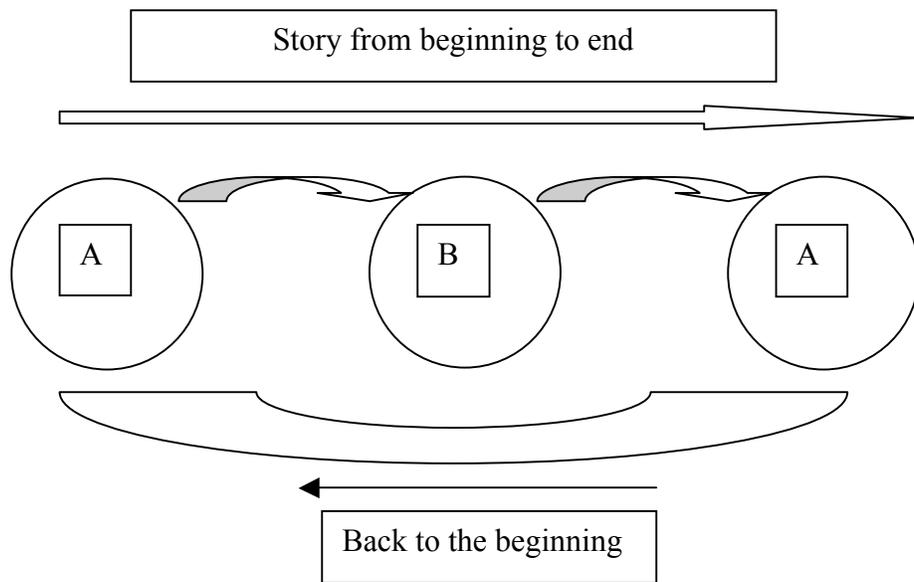
Intégrales

"I decided to call my music 'organized sound' and myself, not a musician, but a 'worker in rhythms, frequencies, and intensities.' Indeed, to stubbornly conditioned ears, anything new in music has always been called noise. But after all what is music but organized noises? And a composer, like all artists, is an organizer of disparate elements.

Subjectively, noise is any sound one doesn't like." ~Edgard Varèse

The concept of linearity is familiar to all of us in musical realms. Our very experience of time in modernity (especially in the deficient rational consciousness) points to a feeling of one occasion following another in a specific sequence – from past to present to future. It seems only natural that certain quality of narrative would follow naturally from our experience of time. Traditional western music is interesting in this regard as there are two very distinct qualities that allow a listener a feeling of safety and comfort – an “easy” listening experience as opposed to a “challenging” one. Let us use the pop song as a typical example to illustrate the point. Lyrically, a pop song generally tells a story – there is some kind of linear progression that allows a feeling of relationship between the performer and the listener. Most often the themes are mythical or archetypal

in nature – dealing with themes of love, loss, guilt, shame, or redemption, to name just a few. The music on the other hand tends to be cyclical – a typical chord progression follows the standard circle of fifths – a formula derived from the tendency of equal tempered instruments to create a pull or a push from one chord to another. Though this may be a bit abstract for the non-musician, the typical chordal sequence follows a pattern similar to this: I – ii – IV – V – I. What should be called to attention is not necessarily what these numerals stand for but the cyclical nature of the pattern. We have ended where we began. If one were to illustrate a typical popular song, it may look something like this:



I believe that this traditional format reifies our very human tendency, as products of the magical and mythic structures of consciousness still active in the psyche, to feel a certain comfort in our experience of our lives as a continuous narrative unfolding over the endless cycles of our perceived world. This sense of linearity superimposed upon

cyclicity has imposed itself as a kind of tacit experience of space and time in the modern world – it has come to define three-dimensional consciousness in the deficient mental realm. From this perspective it becomes painfully clear why much of modern music, at its inception in the early twentieth century met with such a high level of disdain.

Intégrales, by Edgard Varèse[♯], composed in 1926, is a clear example of a composer breaking free of the spatio-temporal restrictions binding music to linearity and cyclicity of melodic narrative and tonal harmony respectively. Varèse “imagined music as *spatial*, akin to an aural ballet in which what he called *sound masses* moved through musical space, changing and interacting. A sound mass is a body of sounds characterized by a particular timbre, register, rhythm and melodic gesture, which may be stable or may gradually be transformed. In Varèse’s compositions, these sound masses collide, intersect, speed up, slow down, combine, split up, diffuse, and expand and contract in range, volume, and timbre.” (Grout, 2010, pg. 896). Varèse said of his composition, “I planned it for certain acoustical media not yet available, but which I knew could be built and would be available.” (Rich, 1995, pg. 94) Varèse would realize his full vision over 30 years later in his *Poème électronique* (1958); more on that in a moment.

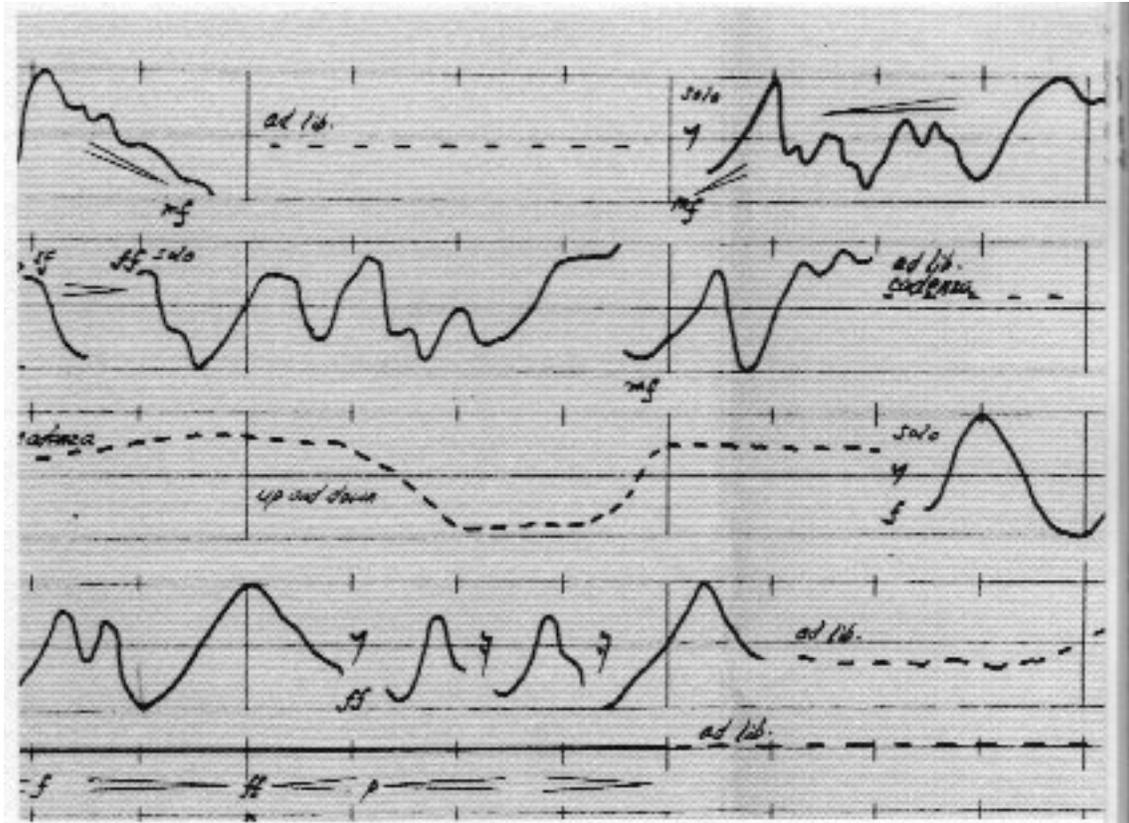
Intégrales accomplished, in its modest ten minutes, a vision of the aperspectival in musical terms that would provide a basis for musical exploration for the next half-century. Seen from a Gebserian perspective, the piece goes beyond the qualitative spatial metaphor, as critics interpreted it in its day, as well as by modern explanations. Even the beautiful description by Grout above does not necessarily do justice to the fact that Varèse transcended Newtonian time structure and edged ever closer to a four-

[♯] Track 10

dimensional qualitative *temporal* metaphor. As Gebser says, “(C)hronological time is but one aspect of a more encompassing phenomenon: it is the mental aspect of that constituent of the world which manifests itself, not as space, but as a basic phenomenon of space.” (Gebser, 1985, pg. 284) Grout describes Varèse’s “sound masses” as colliding, intersecting, varying speed, combining, expanding, and collapsing. All of these descriptors can be placed firmly into a Newtonian spatial conception that still sees time as nothing but a system of measurements or relationships between two moments. But one need only feel into the experience of listening to *Intégrales* to realize that there is more here than a series of causal events taking place within the strictures of the chronon. At the very least there has been a shattering of form, a destruction of the fabric of content, and a radical shifting of a musical perspective that had gripped the western world for the past 2000 or more years. At its most consequential, *Intégrales* introduced to the musical world time as an *intensity*, with utter disregard to clock time.

I feel the need to bring one more of Varèse’s compositions into the discussion. This piece moves us out of our comfortable linear progression through the twentieth century, but I feel it is important to allow Varèse’s music to speak for itself in the full fruition of his vision. It was within *Poème électronique (1958)*[♯] that the composer was able to finally break free of all the shackles of what he referred to as the crippling forces of tonality. Below is a portion of the score:

[♯] Track 11



It does not require a huge leap of the imagination nor a high level of musical expertise in recognizing a massive shift in compositional technique from the score on page 16 to the one above. It is important to note that the piece had its first performance in, and was composed specifically for, The Philips Pavilion in Brussels for the World Fair in 1958. The piece was composed “entirely on tape, using a collage of studio recordings, altered piano sounds and bells, and filtered recordings of choral music. All of this was encompassed on a three-track tape, created at the Philips studios... with several auditory ‘images’ fed through ten amplifiers into a bank of 150 loudspeakers spread through Le Corbusier’s structure so that the music recreated the shape of the building itself.” (Rich, 1995, pg. 106)



(The Philips Pavilion, designed by Le Corbusier)

But what, one might ask, does this shift have to do with the concept of time, when it seems that Varèse was focused mostly upon the idea of space? To attempt an answer to this question we must turn to Gebser's comments on the relationship of space and time in the mental mutation. "We have observed to what extent space falsified time (particularly during the deficient rational period) by converting it from a divider into a fragmenter until it was utterly negated. Space, then, was realized while time has not been realized as a world component and world constituent, as an intensity and quality. Ultimately quality was ascribed solely to space; all things had to be spatial and be apprehended spatially."

(Gebser, 1985, pg. 304) I believe that *Poème électronique* pointed to at least three manifestations of time as a world component and world constituent.

First, *Poème électronique* was one of the first pieces not recorded in "real time". We take for granted now the fact that most music is recorded layer upon layer in a series of "takes" that could situate themselves across thousands of miles and perhaps many years. But this was not the case in the mid-twentieth century. Here we have our first distortion of musical "clock-time" and the manifestation in a musical setting of non-local

simultaneous phenomenon – in other words the awareness of a whole universe of events that are woven into the very fabric of what we perceive as reality. This same conception of time and space was explored in literature by James Joyce in *Ulysses* and *Finnegan's Wake*; and in painting in Cubism and Surrealism. Second, Varèse was finally able to realize his vision of sound sources that were not limited to the whole and half tones of traditional instrumentation but was allowed to roam freely within the infinite variety of possible notes that previously had been lost “in the cracks”.⁹ All sense of division was herein abolished in favor of integration and continuity. In listening to the sweeping glissandos, one can imagine one's experience not as a series of moment-to-moment occasions of then-to-now, but as a foaming forth of experience in the present that leaves only its trace as a sense of history. Lastly, but certainly not exhausting all of the possibilities, is the fact that this piece was “performed” as a non-localized phenomenon. Sound issued forth not from the zero-point perspective of an orchestra, seated in front of the listener, proceeding linearly from beginning to end; no, here sound came from everywhere and nowhere, juxtaposing ideas that challenge the listener to impose her own order – perhaps a narrative that may more closely resemble a lucid dream than an experience of rational wakefulness. I think it is highly possible that, had he had the tools available at the time, this piece may have been realized much earlier. One must wonder what kind of outcry might have ensued, had the world not been ready.

⁹ Just as in mathematics, there are an infinite number of real numbers between zero and one, so in music there exist an infinite variety of notes between do and re, between B and C, E and F. Varèse was frustrated by this restriction but electronic manipulation allowed him a way out.

4'33"

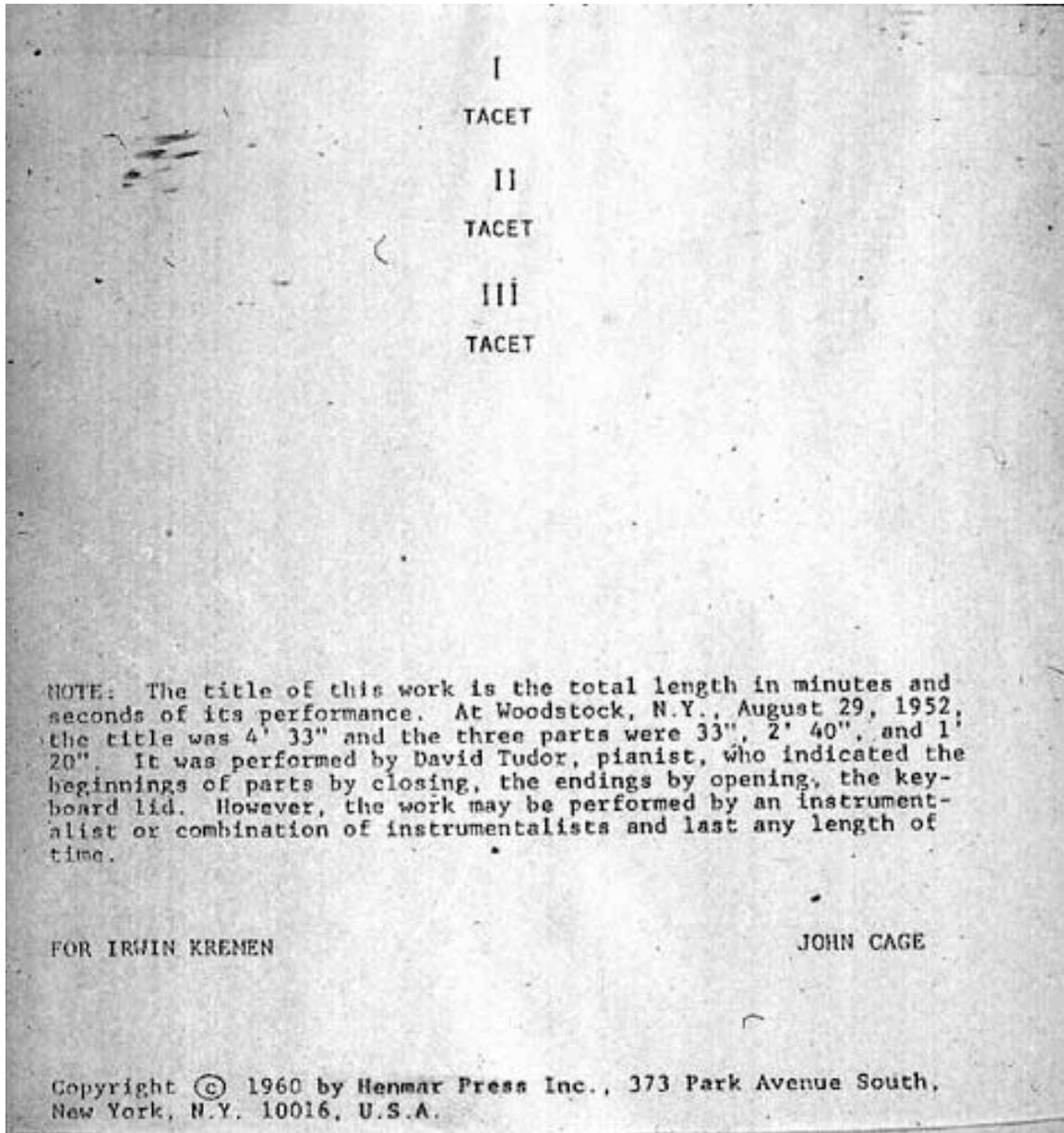
"I was to move from structure to process, from music as an object having parts to music without beginning, middle or end, music as weather." ~John Cage

In my opinion, no piece of music dealt a more decisive blow to the western music tradition than John Cage's 4'33". Much could be said of John Cage the man, the artist, the writer, the collaborator in terms of his incredible influence on both the aesthetic and theoretical arenas of the arts, especially music, but in lieu of the subject matter of this paper, I would refer the interested reader to any number of fascinating accounts of his life and work.

Though recordings have been made of the piece in question, they simply cannot convey, in the reduction from four-dimensional event to two-dimensional medium, the multi-valence of seeing a live performance.¹⁰ The piece was originally inspired by a series of paintings by Robert Rauschenberg he called "The White Series". Heralded as ultimate minimalism, criticized as art-for-art's-sake, Rauschenberg's intention was a far cry from either. In fact the idea came closer to the ideas proposed by the phenomenologists (Husserl, Merleau-Ponty) earlier in the century. The paintings were meant to attune the viewer with the subtle shiftings of phenomena as they interacted with the painting itself. At each viewing the piece would be a co-creation of the lighting, the viewer's perception of movement and flux as shadows crossed over the piece, and the ever-shifting occasions of people passing in front of the piece or stopping for a closer view. The piece was a reflection of insistent quality of change. Cage placed this concept neatly into the four-dimensional world of aural experience. In one stroke Cage reveals

¹⁰ I would refer the reader instead to the following video:
<http://www.youtube.com/watch?v=HypmW4Yd7SY>

the arbitrariness of clock-time in the precision of the “movements” of the piece and, at the same time makes explicit the participatory character of “reality”.



(The score for 4'33")

“Cage defined his intention ‘...to affirm this life, not to bring order out of chaos...but simply to wake up to the very life we’re living, which is so excellent once one lets it...act of its own accord.’ The intent was to allow an audience to invent its role as

participant in the music-making process, free from the preconceptions a programmatic title might suggest, and to offer music as a two-sided mirror, reflecting the giver as much as the recipient.” (Rich, 1995, pg. 165) By allowing oneself the possibility of experiencing the *truth* of spatial non-duality, I think that it may be possible to transcend the boundaries of differentiation that binds us to the conceptions of self-and-other that has permeated modern society and led to the deep sense of isolation and futility so endemic in our culture. In the music of John Cage, and especially *4'33"*, we can witness an Omega point in Western music, or at the very least the dissolution of the dualities of subject/object, figure/ground, and process/product that have all been the tacit substrate of our conceptions of time and space. Let's look at each of these concepts in terms of *4'33"*.

- Subject/Object – In traditional music one takes for granted that a relationship has been established between the performer and the observer/listener. As a subject, I have little to no effect upon what I am observing. I only bring to it my interpretations, my emotions, my history, but none of these actually change the phenomena in any substantial way. The object remains something wholly outside of me and I in no way penetrate it as an occasion in itself. In *4'33"*, I choose what I contribute to the piece as far as my attention is able to penetrate into my surroundings. My imagination is free to connect phenomena in an infinite variety of ways – even to the extent that I can completely ignore the performance and imagine Ravel's *Bolero* to be playing instead! Each shuffle, cough, or whisper adds its ineradicable trace to the piece. It is undeniable that I am connected to the existence of the music being created.

- Figure/Ground – The figure/ground relationship has been as important to music over the past several centuries as it has to painting. A perfect illustration of the evolution of the figure/ground relationship in music is the dissolution of the drone. As mentioned earlier, the drone was a fundamental element of music for centuries – perhaps millennia. Its primary function was to provide a continuous home note that would allow a melody to roam above it without fear of floating away. In early antiquity the drone gave way to what we now refer to as a pedal point – also sometimes called a broken drone – but with the possibility of shifting slightly away from home base. Once western music was “freed” from just intonation by equal temperament, the drone and the pedal point gave way to tonality – which is the musical world in which most of us still prefer to reside. It is like Base 10 in mathematics – home. It is easiest to understand tonality by simply singing a major scale – *do re mi fa sol la ti....* – and feeling what happens in the body as we hold *ti*. That pull back to *do* is tonality. Tonality gave musicians the freedom to move easily from key to key within one piece of music. That is the positive side. What was lost, however, was resonance. Tonality finally gave way, in the twentieth century, to *atonality* (which has been alluded to earlier in the music of Ives and Varèse). Now the figure/ground relationship of melody and harmony has become more transparent, or perhaps in Gebser’s language, diaphanous. In Cage the ground is dissolved in Silence. Without the ground, the figure has no meaning.
- Process/Product – Time in the deficient rational mind is seen as a series of discrete events, strung end to end. One need only bring one’s attention to the

present moment to realize that this conception of reality is based upon a falsehood. There is no “product” in reality only the continuous flux of experience broken only by my *interpretation* of the significance of certain moments. As I soften my gaze, I can see that this present moment is now in my past but is still intimately connected to me through my memory; I stand in an up-swelling of time – continuous and ever-present. Cage participates (gleefully I might add) in this up-swelling by privileging process over product, encouraging us to pay attention to the nuance of life itself, and attempt to bridge the gap between art and life.

Conclusion

I have provided four examples of hundreds of possibilities to illustrate the insistent irruption of the concept of Time through modern music. Left out were composers of great fame – Stravinsky, Schoenberg, Bartok, Webern, etc. – and composers more obscure but equally important – Penderecki, Xenakis, Elliot Carter, George Crumb, Harry Partch, etc. Through this brief examination I have touched upon just a few of the many qualities of time alluded to in *The Ever-Present Origin*: clock-time and natural time (Satie), multi-spatiality and simultaneous congruence (Ives), non-linearity and spatial expression (Varèse), and stillness (Cage). I see all of these moves as both breaking into something brand new, and therefore difficult to express in efficient mental language, and integrating and making diaphanous the efficient qualities of space and time from our earlier mutations of consciousness. In *The Life Divine*, Sri Aurobindo says,

“The world of which we are a part is in its most obvious view a movement of Force; but that force, when we penetrate its appearances, proves to be a

constant and yet always mutable rhythm of creative consciousness casting up, projecting in itself phenomenal truths of its own infinite and eternal being; and this rhythm is in its essence, cause and purpose a play of the infinite delight of being ever busy with its own innumerable self-representations. This triple or triune view must be the starting point for all our understanding of the universe.

Since, then eternal and immutable delight of being moving out into infinite and variable delight of becoming is the root of the whole matter, we have to conceive one indivisible conscious Being behind all our experiences supporting them by its inalienable delight and effecting by its movement the variations of pleasure, pain and neutral indifference in our sensational existence. That is our real self; the mental being subject to the triple vibration can only be a representation of our real self put in front for the purposes of that sensational experience of things which is the first rhythm of our divided consciousness in its response and reaction to the multiple contacts of the universe. It is an imperfect response, a tangled and discordant rhythm preparing and preluding the full and unified play of the conscious Being in us; it is not the true and perfect symphony that may be ours if we can once enter into sympathy with the One in all variations and attune ourselves to the absolute and universal diapason.” (Sri Aurobindo, 2006, pg. 111)

I remember, as a youngster, going to the symphony with my mother. There was always something terribly exciting about seeing the orchestra gathering on the stage. I would close my eyes and listen to the cacophony of the musicians tuning their instruments and imagine that there was some underlying structure that I might find if I listened carefully enough. But then there would, of course, be the ecstasy of that first unifying chord – the satisfaction of unity. I believe that through the patient and deep listening to serious, inspired music we have at the fingertips of our consciousness the realization of the unity of the triune nature of reality that Aurobindo speaks to above. One may experience the sheer delight of being as it manifests in sound. One may glimpse the deep manifestations, latent powers, and exciting potentials of our evolving consciousness and perhaps glimpse the signposts of that which we cannot yet comprehend with our still rational minds.

I would like to close with one last example of a modern sound sculptor that, when listened to with an open mind attuned to the music's deeper purpose, illustrates in a manner both eerie and utterly beautiful the shifting colors and web of conscious communication that defies both any concrete notion of space or time as it is perceived in our still abstract notions. Stephan Mathieu[♯] composed, constructed might be a better word, seven pieces for his *Radioland* project; his only "instrument" a short wave radio. Our world has been described as a series of embedded spheres, each integrated and wholly inseparable from the rest – the lithosphere, the biosphere, the atmosphere, what Teilhard refers to as the noosphere or the field of thought, and, what Mathieu has allowed us to hear – the *radiosphere*. The sounds on the recording are radio waves emanating from our deep desire to communicate, to connect with one another; these sounds envelop the planet, free of space and time but ever-present and continuously foaming forth from the ends of the earth. Aside from the sheer shimmering beauty of the soundscape itself, or the fact that change is only perceptible after the fact, or the shifting and ambiguous harmonic texture of the pieces, it is the quality of our sense of place and the timelessness of this web of interconnected tone radiating like an invisible aurora of sound both enveloping us and eluding us until now. If this music is a signpost for what is to emerge from the shifting of human consciousness into the Integral, what, we may ask, does it signify? One can only hope that it will be possible for us to someday tune into the natural and human made emanations of sound, or possibly the web of compassion and love that is the very foundation of all that is, and harmonize with it in true participatory co-

[♯] Track 12 – *Prolog im Himmel*

creation. Of course this is purely speculation but if the evolution of music is any indication of our future, and I believe it is, we can only be moving toward greater beauty.

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Audio Excerpts

- 1) **Didjeridu solo**, from *Australia: Songs of the Aborigines and Music of Papua, New Guinea*, Lyricord Discs, Year?
- 2) **Pokot Witch Doctor**, from *Kenya and Tanzania: Witchcraft and Ritual Music*, Elektra Nonesuch, 1975
Notes: This selection was recorded at night in the remote Cherangany Hills, which are inhabited by the Potok tribe. A witch doctor is playing a *chepkombis* ...in a ritual known as *Liakat*. He rubs his hands up and down a stick while an assistant plays a primitive horn; the evil spirits are drawn out of the patient and collected into a pot that has a goat's skin tied across it. At the end of this treatment, the doctor unties the skin from the pot, blows all the 'evil ones' away into the night, and then spits the medicine into the patient's face. (David Fanshawe)
- 3) **Calling Animal Helpers**, Alexander Tavakay, from *Music Healers of Indigenous Cultures: Shaman, Jhankri, and Nele*, Open Ear Center Press, 1997
Notes: This song invokes helping spirits. He calls the cuckoo, raven and the owl while shaking the sound makers attached to his costume and beating his drum. This ritual is commonly used to heal children.
- 4) **Oxyrhynchus Papyrus**, from *Musique de la Grece Antique*, Harmonia Mundi. 2000
Notes: The Oxyrhynchus hymn (or P. Oxy. XV 1786) is the earliest known manuscript of a Christian hymn to contain both lyrics and musical notation. It is found on Papyrus 1786 of the Oxyrhynchus papyri, now kept at the Papyrology Rooms of the Sackler Library, Oxford. This papyrus fragment was unearthed in 1918 and the discovery was first published in 1922. The hymn was written down around the end of the 3rd century AD.¹¹
- 5) **Versus Alleluatici: De profundis**, from *Gregorian Chant for Meditation*, Alberto Turco & Nova Schola Gregoriana, 2005
- 6) **Ma Fin Est Mon Commencement**, Guillaume de Machaut, from *Machaut: Messe de Notre Dame*, by the Hilliard Ensemble, 1989
- 7) **Vexations**, Erik Satie, from *Satie: The Complete Solo Piano Music*, Decca Music Group 2003
- 8) **Three Places in New England 2. Putnam's Camp, Redding, Connecticut**, Charles Ives, from *A Set of Pieces*; Music by Charles Ives, Orpheus Chamber Orchestra, Deutsche Grammophon, 1994
- 9) **The Unanswered Question**, Charles Ives, from *Charles Ives – Symphony Number 2*, Deutsche Grammophone, 1990

¹¹ http://en.wikipedia.org/wiki/Oxyrhynchus_hymn

- 10) **Intégrales**, Edgard Varèse, from The Varèse Album, Wounded Bird Records, 2007
- 11) **Poème électronique**, Edgard Varèse, from The Varèse Album, Wounded Bird Records, 2007
- 12) **Prolog im Himmel**, Stephan Mathieu, from Radioland, die Schachtel Records, 2008