# The Elusive Search for the Meaning and Magic of Music

## 1. Introduction

My mother once told me a story told to her by a Brazilian shaman:

> A boy sat with his friends around the fire. An old man arrived, took out his flute and began to play. The music the old man created was so beautiful and powerful the boy decided he too wanted to be a musician. The boy travelled the world, learning everywhere he went. He became a professional. He played concerts in big halls. Over time, he even became a bit cynical about the music he was hired to perform. Years passed. One day he was on a journey across his homeland. He met a group of young people, sitting around a fire, singing. He pulled out his flute and played, forgetful of himself, letting his heart out. When he finished he could see, across the fire, tears in the eyes of a boy. Then he knew: this was the moment he had lived for.

In the first chapter of *A Geometry of Music*, Dmitri Tymoczko defines the five fundamental features (conjunct melodic motion, harmonic consistency, acoustic consonance, limited macroharmony and centricity) that lay the groundwork for his approach to harmony and voice leading. He builds on this base to explain his take on music theory. The composer and theorist compares two views: "music as magic" and "music as language."[1] In these pages he jumps squarely into the philosophical discourse about the role of music in society. In specific, he picks up at the point left off by Milton Babbitt in his best-known essay, "The Composer as Specialist."[2] In this conversation, there are many axes of analysis that could appear to represent mutually exclusive opposites. But I find it gets most exciting when we explore just when there is a true dichotomy and, more often, when the ends of what is really a spectrum simply have more to teach us about the different ways we can approach music, as an independent entity in itself, as a source of cultural meaning, and as a forming tool of imagination.

We see a contrast between mass accessibility and music for the connoisseur. Yet we find much great music that is appreciated across the spectrum of musical knowledge. It might be said that some of the greatest composers hide the complexity of their work behind a layer of apparent simplicity. Tymoczko's

[1] Tymoczko, Dmitri (2011). *A Geometry of Music*. Oxford Press, p. 24-26.
[2] Babbitt, Milton (1958). "Who Cares if You Listen?" *High Fidelity* (February). Babbitt called this article "The Composer as Specialist." The original title was changed without his knowledge or permission by an editor at *High Fidelity*.

approach is historically important because it embraces the whole corpus of musical history as well as unheard possibilities, while also focusing on the fundamental features that make music communicate to a wide audience, from the specialist to the amateur. He takes into consideration the fact that music may share some characteristics of language, but not some fundamental structures of meaning. This approach brings us closer to understanding the possibility of a magical act in the relationship between performer and audience. Instead of looking for an audience that truly understands the code, meaning they can parse and articulate it on an intellectual level, a musician may be more interested in an audience that viscerally experiences music as a thing of wonder. Again, is this a dichotomy? It need not be, but looking at these different aspects of how an audience takes in music helps us enrich our understanding of the possibilities of composition, performance and audience experience.

How we think about this magic of music will shape how we create and interact with it and the world at large. There are three main categories of understanding of magic: magic to entertain, magic that facilitates a mystical or other religious experience, and magic that transforms reality. Each of these modes is connected to music in a different way. Music as magic for entertainment is ubiquitous, from the fireworks of rock stars to the bravadoes of celebrated virtuosi. In religion, music is a means of communication with the spiritual world. It takes us on mystical journeys and it saves our souls from demons. Few in industrialized societies actually believe in music as a force that literally transforms reality, but many yearn for that belief.

Personally, I believe music can possess this last kind of magic. Music changes the vibrational frequencies of matter and produces subtle changes in the fabric of reality itself. As composers, we reach out through music in an attempt to affect reality through unseen forces, consciously or not. Music as magic and music as language need not be mutually exclusive. In fact, combining these philosophical perspectives may lead us to a deeper appreciation of the power of music, and our potential as composers. If we accept that music shapes and transforms reality, it must have a language that transmits this subtle message, a deep semiotic structure. When Gaston Bachelard reinterprets the power of imagination, he points to the musical function of the mind. His choice of words is not casual: “Imagination is not, as its etymology would suggest, the faculty of forming images of reality; it is rather the faculty of forming images which go beyond reality, which sing reality.”[3] To form images that sing reality, therein lies a unique power of musical creation.

This simultaneity of music with a magical function and with a linguistic function may leave us thinking about what the essential musical message is. We know we should not expect to find highly structured meaning of the same nature and precision as linguistic meaning in most music. (There are exceptions, for example in the tradition of African talking drums.) Nevertheless, there may be universals that

[3] Bachelard, Gaston (1987). *On Poetic Imagination and Reverie*, trans. Colette Gaudin Dallas, Texas: Spring Publications.

communicate at deeper levels of our consciousness on one hand and, on the other, highly structured units of meaning that may be shared, perceived and commonly articulated, even if in pre-verbal modes, by members of a particular culture. Information theory may come to our rescue in quantifying and explaining what this message is and how it is delivered.

If we think of the primordial sounds that must communicate to a deeper layer in atavic memories, we may hypothesize that in the distant Proto-Indo-European language,[4] the words "music," "magic," "medicine" and even "mother" and "math" might all have originated from a single idea, all connected in a spiritual practice.

Maybe the very idea of what magic is, and what it can be, needs to be addressed in more serious research, even if only from a linguistic perspective. Even in its most superficial level, its unexpected power may be felt in our lives at many moments and we might just call it by other names such as "serendipity," "poetic justice" or "mystic coincidence." In a very practical way, technology itself is indeed a form of magic. We are just so used to it that we take it for granted. We move electrons inside of cables and out in space and are able to use invisible waves to serve our own practical purposes. There are layers of magical aspects of our reality that have been successively unfolded with practical explanations, even though the deeper we go, the deeper the mystery seems to reside.

The fact that these are technological advances made possible through science does not render them less "magical." Indeed science and technology can be seen as historical means to explain and tame the magic forces of the universe. There is no contradiction: if we can't explain it, it is magic; once we explain it, it becomes science, but the source is the same. This is a world full of magic that is mostly taken for granted. Yet there are still other forces in nature that remain obscure and untapped.

## 2. Music that Carries Precise Meaning

When we think about music as language we are confounded with the notion that most familiar genres of music cannot communicate precise semantic ideas, as languages do. Notwithstanding that fact, this does not seem to be a limitation of the material itself, but only of the limited use that most cultures make of it. Western music cannot efficiently send a listener a precise message such as "there's a tiger nearby." However, African talking drummers can say exactly that and be perfectly understood by anyone who shares the same culture.[5]

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[4] Mallory, J. P.; Adams, D. Q. (2006). *The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European World*. Oxford: Oxford University Press.
[5] Gleick, James (2011). *The Information, A History, A Theory, A Flood*. Pantheon Books, Random House, New York.

The Kele,[6] like most West African peoples, attributes phonetic meaning to tones, as well as to consonants and vowels. This inherent approximation of the language itself to music gave them an edge to find a way to translate it into the music. Even with all consonants and vowels discarded in the drumming, vocabulary disambiguation is achieved by adding complex poetic redundancy that clarifies the actual meaning. Even though most people in the community can understand the drums, only a few are able to talk, there is a level of expertise necessary, but it is not a mechanical expertise. It is not like what we expect from an oboe player, preparing the reed before a performance. The talking drummer's actual expertise is of a verbal and poetic nature, analogous to that of oral poets, it is a highly developed poetic fluency that enables comprehension.

In a time when Europeans were still struggling with the slow speed of the post, these Africans had developed a perfect and coherent system of long distance communication and a musical style that would inspire dancing and social interaction. Sadly the talking drum is rapidly vanishing as a living culture in Africa. This represents a great loss of a unique system in the larger corpus of the musical achievements of humanity.

## 3. Meaning in Western Music

In many ways we should be humbled by the impeccable efficiency of communication established by the African talking drummers. Western music built in the course of its history a sophisticated system of tuning, dividing the octave in twelve equal parts, a highly articulated tonal language, conceptualized notation, and organizational structures that permit hundreds of musicians to play in harmony, with so many highly sophisticated musical instruments. Western classical music is able to convey so many layers of emotion, so many different sound textures — all that and it is impossible to say, "there's a tiger nearby." A simple message that could save someone's life, and it has no means of being transmitted in purely Western musical terms. How primitive indeed.

Of course, there is plenty of irony in that last sentence. It should be more than just a humbling experience to think of our cherished music, inherited from the classical tradition, as incapable of the most basic communication. It can also make us think of how far we can still go in the exploration of this expressive universe of sound. Even more so, if we consider the possibility of such systems of semantic precision that may be developed in future societies, or musical developments that we may not even be able to conceive at present.

Even though familiar styles of music are not able to convey precise information like the African drums, that is not to say that there are no messages carried by this

[6] Carrington, John F. (1949). *The Talking Drums of Africa*. Carey Kingsgate Press, London.

music. Europeans have used military drums and horns to convey simple messages, like "attack" or "retreat," but the complex code that enables intricate linguistic messages to be transmitted still lies far beyond their reach. Nevertheless, the semantic precision that is lacking in the Western, and in most other traditions, does not prevent all these musical cultures from communicating something. Beethoven seems to touch any listener moderately familiar with the style in analogous ways: "This movement feels very sad. That passage feels vigorous. Here he is representing the armies of Napoleon, here he expresses his hope in mankind." Most of these interpretations would be generally accepted, although some would depend on a deeper common background to be properly perceived. There is a structured tonal theory that will be very specific about "the meaning of the deceptive cadence" or "the meaning of the German augmented sixth chord in a passage by Mozart." There is a type of information that is indeed transmitted through musical means, though it may not be properly semantic in a highly conceptual way, but there is an emotional meaning, a cultural understanding of expectations created by the tonal discourse and a historical recognition of quotes and references that link to the Western musical discourse at large. There is a magical message that is transmitted through a meaningful realization of a piece of music, so much so that the expression "a magical performance" is a cliché. Yet the cliché does not indicate what kind of magic one may hope to experience.

The very need to find meaning in music is questionable. There is a standard separation between "program music" and "pure music." However, a programmatic gesture, if repeated often enough, may become an accepted symbol, easily identified by trained listeners, even in "pure" music. One listener may not know the program for the Pastoral Symphony, but she should still be able to tell that certain melodies express joy and leisure. Another listener may be able to tell precisely what the composer is "talking" about, because of a familiarity with the cultural background of the piece, for example, "this sounds like an old Austrian country song." Great composers play with that, they break our expectations by placing misleading cues and then we are caught by surprise in unexpected places. There are plenty of situations when an apparently innocent piece of music can only be fully appreciated when the listener is familiar with the background referenced by the composer. One would not be able to appreciate all the irony in Shostakovich's Ninth Symphony without the background of what a ninth symphony was supposed to mean to a Western composer in the classical tradition. Nevertheless, this last hypothetical listener might still be able to appreciate the symphony, even without a clue to its contextualized meaning.

## 4. Intrinsic and Extrinsic Approaches to Music

We may choose to look at music only from an intrinsic perspective and ignore the complex extrinsic relationships that it establishes with other aspects of reality. One could dismiss the question of external meaning in music altogether, for music itself does not relate to any specific symbol, unless through a cultural code. In the intrinsic

perspective, musical meaning is produced only in relation to music itself and to silence. From that prism one may decide that music happens inside the listener and it does not need an external reference to generate meaning. Musical meaning may be an entity in itself, an art that is expressed in its own terms and in its own terms only.[7] The movement and the organization of layers and changes in musical space do not need to be associated to any external reality to be fully appreciated. We may choose to look at music only from its intrinsic patterns, the way our minds establish relationships of symmetry and asymmetry between its elements, how we experience it inside ourselves, and be satisfied for a lifetime.

Yet there are extrinsic relationships that affect our understanding of art and that we may not want to completely put aside. The very questions that we propose as we look into the material are shaped by extrinsic experiences of our interaction with music. It may be disappointing to find that extrinsic relationships are easy to establish and easy to dismiss contradictions come up and all sorts of issues need to be taken into consideration. Once we expand the scope of observation to include cultural and historic aspects, we are including such a great number of factors that it might be an invitation to failure from the start. Meanwhile the intrinsic models deal with the deep nature of the material itself and build upon physical and mathematical parameters. It can be quite satisfying to limit one's work to intrinsic parameters. Yet the precision that the intrinsic approach grants is also a consequence of a somewhat biased decision to limit the set of elements that are taken into consideration. This precision does not come without a price. Questions of external meaning in music keep reappearing in critical thought and even unconsciously, even through supposedly unbiased scientific discourse.

## 5. Ethics of Composition

If we accept for the moment that music is indeed magic, that it has a physical force that acts directly on the fabric of reality and thus shapes human consciousness, than we must address the ethical responsibility of the composer. The same ethical question that should have been proposed to the scientists who created the atom bomb should be addressed to composers: Yes, we are able do "this" and "that", but should we?

As composers, we seem to be more concerned with learning the intrinsic possibilities of the code than with dealing with the extrinsic consequences of esthetic choices. We assume that music will speak for itself and we ignore this ethical burden. We take for granted that an honest personal voice will automatically express some universal values, even when we don't think about it. Nevertheless, even if we fail to consciously consider these implications, choices are being made. Whether we want it or not, the possible historic relevance of a work may be as much

[7] Merleau-Ponty, Maurice (2001). *Deux notes inédites sur la musique*. Translated by Leonard Lawlor as *Two Unpublished Notes on Music*, Chiasmi International.

a consequence of these choices as of elegant and artistic craftsmanship. We cannot totally dissociate Bach's skill from his spiritual choices, nor with Beethoven or Mozart. His personal choices and deeper values may be the reason Mozart's works have been associated with the healing effect of music in the recovery of hospital patients.[8] Indeed a magical function of music.

We live in a time when the power of music is often neglected. The near-constant presence of background music makes music simultaneously ubiquitous and trivial. It is interesting that a creative artist like Brian Eno would invest his creative efforts in ambient albums such as *Music for Airports*.[9] However, while many may take music for granted, this does not steal from it its inherent power. In a world where music has become common and even unavoidable, it is easy to forget how special and unique music was throughout most of history.

We needed live musicians for music to happen, recording is a recent phenomenon. Some have accused the recording process of killing the magic in music. There is indeed something special in a performance that is not captured even in the best recordings. However, there are recordings that are magical indeed. We even have music that is never truly performed, meant for recorded medium only, ranging from Babbit's electronic pieces to commercial pop. It is interesting to notice the dissimilarity between Babbit and John Cage in this aspect. While Babbit idealized the recording medium, Cage despised it. It is notable that such opposite philosophies would result in music that may be perceived as similar by an untrained listener. A conspiracy theorist could easily develop the idea that the modern media is engaged in plan to dilute the power of music and neutralize its inherently liberating force. Ironically, this could even lead us back to Babbit's point of view, from another angle, to protect and support the non-commercial music of the specialist, and also to protect and document the music of imperiled tribal cultures and isolated folk traditions. Whatever political opinion and esthetic creed we may adopt, it is important to meditate on what we do as creators. How does our sense of power and responsibility affect our musical choices? The greater the power we believe music to have, the greater is our responsibility.

The greater the magical power we allocate to music, the greater is the responsibility of the composer. If the performance of a musical piece has an impact on reality itself, then the ethics of musical composition should have a greater place in our discussions and in the critical evaluation of particular pieces. How we think about the power of music will affect our listening choices, what we learn and what we imitate. That could be thin ice. Indeed, and it could lead to all sorts of misinterpretations. In fact, attempts to control musical expression through political means attest both to the power of music and the danger of regulating it. We may think of the Parents Music Resource Center (PMRC), established in the USA in 1985,

[8] Tomatis, Alfred A. (1991). *The Conscious Ear*, Station Hill Press, Barrytown, NY.
[9] Eno, Brian (1979). *Ambient 1: Music for Airports*. Polydor, USA.

with its intent of controlling access to certain types of music.[10]

As composers we may decide to focus only in the intrinsic aspects of music and remove ourselves from the ethic and esthetic debate. By doing so we open the flank so that people who are not as passionate about it as we are will make these ultimate decision for the whole of society. Stylistic considerations might come into play and this new branch of "Musical Ethics" could be developed. There could be a shift of focus in the discussion about composition, not only on *how* it is done but also to *what* is done. So a *how* could serve a *what* in a responsible process of evaluation that would take into consideration the interaction of music with the world at large and it would be aware of its inherent power. More than ever, composers should focus their attention on *what* is the music we produce, rather than simply *how* we do it; as important as the *how* may seem and as intangible as the *what* that may loom.

## 6. Constructing Musical Meaning from Primal Signifiers

A search for the definitive meaning of music is an enterprise that is bound to fail, but is, nonetheless, worth the attempt. What is universal and what is culturally specific? What is in a grey area in between? Do we need new language that transcends that dichotomy? What do we learn from asking these questions, even if the answers remain out of our collective grasp?

The history of musical criticism makes it obvious that even the most knowledgeable ears are often confounded with an incapacity to comprehend new music. It is fascinating to peruse Nicolas Slonimsky's anthology of "musical invectives."[11] So, at least for a period of time, these musical innovations are not recognized as universal signifiers. Does their later adoption mean they are, actually universal, but that there is a historic dimension of time involved? A radically new work of art creates its own grammar, its own structure of meaning. Wait, does that mean that it is "its own" or is being channeled from some musical Platonic ideal? Or is it *sui generis*, truly its own unique creation, born from the completely subjective experience and knowledge of its creator?

If we were to start a hypothetical lexicon of music, we would need to establish the universal phonemes, and then the culturally-based phonemes. The articulation of actual musical meaning would be a construct that develops from a combination of both. The actual musical meaning would most often be an abstract sensation, but it could also be articulated as a poetic experience. Some could argue that specific semantic content actually takes away the pure apprehension of the musical

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[10] United States Senate (1985). *Record Labeling: Hearing before the Committee on Commerce, Science, and Transportation*. United States Senate, Ninety-ninth Congress, First Session on Contents of Music and the Lyrics of Records (September 19, 1985). Washington, DC: U.S. Government Printing Office.

[11] Slonimsky, Nicolas (2000). *Lexicon of Musical Invective – Classical Assaults on Composers Since Beethoven's Time.* W.W. Norton & Company, New York.

message, as in pure music opposed to programmatic. It could be argued even that the highly symbolic and meaningful syntax of the talking drums actually place the genre into a linguistic category of experience. From that perspective, semantic meaning could be a distraction from actual musical meaning. I suggest that there is no actual conflict, as we do use the full capacity of our brains to experience music and the symbolic does not necessarily need to spoil the magic. The magic is in the moment when a song takes our soul to a place of epiphany, in poetic connection between lyrics and melody; it is the tribe that dances in ecstasy to the talking drums, as they rejoice at the good news.

Candidates for universal musical phonemes status would need to meet certain rigoruous criteria. What criteria would this be? A fine line between universal and cultural may need to be established, as layers accumulate to generate higher levels of signification. Universal signifiers may be few, if any and difficult to point. Cultural signifiers are easier to spot. On the microscopic level, we have the subdivision of the beat and how that combines with different intervals to produce recognizable structures. Once we start zooming out we begin to see how beats are grouped to form measures and harmonic phrases and if measures are joined in regular or irregular numbers to form sentences and periods. Further out we can perceive the meaning attributed to form as part of a larger musical discourse. This linguistic terminology has been widely used to analyze classic compositions,[12] but it may be expanded to analyze any form of musical expression, from any culture. The cultural meaning may be contradicted or expanded, as in verbal language, when we add a suffix to a word, or place a word inside a sentence. Musical meaning may be a construction from an infinite number of variables. Of course, different cultures and styles will engender their own structural units of meaning, so the problem demands that each piece should be considered within its own variables and inserted into its own tradition. Cultural music phonemes need to be catalogued and interpreted, developed through historic paths.

Ultimately, the deeper musical meaning will be found in the intrinsically coherent use of the system, within music itself.[13] The intrinsic meaning may prove the validity of extrinsic interpretations. Thus the pure universal musical meaning may lie beyond the cultural and historic restraints, it establishes a meaning that can only be re-imagined in purely musical terms. That is a very special form of the magic of music, pure meaningful art, unconstrained by cultural symbols. This an apparent contradiction that delights the mind: music has no meaning outside of itself, yet it is full of external meaning. It is a false dichotomy, for music can be both an independent abstract system and a conventionalized code.

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[12] Caplin, William E. (1998). *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart and Beethoven*. Oxford University Press.
[13] Bernstein, Leonard (1970). *Young People's Concerts*. Edited by Jack Gottlieb, Anchor Books, Doubleday. pp. 1-31.

Furthermore, there are extrinsic relationships with other arts that could prove valuable in identifying structures of musical meaning. Poetry itself might be a key to interpreting musical signs, and in that respect the musical vocabulary of song may come to add and support the research into the hidden subtleties of musical discourse, its ironies and its humor. While traditional theory focuses on purely musical structures and tends to prefer instrumental music, here we are concerned with the interaction of these structures with broader human discourse within society. Lyric and dramatic text set to music would then provide a clear link between musical and linguistic discourse. We may trust the intuition and the expertise of great composers on one hand, as we may also question the efficiency of certain compositions on the other.

Another vast source of reference that can be used is program music itself, incidental music and movie soundtracks. It is fair to say that a programmatic gesture, once repeated enough times becomes part of a culture. Of course, the meaning of the musical unit in a film is co-determined by what happens in the scene. It's a dynamic collaboration between the eye and the ear. Yet we may assume that composers are practical craftsmen, so if a certain musical structure would not function to convey a certain emotion, then composers would not use it in the representation of similar emotions in different soundtracks for different films. Thus the repetition of certain combinations in situations that convey similar emotions should be a sign for the inclusion in this hypothetical lexicon. Some studies have been done, even relating the response of the audience to soundtracks that are presented with abstract images.[14] A variety of ongoing studies may help with the creation of this very abstract and multifold lexicon.[15] It is not a small problem to classify and relate these musical gestures that become impregnated with meaning to the culture of cinema at large, as well as to some universal codes that pertain to music in general.

A sense of pulse is probably a universal quantity, although we may categorize music expressions at a very basic level, dividing between music that follows a somehow regular pulse and that which does not, but rather is of a more discursive or aleatoric nature. These groups need not even be clearly separated, as music may flow or modulate from one kind of mode of organization to the other. Whatever organizational principle we may adopt, rhythm is definitely a critically germane aspect to be taken into consideration. Rhythm might be the most relevant aspect of music, contrary to the tendency of most music theory to focus on pitch organization.

The landscape becomes somewhat more comprehensible if we adopt rhythm as the fundamental aspect of this musical syntax. A melody may still be recognizable even when all the pitch content has been removed. If one taps on the table the rhythm of a familiar melody, we may still recognize it. Memorable melodies remain memorable

[14] Marshall, S., & Cohen, A. J. (1988), "Effects of Musical Soundtracks on Attitudes Toward Animated Geometric Figures," *Music Perception*, 6, pp. 95-112.
[15] Cohen, A. J. (1994), "Introduction to the Special Issue on the Psychology of Film Music," *Psychomusicology*, 13, pp. 2-8.

even when presented only in the rhythm domain. By contrast, if we keep the pitch organization of a melody and alter the rhythm considerably, it becomes harder and harder to recognize. The very fact that we can discard all pitch content but we can never completely discard rhythm from any piece of music should indicate how crucial and fundamental the latter is. We can only perceive music through time, and time may be expressed in regular repetitive patterns of discursive, non-repetitive figures, yet it is always there.

## 7. The Musical Magic of Manipulating Time

One may say that time itself, not sound, is the material that we manipulate to create music. After all, pitches are fast cycles through time and pulses are slow cycles. Humans perceive notes as a continuous vibration, but some other creature, real or imaginary, might be able to navigate their perception at 440 cycles a second like we navigate our perception of 44 beats per minute. In our most common perception, time rules so preponderant that even if that old memorable melody was to be kept with the same pitch ratios but played at an agonizingly slow tempo, one might not be able to immediately recognize it.

Music always seems to manipulate time, and that is part of the magic. In music we are able to stop time quite simply, with a fermata sign. The important distinction between music with regular pulse, and that without it, comes to play a very important role here. We would be able to re-think the history of music from the perspective of the importance of pulse. In nature we can find examples of both regular and irregular pulses. Repetitive human activity seems to adopt a regular pulse, so it is no wonder that working songs inspire movement and continuity. A regular pulse marks most popular music, while shamanic and pagan rituals at large seem to rely on regular drumbeats. This differentiation between regular and irregular pulse, symmetric and asymmetric rhythms may be at the core of the most basic differentiation in music's magical discourse.

If there are unequivocal signs that could be conveyed through pure instrumental music, at least across people who share a certain minimum cultural background, these will be found in how music deals with time. There are probably a certain amount of signifiers that speak across cultures, or even musical meaning that may be ingrained in our genetic fabric, like the meaning of rhythms that pulse above or bellow our heart rates. It is fair to assume that fast tempos are going to be more exciting than slow tempos. Then there may be units of meaning that were configured very early in the history of mankind; these may still be shared by all of us. Issues of musical meaning brings to mind the importance of the performer, as a true communicator of signs that hover high above the actual articulate linguistic meaning imposed by language itself. Because of the very fragile existence of this communication, the inspired performer is a true magician, one who revels in the rituals of expression, and touches the core of matter, manages to overrun our cultural skepticism and actually produces that moment of magic that could happen

in a concert hall or around a fire. The inspired performer is the channel through which we establish the connection with the spiritual world of vibration.

## 8. Relating Music with Early Mysticism

I particularly like the idea of describing music as a kind of language of magic, for it does bring back a sense of worthiness to all of us composers and performers. It is also wonderfully primal. As a musician, I have learned that inner truth is in the first intuition; as improvisers, we need to train ourselves to trust our first impulse. Perceptions that seem to date to a very old time in our history tend to be deeply connected to our first impressions of reality as a species, and carry some deeper truth that may lay buried under thick layers of civilized rationale. Intuition may seem like a flawed resource in an age of quantum physics, where so much that we have learned seems to defy normal Newtonian perception of reality, but we can reach into a deeper layer of intuition, an impulse that may lead the mind to the solution of a problem, even if in an unorthodox mode. So the actual quality of the intuition may be proportional to the problem that is presented. Mystery is the one element that seems to navigate throughout the history of thought. Scientists trying to find unifying theories need to deal with mystery on an everyday basis. Mystery itself may be the unifying principle. Magic is that which acts upon mysterious forces.

Anthropology could provide a reliable thread that could establish a narrative about the first intuitions our species developed regarding music. Mircea Eliade,[16] in his book about shamanism, sets a perspective into the reconstruction of our mythical early forms of spirituality. His concept of hierophanies, that separate the sacred and the profane, provide a valuable analytic lens through which to examine cultural relationships and developments in the long history of music. As far as the very connection of music with magic in ancient societies, we may take a cue from his study in that if the same myth appears, with only minor modifications, in geographically remote areas, it can be inferred that the narrative itself is at least as old as the time that it took for these populations to migrate. He identifies examples that unite Chilean with Siberian shamanism. Similar patterns can possibly be found for musical elements. It seems that some sort of music always appears as an important part of religious ritual, be it as drumming, as chant or irregular shakers and rattles that clean evil spirits away from infected bodies.

Soon after the voice, the drum was probably the first musical instrument created, and it takes some effort to imagine a drum beat without a regular pulse. The drum has a role of the first importance in shamanic rituals. The drum is carved form the Cosmic Tree itself, through elaborate procedures that ensure the choice of the physical tree to be used in its body. The skin of the drum bears the spirit of the

[16] Eliade, Mircea (1964). *Shamanism: Archaic Techniques of Ecstasy*, trans. W. Trask. Princeton University Press, Bollingen Series LXXVI.

animal of power that will accompany the shaman in the spiritual journey. The steady beat of the drum transports the shaman to the space of spirituality.

> It is indispensable in conducting the shamanic séance, whether it carries the shaman to the "Center of the World" or enables him to fly through the air, or summons and "imprisons" the spirits, or, finally, if the drumming enables the shaman to concentrate and regain contact with the spiritual world through which he is preparing to travel. [17]

Eliade differentiates between the "magic of noise" and the "magic of music" in that the first is used to expel demons and the second to lead the spiritual journey."[18] The shamanic drum is distinguished from all other instruments of the "magic of noise" precisely by the fact that it makes possible an ecstatic experience. Our contemporary, post-Cage concept of music would include the irregular noise of rattles into the broad concept of music, but here Eliade points to a systemic differentiation of meaning. The irregular noise is used to break the connection between the demon and the possessed body, while the regular beat of the drum establishes a path for the earthly body to travel into the spiritual world. This differentiation is interesting in identifying the magical meaning of recurrent rhythms and the cleansing function of irregular patterns. Eliade also points to a moment of creation of linguistic meaning from an originally pre-verbal narrative, as the culture develops its system of signs:

> The use of the drums and other instruments of magical music is not confined to séances. Many shamans also drum and sing for their own pleasure; yet the implications of these actions remain the same: that is, ascending to the sky or descending to the underworld to visit the dead. This "autonomy" to which instruments of magico-religious music finally attain has led to the construction of music that, if not yet "profane," is certainly freer and more vivid than a purely religious musical expression. The same phenomenon is observable in connection with the shamanic songs that narrate ecstatic journeys to the sky and dangerous descents to the underworld. After a time, adventures of this kind pass into the folklore of the respective peoples and enrich popular oral literature with new themes and characters.[19]

This concept of *asymmetric rhythms* as *magic of exorcism* and *repetitive rhythms* as *magic of spiritual journey* may prove very useful in many considerations about actual pieces. There are many reasons why "The Rite of Spring" is such an important landmark in the history of our music. It is indeed a rite for the Spring of a new way of understanding music and ourselves. Stravinsky provides a constant alternation and sharp movement between asymmetric rhythms and sharp beats, in moments when he makes the orchestra sound like a shamanic drumbeat. The irregular

[17] Eliade (1964). p. 168.
[18] Eliade (1964). p. 174.
[19] Eliade (1964). p. 180.

accents are natural inflections of the jerks of the shamanic dance; the pulse-oriented downbeats constitute the essential signification in that dance of young sexual energy. In the Dance of the Adolescents, the dissonant combination of an E major (spelled enharmonically as Fb) and a Dominant Eb on last inversion, or the complementary aspect with the previous sets, Forte 5-32 and 7-32, may be significant in the overall harmonic development of the piece.[20] Even the inner symbolic associate content transition between a set of five to a set of seven notes may feed the analytical mind, but these observations seem to lie in the realm of that hidden message that may capture the interest of the specialist. These pitches do provide a sound that may relate to the overall interval sets of the piece, yet the very sound that this combination of notes provides stands on its own. The relevant fact in the overall impression of the piece is that it is not a tonal, "civilized" sound. The efficient use of this harsh dissonance in a low register, charged with overtones, lies in the rhythmic power, which it presents. The polytonal chords are less relevant in their pitch class implications than the fact that they do make each beat of the orchestra sound like a great powerful drum.

There stands Stravinsky, in The Dance of the Adolescents,[21] beating his orchestral drum, the epitome of the cultured civilized composer reaching back into our common ancestry to find the rhythmic sound of his new ritual, a rite of reawakening of the shamanic soul out of the civilized mind. The understanding of the dissonant combination of pitches may provide some intellectual satisfaction, but the power of the music lies in its association with that lost primal drumbeat. Rhythm touches a universal chord.

## 9. Drums and Religion

We don't know much about the pagan ritual music of Barbarian tribes invading the Roman Empire, nor do we know much about the music of the myriad of rites in polytheistic Rome. Still, it is fair to imagine that plainchant must have come from an attempt at creating a sacred music without drums, without the Dionysian ecstasy that must have been a part of most polytheistic rituals. This narrative would put the new monotheistic religion in magical contrast to, and spiritual combat with, previous forms of spirituality. The new religion proclaimed a single God, an ascetic male God, and this new spirituality needed a new type of music that would create the environment for a new ceremony. Of course, there is still a sense of pulse in plainchant, but it is a subliminal pulse, one that is subsidiary to the delivery of the words and the pitch contour.

Our classic tradition owes much to this early Christian music. They created music notation as we know it, the focus on plain melody provided the appropriate

[20] Forte, Allen (1978). *The Harmonic Organization of The Rite of Spring*. Yale University Press, New Haven and London. p. 35.
[21] Forte, Allen (1978). p. 35.

environment for the development of counterpoint and harmony. The steady rhythm of drums was relegated to secular and popular purposes. Since that division was established, we have dwelled in this fenced territory, between sacred and secular, classic and popular, serious music and entertainment.[22] Although there is an underground current of spiritual music that does not pay tribute to the monotheist creed and also popular groovy secular music that aims at spiritual elevation. It is important to be aware of where we place ourselves as composers in the history of spirituality that permeates the history of music, no matter where we decide to navigate in the continuum between religious fanaticism and scientific atheism, and all these wonderful shades that lie in between.

There has always been cross-pollination between the two realms. Sacred music developed all its mighty power to engender a type of mystical Apollonian ecstasy that could compare to its pagan counterpart, but without the insistent power of the drums, the religious experience of baroque music touches our souls through the upper chakras. Our brains are carried into the divine experience of the resolving dissonance and the perfectly balanced counterpoint, we marvel at the transcending beauty of harmonic organization. We may close our eyes and be transported to the gates of Heaven through the power of a Bach cantata, but it would not be appropriate to dance and jump in circles, jerking the head and letting the body be possessed by the Holy Ghost. The sensual movements of dances that place our bodies in spiritual trance through the open connection with the lower chakras was slowly concealed in small corners, barely tolerated on the periphery of worship. It is also be interesting to note that African-Americans recovered much of that ceremonial ecstasy when they adopted Christianity in the New-World. They infuse it with an energy that is directly transplanted from African religious rituals, giving birth to a rich tradition of spirituals and gospel.

In the Yoruba culture, originating from Nigeria,[23] drumming is still the vehicle for the mystical experience. Exported and preserved in Brazil, Haiti, Cuba, Trinidad and other parts of the Americas,[24] this culture still carries a strong uniform mythology and powerful rituals. In all the places where we find Yoruba religious practices, the names and stories of the Orishas (deities) are preserved, and though actual rhythms and colors may vary geographically, there are fundamental aspects that remain throughout. Each Orisha has a drumbeat that is dedicated to call and manifest his or her presence. Westerners are used to a more removed and abstract experience of the divine. I once heard an old drummer say: “If you want to talk to your spiritual protector, here’s the phone number. You can call and she will come to you. The phone number is a drum beat.”

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[22] As I find myself part of a larger group of composers who have straddled both worlds, I find the possibilities of going beyond such distinctions fascinating.
[23] Johnson, Samuel (1921). *The History of The Yorubas: From the Earliest Times to the Beginning of the British Protectorate*. Cambridge Library Collection – History.
[24] Akintoye, Stephen Adebanji (2010). *A History of the Yoruba People*. Amalion Publishing.

There are broad variations in the spectrum of rhythm from the non-recurrent to the highly syncopated, fast and slow tempos and all the nuances in between. There are myriad possible connotations that may be established by cultural studies, but there are also some signifiers to be observed across the full landscape. For example, a slow tempo will be perceived as somewhat calming while a fast tempo will be more exciting.[25] A lot of research has been done into the effects of music and tempo on the brain. Some common perception of the musical expression of tempo may conceivably connect all humans into the musical idiom.[26] These signifiers may be a consequence of our massively shared history or of abstract cosmically universal principles, but there is a chance that they are there to be observed.

## 10. Symmetric and Asymmetric Rhythms and its Meanings

Beyond the perception of tempo that may speed or slow things down, there is a clear contrast between asymmetric distribution of sounds in the timeline and regular symmetric patterns with perceivable pulse. These may be highly developed by local cultures, the very foundation upon which popular music is built.[27] A samba beat means a lot to a Brazilian, while one would expect that a polka would carry specific meaning to a Polish person. We may quickly identify the geographic origin of a musical piece, when it displays a recognizable rhythmic pattern. Depending on our relationship with that specific culture we may have a nostalgic feeling about it, or we may dismiss it as a style that does not raise our interest. This process of rhythm recognition happens very quickly in the brain and may lead us to “tune in” or “tune out” from a song before we even start to consciously process any of its melodic-harmonic pitch content.

In the twentieth century, composers expanded the rhythmic vocabulary and consequently the theoretical vocabulary that relates to it. Messiaen is interested in symmetrical structures, up to the interesting palindromic "non-retrogradable rhythms."[28] Coincidentally, he affirms the fact that “music is a language” in the very first line of the book, as well as in the title itself. He goes on to explore “the charm of impossibilities” and takes us on a tour of musical elements that are peculiar to his personal vocabulary, elements of purely rhythmic value and of melodic interest, elements of both ethnic and abstract origins, up to the inevitable parallels between modes of limited transposition and the non-retrogradable rhythms. Milton Babbit

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[25] Gabrielsson, A. (1982). Perception and performance of musical rhythm. In M. Clynes (ed.), *Music, Mind, and Brain: The Neuropsychology of Music*. New York: Putnam. pp. 159-69.

[26] Michon, J.A. (1985). The compleat time experiencer. In: J.A. Michon & J.L. Jackson (Eds.), *Time, Mind, and Behavior.* Berlin: Springer Verlag, pp. 21-52.

[27] Mull, H.K. (1957). The effect of repetition upon the enjoyment of modern music. *Journal of Psychology,* Vol. 43, pp. 155-162.

[28] Messiaen , Oliver (1944) *Technique de mon langage musical*. English translation: John Satterfield; *The Technique of my Musical Language*. Alphonse Leduc, Paris.

would take such procedures many steps further, with a whole new mathematical apparatus, trying to rationalize all aspects of his composition; as when an arbitrary series could engender both the pitch and the rhythmic content as well as the dynamics and the timbers of a piece.

Composers such as Cage and Babbit (among many others) made a conscious effort to avoid regular or repetitive rhythms. Although the basis of their concepts of musical organization may seem opposite to each other, in both cases irregularity is a means to guide the mind of the listener to other aspects of sound. In Cage, it is a meditation into the essence of the moment. In Babbit's music, rhythmic irregularity serves to put pitch relationships in evidence. those pitch relationships that seem to be at the core of his inventiveness could not be submerged into somewhat recurrent patterns, thus he searches for ever more sophisticated means to serialize the time domain.[29] It is this most secular manifestation of recent musical expression. The composer himself compares listening to his music to sitting through a scientific lecture, the apparent opposite of any religious or magical experience. Although we know that science may sometimes be a source of mystical experience and such possibilities are still open within Babbit's music.

This observation could tie these two extremes of the thread of Western music that goes from plainchant to Babbit and unites them in a fundamental effort to move away from repetitive rhythms. On one hand, tenth century monks wanted to create an environment that would be adequate to a new form of spirituality, on the other, Babbit surrenders to the abstract numerology of pitches. The common aspect is this rejection of strong recurrent patterns and a focus on linear pitch organization. By rejecting the regular rhythms of the drumbeat, both Babbit, on one point of history, and Gegorian monks, on another, both opened new possibilities for harmony and counterpoint. They also share a thread with the ancient shaman that uses the asymmetric and continuous sound of shakers and chants, to expel demons from the possessed body.

The development of the concept of *asymmetric rhythms* as *magic of exorcism* and *repetitive rhythms* as *magic of spiritual journey* could expand into new paradigms for musical comprehension of this historic journey. Threading that path one could find the deeper shamanism in Babbit's music, exorcising the demons from the twentieth century and connecting him to primal musical sources.[30] In Babbit we need to focus completely on the relationships of pitch, the physical reality of them, as if to cleanse our minds from any preconceived notion about their relationships.

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[29] Sandow, Greg. (1982) "A Fine Madness." *Village Voice*, New York. Available at: http://www.gregsandow.com/babbitt.htm

[30] In this perspective, it really does not matter if anyone actually listens to Babbit's music. The Universe and its rocks are listening, and the music has its effect on the fabric. Even if the composer is no longer there to smile about it.

On the other hand we have the regular symmetric patterns we find on the music of the masters of the classical period, for example. There is a reason Mozart may take the listener on a spiritual or a mental voyage, an event that is analogous to the shamanic experience of journeying into the spiritual world.

## 11. Musical Imagination

There is an inherent capacity of the ear to perceive geometric relationships that the vision fails to translate, depending on how a composer chooses to organize the material that constitutes a musical piece. Visionaries are limited to a power of processing thought inside three dimensional models, even two dimensional space is visualized inside a three dimensional mode.[31] This would explain why Einstein is said to have played the violin while searching for solutions to problems that challenge our common perception of the universe.[32]

"Musical-naries" (if we may use that term to describe using music as the main means for the creative imagination) may configure their brains to operate in realms that cannot yet be translated into words. In turn, this also brings us to the topic of pitch organization. If we use one possible analogy with the visual arts, I could say that rhythm is the line that defines the shape of a musical piece, while pitch organization defines color and texture. This analogy is not new; we often talk about sound color to define timber. Some authors refer to note color to refer to the aural skill of absolute pitch recognition. We talk about chromatic harmony and orchestral texture. Many metaphors from the visual arts have been used to describe music, yet, useful as they might be, these visual analogies fail to account for all the dimensions necessary to truly translate the great number aspects that our brain computes when immersed in purely musical activity.

## 12. Conclusion

The purpose of this essay was not to provide answers, but to raise questions and suggest possibilities. I wanted to call attention to the primordial role of rhythm in the construction of magical music. The same chord played at the same dynamics, on the same instrument will yield different impressions for a listener if performed with different rhythms. A slow, sustained major chord may give an impression of calm and rest, while the same chord played as fast staccato in a syncopated pattern, may communicate the movement of a folk dance. A sustained cluster chord may

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[31] Bartolomeo, P. (2002). The Relationship Between Visual Perception and Visual Mental Imagery: A Reappraisal of the Neuropsychological Evidence. *Cortex* 38: 357-378.

[32] McPherson, Stephanie Sammartino (1995). *Ordinary Genius: The Story of Albert Einstein.* Minneapolis: Carolrhoda Books.

communicate anguish, expectation and despair. That same cluster with that staccato, syncopated rhythm may bring us back to dance movements, though due to the percussive nature of a cluster chord and our aural difficulty in separating and identifying each of its component pitches, this dance now may sound a great deal more like a primal ritual, maybe a nostalgic view of a lost rite from the past; or a contemporary dance track that taps into the need to fuel primordial dances in an acceptable social scenario.

Certain cultures favor different intervals, chords and scales. Tuning systems will vary geographically, and they have also changed over the course of history. There is a vast literature about pitch organization, yet the relationships between these structures and the rhythmic mode where they take functional shape, remains relatively unexplored territory. The fundamental distinction between symmetric and asymmetric rhythms may be a starting point to a study of music that could establish some interesting paradigms in this quest for the meaning and the magic of music. It may come to our aid in finding new ways to create music that will help us cleanse our bodies of demons, or take us on deep voyages into unknown territories of the soul and of the imagination. It may come to our aid in writing music that is truly magical and may have absolute power to shape the inner vibrations of reality.